The Origins of the *Herbarium* of Pseudo-Apuleius

by

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Abstract

The Herbarium of Pseudo-Apuleius is a late antique text describing the medicinal uses of 131 plants. This herbal was a popular medical work of early medieval western Europe, and the text therefore serves as a valuable representation of the medical beliefs and practices of the period. Despite the herbal's significant presence in medieval Europe, most aspects of the herbal's origins, such as the text's original author, remain mysterious, while the theories about the herbal's creation have been based on supposition and require reevaluation. This dissertation examines three aspects of the herbal that have need of reassessment: the text's location of composition, the text's date of composition, and the original intent of the work.

The thesis demonstrates that the evidence used to support the common scholarly consensus for dating and locating the origin of the Herbarium in fourth-century North Africa requires reassessment, and argues that the intrinsic evidence of the text and applied source criticism suggests a much broader area of the Mediterranean (with some evidence for Italy), and a potentially earlier date.

Using the preface as a framework for discussion, this dissertation also examines the herbal's medical content and demonstrates how various aspects of the text, such as the herbal's medical

epistemology, align with the preface's claims and also with the late antique genre of the practical medical handbook. Moreover, analysis of the herbal's format and organization suggest elements of learned medicine beyond the level of a practical or amateur handbook.

Finally, this dissertation offers a modern English translation of the herbal, the Latin version of which has never been translated into modern English.

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Abbreviations

HA: *Herbarium* of Pseudo-Apuleius (*Herbarium Apulei*)

DMM: Dioscorides' *De materia medica*

MedPlin: *Medicina Plinii*

NH: Pliny the Elder's *Naturalis Historia*

ThLL: *Thesaurus Linguae Latinae*

Introduction

The *Herbarium* of Pseudo-Apuleius is a late antique medical text describing the medicinal uses of 131 plants. Organized into chapters that each discuss a single plant, this herbal offers simple remedies for a variety of ailments in each chapter, as well as descriptions of the physical characteristics and growing locations of each plant. Each chapter also contains a list of names by which the plant is known in different locations or by different peoples. Some of the extant manuscripts of the herbal are illustrated with images of the plants featured in the text and sometimes also with images of the poisonous critters for whose bites the herbal recommends treatments.[1] The preface of the herbal maligns the medical profession and claims that the text allows readers to look after their own health without relying on greedy and untrustworthy physicians.[2] The preface therefore establishes the text as a kind of self-help medical manual.

This herbal was a relatively popular and influential medical work of early medieval western Europe, an attribution that derives primarily from the large number of extant manuscripts of this

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[1] The illustrations in the extant illustrated manuscripts of the herbal and their transmission have been studied thoroughly by Heide Grape-Albers (1974) and Minta Collins (2000).

[2] HA prologue: *Ex pluribus paucas uires herbarum et curationes corporis ad fidem ueritatis monumentis publicis tradidi ob stupiditatem uerbosam professionis, quod dicimus esse medicorum uenditationes potius quam curas, etiam hos homines inertia plerumque et inperitia enixos certe lucripetas uero nuncupari, qui etiam a mortuis mercedem expetunt. Quid agunt? Nihil; exspectant enim occasionem et faciunt reditus, dum tempus curationum extrahant, puto, quia saeuiores ipsis morbis existunt.*

From several public documents, I have related a few virtues of plants and bodily remedies, in truth, because of the verbose stupidity of the medical profession, what we say are the ‘huckstering rather than the ‘cures’ of physicians, and also that these men, in general zealous with their ignorance and incompetence, may truly be called greedy, who even claim a fee from their dead patients. What do they do? Nothing. Indeed, they wait for opportunity and they make money as long as they draw out the length of their patient’s treatment, because, in my opinion, they are more dangerous than the diseases themselves.

text.[3] The early influence of the herbal is also apparent in its utilization as a source by several subsequent authors, such as Marcellus of Bordeaux (fifth century), Isidore of Seville (seventh century) and the authors of the Old English *Bald's Leechbook* and *Lacnunga* (tenth century).[4] The popularity and influence of the herbal throughout early medieval Europe make this text a valuable representation of the medical beliefs and practices of the period.

Despite the herbal's significant presence in the early medieval period, most aspects of the herbal's origins, such as the text's original author and the sources of many of its remedies, remain mysterious.[5] Other aspects of the herbal's creation have long been thought to be well-understood when in fact the evidence that has been used to support these conclusions should be reexamined. This dissertation will focus on three important aspects of the herbal that require reassessment: firstly, the text's location of composition; secondly, its date of composition; and thirdly, the original intent of the work.

Scholars of the herbal have long relied on the seemingly well-established conclusions that the herbal's original date and place of composition was fourth-century North Africa, ideas which

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[3] Beccaria (1956) lists 24 manuscripts of this herbal dating from the ninth to eleventh centuries. Over sixty manuscripts and early printed editions of the herbal are extant in total, with a wide range of geographic distribution and translations of the Latin text into Old English and German. The herbal circulated Europe from the fourth to the sixteenth century. For some examples of the influence of the herbal noted in modern scholarship, see: Minta Collins (2000, 165); Charles Singer (1927, 32); F. W. T. Hunger (1935, xix).

[4] The standard critical edition of the herbal by Howald and Sigerist (1927) notes direct correspondences between the herbal and other texts in the edition's apparatus. Howald and Sigerist noted forty-three correspondences with the *De medicamentis* of Marcellus of Bordeaux and thirteen with the *Etymologiae* of Isidore of Seville. Audrey Meaney (2000, 236-237) has identified the borrowings from the herbal appearing in *Bald's Leechbook* and the *Lacnunga*.

[5] This herbal claims to be the creation of the second-century author Apuleius of Madaura, but because the herbal drew from sources that post-date Apuleius of Madaura's lifetime, the attribution to that author is considered false. Pradel-Baquerre's dissertation (2013, 11-19) offers a thorough review of current scholarship about the author of the herbal. Also see L. Voigts (1978) for a discussion about the various reasons why the herbal's author or revisors may have attributed this work to Apuleius of Madaura.

were proposed at an early date in the scholarship of this text.[6] This dissertation will demonstrate that the evidence which has thus far been used to support our understanding of the herbal's location and date of composition requires reassessment and that the intrinsic evidence of the text and applied source criticism suggest a broader area of the Mediterranean (with some evidence for Italy) and a potentially earlier composition date.

The purpose the herbal served, that of a practical medical manual meant for a non-professional yet learned reader, is established by the preface of the text. Using the herbal's preface as a framework for discussion, this dissertation will examine the herbal's remedies and will demonstrate that some aspects of the herbal's medical content, such as the text's reliance on experiential knowledge in its medical epistemology, align with the preface's claims by demonstrating the efficacy of the text's remedies through claimed personal experience instead of through cited authorities. Some aspects of the text, however, such as the uncommon ingredients, the lack of detailed instructions or measurements, as well as the sparse information provided for identifying the herbal's plants, suggest that the herbal's intended readership was expected to have some prior knowledge of plant medicine or botany. These aspects of the herbal were clearly a concern to medieval readers, since extant manuscripts of the herbal demonstrate that copyists felt it necessary to alter the text in order to make it more accessible, such as through the rearrangement of the text's content, the inclusion of indexes, and the addition of supplemental information about the herbal's plants.

Finally, this dissertation will offer in an appendix a modern English translation of the herbal, the Latin version of which has never before been translated into modern English, with the hope that such a translation will further interest in and future studies of the text.

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[6] Fourth century: Hunger (1935, xvii); Voigts (1978, 216); Hunink (1996, 300); Pradel-Baquerre (2013, 3); Maggiulli & Buffa-Giolito (1996, 13-15); Arsdall (2002, 68); Hernández (2008, 36); D'Aronco (1988, 18); Jones (1999, 17); Collins (2000, 165); Sigerist (1958, 141); Singer (1927, 38); Langslow (2000, 67); Goldschmidt (1943, 61) suggests sometime after 400.
North Africa: Bosscha (1823, 523-524); Hunger (1935, xviii); Voigts (1978, 216); Hunink (1996, 300-302); Pradel-Baquerre (2013, 5-27); Simonini (1929, 24-6); Talbot (1972, 30); D'Aronco (1988, 18); Jones (1999, 3 & 17).

Approach to the Text

The standard critical edition of the herbal is that of Howald and Sigerist (1927), which constituted the first comprehensive study of the manuscript tradition of the herbal. It is upon Howald and Sigerist's conclusions that most current scholarship about the herbal is based. Howald and Sigerist were primarily concerned with the herbal's manuscript tradition and discovering the authorial version of the text (1927, v-xxi). They divided the manuscript tradition of the herbal into three classes: α, β, and γ, and considered class α to have the best textual tradition, whereas they considered class β (the most numerous in extant manuscripts) to have the most interpolations and contamination. Class γ contains the oldest extant manuscripts of the herbal. Subsequent scholars built upon the findings of Howald and Sigerist through studies of manuscripts that were unknown to them or through examinations of the extant illustrated manuscripts of the herbal and the transmission of these manuscripts' images.[7]

The edition of Howald and Sigerist has been essential for our understanding of the herbal's tradition and is also important because of its inclusion of the several texts that frequently accompany the herbal in extant manuscripts. The herbal might be thought of as one treatise within a larger group of medical texts, known to scholars as the Pseudo-Apuleius Group. This group of texts includes several short epistolary treatises, a text on the medicinal uses of the badger entitled *De taxone* (c. 4th-5th century), the Pseudo-Dioscorides herbal *De herbis femininis* (c. 5th-6th century), the *De herba vettonica* text of Pseudo-Antonius Musa, and the *Medicina de quadrupedibus* of Sextus Placitus (c. fifth century). These texts were joined together at an early stage (by the fifth century, judging by Marcellus of Bordeaux's comments, and certainly by the sixth century, the date of our earliest extant manuscript of the Pseudo-Apuleius Group). They were transmitted together in the manuscript tradition, and constituted an accessible manual of medicine from plant, animal, and mineral material. These other texts within the

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[7] See especially Maggiulli and Buffa Giolito (1996), Pradel-Baquerre (2013, 98-120), Heide Grape-Albers (1977), and Minta Collins (2000).

Pseudo-Apuleius Group have implications on the herbal's dating and are therefore integral to understanding the herbal's origins.

The Howald & Sigerist edition, in spite of its many advantages, has sometimes created a false impression of the text's content and form (as seen in most extant manuscripts of the herbal) due to the editors' decision to reconstruct what they considered to be the original version of the text. Working at such an early point in the scholarship of the herbal, Howald and Sigerist did not have access to and were not aware of all of the extant manuscripts of the herbal that are currently known. Subsequent scholars (especially Maggiulli and Buffa Giolito, 1996) have demonstrated the importance of some of these manuscripts to the herbal's textual tradition. The editors also made several editorial decisions that they thought would lead them beyond the archetype of the extant manuscripts of the herbal to an even earlier, authorial version of the text. In their edition, Howald and Sigerist rearranged the order of the components of each chapter, changed the Latin names of many of the herbs, and also relegated about eighty remedies they considered to be spurious to a separate appendix in their edition, even though some of these remedies have a strong presence in the manuscript tradition.[8] Following nineteenth-century philological trends to create an *ur*-text of the herbal led them to a hypothetical, ideal version of the text that does not

[8] The editorial decisions of Howald and Sigerist have been thoroughly reviewed by Pradel-Baquerre (2013,104-110). A more detailed discussion of Howald and Sigerist's editorial decisions will appear at relevant points throughout this dissertation.

always reflect the herbal's appearance as found in much of the manuscript evidence.[9] This dissertation will therefore complement the Howald and Sigerist edition by including a focus on manuscript evidence when discussing the herbal's language and content. The remedies in the Howald & Sigerist edition's appendix will also be included in the translation of the herbal offered in the appendix of this dissertation.

Chapter One: The Herbal's Original Location of Composition

Several scholars have suggested a North African origin for the herbal based on the herbal's language, its plants, and some of the snakes featured in the text's illustrations. One of the earliest arguments about the herbal's location to suggest a North African origin proposed that the style of the herbal resembles the style of Apuleius of Madaura, the author to whom the herbal is attributed.[10] Because Apuleius of Madaura was from North Africa, subsequent scholars supposed that the herbal's style indicates that the herbal was written in that same region. As will be demonstrated, however, most of the proposed examples of 'Apuleian' features in the herbal can

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[9] The herbal did not have a canonized, unchanging form, but rather was reorganized, interpolated, and expanded by different copyists who appear to have altered the text in order to suit their specific needs. For example, the text of the herbal in an eighth-century manuscript (Modena, Archivio Capitolare Ms O. I. 11) has rearranged the order of the herbal's content. While most versions of the herbal are arranged according to herb, with a separate chapter for each plant, this version of the herbal displays the remedies by ailment, *a capite ad calcem*. A ninth-century manuscript of the herbal in Bratislava (Bratislava, Biblioteka Uniwersytecka Ms. III.F.19) contains lengthy additions about plant location and identification (subjects which are only briefly mentioned in most manuscript versions of the herbal). In a ninth century manuscript in St. Gall (St. Gall, Stiftsbibliothek Codex Sangalliensis 217), twenty-six herbs appear that were not a part of the original text and are thought by some to be native to the region in which the manuscript was produced. Several more examples of these kinds of alterations are apparent in the herbal's extant manuscripts. The herbal is difficult to edit cohesively due to the significant differences between some of its extant manuscripts. Editions and studies of some individual manuscripts of the herbal are: J. Silig (1851), A. Mancini (1904), P. Lehmann (1914), K. Sudhoff (1915 & 1917), R. W. T. Gunther (1925), A. J. G. Hilbelink (1930), Swets & Zeitlinger (1930), F. W. T. Hunger (1935), Cecarelli & Manara (1963), L. E. Voigts (1976), Stearn & Caprotti (1979), H. J. De Vriend (1984), Magiulli & Buffa Giolito (1996), M. A. D'Aronco & M. L. Cameron (1998), Ferraces-Rodriguez (2012), and Pradel-Baquerre (2018).

[10] J. Bosscha (1786-1823).

be traced to the herbal's known sources or are interpolations from other texts that appear in late manuscripts of the herbal.

An argument essential to a review of current scholarship about the herbal is the theory that the herbal is not the work of a single author, but is rather the result of potentially several different stages of revision by different hands. Various forms of this theory have been expressed by several scholars who have studied the herbal's textual tradition or its language.[11] Maggiulli and Buffa Giolito (1996) concluded that it was a later revisor of the herbal who attributed the original work to Apuleius of Madaura and reworked the text to intentionally make it resemble his style. If one accepts Maggiulli and Buffa Giolito's conclusions, then the herbal's similarities to Apuleius of Madaura's language are intentional and not an accurate representation of the original author's Latinity. As well, the likelihood that this text was revised at various points suggests that it may not have a cohesive style but instead one that is reflective of the several hands that were involved in its creation and revision.

The first chapter will also discuss analyses of Apuleius of Madaura's Latinity, such as those offered by J. N. Adams (2007) and Mattiaci (2014), both of which conclude that Apuleius of Madaura's Latinity did not often reflect the style of North African Latin because of his desire to appeal to a more 'Roman' audience by avoiding provincial features of language. These analyses indicate that any similarities between the style of the herbal and that of Apuleius may still not suggest a North African context. In addition, the first chapter will compare the language of the herbal to J. N. Adams' (2007) discussion of the regional varieties of Latin and will demonstrate that the herbal does not contain any of the indications of African Latin discussed by Adams.

Most chapters in the herbal contain a list of synonyms detailing what a particular plant is called in different regions and by different peoples. Some manuscripts of the herbal contain a large number of Punic synonyms, which has been noted as another indication of the herbal's North

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[11] Howald & Sigerist (1927, xviii); J. Fabricius (1774, 43); J.Bosscha (1786-1823, 523-4); Maggiulli & Buffa Giolito (1996).

African composition.[12] My examination of many of the extant manuscripts of the herbal will demonstrate that most of the Punic synonyms appear only in interpolations in some late manuscripts of the herbal. The remaining Punic synonyms appear in only one class of the herbal's manuscript tradition and are likely not archetypal.

In addition to examining the plant synonyms in the herbal, the first chapter will also assess the herbal's plants and their geographic distribution to conclude that the herbal's plants grow in a wide area around the Mediterranean and therefore do not indicate a specifically African context. The natural habitats of some of the snakes named in the herbal's illustrations have similarly been used to locate the text's composition.[13] It will be argued in the first chapter that the snake illustrations and the names associated with them are later additions to the text and should not be used to locate the original composition of the herbal.

The first chapter will also include a review of alternative theories for the herbal's place of composition, such as Greece or Italy. Although North Africa has been the most popular choice for the herbal's place of composition, the arguments that have thus far been used to support this location are worth questioning, and alternative theories should be considered.

Chapter Two: The Herbal's Original Date of Composition

The second chapter of this dissertation will examine the sources of the herbal in order to date the text. Most scholars agree that the herbal was composed in the second half of the fourth century.[14] Marcellus of Bordeaux used the herbal as a source (and listed 'Apuleius' as one of the sources)

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[12] R. T. Gunther (1925).

[13] F. Hunger (1935) xviii.

[14] Howald & Sigerist (1927, xix-xx); Singer (1927, 38); Hunger (1935, xvii); Sigerist (1958, 141); Grape-Albers (1977, 2); Voigts (1978, 216); D'Aronco (1988, 17); Önnerfors (1993, 10); Maggiulli & Buffa Giolito 1996, 12-18; Hunink 1996, 300; Jones 1998, 17; Van Arsdall 2002, 68; Hernandez 2008, 36; Pradel-Baquerre 2013, 19-20 & 77-79; Collins (2000, 25) suggests 2nd-4th century. Langslow (2000, 67) suggests 4th-6th century.

for his *De medicamentis*, which he wrote at the turn of the fourth and fifth centuries.[15] The *De medicamentis* is therefore used to establish a reliable *terminus ante quem* for the herbal. The herbal's *terminus post quem* has been established by its identifiable sources: Pliny's *Naturalis Historia* and the *Medicina Plinii*, an anonymous reworking of Pliny's text. Pliny's work dates to the first century, while the *Medicina Plinii* is believed to have been written c. 300-350 C.E., indicating that the herbal must have been written after these dates. The composition dates of the *Medicina Plinii* and the *De medicamentis* of Marcellus of Bordeaux assign an approximate composition date of 350-400 C.E. for the *Herbarium* of Pseudo-Apuleius.

The second chapter has two main foci, the first of which is establishing the version of the herbal consulted by Marcellus of Bordeaux in the early fifth century. The earliest extant manuscript of the herbal dates to the late sixth century and its content demonstrates that the herbal had already at that time branched off into distinct classes in the manuscript tradition (Singer, 1927, 43-45).[16] As the earliest known text to have used the herbal as a source, the *De medicamentis* of Marcellus of Bordeaux can help to clarify some details about the form and content of the herbal as it existed before the earliest extant manuscript of the text was created. This section of the chapter will argue, building on the suggestions of Maggiulli and Buffa Giolito (1996), that the version of the herbal consulted by Marcellus most closely resembles class α manuscripts of the text, and that the herbal likely did not contain many of its synonyms and *precationes* at this early stage. This section also analyzes their argument that the herbal's preface may have been a later addition to the text.

The focus of the second part of this chapter will be to review the relationship between the herbal and the source texts that provide us with its date of composition. My comparison of the herbal to the *Medicina Plinii* and Pliny's *Naturalis Historia* will reveal that the remedies in the herbal that

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[15] The Howald and Sigerist edition (1927) notes about fifty direct correspondences between these two texts.

[16] The earliest extant manuscript of the herbal is Leiden, Bibliotheek der Rijksuniversiteit, MS Vossianus Latinus Q 9, a manuscript of class γ. This manuscript is described by Charles Singer, who compared its version of the herbal to a fragmentary Greek medical papyrus of the second or third century, known as the Johnson Papyrus (Singer, 1927).

derive directly from the *Medicina Plinii* appear as the final remedies in the herbal's chapters, which perhaps suggests that these remedies were added to the original chapters by a later revisor and were not part of the herbal's original composition. The use of the *Medicina Plinii* by a revisor of the herbal correlates with Maggiulli and Buffa Giolito's (1996) theory that the herbal's preface, which imitates the preface of the *Medicina Plinii*, is a later addition to the herbal. The *Medicina Plinii* may therefore not actually provide a secure *terminus post quem* for the herbal's composition, meaning that the herbal could have been written at an earlier date than has previously been supposed. In addition, comparisons of the herbal's remedies to Pliny's *Naturalis Historia* cast some doubt on the status of Pliny's work as a direct source for the herbal. These two texts share many similar remedies, but with enough differences to suggest the possibility that the herbal drew from sources used by Pliny in addition to (or instead of) directly from the *Naturalis Historia*. The links between these two works require further investigation, because if the *Naturalis Historia* was not a direct source for the herbal, this even further extends the early date range during which the herbal could have been originally written.

Chapter Three: The Herbal's Remedies

The third chapter of this dissertation will examine the herbal's remedies. Most previous scholarship about the herbal has focused on the date and location of the original composition, the identity of the author, or the manuscript tradition of the text. The herbal's remedies have been occasionally examined, but not to as great an extent as the details of the herbal's creation. The commentary to the standard critical edition of Howald and Sigerist (1927) concentrates exclusively on textual tradition and does not discuss the herbal's medical content. Two studies of the Old English translations of the herbal, one by Oswald Cockayne (1866) and the other by H.J. De Vriend (1984), provide some commentary on the medicinal remedies, but only in regards to

manuscript variations and translation of plant names.[17] Anne Van Arsdall (2002) provided a translation of the Old English versions of the herbal but offered little commentary on the medical aspects of the text. Lorenz Helmut-Johannes (1954) studied a particular ailment (*si mulier obticuerit*) named in the herbal. Maggiulli and Buffa Giolito's examination of the herbal (1996) briefly discusses the pharmacological properties of some of the herbal's plants (26-30). The most detailed study of the herbal's medicine appears in Pradel-Baquerre's Ph.D. dissertation (2013, 28-52). Pradel-Baquerre focused on situating the herbal within the medical genre through comparison of the herbal to other Latin and Greek works on medicine. Pradel-Baquerre discussed the herbal's plants, how they are organized in the text, how they are prepared to make remedies, and what kinds of ailments they treat. The third chapter of this dissertation will further develop some of the observations found in Pradel-Baquerre's dissertation, but will also delve deeply into topics about the herbal's medicine that have yet to be thoroughly examined, such as the medical theory and epistemology of the herbal's remedies, the herbal's association with travel, and the herbal's focus on mythological figures and zoopharmacognosy.

Building on the previous observations and research of these scholars, this chapter will examine the herbal's remedies with a focus on the claims made in the text's preface that the herbal is meant to be useful to non-professional readers in a wide variety of locations. As will be demonstrated, the preface's negative stance on the medical profession was typical of the late antique genre of practical medical texts. Because, however, the preface may have been added to

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[17] The Old English translation of the herbal is called the Old English *Herbarium* by De Vriend. The manuscripts containing this translation are: London, British Library, MS Cotton Vitellius C III (9th century); London, British Library, MS Harley 585 (10th/11th century); London, British Library, MS Harley 6258B (12th century); Oxford, Bodleian Library, MS Hatton 76 (11th century). Oxford, Bodleian Library, Junius 58 (a transcription of Hatton 76). The Old English translation of the herbal will not be discussed in detail here because of this dissertation's focus on the herbal's original (Latin) composition. A late-fifteenth century German translation of the Latin herbal has been edited by Arthur Groos and Bernhard Schnell, but was not able to be accessed for this dissertation: *Das 'debrecener Pflanzen- Und Tierbuch': Die Illustrierte Deutsche Ps.-Apuleius Handschrift Debrecen R 459. Faksimile, Edition, Ubersetzung Und Kommentare*, ed. Arthur Groos and Bernhard Schnell. Wiesbaden: Riechart, 2018.

the original herbal at a later date, the preface's expressed opinions about the purpose of the text may not accurately reflect the original author's vision for this work.

This chapter's examination will concentrate on the ways in which the herbal upholds or appears to contradict its claims of utility for a learned but non-professional audience. The herbal's remedies generally do align with the claims made in the text's preface; however, the herbal also exhibits features that seem to directly contradict the preface. For example, the herbal's preface gives the impression that the text may be used when a reader needs to find a remedy for a specific ailment, particularly in order to avoid the meddling of physicians. The herbal's arrangement, however, is according to plant. This organizational choice would make looking up the remedy for a specific ailment quite tedious, for one would have to flip through each chapter and read every remedy until coming across the right ailment and its treatment. The traditional arrangement *a capite ad calcem* would have been more useful for looking up remedies for particular ailments, whereas the herbal's arrangement by herb would probably have been most useful for studying the herbal's plants. At least one extant manuscript of the herbal has been rearranged according to ailment, which indicates that even some medieval copyists found the herbal's format cumbersome.[18] In fact, several of the herbal's extant manuscripts have been altered in some way to seemingly increase their utility, as will be detailed in the third chapter.

In addition to discussing the herbal's format and organization, this chapter will address the herbal's ailments and their remedies, the plants in the text, the herbal's use of medical theory, and the rationale behind the herbal's healing paradigm. This chapter's examination will conclude that the herbal appears to address a general but learned readership while simultaneously expecting a certain level of foundational knowledge and experience from the reader. The herbal contains many remedies for common conditions that the average reader might wish to address, but also some remedies that treat very serious conditions or that make use of potentially dangerous ingredients. The herbal's approach to medicine appears to contain some contradictory facets, and

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[18] Modena, Archivio Capitolare, MS O. I 11 (ninth-century).

these contradictions might be further indications that the herbal was written by multiple people at various times.

Appendix: A Modern English Translation

An appendix to the dissertation will provide a modern English translation of the herbal. The Latin herbal appears in translation in modern French and German.[19] The Old English version of the herbal has been translated into modern English, but there are some significant variations between the Latin and Old English versions that necessitate a separate translation of the Latin herbal.[20] The translation will be based on the Howald and Sigerist edition, but will also include the remedies that are left out of the main text of that edition, as well as some translations based on manuscript evidence not included in the Howald & Sigerist edition. A modern English translation of the Latin herbal will help to make this text accessible to a wider audience.

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[19] French: Pradel-Baquerre (2013). German: Kai Broderson (2015).

[20] The Old English versions of the herbal were first translated into modern English by Oswald Cockayne (1866). Anne Van Arsdall's more recent translation of the Old English versions discusses the limits of Cockayne's earlier translation (2002). For an edition of the Old English versions of the herbal, see: H. J. De Vriend (1984).

Chapter One: The Herbal's Location of Composition and the North Africa Theory

As discussed in the introduction, most details about the origins of the *Herbarium* of Pseudo-Apuleius, such as the text's original author, are unknown. One question about the herbal's creation that seems to have been answered with confidence is the place where the text was written. For years the herbal has been understood to have been composed in North Africa, so much so that anyone reading scholarship about the herbal is likely to run across a statement affirming this idea.[21] The North Africa theory is mentioned often but the reasons for it are discussed rarely and the body of evidence to support it is not immediately apparent. The explanation for the somewhat cloistered state of the evidence is that, although a great deal of informative scholarship about the herbal has been published within the last century, the herbal's location has only rarely been the focus of detailed examination. Most of the scholarship about the herbal has concentrated on its textual tradition, its author, and elements of source criticism. The

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[21] For example, the following works briefly mention the North African origin of the herbal but do not concentrate on this aspect of the text or delve into the arguments supporting the theory: A. D'Aronco (1988, 18) cited North Africa as the herbal's place of composition but focused on an examination of the translation of the Latin herbal into Old English; L. E. Voigts, (1978, 216), R. Simonini (1929, 24-6) and V. Hunink (1996, 300-302) each focused primarily on the identity of the author of the herbal and only briefly noted North Africa as the place of composition; P. M. Jones (1999, 3 & 17) suggested that the text may have been copied in North Africa but went no further with the argument. Most of these scholars cited F.W. T. Hunger's (1935, xviii) short review of scholarship about the North Africa theory. M. Pradel-Baquerre (2013, 5-27) pointed out some problems with the current evidence for the North Africa theory, but these ideas can be further developed. There is not perfect agreement among scholars about the herbal's location of composition. Other locations, such as Italy, have been suggested but usually only in passing. These alternatives remain mostly unexplored and will be examined at the end of this chapter.

North Africa theory has only been briefly mentioned by most.[22] Much of the support for this theory amounts to scholars citing a short review of the idea offered by F. Hunger (1935, xviii, n.1), with the result that the conversation about the herbal's origin echoes without much investigation. Sometimes an idea can be repeated in a cycle of citations until it becomes more than what it was meant to be, a suggestion evolved into a fact through years of repetition. Our understanding of the origin of the *Herbarium* of Pseudo-Apuleius appears to have suffered somewhat from this process.

Because this theory has persisted for about a century but has rarely been discussed in detail, it would be a worthwhile endeavor to find the original arguments in favor of the herbal's North African composition and to reexamine them. I have traced this idea back to its apparent genesis from three different suggestions proposed by three scholars from the nineteenth and early twentieth centuries.[23] These arguments are based, respectively, on the herbal's Latinity, the herbal's plants and their various names, and finally the names of some snakes in the herbal's illustrations.

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[22] In addition to the works listed in note 21 above, the major works on the herbal have not discussed the text's location of composition in detail: the preface to the critical edition of Howald and Sigerist (1927) concentrated exclusively on textual tradition and manuscript variations, proposing three main text divisions. H. Grape-Albers (1999) further divided these three classes suggested by Howald and Sigerist, and examined the illustrations of some of the manuscripts as a way of understanding the textual tradition of the herbal. Maggiulli and Buffa Giolito's study of the herbal (1996) proposed that the original version of the text was revised by a second, later author (whom they named Apuleius *auctus*), and thus their study was concerned primarily with the text's authorship and tradition. M. Collins' (2000) examination of the herbal, like that of Grape-Albers, compared illustrations in the various manuscripts as a method of understanding the herbal's transmission. Scholarship about the Old English translations of the herbal has understandably not concentrated on the Latin herbal's place of composition: two editions of the Old English versions of the herbal, one by O. Cockayne (1866) and the other by H. J. De Vriend (1984) focused on the origins of the Old English translations, not the Latin original. A. Van Arsdall (2002) provided a translation of the Old English versions of the herbal and stressed the importance of examining the Old English translations of this herbal in a wider European context.

[23] Bosscha (1786-1823), Gunther (1925), and Hunger (1935).

A large portion of the scholarship about the *Herbarium* of Pseudo-Apuleius was produced subsequently to these three initial arguments in support of North Africa as the text's original place of composition. In fact, two of the three arguments were proposed before the publication of the standard critical edition of the herbal by Howald and Sigerist in 1927. A reexamination of these arguments that takes into account the current body of scholarship about the herbal, the regional varieties of Latin, and Latin plant and snake name identification will demonstrate that this theory about the herbal's place of composition is still worth questioning. This section of the dissertation will address each argument in favor of North Africa as the location of the herbal's creation and will demonstrate the uncertainties associated with them, in order to advance the claim that the North African origin of the herbal has not yet been sufficiently proven.

The Style of the Herbal

The first argument in favor of a North African origin for the herbal is that the style of the text resembles the style of the writings of Apuleius of Madaura, the second-century Platonic philosopher and author to whom the herbal is attributed.[24] One of the earliest discussions of the similarities in style between the herbal's pseudonymous author and Apuleius of Madaura was offered by J. Bosscha (1786-1823, 522-523), who examined several treatises attributed to the second-century author. After comparing the herbal to Apuleius of Madaura's other writings, Bosscha concluded that Apuleius had *not* written this text, but Bosscha did remark that the style and language of the herbal is very similar to the style and language of the writings of Apuleius.

Later scholars would build upon the comparisons made by Bosscha. For example, Ernst Meyer (1965, 323) argued that the similarity between the Latinity of the herbal and that of the writings of Apuleius suggests that the anonymous author of the herbal lived in (and learned his Latin in) the same place as Apuleius of Madaura. As is clear from his name, Apuleius lived in Madauros in North Africa, and so according to Meyer's idea, the author of the herbal was probably from

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[24] Apuleius of Madaura's most well-known works are his *Metamorphoses* (also known as *The Golden Ass*) a fictional tale of a man transformed into a donkey, which is famous for its section on Cupid and Psyche. Apuleius is also known for his treatise *De platone* and his *Apologia*, a work written in defense of himself after an accusation of sorcery.

North Africa and may even have written the herbal there. Hunger (1935, xviii) mentioned Bosscha's discussion of the herbal's Latinity in his review of evidence for the text's North African origin, and Hunger was subsequently cited by various others.

The resemblance in style between the herbal and the writings of Apuleius of Madaura is an important clue in the investigation of the text's origins, especially considering that the herbal was attributed to that author; however, there are some problems with using the herbal's language as a point of comparison with Apuleius. First, it is not certain that the style of the herbal and the style of the Apuleian corpus are actually comparable. In his comparative study of some of the works attributed to Apuleius of Madaura, Vincent Hunink (1996, 300-301) concluded that there was nothing in the style of the herbal that could be related specifically to Apuleius' writings.

In addition, if one closely examines Bosscha's examples, one can see that many of them are not reliable representations of the style of the herbal's author. Bosscha offered about twenty words and phrases from the herbal that he connected to the style of Apuleius for one of two reasons. For each of these words, Bosscha could either find direct parallels to the word in the corpus of Apuleian writings, or he thought the word to be unique to the herbal and therefore a potential example of Apuleius' tendency to create new Latin words from Greek.[25]

Table 1.1: Bosscha's Examples of Apuleius' Style in the Herbal

Bosscha Example	**Presence in the Herbal**	**Problems**
Agnatio	HA p. 113	From interpolated passage of Dioscorides' *De materia medica* (DMM)
Folliculosum	HA p. 105	From interpolated passage of DMM

[25] **Table 1.1:** Column 1 contains the selection of words that Bosscha used as examples. Column 2 contains the locations of the words in the herbal, according to page number in the Howald & Sigerist edition. Column 3 lists the problems associated with using the word to localize the herbal, such as that they appear in the passages of the herbal that are interpolated from Dioscorides' *De materia medica* or that they appear in other works within the medical genre of late antiquity and are thus not unique to the herbal. A column with a (-) mark indicates that no presence of the word was found in the herbal.

Table 1.1: Bosscha's Examples of Apuleius' Style in the Herbal

Bosscha Example	**Presence in the Herbal**	**Problems**
Vomificus	HA p. 193	From interpolated passage of DMM
Mictualis	HA pp. 109, 128, 190, 205	From interpolated passage of DMM
Amorificus	HA p. 211	From interpolated passage of DMM
Memoram etiam appellari viperalem, eo quod interfectibilis earum comprobetur	HA p. 163	From interpolated passage of DMM
Simulans folia	HA p. 199	From interpolated passage of DMM
Summotenus	HA p. 138	From interpolated passage of DMM
Abinvicem discernentur	HA p. 197	From interpolated passage of DMM
Prosternere terrae	HA pp. 146, 167, 195	From interpolated passage of DMM
Viror	HA p. 213	From interpolated passage of DMM
Fulvaster	HA p. 195	From interpolated passage of DMM
Rotundula	-	Not in the herbal - only appears in the *Herba Vettonica* text
Lucripeta	H&S 15	Only in the preface of the herbal - potentially later addition

Table 1.1: Bosscha's Examples of Apuleius' Style in the Herbal

Bosscha Example	Presence in the Herbal	Problems
Luxus (meaning 'dislocation')	H&S 73, 99, 191	Can be found in other sources: Palladius, *De agricultura* VII.12 *Medicina Plinii* II.49 Cato *De agri cultura* 160 Scribonius Largus 209, 259, 266
Insufflare	H&S 218	Can be found in another source: Vegetius, *Digesta Artis Mulomedicinae* II.21, 35, 97; IV.22
Deintus	H&S 133	Can be found in another source: Vegetius, *Digesta Artis Mulomedicinae* IV.9
Floscellus	H&S 99	Potentially later addition
Humorosus	H&S 102	Potentially later addition
Antequam thus sciretur	H&S 145	Potentially later addition

Out of this group of about twenty words, twelve cannot be considered representations of the style of the author of the herbal because they are only found in interpolated passages of the alphabetical Latin translation of Dioscorides' *De materia medica*. These passages only appear in a small number of twelfth-century manuscripts of the herbal, and were presumably meant to add information about the location and identification of the plants in the text.[26] Because these twelve words only appear in passages interpolated from another work, they should be considered to be representations of the style of the *De materia medica* translation, not the style of the herbal. In the standard critical edition of the herbal, Howald and Sigerist (1927, viii) separated the

[26] The interpolated manuscripts are: London, British Library, MS Harley 4986 (12th century); Vienna, Österreichische Nationalbibliothek, MS Codex Vindobonensis Palatinus 187 (12th century); Eton, Eton College Library, MS 204 (mid-12th century).

interpolated passages from the main body of the herbal's text, so that readers could easily differentiate between them. Bosscha's study was published more than a century before the Howald & Sigerist edition, thus he did not have that aid in identifying these passages. Bosscha must have been examining an interpolated manuscript or an early printed edition based on one of the interpolated manuscripts and was not aware that his version of the herbal was infused with another work.

A similar issue arises with the word *rotundula*. *Rotundula* is not found in the herbal, but rather in the *Herba Vettonica* text by (Pseudo-?) Antonius Musa, which appears before the herbal in many manuscripts. Perhaps Bosscha examined a manuscript of the herbal where the two texts were combined into one, as this sometimes occurs.[27] Although these two texts are considered to be part of the same corpus of medical treatises that appear together in manuscripts (The Pseudo-Apuleius Group), the herbal and the *Herba Vettonica* text are two distinct works. The two treatises each contain their own preface and are each attributed to different authors. The texts are thought to have been written at different times, primarily because the herbal does not contain a chapter on *vettonica*.[28] These texts also offer different styles of remedies, with the *Herba Vettonica* text demonstrating a marked preference for compound remedies and specific measurements (of ingredients and doses), whereas the herbal favors simples with basic (but somewhat vague) instructions. These differences between the texts make the possibility that they were written by the same author unlikely, although this possibility has not yet, as far as I am aware, been examined in detail. Given that a different author probably wrote the treatise

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[27] For example, in Florence, Biblioteca Medicea-Laurenziana, MS Plut. 73.41 (10th century), the rubric numbers *herba vettonica* (13r) as the first plant, with the herbal's usual first plant, *herba plantago* (16v), being numbered second, and so on. The prefaces of the herbal and the *Herba Vettonica* text are still present, but appear to be treated as part of one continuous work instead of as separate treatises. This arrangement also occurs with some of the Old English manuscripts of the herbal, which usually combine the herbal, the Pseudo-Dioscorides *De herbis femininis* and the Sextus Placitus *Medicina de quadrupedibus* texts into one comprehensive work. Of the manuscripts interpolated with the *De materia medica* of Dioscorides that Bosscha may have examined, I have only been able to examine Harley 4986, which does clearly separate the *Herba Vettonica* text from the herbal. I do not know how Vienna 187 and Eton 204 are organized.

[28] Langslow (2000), 67-68; Sabbah, Corsetti, and Fischer (1987), nos. 26-34.

attributed to Antonius Musa, any expressions from that text cannot be securely identified as examples of the herbal's style.

Bosscha cited the words *luxus* ('dislocation'), *insufflare*, and *deintus* as examples of Apuleius' tendency to create new Latin words from Greek. These are not strong evidence for a uniquely Apuleian feature because they also appear in other works on medicine and agriculture, as can be seen in Table 1. *Insufflare* and *deintus* can be found in the veterinary text of Vegetius. That text is not a perfectly clear example because it dates to the late fourth century, which invites a possibility that it was influenced by the herbal. Scribonius Largus and Cato the Elder, however, both produced their works before the existence of Apuleius and the herbal. These three words are less clear examples of Apuleius' style because they also represent the styles of these other authors who wrote in the medical and agrarian genres.

Lucripeta ('greedy') can be tied to a similar expression (*lucri cupidinem*) in Apuleius' *De platone* II.15, but *lucripeta* appears only in the preface of the herbal. The preface is somewhat of a murky source for determining the style of the original author of the herbal because, as Maggiulli and Buffa Giolito (1996) have argued extensively, the preface is likely a later addition to the text. They have suggested that a revisor added the preface in order to create the attribution to Apuleius of Madaura, thereby strengthening the authority of the herbal as a medical text through Apuleius' connection to the cult of Aesculapius.[29] As part of their theory about the revision of the herbal, Maggiulli and Buffa Giolito (1996, 23-26) have proposed that the revisor

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[29] Maggiulli and Buffa Giolito argued that there were at least two authors of the herbal, the original author and a later revisor, the second of whom added the preface, several remedies, and most of the synonyms to the original text. They proposed that the preface of the herbal was modeled after the preface to the *Medicina Plinii* and was added by the revisor in order to attribute the herbal to a known author, thus lending authority to its content. Their theory that the synonyms are later additions is based on the fact that Marcellus of Bordeaux, who used the herbal as a source for his *De medicamentis*, did not include many of the synonyms in his work (1996, 19-33). Maggiulli and Buffa Giolito also suggested the possibility that the herbal was originally written by someone named Apuleius (but who was not Apuleius of Madaura), and that the name was eventually connected to the famous philosopher. L. Voigts (1978) has provided a thorough discussion of the reasons why Apuleius may have been chosen as the attributed author of this herbal.

added and stylized the preface of the herbal in order to intentionally make it resemble the Platonic philosopher's style. They provided numerous examples of words in the preface that also appear in Apuelius of Madaura's *Metamorphoses* and *De platone*.[30] The connections they drew between the herbal's preface and these two works of Apuleius are noteworthy, although it is important to point out that almost all of the words they offered as examples can also be found in Pliny's *Naturalis Historia*, which is thought to be a major source for the herbal.

Another reason that Maggiulli and Buffa Giolito were skeptical of the preface's authenticity is that Marcellus of Bordeaux did not include the preface of the herbal in his collection of prefatory letters at the start of his *De medicamentis*, even though he cited (Pseudo-) Apuleius as one of his sources.[31] Marcellus tacked on seven separate prefatory letters from various medical authors to the *De medicamentis* in addition to his own prefatory letter. Given his penchant for such letters, it does seem rather odd that Marcellus would have chosen to forego the herbal's preface if he had had access to it. To explain this absence, Maggiulli and Buffa Giolito have proposed that the version of the herbal that Marcellus accessed was an early version without a preface. Marcellus wrote his medical work sometime in the late fourth or early fifth century, very soon after the herbal is believed to have been produced, thus the idea that he consulted an early version is plausible. According to Maggiulli and Buffa Giolito's theory, the herbal's preface was a later addition that was tailored to resemble the style of Apuleius of Madaura.

If Maggiulli and Buffa Giolito's theory is correct, then even if the style of the herbal were to closely resemble the style of Apuleius of Madaura, this similarity may very well be due to an intentional choice to imitate rather than resulting from the natural inclination of the anonymous

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[30] Maggiulli & Buffa Giolito (1996), 24: *curatio* (*De Platone* 2, 18, 3); *verbosa* (*Met.* 5, 28, 16); *inertia* (*Met*. 9, 41, 4); *imperitia* (*De Platone* 1, 18, 16; 2, 4, 15); *nuncupare* (*De Platone* 1, 12, 21; 18, 4); *expeto* (*De Platone* 2, 10, 4; 2, 22, 9); *extraho* (*Met.* 4, 27, 5); *morbus* (*De Platone* 2, 24, 21); *existo* (*De Platone* 1, 7, 14; 2, 15, 12); *vexatio* (*Met.* 4, 17, 12); *corporalis* (*De Platone* 1, 6, 2; 2, 14, 15). They also noted that *civis*, *socius* and *peregrinus* are heavily attested in Apuleius.

[31] Marcellus, *De medicamentis* (prol.), ed. M. Niedermann & E. Liechtenhan, p. 2, l. 13: *Nec solum ueteres medicinae artis auctores Latino dumtaxat sermone perscriptos, cui rei operam uterque Plinius et Apuleius [et] Celsus et Apollinaris ac Designatianus…*

author's Latin. If true, this theory seriously hinders our ability to use the herbal's language to locate the composition of the original text. Maggiulli and Buffa Giolito were not alone in their thinking on this subject. Howald and Sigerist (1927, xviii) concluded that the herbal was revised at some point(s) and that some sections of the text were not part of the original version. Because the preface of the herbal may not be authorial, any stylistic features that appear only in the preface must be accompanied by some doubt as to their authenticity to the herbal's original author.

Three words or phrases remain in Bosscha's list of examples: *floscellus, humorosus,* and *antequam thus sciretur*. These appear to be unique to the herbal and, according to Bosscha, are examples of Apuleius' tendency to create new Latin words. Three words, each of which occurs only once in the text, is a rather small body of evidence to tie the herbal to the writings of Apuleius, especially since these words in the herbal do not appear anywhere in the extant writings of Apuleius of Madaura. Bosscha considered these words to be good examples *because* of their uniqueness, reflecting Apuleius' penchant for creating new words. The primary difficulty of relying on these words to connect the herbal's style to Apuleius of Madaura (other than the fact that Apuleius could not have been the only author to play with language in such a way) is that each of these three examples appears only in sections of the herbal that describe where a particular plant grows. These words do not appear in the remedies. This is significant because Pradel-Baquerre (2013, 15) concluded that many of these passages about the locations of the plants were added or altered during later revisions of the herbal. These three examples are therefore burdened by the same questions of authenticity as the example from the herbal's preface.

Despite the fact that his examination of the herbal's style was subsequently used to connect the Latinity of the herbal to that of Apuleius of Madaura, Bosscha himself did not arrive at the conclusion that an author with a style similar to that of Apuleius wrote the herbal. He concluded (1786-1823, 524) in agreement with a theory proposed earlier by J. Fabricius (1774) that the original herbal was a compilation of various authors. In fact, Bosscha cited the herbal's language as evidence that it must have been compiled from various works, since it contains Latin words

that he argued were only common within the medical and agrarian genres (such as *remediare*, *commanducari*, *verticillus*, *panicula*, and *suffumigare*). According to Bosscha, the herbal has been infiltrated with the language of other works that were accessed during its compilation, so that its style and Latinity are an amalgamation of these genres. Bosscha noted the supposition of Scipio Gentilis, who apparently believed that Apuleius of Madaura himself could have been one of the authors of the herbal.[32] This theory is plausible because of Apuleius of Maduara's interest in medicine and the natural sciences, but it is always dismissed because the *Medicina Plinii* (third century), one of the reputed sources of the herbal, post-dates Apuleius of Madaura's lifetime. As will be demonstrated in the second chapter, however, the *Medicina Plinii* may have been used by a revisor of the herbal, not by the original author.

Bosscha's examples of the herbal's 'Apuleian' style have been mentioned by Meyer (1965, 323) and others as evidence for the theory that the herbal was written in North Africa, but this does not seem to be the argument that Bosscha was actually making. Even if it were, there is an element of risk to using most of Bosscha's examples to prove this theory, for the reasons discussed above. Bosscha concluded that the herbal was the work of several different people, which creates a thorny problem for anyone trying to use the style of the text to determine its place of composition. If the herbal was really the work of different authors, revisors, and compilers, then its style will reflect the Latin of each person who had a hand in its creation. There may not actually be a single, cohesive style to the text because of this. Even if certain parts of the herbal were to suggest a North African author, the possibility of multiple creators would make it quite difficult to know if that style should be attributed to the original author or to someone else. The true style of the herbal may be buried under layers of revision, tinkering, and additions.

Ignoring for a moment the possibility that the extant version of the herbal is the creation of multiple workers, if the goal of creating connections between the style of the herbal and that of

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[32] Bosscha (1786-1823, 524) did not agree with Scipio's theory because he could not imagine that some of the 'magical' prayers and such in the herbal were the creation of Apuleius of Madaura.

Apuleius of Madaura is to prove that the herbal was written in North Africa, another question worth considering is whether the style of Apuleius' Latin is even a reliable representation of the Latin of North Africa. On the style of Apuleius and other North African writers, J. N. Adams concluded that

> The African writers whose works have survived were mostly highly educated products of the rhetorical schools, writing a learned, even bombastic, variety of the language. They were well capable of resisting any alien syntactic patterns that they might (perhaps) have heard around them. Even if we allow that a writer such as Apuleius knew Punic, he too was so subtly fluent in Latin that he would not have admitted Punic constructions unless he had chosen to do so. Unlike Greek, Punic did not have the status to inspire cultivated writers of Latin to transfer its patterns into the other language as a cultural display (2007, 575).

Although Apuleius grew up in Madauros, the style in which he wrote may not reflect that because of the education he received and the formal genres in which he wrote. Apuleius may have occasionally chosen to make his Latin more regional for effect, but he more often showed a determination in his writings to remove provincial features from his language and to promote its more 'Roman' style as a method of self-advancement and integration with his audience (Mattiacci 2014, 100). Given this information, even if the herbal were to clearly resemble Apuleius' style, that resemblance would not prove that the herbal was composed in North Africa because Apuleius likely strove to remove regional features from his language.

Mattiacci suggested that Apuleius' tendency to create new words (or to create new meanings from old words) and the vibrancy of his expression may have derived from the fact that Latin was an acquired language for Apuleius (2007, 101-102). Rather than offering the habitual flow of a native language, Latin continually required reflection and analysis for this author, who was encouraged to be inventive in order to prove his worth as a writer and rhetorician. Bosscha's observation that there are unique words and expressions in the Apuleian corpus is in agreement with Mattiaci's analysis, but these unique expressions are not necessarily 'African' features. They might be found in other authors who learned Latin in school and played with language to prove their ability.

Because of the above-discussed difficulties with comparing the language of the herbal to the language of the Apuleian corpus, the North African Latinity of the herbal might be better supported through comparison between the herbal and the works of several North African medical writers in order to obtain a consensus of style for the region (if there is one) and to see how well the herbal fits into it. The work of J. N. Adams on regional varieties of Latin argued that it is possible to cautiously localize certain Latin texts to Africa based on linguistic evidence (2007, 516).[33] Adams' analysis includes a thorough discussion of Latin words and spellings that, if found in a text, would suggest a North African origin (2007, 518-576). Adams used terms found in practical texts and handbooks like medical treatises because these kinds of works are more likely to display traits of regional language than other genres. The authors of these treatises were usually not attempting to adhere to standards of literary style, but rather to make practical works that could be read and understood by their local or formally uneducated audiences (2007, 541). Especially when writing about topics like plants, which often had names that varied between regions, using local language could have been essential to the comprehension of one's readers.

If the herbal was written in a North African style of Latin, one might expect at least a small selection of the words in Adams' list of North African terms to appear in the herbal, but such is not the case. The herbal does not contain any of the words included in Adams' discussion, even though there are multiple opportunities in the herbal for some of these words to appear. For example, Adams discussed three African regional plant names that correspond to plants that appear in the herbal: *boba* (HA *malva erratica*), *gingan* (HA *simfoniaca*), and *zunzur* (HA *proserpinaca)*. The herbal does not include any of these African regional plant names, even though the text makes a point to list what each plant is called by various groups of people and in different regions (including places in Africa). A few manuscripts of the herbal contain two of the plant names (*gingan* and *zunzur*), but *gingan* appears only in passages interpolated from

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[33] The study of African Latin, or *Africitas*, has an interesting historiography dating back to the Renaissance, with great debate about what, if any, features may be considered local to this region. For a summary of the scholarship on this topic, see Silvia Mattiacci, "Apuleius and *Africitas*" in *Apuleius and Africa*, ed. Benjamin Todd Lee, Ellen D. Finkelpearl, and Luca Graverini. Routledge: 2014, 88-93.

Dioscorides' *De materia medica* and neither word has enough presence in the manuscript tradition to have been a probable part of the archetypal (let alone authorial) version of the text.[34] Another missed opportunity to display a regional term appears with the herbal's use of *moratorium* to indicate a mortar instead of the more regional *girba*, which appears in the works of Cassius Felix and in the Latin translation of Dioscorides' *De materia medica*, both of which Adams localized to North Africa.[35] The lack of such words in the herbal does not necessarily prove that the text *was not* written in Africa, (after all, the number of examples we can apply to the herbal from Adams' discussion is rather small), but it certainly does not lend support to the idea that the herbal was written there.

Adams (2007, 529-546) also discussed the works of several authors or translators he thought could be tied to North Africa through their language, including Mustio (sixth century ?), Cassius Felix (fifth century), the latin translation of Dioscorides' *De materia medica*, and the *Galeni liber tertius* (2nd-5th century). The herbal is not included in this group of distinctly African texts, even though Adams did occasionally mention the herbal's language in his work. He did not assign the herbal to any particular region based on its linguistic features. A comparison of the linguistic features of the herbal to Adams' localization criteria for each region he discussed (Africa, Gaul, Spain, Italy, and Britain) did not provide any evidence to support the possibility that the herbal was written in one of those locations in particular. The lack of North African (or any specific) regional vocabulary and expression in the herbal, as well as the fact that Adams did not include it

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[34] Adams (2007), 529 & 530. *Simfoniaca*: HA IV, *Proserpinaca*: HA XVIII. Howald and Sigerist divided the manuscript tradition of the herbal into three classes: α, β, and γ. The earliest extant manuscript of the herbal is Leiden, Bibliotheek der Rijksuniversiteit, Vossianus Latinus Q 9, a manuscript of class γ (6th-7th century). This manuscript is described by Charles Singer, who compared its version of the herbal to a fragmentary Greek medical papyrus of the second or third century, known as the Johnson Papyrus (Singer 1927, 43-45). The manuscript tradition of the herbal is also discussed by Maggiulli and Buffa Giolito (1996, 98-103) and by Pradel-Baquerre (2013, 99-119). *Zunzur* only appears as a synonym in one of the three manuscript branches (class β - which was thought by Howald and Sigerist to have the weakest textual tradition). As stated above, *gingan* only appears as a synonym in a passage interpolated from Dioscorides, which appears in only three manuscripts of the herbal (see n. 26).

[35] Adams (2007), 531 & 533. HA XL.3 & C.2.

in his list of distinctive North African texts, provides further evidence for doubting that the language of the herbal hints at its original location.

The Herbal's Punic Synonyms and Plants

The Punic Synonyms

The second argument for the herbal's North African origin is based on the plants and plant names in the text. The herbal is divided into separate chapters for each plant. Each chapter contains at least a few remedies using the plant, and some chapters also add information about where the plant grows and how to harvest it. Most chapters also contain a collection of plant name synonyms listing what the plant is called in various places around the Mediterranean. R. T. Gunther (1925) noted several plant name synonyms in a twelfth-century manuscript of the herbal that are attributed to the Phoenicians (*Punici*) of North Africa, and that Gunther believed to be of North African origin.[36] These synonyms appear in many of the extant manuscripts of the herbal. Subsequent scholars interpreted Gunther's observation of North African plant names in the text as evidence for the herbal's North African origin, although Gunther himself only noted the Punic synonyms because he thought they were "of sufficient interest".[37] The idea behind using the herbal's plant names to locate the composition of the text proposes that the author's knowledge of local African plant names is an indication that the author was from North Africa. Such a conclusion is only logical; however, this argument comes up against a great impediment, which is that most of the Punic synonyms in the herbal are not the work of the original author.

Some of the Punic synonyms cannot be used to locate the authorial version of the text because they are only found in three manuscripts, in the interpolations from Dioscorides' *De materia*

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[36] The manuscript is Oxford, Bodleian Library, MS Bodley 130 (late 11th century). Gunther (1925), xx, n. 1. The synonyms Gunther lists are: *abussussi*, *ibbal*, *zubbal*, *zibbir*, *udonaulion*, *pecoromo*, *collesis*, *caldare*, *gudubba*, *zunzur*, *sara murisude*, *fifiloi*, *alobamur*.

[37] Hunger (1935, xvii, n. 1) included Gunther's mention of North African plant names in his review of the evidence for the herbal's North African origin.

medica discussed above.[38] These interpolations are not evidence of the original author's knowledge of local plants or language because they are later additions to the herbal and are borrowed from another text. Some manuscripts of the herbal do contain Punic synonyms that are not part of interpolated passages; however, most of the Punic synonyms are particular to only one of the three classes of manuscripts of the herbal (class β), which suggests that they are not archetypal.[39] The manuscript (Oxford, Bodleian Library, MS Bodley 130) in which Gunther found his group of fourteen Punic synonyms is a manuscript of class β. In their edition of the herbal, Howald and Sigerist only considered two Punic synonyms to have been part of the manuscript archetype.[40] Because almost all of the Punic synonyms are particular to a specific class of the herbal, their attachment to the authorial version of the text is doubtful, especially given that Howald and Sigerist (1927, x) considered class β manuscripts of the herbal to have the most corrupted textual tradition.

Related to this idea is the argument that many of the herbal's synonyms are later additions offered by a revisor (or multiple revisors) of the original herbal. This idea of synonyms being added to a revised version of the herbal has been argued by Howald and Sigerist (1927, viii), but especially by Maggiulli and Buffa Giolito (1996, 66-71). Howald and Sigerist (2917, xviii) concluded that the herbal's original form did not contain any synonyms.[41] Maggiulli and Buffa Giolito (1996, 35) disagreed with Howald and Sigerist's assessment, noting that most medical texts from this period and earlier (such as those of Pliny, Scribonius Largus, and Dioscorides)

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[38] The interpolations from Dioscorides are noted throughout the critical apparatus of the Howald and Sigerist edition: *ampullacium, gudubal, atzicurur, rumicem, neszoessesade, derdum, zizuinnim, azirguzol, azirchalbe, cumsisezar, burutzim, udunnim.*

[39] Conversely, the Punic synonyms may have dropped out of transmission; however, this possibility seems the less likely option because of the previous conclusions drawn by Howald and Sigerist (1927) as well as Maggiulli and Buffa Giolito (1996) about the original herbal's limited number of synonyms.

[40] These archetypal Punic synonyms are *abussusi* (*Centauria Maior*, HA XXXIV), and *zibbir* (*Rosmarinum*, HA LXXX).

[41] This conclusion is why Howald and Sigerist chose to place the synonyms after the remedies in their edition, despite the fact that most of the extant manuscripts of the herbal list the synonyms before the remedies.

follow an apparent standard structure that presents the synonyms before the remedies, directly after the main plant name. They concluded that if the herbal differed from this structure, the text would have been unusual for the period in which it is believed to have been written (1996, 66).

Maggiulli and Buffa Giolito proposed that the original text contained synonyms for the *Graeci*, *Itali*, and some *alii*, but no others. Their argument was based primarily on the fact that Marcellus of Bordeaux's *De medicamentis* (fifth century), the earliest known text to have used the herbal as a source, includes only these three kinds of synonyms in his work (1996, 67). Maggiulli and Buffa Giolito suggested that Marcellus had access to an early version of the herbal that did not contain the copious amounts of synonyms which one finds in many extant manuscripts of the text. As for the the synonyms attributed to more unusual groups or persons (such as Zoroaster or the Dacian tribes), Maggiulli and Buffa Giolito proposed that these were added later by a revisor(s) in order to fit the message of the herbal's preface about the herbal being useful for travelers or foreigners.[42] The preface states that Apuleius wanted this herbal to be useful for his fellow readers, whether they were his neighbors or foreigners: "…*ciuibus meis, sociis quidem et peregrinis, quibus uexatio acciderit aliqua corporalis*…" (HA prol. l. 13). The foreign synonyms may have been added subsequently for the latter group. Although we cannot be sure of the appearance and structure of the original form of the herbal, these arguments about the synonyms render the usefulness of the Punic plant names for localizing the herbal somewhat doubtful. The Punic synonyms are not a reflection of the original author's knowledge because they were likely added by later revisors.

Even if the Punic synonyms were authorial, they appear in small number when compared to the synonyms attributed to other regions. According to the Howald and Sigerist edition, the archetype of the extant manuscripts of the herbal likely contained the following number of synonyms for each region or group of people:

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[42] Maggiulli & Buffa Giolito (1996), 67. Similarly, Maggiulli and Buffa Giolito suggested that the synonyms attributed to mysterious figures like Zoroaster and Democritus were added by a revisor in order to strengthen the herbal's attribution to Apuleius of Madaura, a similar figure associated with magic.

Table 1.2: The Number of Synonyms in the Archetype of the Herbal

Region / Group	Number of Synonyms
Graeci	91
Itali	74
Aegypti	38
Daci	19
Romani	18
Profetae	18
Galli	12
Ostanes	6
Siculi	3
Pythagoras	3
Spani	2
Zoroastres	2
Dardani	2
Tusci	2
Punici	**2**
Democritus	1
Syri	1
Campani	1
Lucani	1
Afri	1
Cilices	1
Bessi	1
Euoboei	1

The two Punic synonyms hardly leave an impression when compared to the much higher quantity of other synonyms thought to be part of the original text. If the number of synonyms attributed to a particular location correlates to the likelihood of that location being the herbal's place of composition, there are many places that appear more likely than the area belonging to the *Punici*.

Howald and Sigerist did not have access to or knowledge of some of the extant manuscripts of the herbal of which we are aware today. In order to supplement their work on the presence of the Punic synonyms in the herbal, I examined over forty of the herbal's manuscripts for these synonyms. Like Howald and Sigerist, I was unable to access every known manuscript of the herbal, but my examination indicates that Howald and Sigerist's observation about class β manuscripts containing more Punic synonyms than manuscripts of other classes is correct, even for the manuscripts that they were not able to examine.[43] Class α manuscripts, aside from those which contain the interpolations from Dioscorides, usually do not contain *any* Punic synonyms at all. The small group of class γ manuscripts contain about one Punic synonym each. Class β manuscripts (aside from those which have been rearranged according to malady and thus do not contain synonyms) consistently display anywhere from ten to twenty Punic plant names. The manuscript evidence supports the idea that most of the Punic synonyms belong only to one class of the herbal's tradition.

Many of the more recently-found herbal manuscripts have not yet been collated and placed within the herbal's manuscript tradition, and this might lead to a reconsideration of the synonyms if newly-examined manuscripts from classes α and γ are shown to contain many Punic synonyms. As well, Maggiulli and Buffa Giolito's review (1996, 97-167) of a class β manuscript that Howald and Sigerist were not able to access indicates that class β manuscripts may be more important to the textual tradition of the herbal than Howald and Sigerist thought. These points are important cautions against the argument that the Punic synonyms are not archetypal because they only appear in class β; however, my examination of the manuscripts also indicated that

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[43] The Punic synonyms of each manuscript are listed in Appendix C.

regardless of class, the Punic synonyms are never as numerous in the manuscripts as the plant names from many other regions. The most numerous plant names throughout the manuscripts are those attributed to the *Graeci*, *Itali*, *Romani*, *Egypti*, and the *Prophetae*. In order for the plant names to clearly emphasize a Punic locality, the Punic synonyms would need to be one of the most numerous groups of plant names. They are not, even though many of the plants in the herbal grow in North Africa (in addition to other regions), as will be discussed below.

To summarize about the Punic synonyms: some of the Punic plant names appear only in interpolations from other sources; most of the Punic plant names are likely later additions by a revisor(s) attempting to make the herbal appear useful for a wide audience or for travel, and most of the Punic plant names appear only in a single manuscript class and are never as numerous as the plant names attributed to several other regions or peoples. These three points demonstrate that the Punic plant names appearing in some manuscripts of the herbal are likely not authorial and are thus not sufficient evidence to indicate that the herbal was written in North Africa.

The Growth Distribution of the Herbal's Plants

In addition to examining the plant synonyms for hints of a North African origin, one could also analyze the modern identifications of the herbal's Latin plant names to see if any of the text's plants are native or endemic to North Africa.[44] If the herbal contains a preponderance of plants native to North Africa, that would suggest that the author was writing for a North African

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[44] A plant is considered 'native' if it grows in a particular location without human assistance. I have chosen to focus on the native locations of the herbal's plants because of the likelihood that many of these plants were brought to particular regions subsequent to late antiquity because of human interaction and intervention. Even when examining only the modern native growing locations of plants, however, there are still obstacles to understanding their historical growth distributions. The native location of a species does not necessarily mean that the species originated in that location, only that it arrived there without human assistance. The native status of a species also does not necessarily mean that the species has grown in a specific area for a long time. For example, the Eurasian Collared Dove (*Streptopelia decaocto* Friv.) is considered native to Ireland because it arrived there without human assistance, but it did not settle in Ireland until the 1960s. These issues are yet more reasons why attempting to use the herbal's plants to localize the text is a more complicated endeavor than has previously been expressed.

readership or that the author was most familiar with North African plants, both of which would imply that the author lived or wrote in that region. Appendix B lists every plant in the herbal, along with their scientific classifications, a selection of their modern common names, and their native geographical distributions. I have identified the plants in the herbal according to the work of J. André on plant names in Antiquity (2010). The common names and native geographic distributions in the chart derive from information provided by the Germplasm Resources Information Network (GRIN) (of the U.S. Department of Agriculture, Agricultural Research Service, National Plant Germplasm System, 2019). GRIN is a database of plant information, including descriptions, taxonomic classifications, geographic distributions, and other essential information for identifying plants. Assuming that all of these identifications for the plants of the herbal are correct, the native geographical distribution of the plants in the text is so varied and diverse that there does not appear to be an emphasis on any particular region within Europe or North Africa. Even if one only examines the plants that are provided with Punic synonyms in class β, there is clearly no correlation between Punic plant names and North African growing locations:

Table 1.3: The Geographic Distribution of the Herbal's Plants with Punic Synonyms in class β

Latin Plant Name	***Punici* Synonyms**	**Scientific Name**	**Native Location**	**Howald & Sigerist Page Number**
Verbenaca	**Sanguinariam**	*Verbena officinalis* L.	Europe	31
Simfoniaca	**Caliclarem, Gingan, Ampullacium**	*Hyoscyamus* L.	Africa, Western Asia, Europe	33
Pedeleonis	**Atzicurur**	*Leontice leontopetalum* L.	Africa, Asia, Southeastern Europe	38
Lapatium	**Rumicem**	*Rumex crispus* L.	Africa, Asia, Europe	46

Latin Plant Name	***Punici* Synonyms**	**Scientific Name**	**Native Location**	**Howald & Sigerist Page Number**
Dracontea	**Adrizafot, Oricla Asinna**	*Arum dracunculus* L.	North Africa, Turkey, Southern Europe	48
Proserpinaca	**Zunzur**	*Polygonum aviculare* L.	Asia, Europe	55
Nasturcium	**Cusmin, Cusunti**	*Lepidium sativum* L.; *Roripa* Scop.; some wild species of Nasturtium	Africa, Asia, Europe	59
Ostriago	**Saramuris**	*Rubia tinctoria* L.; *Rubia peregrina* L.	Africa, Western Asia, Eastern Europe	69
Asfodilus	**Fifiloi**	*Asphodelus* L.	Africa, Western Asia, Southern Europe	75
Centauria Maior	**Abussusi, Abessussin**	*Centaurea* L.	Africa, Western Asia, Southern Europe	78
Callitricum	**Neszoessesade**	*Adiantum capillus Veneris* L.; *Asplenium adiantum nigrum* L.	Africa, Turkey, Europe OR Africa, Asia, Europe	97
Heliotropa	**Udunnim**	*Heliotropium europaeum* L.; *Heliotropium villosum* L.; *Heliotropium supinum* L.	Africa, Asia, Europe	100
Asterion	**Derdum**	*Marrubium vulgare* L.; *Marrubium creticum* Miller	Africa, Asia, Europe	114

Latin Plant Name	*Punici* Synonyms	Scientific Name	Native Location	Howald & Sigerist Page Number
Leporis Pes	**Adundi**	*Trifolium arvense* L.; *Trifolium*	Africa, Asia, Europe	115
Peristereon	**Zizuinnim, Azirguzol**	*Lycopus europaeus* L.; *Lycopus exaltatus* L.	Asia, Europe	123
Gramen	**Ibbal**	*Cyonodon dactylon* Pers.	Africa	141
Gladiolum	**Zubbal**	*Iris* L.	Asia, Europe	143
Rosmarinum	**Zibbir, Zibir**	*Rosmarinus officinalis* L.	Africa, Asia, Europe	145
Pastinaca Silvatica	**Udonaulion Siccanside**	*Daucus carota* L., var. *silvestris*	Africa, Asia, Europe	147
Canis Cerebrum	**Azirchalbe**	*Antirrhinum orontium* L.	Europe, Africa, Western Asia	156
Cucumis Silvaticus	**Cumsisezar**	*Cucumis sativus* L.	Asia	199
Brassica Silvatica	**Burutzim**	*Cyanchum acutum* L.	Africa, Asia, Europe	217

Some of the plants in the above table are native to North Africa, but most are native to various areas in Europe and Asia in addition to Africa. This pattern continues for all of the plants in the herbal. If there were many plants in the herbal that only grow in North Africa, that preference would be a good clue that the text was written in that region, but that is not the visible outcome. One could argue that there is a slight trend toward the Mediterranean region, with many plants native to North Africa, Southern Europe, and Western Asia, but that conclusion is difficult to draw with certainty, given the multiple plant identifications possible for many of the Latin plant names. Several of the Latin plant names in the herbal correspond to multiple species. Some of the plants in the herbal can only be identified as far as their genus. As well, a small number of

plants in the herbal have not yet been identified at all. One must keep these limitations in mind when using the plant identifications to locate the composition of the text.

The following chart displays the countries to which most of the plants in the herbal are native today. I have only included in this chart the plants in the text whose identification has been narrowed down to a particular species (about seventy plants). I chose to include only the plants that could be identified to a particular species because a genus can contain hundreds of species that grow in many different locations around the world. I recorded all of the countries to which each of these plants are considered native by GRIN, and then compared the number of plants native to each country:

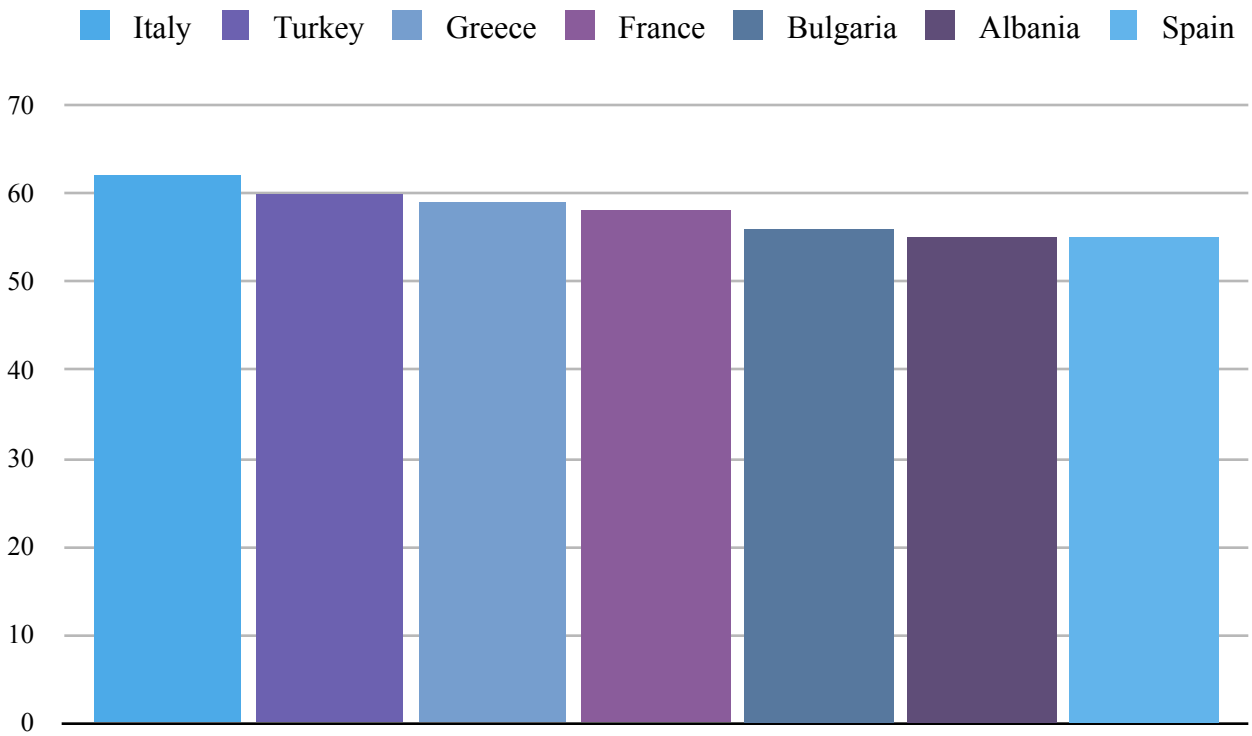

Chart 1: The Number of Plants in the Herbal that are Native to a Particular Location

The above chart showcases the seven countries with the highest number of plants out of the seventy species. No country is a native location for all of the seventy plants, but many of the

countries come close to that number. The country where the most plants (sixty-two out of the seventy) are considered native is Italy, followed closely behind by the other six, each of which are native to over fifty-five of the seventy plants. These numbers corroborate the impression I received of an emphasis on a Mediterranean locale for most of the plants in the herbal, and suggest perhaps a northern Mediterranean focus.

As for the North African countries, some of them are well-represented, but not to the extent that the above countries are. Morocco and Algeria are each native to about forty-five of the seventy plants. Tunisia is native to forty, Libya to twenty-five, and Egypt to nineteen:

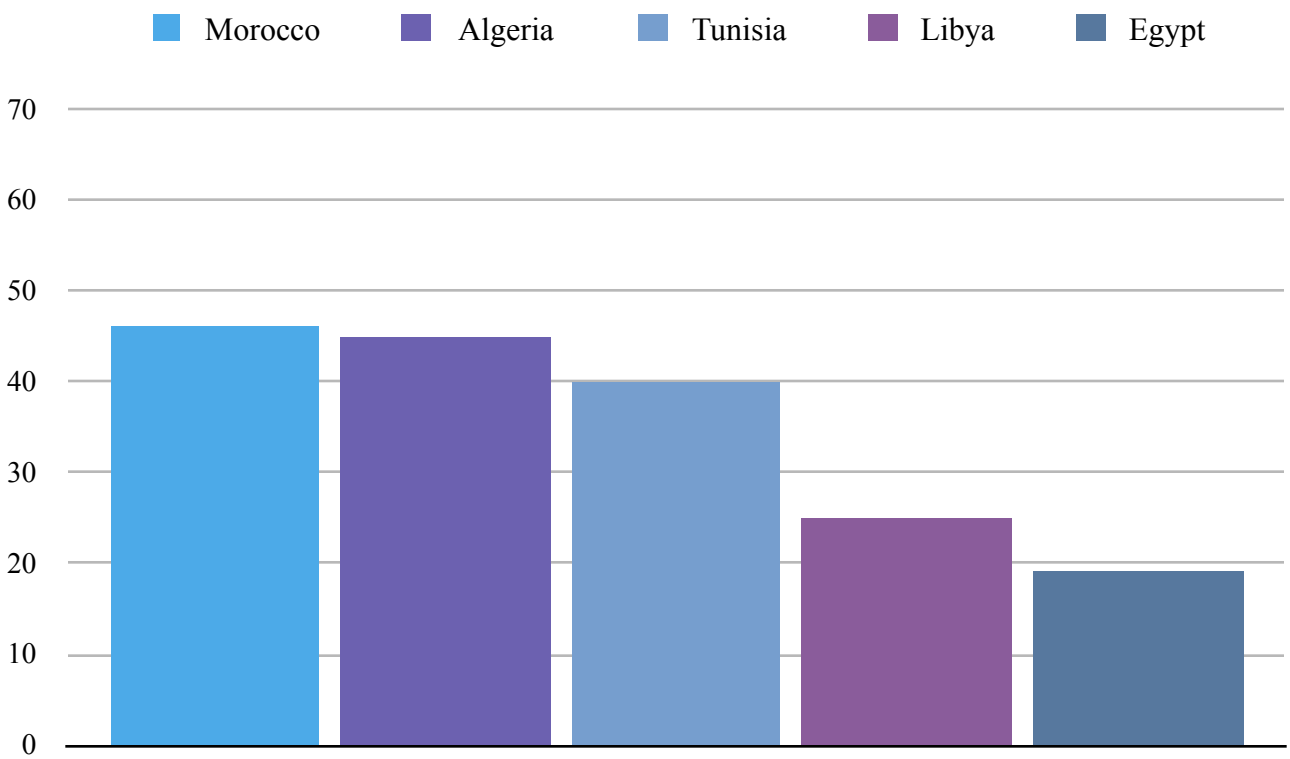

Chart 2: The Number of Plants in the Herbal that are Native to a North African Country

As stated previously, these numbers *only* take into account the plants that could be narrowed to a single species, which is only about half of the plants in the herbal. If some of the herbal's other plants are more precisely identified in the future, their identifications and geographic distributions could completely alter our perception of the herbal's plants.[45] Using the information that is available to us now, however, one can conclude that North Africa is not especially emphasized as a growing location for the plants in the herbal.

Another question to consider on the topic of the herbal's plants is the comparative geographical distribution of those plants during the fourth century and in modern times. The plants in the herbal should be found in relatively the same locations today as they were in the fourth century as long as the climate of Europe and the Mediterranean during the fourth century did not differ noticeably from the modern climate of those regions. Such a change could have had a temporary effect on where the plants in the herbal grew most abundantly or where people chose to cultivate them, resulting in modern databases like GRIN being less useful when discussing historical plants. For example, L. Voigts (1979) and others have discussed how the climate in some northern parts of Europe during the ninth to thirteenth centuries was much warmer than it is today, a phenomenon Voigts called the Minimal Climatic Optimum (MCO).[46] These climatic changes affected plant distribution, so that plants that we normally find in the Mediterranean today were able to grow farther North during this period. As an example of this, Voigts (1979, 262) cited the numerous vineyards of England recorded in the *Domesday Book*, implying a local climate more similar to modern-day Italy than to England. If the climate of late antiquity

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[45] In addition to examining the actual growing locations of the herbal's plants, one could also take into account what the sources of the herbal say about where the herbal's plants grow. This topic is discussed in detail in chapter three. The *Medicina Plinii* does not provide this kind of information, but Pliny's *Naturalis Historia* regularly discusses where one can find the plants included in the herbal. As is demonstrated in Table 3.1 of chapter three, Pliny described many of the plants in the herbal as being common, easy to find, or as growing in many locations. There are only a few plants in the herbal that are described as growing only in a particular place, but these locations are not in North Africa.

[46] Like Voigts, G. Melvyn Howe (1997) has discussed the changing climate and environment of Britain from its first settlement to the end of the twenty-first century.

experienced any similar anomalies, the growing locations of the plants in the herbal might have slightly differed when the text was initially written.

The climate history of Europe and the Mediterranean has been the subject of scholarly research for decades.[47] These studies rely on proxy data from tree rings, ice cores, stalagtites, corals, and and other kinds of natural evidence to reconstruct historical climates. The physical features of these natural phenomena, such as the width of tree rings or the retreat and growth of glaciers, vary depending on climate conditions. In this way they keep a record of past climate fluctuation (Harper & McCormick 2018, 14). If a tree, for example, has been alive since the fourth century, the variations between the width of its rings can be studied for indications of climate conditions since that period. Another source of evidence for historical environmental conditions is the written record, but I have chosen not to include detailed discussion of textual evidence about the climate of the fourth century because of the disagreement among scholars about the reliability of

[47] H. H. Lamb (1965, 1966, 1977, 1995) has worked extensively on the climate history of the Mediterranean, from the pre-historical period to projections of future climates. Brent D. Shaw (1995) focused specifically on the climate of Roman North Africa. Michael McCormick has concentrated on the climate of the Mediterranean during the Roman Empire [Ulf Büntgen et *al.* (2011); Michael McCormick et *al.* (2012); Kyle Harper and Michael McCormick (2018)]. His work with Kyle Harper (2018) included a helpful review of the literature on the subject of Mediterranean paleoclimate studies. Nicholson *et al.* (2013) examined the temperature of various parts of Africa, including the northeastern region, during the medieval period and onward. The paleoethnobotany of Africa has also received a fair amount of recent scholarly attention, but most of the scholarship in this area concentrates on crops like cotton, pearl millet, and sorghum, as opposed to medicinal plants: René Cappers (2007); Ahmed G. Fahmy, Stephanie Kahlheber and A. Catherine D'Andrea (2011); Ruth Pelling (2014). The Past Global Changes (PAGES) 2k Network is attempting to establish climate reconstructions for the past two millennia: http://pastglobalchanges.org/science/wg/2k-network/intro. Accessed September, 2019.

contemporary textual sources as evidence for climate.[48] I will instead focus primarily on proxy analysis.

The general consensus reached by most of the historical climate studies on Europe and the Mediterranean is that the climate of this region during the fourth century was fairly similar to, but slightly cooler than, its modern climate.[49] By how much and compared to what periods the fourth century was cooler is important for theorizing about plant distribution. The Past Global

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[48] Shaw (1995, 383) hesitated to use historical testimony because the data it provides are not quantifiable and because the sources are inconsistent (in that people are most likely to record unusual events). Harper and McCormick (2018, 13), however, argued that written evidence and proxy data should be used in conjunction, so that the written evidence can act as a check on climate reconstructions produced from proxy data. McCormick's *Geodatabase of Historical Evidence on Roman and Post-Roman Climate* records each written account of a climate event in the Mediterranean and Europe documented in ancient and early medieval written sources. Most of the records in McCormick's Geodatabase from the third century and earlier in the Roman Empire concern the quality of the Nile's flooding, with a few records of unusual weather dispersed throughout. The records for the fourth century are much more variable, with mentions of cold or freezing weather, snow, earthquakes, food shortages, famines, droughts, heavy rains, and bad harvests. Although these records may seem to indicate an increase in harsh weather, they are more likely due to the larger selection of sources containing observations about the weather, especially given that the subsequent centuries contain an equal or greater number of mentions of bad weather.

[49] Shaw (1995, 395) argued that the climatic conditions of North Africa during the height of the Roman Empire more closely resembled its modern climatic conditions than those of the Medieval Period, but admitted that there are still many questions to ask before a definitive answer can be reached. Lamb (1995, 142) concluded that the late antique Mediterranean climate was quite similar to the climate of our period, except that North Africa was probably less dry than it is today. According to Lamb, this explains the massive crop production in North Africa during the Roman Empire. Ljungqvist (2009, 17) placed the fourth century at the start of the 'Dark Age Cold Period' in Europe, which lasted until 800 C.E., near the beginning of the Minimal Climatic Optimum. McCormick (2012, 174 & 185) described the climate of the Roman Empire from c. 200 to 400 C.E. as one of "instability and initial recovery", proceeding from the stable and warm conditions of the previous centuries. McCormick concluded from the inconsistency of the proxy data for these centuries that the climate at this time was less stable than during the previous few centuries, and that there was a period of cooling for the northwestern regions of the Roman Empire (partially due to volcanic activity), before a return to warm and favorable conditions in the second half of the fourth century, after which occurred a general cooling trend in the fifth and sixth centuries until the Minimal Climatic Optimum (2018, 33-39).

Changes 2k Network (PAGES) is attempting to produce climate reconstructions for most regions of the world during the last two millennia. The network's analysis of European tree rings found that the overall climate of Europe in the fourth century was *cooler* than that of Europe in the year 2000 by about 1 to 2 °C, with decadal fluctuations between warming and cooling periods.[50] Would this temperature difference have been enough to significantly shift the growth distribution of the herbal's plants? The effect would presumably have been the reverse of that of the MCO described by Voigts, which posited that the temperature in Europe was *warmer* by 1 to 2 °C at that time compared to twentieth-century Europe.[51] At that shift in temperature, modern Mediterranean plants flourished in Northwestern Europe. During the cooler temperatures of the fourth century, perhaps northern European plants could have grown more easily in southern locations than a modern reader might anticipate. Climate fluctuation is yet another reason why attempting to use the herbal's plants to locate the text's original composition is entirely tenuous. Even if all of the herbal's plants are correctly and precisely identified, the habitats of the plants at the time of the text's composition may have differed somewhat from their modern habitats, which would render the application of modern plant growth distribution onto the herbal's plants misleading.

A final point to consider about the plants of the herbal and their growing locations is that there are multiple reasons why the author may have chosen these plants for his text. The plants in the herbal may have little to do with the location in which the herbal was written, for they were almost certainly influenced by the author's sources, not just the author's location. Marcellus of Bordeaux, for example, consulted the herbal as a source for his *De medicamentis*. If one looks at the plants featured in the remedies that Marcellus pulled directly from the herbal, one can see that Marcellus did not distinctly favor plants from his location in Gaul and its surrounding regions when using the herbal as a source:

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[50] PAGES Consortium, "Continental-scale temperature variability during the past two millennia", *Nature Geoscience* 6 (2013), 341-343, figs. 2 and 4.

[51] Voigts 1979, 262.

Table 1.4: The Growth Distribution of the Herbal's Plants in Remedies Borrowed by Marcellus of Bordeaux

HA Plant Borrowed by Marcellus	Scientific Name	Modern Growth Distribution
Verbenaca	*Verbena officinalis* L.	Africa, Asia, Australia, Europe, North America, Caribbean
Orbicularis	*Cyclamen graecum* Link *Cyclamen hederifolium* L. *Cyclamen europaeum* L.	*C. graecum* Link: Western Asia, Greece *C. hederifolium* L.: Turkey, Switzerland, Southern Europe *C. europaeum* L.: Middle Europe, Southeastern Europe, France
Proserpinaca	*Polygonum aviculare* L.	Europe, Asia, North America
Nasturcium	*Lepidium sativum* L.	Egypt, Ethiopia, Asia
Brittanica	*Rumex aquaticus* L.	Asia, Europe
Argimonia	*Agrimonia eupatoria* L.	Macaronesia, Northern Africa,
Centauria Maior	*Centaurea centaurium* L.	
Centauria Minor	*Erythraea centaurium* L.	Northern Africa, Asia, Europe
Scilla	*Urginea maritima* Baker = *Scilla maritima* L.	Macaronesia, Northern Africa, Western Asia, Southern Europe

HA Plant Borrowed by Marcellus	Scientific Name	Modern Growth Distribution
Verbascum	*Verbascum* L. esp. *Verbascum nigrum* L. esp. *Verbascum lychnitis* L. esp. *Verbascum sinuatum* L. esp. *Verbascum thapsus* L.	*V. nigrum* L.: Siberia, Europe *V. lycnitis* L.: Morocco, Georgia, Siberia, Europe *V. sinuatum* L.: Northern Africa, Asia, Ukraine, Southern Europe *V. thapsus* L.: Macaronesia, Northern Africa, Asia, Europe
Senecion	*Senecio vulgaris* L. and other mediterranean species of *Senecio* L.	Macaronesia, Northern Africa, Asia, Europe
Gramen	*Cynodon dactylon* Pers.	Southern Europe
Rosmarinum	*Rosmarinus officinalis* L.	Macaronesia, Northern Africa, Western Asia, Southern Europe
Sparagus Agrestis	*Asparagus officinalis* L. *Asparagus acutifolius* L. *Asparagus tenuifolius* L. *Asparagus aphyllus* L.	*A. officinalis* L.: Northern Africa, Asia, Europe *A. acutifolius* L.: Northern Africa, Western Asia, Southern Europe *A. tenuifolius* L.: Turkey, Europe *A. aphyllus* L.: Northern Africa, Western Asia, Southern Europe
Canis Cerebrum	*Antirrhinum orontium* L.	Africa, Western Asia, Europe
Rubus	*Rubus fructicosus* L.	Europe
Ruta Hortensis	*Ruta graveolens* L.	Ukraine, Southeastern Europe
Mentastrum	*Calamintha* Lmk	Europe, Asia, North America

HA Plant Borrowed by Marcellus	Scientific Name	Modern Growth Distribution
Ebulum	*Sambucus ebulus* L.	Macaronesia, Northern Africa, Asia, Europe
Puleium	*Mentha pulegium* L.	Macaronesia, Northern Africa, Ethiopia, Asia, Europe
Innula Campana	*Inula helenium* L.	Asia, Ukraine, Southeastern Europe
Hedera Nigra	*Hedera helix* L.	Northern Africa, Asia, Europe
Serpullum	*Thymus* L. esp. *Thymus serpyllum* L.	Siberia, Europe
Sisimbrium	*Mentha silvestris* L. *Mentha viridis* L.	*M. silvestris* L.: Africa, Asia, Europe *M. viridis* L.: Western Asia, Southern Europe
Titimallus	*Euphorbia* L.	Africa, Asia, Europe, North America, South America
Ruta Silvatica	*Ruta montana* L. *Ruta chalepensis* L.	*R. montana* L.: *R. chalepensis* L.: Macaronesia, Northern Africa, Western Asia, Southern Europe
Ocimum	*Ocimum basilicum* L.	Africa, Asia
Feniculum	*Foeniculum vulgare* Gaertn.	Macaronesia, Northern Africa, Asia, Ukraine, Southern Europe

Although it may seem logical for authors to have favored the plants of their native regions in their medical works, this may not actually have been the case for some medical writers. Textual tradition also influenced which plants were most prominently-featured within the medical genre. As will be discussed in chapter 3, the herbal somewhat aligns itself with the euporistic tradition, which favored simple remedies and commonly-available ingredients. Many of the herbal's plants are described in Pliny's *Naturalis Historia* as being common or as growing in many places

(Tables 3.2-3.3), and were perhaps chosen because of how well-known these plants were or how easily one could have procured them. Even if the plants of the herbal and their geographic distributions are known with perfect precision, it is difficult to know what plants and plant names the author recorded because he had prior experience of them and what plants were included for other reasons. A reliance upon the plants for identifying the herbal's original place of composition is probably too fraught with uncertainty to lead to satisfying conclusions.

The Illustrations of Snakes in the Herbal

The third and final argument in favor of the herbal's North African origin is based on some of the snake names that accompany illustrations of snakes in the herbal. When the herbal is illustrated in a manuscript, sometimes illustrations of snakes will accompany the descriptions of plant remedies for snake bites. For example, one can often find an illustration of a snake slithering ominously next to a remedy like *ad morsum serpentis*.[52] Although often these illustrated snakes are unlabeled or given a generic term for 'snake' (such as *serpens* or *anguis* in Latin or *nædre* in the Old English translations), in some manuscripts the illustrated snakes are given a specific name, indicating a particular type of snake, such as *aspis* or *sepedon*.

As with Latin plant names, Latin snake names have the potential for modern identification. F. Hunger (1935) suggested modern identifications for two of the named snakes in the herbal's illustrations: *aspis* and *acontius*, which he identified as the Egyptian Cobra (*Naja haje* L., HA *aspis*) and the Javelin Sand Boa (*Eryx jaculus* L., HA *acontius*). He noted that these snakes are native principally to North Africa (1935, xviii). The geographic distribution of these snakes was subsequently added to the collection of evidence for the herbal's North African origin, based on the perfectly reasonable idea that the author of the text was most likely to include remedies for animal bites from the animals with which he was most familiar.

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[52] Occasionally other kinds of dangerous animals are illustrated next to remedies for their bites as well, such as dogs and scorpions. Snakes are by far the most prominent animal featured in the illustrated versions of the herbal. Anne Van Arsdall has proposed that one of the functions of such illustrations was to allow a reader who was searching for a remedy for an animal bite to quickly find such a remedy by catching their eye with the illustration (Van Arsdall 2002, 108).

Attempting to locate the herbal's original place of composition by relying on the natural habitats of the snakes named in the herbal's illustrations is problematic for two primary reasons: first, Latin and Greek snake name identification is riddled with the same problems that one faces when trying to apply modern identifications to Latin and Greek plant names. Most modern identifications of these snake names are unreliable. Second, the snake names that accompany illustrations in the illustrated manuscripts of the herbal are likely later additions and do not usually correspond to the two snakes that are actually mentioned in the text. Like the Punic synonyms, these snake names added subsequently to the text have been used to locate its composition, but they do not represent the work of the herbal's original author.

Hunger concluded that only two of the names that label snake illustrations in the herbal could be identified with confidence, but I have thus far found sixteen distinct snake names that appear as labels for the various snake illustrations in different manuscripts of the herbal.[53] These snake names are not always consistent between manuscripts, and are not all likely to be authorial. If one wishes to use these snakes' modern identifications to locate the composition of the text, then it is important to try to determine which snake names were likely present in the original version of the herbal and to identify all of them. Fortunately, further research on ancient Greek and Latin snake names has been undertaken subsequent to the publication of Hunger's work, so that

[53] Appendix D contains a comparison of the different snake names in the manuscripts of the herbal.

tentative identifications are now possible for several of the Latin snake names in the text.[54] Applying this new information to the study of the origin of the herbal will demonstrate that the Latin snake names are not strong evidence for a North African origin for the text.

The sixteen snakes named in the various illustrated manuscripts of the herbal are: *aspis*, *acontius*, *sipedon*, *profae*, *aceres*, *iecis*, *lysis*, *matros*, *egefonidos*, *ceresidros*, *draco*, *steripes*, *mengalet*,

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[54] For the following discussion of the herbal's snakes and their identifications, I have relied primarily on the works of Liliane Bodson (1981, 1986a, 2012, and esp. 1986b), who has produced several studies of ancient Greek and Latin snake names, their etymologies, and their modern identifications. I have also given preference to the suggestions of Scarborough in his 1977 article on Nicander's *Theriaka*. Scarborough approached snake identification in the *Theriaka* through a study of the description of each snake's venom. He tended to offer more broad identifications of genera and family, rather than suggesting specific species. Brill's New Pauly Encyclopedia article on *Schlange* by Gossen-Steier is cited frequently within the body of snake-name scholarship, although Gow and Schofield (1953), as well as Bodson and others, have mentioned its insufficiencies as criticized by W. Morel (1928). The newest edition of the New Pauly Encyclopedia has an updated article on snake names by Hünemörder (2006); however, this updated version appears to have some of the same issues for which the Gossen-Steier article was criticized.

Much of the scholarship about ancient snake identifications can be found in commentaries and editions of Nicander of Colophon's *Theriaka* and similar treatises on reptile toxicology from antiquity; however, quite often Bodson, Scarborough, and Gossen-Steier are cited as sources, leading to a repetition of these identifications. A snake identification might be suggested by five or six different scholars, but tracing their citations will usually lead back to either Bodson, Scarborough, or Gossen-Steier. For example, Gow and Schofield's edition of the *Theriaka* often shies away from suggesting an identification, but rather will list the various identifications suggested by others (1953). The same is true for Spatafora's edition of Nicander's work (2007). Knoefel and Covi's work is quite helpful because it provides comparisons between Nicander and other authors on ancient snakes, such as Philumenus and Aetios of Amida (1991). Their identifications seem to come from Gow and Schofield, Brenning (1904), and Bodson. I was not able to locate Brenning's work. I have not included Brenning's identifications in my discussion because I cannot confirm them, but I have noted when it is cited as a source.

To summarize my approach to the following snake-name discussion, I have chosen to give most weight to Bodson and Scarborough because their works focus on snake identification and the other works listed here tend to rely on these studies. The Gossen-Steier article I have included as well, with caution because of its criticism. I have included the identifications proposed by other scholars in an effort to be thorough, and I have tried to make it clear when a source is simply citing another, so as to provide an accurate representation of the source of these snake identifications.

ignes, *axieniza*, and *tracetos*.[55] The illustrated manuscript considered to be the closest to the archetype by Heide Grape-Albers (1977, 7), who studied the herbal's illustrations extensively, is also the earliest extant manuscript of the herbal: the sixth-century manuscript Leiden MS Voss Q 9. This manuscript displays one unnamed snake illustration in addition to illustrations of the *aspis, acontius*, *iecis*, and *lysis*.[56] As will be demonstrated in the following discussion, the suggested modern identifications of these snakes as a group are not precise enough to reveal a North African origin for the text. In addition to discussing these four archetypal snakes, I have also chosen to examine possible identifications for the other snakes named in various manuscripts of the herbal. My primary reason for doing so is that the Leiden manuscript has spaces left blank that seem to have been intended for images of additional snakes or animals.[57] Some of the other snake names may therefore also be archetypal.

The Illustrated Snake Names in Leiden MS Voss. Q 9

Hunger's first snake, *aspis*, is the most securely-identified snake of this group, with nearly perfect agreement among scholars on the *Naja haje* (Egyptian Cobra) identification.[58] Pradel-Baquerre (1996, 20-21) proposed instead *Vipera aspis*, the Asp Viper or European Asp, but the Egyptian Cobra appears to be a better fit etymologically and descriptively. Bodson (1986b, 69) argued that the name *aspis* (ἀσπίς) derives from the appearance of the snake, whose body widens into a kind of hood surrounding its head and evoking an image of a shield (*aspis*).[59] The Egyptian Cobra clearly has this feature, whereas the European Asp's neck does not widen in this

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[55] Appendix D lists the herbal's snake names and their proposed identifications for ease of reference.

[56] These illustrations appear on fols. 20r, 27v, 29v, 33v, and 38r.

[57] For example, note fol. 21v.

[58] Scarborough 1977, 7; Bodson 1986b, 77; Gaillard-Seux [citing Bodson], 267; Gow & Schofield 1953, 173 n. 158 (citing Brenning and Gossen-Steier); Knoefel & Covi 1991, 99, n. 3,5 (citing Gossen-Steier). Gow & Schofield 1953, 173, n. 158 also cite Keller as proposing *Vipera aspis*.

[59] I have not been able to find an ancient source describing the *aspis* in this way. Nicander, for example, says nothing about a hood-like shape of the snake's head.

way. Scarborough (1977, 8) noted that Nicander's description of the effects of *aspis* venom (lethargy and a slumber-like state without swelling of the bite site) is an accurate description of the effect of the venom produced by snakes in the *Elapidae* family, of which the Egyptian Cobra is a member. The European Asp is a member of the *Viperidae* family, whose venom causes very different effects on the body, such as swelling, blisters, vomiting, and diarrhea (Scarborough, 1977, 7-8). The description of the physical features and venom of the *aspis* appear to be closer to the Egyptian Cobra than to the European Asp.

Some ancient authors, such as Philumenus, differentiated between three distinct types of *aspidium*: *chersea*, *chelidonia*, and *ptuades*, each of which were described as having a unique appearance. Other authors, like Nicander, mentioned no such distinction.[60] Bodson (1986b, 69) suggested that these three subtypes of the *aspis* can each be identified as a distinct species: *chersea* as *Naja haje*, *chelidonia* as *Walterinnesia aegyptia*, and *ptuades* as *Naja nigricollis*.[61] The herbal only names the *aspis*, without mentioning any subtypes of this snake, and so any of the three are possible identifications. Each of these three species can be found in Africa, therefore they would all lend support to the herbal's North African composition.[62] The habitat of the European Asp is (unsurprisingly) Europe, which would not lend support.[63] Since the

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[60] Knoefel & Covi 1991, 97; Nicander ll. 160-189, trans. by Gow and Schofield 1953, 39.

[61] Bodson 1986b, 69.

[62] The geographic distribution of the snakes discussed here has been taken from *The Reptile Database,* a taxonomic database of all living reptiles, run by Professor Peter Uetz and the Zoological Museum Hamburg.
Egyptian Cobra: http://reptile-database.reptarium.cz/species?genus=Naja&species=haje.
Naja nigricollis: http://reptile-database.reptarium.cz/species?genus=Naja&species=nigricollis&search_param=%28%28search%3D%27naja+nigricollis%27%29%29.
Walterinnesia aegyptia (Africa and western Asia): http://reptile-database.reptarium.cz/species?genus=Walterinnesia&species=aegyptia&search_param=%28%28search%3D%27walterinnesia+aegyptia%27%29%29.

[63] European Asp: http://reptile-database.reptarium.cz/species?genus=Vipera&species=aspis&search_param=%28%28search%3D%27vipera+aspis%27%29%29.

Egyptian Cobra is the more probable identification, Hunger's suggestion of the *aspis* as an African snake is likely accurate.

The *aspis* is extremely well-attested in ancient texts on toxicology and natural history, such as the works of Nicander and Philumenus, and was also famous for its lethal role in the story of Cleopatra's suicide.[64] Its plentiful mentions and descriptions by ancient and medieval authors have eased the ability of modern scholars to identify this animal. By contrast, for most of the snakes in the herbal (and most ancient snakes, in general), we are only able to narrow down the pool of possible identifications to a choice between a few options, a fact which speaks to the many layers of uncertainty that must be waded through when attempting to identify a Latin snake name.

A great contributor to our modern uncertainty about these snake names is the fact that ancient and medieval authors did not always agree on what animals these names even specified. For example, the *seps* described by Philumenus is not the same snake as the *seps* described by Nicander. It is instead a match for Nicander's *sepedon*, while the *seps* in Dioscorides' *De materia medica* is a lizard and the *seps* in Pliny's *Naturalis Historia* sometimes denotes a snake and sometimes denotes a lizard or an insect.[65] As with the herbal's plants, a snake could be known by multiple names, and a single name could be used to describe multiple kinds of snakes, even sometimes members of completely different genera that simply had similar characteristics (Gow & Schofield 1953, 18). In fact, Scarborough (1977, 5) has stated that name confusion between animals would have been even more prevalent than among plants because there was a much more established literature on plant identification in the ancient period than there was for

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[64] The *aspis* was also known for its hatred of the *ichneumon*. Their violent battles are described by Nicander (ll. 190-208, trans. by Gow & Schofield 1953, 41) and Aelian (Schofield 3.22 & 6.38).

[65] Nicander *seps* (*Theriaka* ll. 142-159, trans. by Gow & Schofield 1953, 37-39); Nicander *sepedon* (*Theriaka* ll. 320-333, trans. by Gow & Schofield 1953, 49-50); Philumenus *seps* (*On Poisonous Animals* XXIII.29-30, trans. by Knoefel & Covi 1991, 110-111); Dioscorides *De materia medica* II.65, trans. Lily Beck 2018, 108); Pliny *Naturalis Historia, seps* = snake (XXIII.48, 63; XXIX.136); Pliny *Naturalis Historia, seps* = lizard/insect (XX.15, XXIX.102).

poisonous animals. When attempting to locate the composition of the herbal, the difficulties faced when using the plant identifications as evidence are just as present when using the snake identifications.

Hunger's second identification of *Eryx jaculus* (the Javelin Sand Boa) for *acontius/akontias* (ἀκοντίας) is less certain than his identification for the *aspis*. Only Hunger and Bodson have suggested identifications for this snake. The *akontias* is named for its dart-like movement, and thus Bodson (1986b, 71-72) suggested *Coluber najadum* (the Slender Whip Snake), apparently known for the remarkable way in which it unravels. The Slender Whip Snake has a geographic distribution of southeast Europe and western Asia, and thus would not support a North African composition.[66] Even if Hunger's identification is the correct one, the Javelin Sand Boa's habitat stretches throughout North Africa, Italy, the Greek islands, eastern Europe, and western Asia.[67] The geographic distribution of both of these snakes is too wide to support a North African composition.

The herbal's *iecis* is thought to derive from the greek *echis* (ἔχις), also sometimes called the *echidna* (εχιδνα).[68] Based on scholarly consensus, this snake is some kind of viper, although which particular kind remains disputed. Scarborough (1977, 8) offered the general statement that it is probably of the *Viperidae* family. Similarly, Knoefel and Covi (1991, 134) proposed that it is some species of the *Vipera* genus. Bodson (1986b, 68) specified further the species *Vipera xanthina* (Coastal Viper / Ottoman Viper), *V. lebetina* (Levantine Viper), or *V. ammodytes* (Nose-horned Viper), each of which can be found in several places in addition to Africa, such as

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[66] Slender Whip Snake: http://reptile-database.reptarium.cz/species?genus=Platyceps&species=najadum&search_param=%28%28search%3D%27coluber+najadum%27%29%29.

[67] Javelin Sand Boa: http://reptile-database.reptarium.cz/species?genus=Eryx&species=jaculus&search_param=%28%28search%3D%27eryx+jaculus%27%29%29.

[68] Aelian (*De natura animalum* 10.9) wrote that some authors considered the *echis* and *echidna* to be different snakes, while others thought they were the same. Most authors, like Nicander (*Theriaka* ll. 209-257, trans. by Gow & Schofield 1953, 43-45), seem to have treated them as male and female versions of the same snake.

southern Europe or western Asia.[69] Gow and Schofield (1953 174, n. 209) concurred with Bodson about *Vipera ammodytes*, but argued that *echis* could indicate several species of vipers. Gow and Schofield also noted Brenning's suggestions of *Vipera berus* (Adder / Northern Viper) or *V. aspis* (European Asp). Both of these snakes can be found throughout Europe. Spatafora (2007 123, n. 165) repeated the *Vipera ammodytes* suggestion. Here we have an example of a snake name with too many possible identifications to narrow down the location of our text, and even among the proposed identifications, the geographic distributions are too wide to be helpful for pointing to a North African origin for the herbal.

The *lysis* snake in the herbal is possibly a confused transliteration of the *Lybios* snake discussed briefly by Nicander, although he only mentioned it in a list of harmless reptiles (Gow & Schofield 1953, 61). The Pseudo-Galenic *Theriac* (ch. 6) mentions a poisonous snake of Lybia with two heads, but this text might be describing the *amphisbaena*, a snake which was known for this distinctive feature.[70] *Lybios* is unidentified by Bodson, as well as Gow and Schofield. If *lysis* is supposed to represent the Lybian snake of Nicander and Galen, then presumably it was believed to be an African snake; however, the snake's garbled name brings into question whether or not the author or illustrator of the herbal even knew what snake this was. The name may not have been so warped in the original version of the herbal, but the spelling *lysis* is consistent throughout all of the manuscripts of the herbal I have examined, so it is at least archetypal.

The *Lybios* appears to be the only snake named for a specific region, but several snake names were etymologically linked to the snake's general habitat. For example, according to Nicander

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[69] Vipera xanthina: http://reptile-database.reptarium.cz/species?genus=Montivipera&species=xanthina&search_param=%28%28search%3D%27vipera+xanthina%27%29%29.
Vipera lebetina: http://reptile-database.reptarium.cz/species?genus=Macrovipera&species=lebetinus&search_param=%28%28search%3D%27vipera+lebetina%27%29%29.
Vipera ammodytes: http://reptile-database.reptarium.cz/species?genus=Vipera&species=ammodytes&search_param=%28%28search%3D%27vipera+ammodytes%27%29%29.

[70] Leigh 2015, 121.

the *druinas* was so named (from the Greek δρῦς, 'tree') because it was often found lying in the roots of trees (Gow & Schofield 1956, 55). The confusing point about the *Lybios* is that many different snakes were thought to be native to Lybia, and it seems rather strange for ancient authors to have named a snake 'the Lybian snake' when inhabiting Lybia would not have been a unique or identifying feature.[71] And yet, Nicander did mention the *Lybios* in his work (but again, only as an innocuous animal).

An alternate suggestion for *lysis* has been offered by Arther Groos (1994, 134, n. 5), who proposed that *lysis* could derive from the Greek noun *lysis*, meaning 'a loosening' or 'a rupture' (from the Greek λύσις), in reference to the effect this snake's poison has on a victim. Several of these ancient snake names are etymologically linked to the effects of the snake's poison, such as *seps* and *sepedon* named for the necrotic and rotting effect of these snakes' poisons (Scarborough 1977, 7). Groos' suggestion would fit well with that pattern and would not require an explanation for the dropped 'b' in *lybios*. If Gross' suggestion for *lysis* is correct, it cannot help to locate the composition of the herbal because no modern identification for that snake has been suggested.

To summarize the identifications of the four snake illustrations and their names in the Leiden manuscript, the *aspis* is the only snake of the four with a modern identification that has been confidently located in North Africa (in Egypt). Both the *acontius* and the *iecis* have geographic distributions that expand beyond North Africa into Europe or Asia, and their identifications have not been narrowed down sufficiently enough to provide convincing evidence for the herbal's place of composition. The *lysis* snake name could refer to the *lybios*, but Arthur Groos' explanation is also satisfactory and refers to an as-yet unidentified snake. Only one of the archetypal snakes is therefore likely from Africa, while the locations of the others are less

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[71] According to French (1993, 120), Lybia was believed to be the home of a variety of dangerous reptiles. Book IX of Lucan's *De bello civili* describes Lybia as the home of several different species of snakes. Aelian (*De natura animalum* 3.33, 6.38, 2.7) described the Lybian asp and basilisk. Aelian (5.2) also described how snake charmers would import Lybian soil for their snakes to live in while abroad, for the snakes would die if they left Lybian soil. Aristotle also placed the asp's habitat in Lybia (*Historia Animalium* 607a.22, ed. Ross 1910, vol. IV).

certain. The remaining snake names in the illustrations of the herbal are accompanied by similar issues for identifying the text's original location.

Identifications of Other Illustrated Snake Names in Manuscripts of the Herbal

The herbal's snake illustration name *sepedon* has not been identified with any certainty. Scarborough (1977, 7-8) suggested that the snake belongs to the *Viperidae* family based on the description of the effects of its venom. The *Viperidae* family consists of many species of snakes that live all over the world, and unless the identification can be narrowed down to a particular genus or species, this identification cannot help to locate the herbal. Knoefel and Covi (1991, 134) proposed that the snake could belong to any of the several species of the *Bitis* genus (of the *Viperidae* family); however, they do not provide an explanation for this identification. Species of *Bitis* are most commonly found in North Africa and the southern Arabian Peninsula, so if this identification is correct, it would support a North African composition. Bodson did not suggest an identification for the *sepedon*. Gow and Schofield (1956, 176, n. 320), agreeing with Brenning and Gossen-Steier, concluded that this snake is unidentifiable. There appears to be no scholarly consensus on the identity of this snake name.

The herbal's snake illustration label *ceresidros* is likely a variant form of the snake name *chersydrus*. According to Bodson (1986b, 81-2), *chersydrus* is a compound form of *hydrus*, which designates some kind of snake with aquatic habits, an animal that lives in watery places but can survive in both water and on land (as opposed to an entirely aquatic snake). An amphibious snake fits with Nicander's description of the *chersydrus* as able to adapt to both an aquatic environment and dry land (Gow and Schofield 1956, 53). The modern identification for the *chersydrus* snake is uncertain. Knoefel and Covi (1991, 116 & 134) suggested that *chersydrus* is some species of *Vipera*, but noted that because *hydrus/hydra* was frequently used by ancient authors to mean *chersydrus* and other compounds, but also as a general term for aquatic or amphibious snakes, these terms cannot be narrowed down to a particular species. Scarborough did not suggest an identification for the *chersydrus*, but if one follows Scarborough's method of classing this snake through Nicander's description of its venom, the

description of putrid sores and swelling fits better with Scarborough's observations of the *Viperidae* family than those of the *Elapidae* family (Gow & Schofield 1956, 53). Gow and Schofield (1956, 177, n. 359) noted that Gossen-Steier's proposals of *Laticauda laticaudata* (Blue-banded Sea Krait or Common Sea Krait) or *L. colubrina* (Yellow-lipped Sea Krait) cannot be correct because Sea Kraits are entirely aquatic, whereas the *chersydrus* lives both on land and in water.[72] A particular species for the *chersydrus* has not been suggested with any certainty, and most of the proposed species discussed above find their habitats in Europe as well as in Africa.

Occasionally a snake illustration is labeled *draco* in the herbal. This snake probably does not require a specific identification because *draco* was often used by ancient authors as a general snake term (Bodson, 1986b, 76 & 84). It can have a more specific meaning in Greek, but this meaning was often not distinguished within Latin texts like the herbal. *Draco* was thus used quite interchangeably with other generic snake names like *serpens*, *anguis*, and *coluber*.[73] Even if the herbal's *draco* does refer to a specific snake, several scholars have either left this snake unidentified or consider the *draco* to be fabulous.[74]

The remaining snakes mentioned in various illustrated manuscripts of the herbal (*profae*, *aceres*, *matros*, *egefonidos*, *steripes*, *mengalet*, *ignes*, *axieniza*, and *tracetos*) remain unidentified because they do not seem to be attested anywhere except the herbal. These are likely garbled

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[72] Common Sea Krait: http://reptile-database.reptarium.cz/species?genus=Laticauda&species=laticaudata&search_param=%28%28search%3D%27laticauda%27%29%29.
Yellow-lipped Sea Krait: http://reptile-database.reptarium.cz/species?genus=Laticauda&species=colubrina&search_param=%28%28search%3D%27laticauda+colubrina%27%29%29.

[73] The Greek term *drako* had a clearer specific meaning, which Bodson identified as a snake within the genus *Elaphe*, but the Latin term *draco* was used more generally (Bodson 1986b, 67-68 & 74). Some Latin authors, however, did describe *draco* as a specific snake, such as Isidore of Seville, *Etymologiae* XII.iv.4.

[74] Knoefel and Covi 1991, 134. Bodson, as discussed above, considered *draco* to be a general snake term. Scarborough did not identify this snake. Gow and Schofield (1956,179, n. 438) cited Gossen-Steier's potential identification of *Python sebae* (African Python), but concluded that this snake is probably fabulous.

transliterations of other snake names, but I have not been able to draw clear connections between these words and the snake names attested in Nicander's *Theriaka* and similar works on snakes. Arthur Groos (1994, 134, n. 6) has suggested that *matros* could be a corrupt form of the snake name *natrix* found in Nicander. One possible explanation for *tracetos* is that it is a contracted form of *tetrakeratos*, which I have seen named as a type of *cerastes* snake in the paraphrase of the *Theriaka* (in New York, Morgan Library, MS M652, fol. 346v). The remaining snake names in the herbal do not resemble the snakes discussed by Nicander and other authors, such as *cerastes, haemorrhois*, *dipsas*, *amphisbaena*, *scytale*, *basiliscus*, and *cenchrines*. The snake names in the herbal are not accompanied by helpful descriptions that might allow one to identify these animals, and their illustrations are too inconsistent to be helpful for identification (although someone trained in art history or herpetology might be able to make more use of them). Unless we are able to untangle these remaining seven snake names in the herbal and connect them to the names we find in other works on snakes, these names will remain unidentifiable.

The above discussion has demonstrated the unreliability of the snake names in the herbal for placing the composition of the text in North Africa. First, out of the fifteen total snakes named in illustration labelnecessarilys of the various illustrated manuscripts of the herbal, only about half have been given identifications. As well, not all of these snake names are likely to be archetypal (let alone authorial), but of the four snakes that have been suggested to be archetypal only two strengthen the case for a North African location for the herbal. Even among the snake names that have been identified, these identifications are only tentative, and multiple identifications have been suggested for each snake. The *aspis* seems to be the only snake on whose identity most scholars agree. Finally, many of the possible identifications for the snakes in the herbal point to snakes that can be found in Europe and western Asia in addition to Africa, which means that it would not be unreasonable to expect that some of the archetypal snakes in the herbal may have been found outside Africa.

Even if all of the snake names in the text are one day identified, the use of the snake names to find the location of the herbal's composition relies on several additional factors that call their usefulness for such a task into question. Primarily, the use of the snakes' natural habitats to locate

the herbal relies on the assumption that these snakes were only to be found in those specific places and that people from other areas would not know what these snakes were, but these conclusions are not neccessarily true. Lucan's *De bello civili* (IX.706-7) discusses the importation of African snakes (including the *aspis*) into Italy and offers descriptions of several different kinds of snakes. Aelian (5.2) described how snake-charmers traveled with snakes from Lybia to various places for their performances. Pliny mentioned live snakes being brought to Rome from Greece, and of course also described the robust trade of *materia medica* throughout the Roman Empire, where parts of snakes were sometimes used as medicinal ingredients (*Naturalis Historia* XXIX.22, XXVII.1). Snakes could be taken out of their natural habitats to foreign places for a variety of reasons through human intervention. Due to this movement, the author may have been more familiar with what we would consider to be foreign snakes than has been supposed. The natural habitats of these snakes may not be an accurate representation of all of the places where the snakes in the herbal could have been recognized at the time of its composition.

Another problem with identifying the snake names and their geographic distributions and then using those distributions to locate the text is that this method depends on the idea that the author or illustrators of the herbal chose to include mostly local snakes in this work. As stated above, the idea that an author would favor the inclusion of local flora and fauna is not an unreasonable assumption for a medical text. The herbal, however, may not have focused on local plants and animals because one of its key purposes, as described in the preface of the work, is to be useful for foreigners or travelers. Also, as previously discussed in this chapter, the choice of plants and animals featured in the herbal may have been influenced by the herbal's claim of utility for a wide geographic audience. With this purpose in mind, it would be sensible for the author to have included remedies for bites from foreign animals that one might come across during travel in different locations, not just animals that were local to the author. If this idea is correct, then the location of the snakes is not important for locating the text because the author may have intentionally chosen to include snakes from a region foreign to the place in which the herbal was written. The same is true for the plants in the herbal, which can be found throughout Europe, the Mediterranean, Africa, and Asia.

The preface's claim that the herbal is meant for travelers is only relevant if one accepts that the preface was part of the authorial version of the text. As discussed above, Maggiulli and Buffa Giolito (1996, 6-18) have argued against this idea, stating that the preface of the herbal derives from the preface to the *Medicina Plinii* and was added by a revisor of the herbal sometime during the fifth to sixth centuries. Because the herbal's preface is the only portion of the text to discuss the intended audience of the herbal, if this work was originally written without the preface, the claim that the herbal was meant for foreigners has no evidence to support it, and the theory of local snakes for the herbal is not hindered by it.

The potential that the herbal was revised, however, highlights an additional problem with using the snake names to locate the text, which is the disconnect between the snake names used to label the herbal's illustrations and the snake names that appear in the actual text of the remedies. Specific snake names only appear as labels for snake illustrations in the herbal's manuscripts - they almost never appear within the actual text of the herbal. This means that when an illustration of a snake is labeled with a specific name, such as *sipedon*, the remedy that the illustration accompanies in a manuscript does not mention that snake specifically, but rather employs the general snake terms *serpens* or *coluber* in a remedy like *ad omnium serpentium*. The remedy refers to snakes in general, whereas the illustration label refers to a specific snake. The terms do not match. The only distinct snakes named in the entire text are the *aspis*, which appears in the remedy *ad omnium serpentium morsus et aspidis* (HA XIV.1), and a snake called *sinancen* in the remedy *ad anguem, quod Graeci sinancen uocant* (HA XXIX.6).[75] The *sinancen* snake bite remedy is not accompanied by a snake illustration in any of the manuscripts I have examined so far, so it will not be included in the discussion of the snake illustration names, but will be discussed later. The *aspis* remedy is sometimes accompanied by an illustration of the *aspis*, but sometimes the illustration is given a general snake term like *serpens.* For the remaining snake bite remedies in the herbal, the general snake terms are used consistently, even if the illustration

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[75] The snake name *vipera* appears in the remedy *ad uiperae morsum* for the herbs *viperina*, *camedris*, and *centauria minor* (HA V.1, XXIV.2, XXXV.1); however, according to Bodson (1986, 74) *vipera* is just a general snake term in Latin.

of the snake is given a more specific name. The question then arises of why the illustrated snakes are given specific names when the remedies they accompany are (aside from the one remedy for the *aspis*) always meant for snakes in general, not a specific variety.

One possible answer to this question is that the illustrated snake names are not authorial, but are rather later additions to the herbal meant to supplement the illustrations. As stated previously, the herbal likely contained some snake illustrations from its conception because the earliest extant manuscript of the herbal (the sixth-century Leiden MS Voss. Q. 9) and the other examples of the herbal display these images. Following Maggiulli and Buffa Giolito's theory of revision, it might be possible that the original snake illustrations were unlabeled or given general snake names to match the remedies they accompanied, and that a revisor added the names of a wide variety of snakes to the illustrations in order to fit the added preface's statement about the herbal being meant for a widespread audience.

The snake names of the herbal's illustrations likely derive from the names that accompanied illustrations of snakes in other manuscripts that were used as models for the herbal's illustrations. These snake names do not derive from the sources of the herbal's remedies. The primary sources for the herbal (Dioscorides' *De materia medica*, Pliny's *Naturalis Historia*, and the anonymous *Medicina Plinii*) do not contain most of the snake names that appear in the herbal's illustrations. The *aspis* is discussed in the *Naturalis Historia* and the *Medicina Plinii*.[76] The *echidna* (related to the herbal's *iecis*) appears in Dioscorides' *De materia medica* (II.16 & 166). The other two archetypal snake names in the Leiden manuscript, *acontius* and *lysis*, are not found in any of these texts; however, these names do appear as labels for snake illustrations in manuscripts of Nicander's *Theriaka* and the alphabetical recension of Dioscorides' *De materia medica*. Minta Collins (2000, 167-179) has noted analogous snake images and names in some manuscripts of Nicander's work and the alphabetical Dioscorides. One of the manuscripts that Collins discussed,

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[76] The *aspis* appears several times throughout the *Naturalis Historia*. The plant *dracontea* is mentioned twice in remedies against bites from the *aspis* (NH XXIV.17 & XXVIII.42). The last section of chapter three of the *Medicina Plinii* is entirely dedicated to curing bites from the *aspis* specifically, mostly using urine.

New York, Morgan Library, MS M652 (mid-tenth century), contains all four snake names in the Leiden manuscript of the herbal, in addition to several other snake names that appear in various other manuscripts of the herbal, such as *sepedon*, *chersydros*, and *drako*.[77] These snake names also appear in the Vienna Dioscorides manuscript (6th century), and two manuscripts of Nicander's *Theriaka* in Paris and the Vatican.[78] Heide Grape-Albers (1977) and Minta Collins (167-179) have established that the herbal's images derive from a pre-existing cycle of illustrations similar to what one finds in Morgan Library M652 and these other manuscripts. When the snake illustrations for the herbal were originally copied from those pre-existing illustrations, perhaps the names of the snakes that accompanied the models were inserted into the herbal as labels along with their illustrations even though the herbal does not discuss those snakes specifically. This possibility is important for a discussion of locating the herbal's composition because if these snake names were simply copied from the sources of the herbal's illustrations without close consideration of the lack of specific snake names in the herbal's remedies, their presence has no bearing on the author's location.

Whether this insertion of the names was done to the original copy of the herbal or to a later version is unknowable, although if it was a later insertion it must have happened at a very early stage because the snake names had already been incorporated into the rubrication of the sixth-century Leiden Voss. Q. 9 manuscript. If, however, the author's intention was to include specific snake names, one would think that those names would also appear in the herbal's text. Perhaps the author or an illustrator added the snake names simply because they were interesting. We

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[77] The *aspis* appears on fols. 344r and 345r, on the latter fighting the *ichneumon* as it does in most illustrated manuscripts of the herbal. The *akontios* appears on fol. 353v along with the *libnos* in a large collection of snakes. The *echidna* appears several times: 204v, 214v, 325v, 343r, and 345r. *Sepedon* appears on fol. 13r & 348v; *chersydros* on fol. 14v & 349v; *drakon* on fol. 352r.

[78] (Vienna Dioscorides) Vienna, Österreichische Nationalbibliothek, MS Codex Vindobonensis Med. gr. 1 (6th century): *eceis* 398v; *aspis* 401r; *sepedon* 402v; *ceresydros* 406r; *drako* 409r; *akontios* and *libyos* 411r.
Paris, Bibliotheque National de France, Supplément grec MS 247 (10th century): *echis* 6r, 7r; *sepedon* 13r; *chersydros* 14v.
Vatican, Biblioteca Apostolica Vaticana MS Chig. F. VII.159 (15th century): *aspis* 225r and 227r; *aspis*, *chersydros*, *sepedon*, 225v.

cannot know, and the entire snake name situation remains rather befuddling. The snake names upon which this aspect of the North Africa argument is based depend mostly on these labels for the illustrations and not on the actual text of the remedies, and thus the origin and purpose of these snake names are uncertain.

Finally on the topic of snakes are the two previously-mentioned serpents that appear in the actual remedies of the herbal: the *aspis* and the *sinancen*. Because these snake names do not carry with them the problems associated with only being named in the herbal's illustrations, these two snakes are probably stronger evidence of the author's location. The *aspis* has already been discussed in detail, and is likely the Egyptian Cobra of Africa; however, as explained above, the *aspis* was one of the most well-attested and well-known snakes of antiquity. The author of the herbal would probably have known of this snake regardless of his location. Two of the main sources for the herbal, the *Naturalis Historia* of Pliny and the anonymous *Medicina Plinii* include remedies for the *aspis.* Even if the author of the herbal was unfamiliar with this animal he could have read about it in his sources.

The *sinancen* is a snake I have not yet been able to identify. It does not resemble any of the snakes in Nicander's *Theriaka* or any of the snake names accompanying illustrations of serpents in the previously-discussed manuscripts of the works of Nicander and Dioscorides. I have not found it attested as a snake name in other ancient or medieval medical works or in modern scholarship about ancient Greek and Latin snake names. Perhaps the name could refer to inflammation of the throat or suffocation caused by the snake's venom, as in *sinance*/*cynanche* (κυνάγχη) attested in a few medical authors.[79] As will be demonstrated in chapter three (102), this remedy in the herbal derives from a misreading of a remedy in Pliny's work. The remedy in Pliny's text is meant to cure *angina* (quinsy), which has devolved into *anguem* (snake) in the herbal.

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[79] Cassius Felix *De medicina* ch. 37; *Mulomedicina Chironis* III.155.

In addition to the snake names in the herbal's manuscripts, a single spider is named in the herbal. A few remedies in the text claim to heal the bite of the *spalangium*.[80] This spider is probably the *phalangium* found in Pliny's *Naturalis Historia* (NH XXIX.27), from Greek φαλάγγιον. Pliny described this venomous spider in detail and noted that there were several kinds and provided some geographic information for it, including that the *phalangium* was unknown to Italy. Pliny also (NH VIII.83) noted that the *phalangium* could be found on the island of Crete, and was in fact the only venomous animal there. Pliny's comments do not point strictly to a North Africa location, but they demonstrate that at least one of the critters in the herbal was viewed as foreign or rare by the herbal's sources, and its presence is perhaps an attempt to make the herbal useful for readers in a wide variety of locations.

The North Africa Theory Conclusion and Additional Locations

The above three arguments for the herbal's North African origin are all useful investigations into the text, but they do not provide definitive proof of the text's origins. Although the style of the herbal may resemble the style of Apuleius of Madaura, the connections between the latinity of the text and the regional variety of North African Latin are not as clear. Although some of the plants in the herbal grow in North Africa, most also grow throughout Europe. Some of the synonyms might point to a North African author, but one cannot be sure these synonyms are the work of the original author instead of a later revisor who attempted to attribute the herbal to Apuleius of Madaura. The snake names that appear with illustrations in some of the herbal's manuscripts are burdened by the same problems as the plant names.

Despite the fact that these arguments for a North African origin are debatable, North Africa *was* a center of medical writing and translation during the late Roman period when the herbal is believed to have been written. Many early medical writers, such as Caelius Aurelianus, Cassius Felix, and Vindicianus Afer lived or wrote in North Africa. It is not at all improbable that the author of the herbal wrote there as well, but the textual evidence put forth to demonstrate that

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[80] *Ad splangiorum morsus* in the entry for the plant *hedera nigra* (HA XCIX.4) and *Ad morsum araneorum, quos Graeci spalangiones uocant* in the entry for the plant *verbenaca* (HA III.8).

North Africa was the place of the herbal's composition has not yet been able to definitively prove this location. Until more convincing evidence is discovered, which may not be possible for this early and anonymous work, widening the potential locations of the herbal's origin may be of benefit to anyone studying the text.

Supplemental Arguments about the Herbal's Location of Composition

Although the above three arguments represent the genesis of the herbal's North African composition theory, subsequent scholars have attempted to answer the question of the herbal's origin in other ways. Pradel-Baquerre (2013, 21) investigated the name 'Apuleius' in order to determine if that name had a particular geographic focus. As with the plant and snake names, if 'Apuleius' was particular to a certain region in antiquity, that name could provide some information about the place in which the herbal was written. The difficulty with this method is that it can only make sense if Apuleius was the name of the true author of the herbal and not simply an attribution. Because the true identity of the author of the herbal remains entirely uncertain, using the author's name as evidence for the location of the text is unreliable. An attribution to Apuleius could have been made in many places, by anyone familiar with Apuleius of Madaura (who would have been well-known as an author), or perhaps the physician Apuleius Celsus. In any case, the name 'Apuleius' was widespread, appearing in Italy, Dalmatia, Spain, Austria, and Africa (ThLL 291.52). Therefore, even if Apuleius was the name of the herbal's original author, it was too widespread to be of much use in narrowing down the location of the herbal's composition.

An additional argument in favor of a North African composition for the herbal is based on one of the plant name synonyms in the text. In the herbal's chapter on *asparagus agrestis*, the herbal lists the following synonyms for this plant: *A Graecis dicitur miacanta, alii asparagos, alii sparagos agrios, Itali sparagos rusticos,* ***alii sparagos nostros*** (HA LXXXV). Gabriel Humelberg, who published an edition and commentary of the herbal in 1537, was the first to propose the idea that the *sparagos nostros* of the herbal corresponds to the *Lybicum* synonym for *asparagus* mentioned in Pliny's *Naturalis Historia* XX.110: *Silvestrem asparagum aliqui*

corrudam, aliqui Libycum vocant, Attici orminum. *Lybicum* may refer to Lybia, the homeland of Apuleius of Madaura. Humelberg seems to have thought that the herbal was a genuine work of Apuleius, for his commentary reads: *Asparagus nostrum) hoc est Libycum. Apuleius enim ex Libya fuit ciuitate Madaura*. *Et Plin. lib. 20. cap. 10. (sic) syluestrem asparagum, ait, aliqui corrudam, aliqui libycum uocant, Attici horminion.*[81] Because Apuleius was from North Africa, Humelberg concluded that Apuleius wrote *nostros asparagos* as a replacement for *Lybicum*, thereby indicating that the plant name came from his own region.[82]

The appearance in the herbal of *asparagos nostros* could certainly be some kind of hint about the author's location or identity, especially because *asparagus noster* is not a synonym for *asparagus agrestis* in any of the known sources of the herbal, and (as far as I have been able to ascertain) it does not appear in any extant Latin work on medicine or natural history. Humelberg's idea to use this synonym to localize the text is astute and resembles the approach of using the herbal's language favored by Bosscha. Unfortunately, Humelberg's conclusion that *aspargos nostros* refers to Pliny's *Lybicum* was influenced by his assumption that the herbal was a genuine text of Apuleius of Madaura, an idea that is no longer thought possible because some of the sources of the herbal post-date Apuleius of Maduara's lifetime. Humelberg only thought

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[81] London, Wellcome Library 4491/B/1, *Ant. Musae De herba vetonica liber I. L. Apulei De medicaminibus herbarum liber I. Per Gabrielem Humelbergium Ravenspurgensem…recogniti et emendati, adjuncto commentariolo ejusdem*, Zurich: C. Froschover, 1537, 240.

[82] In the eighteenth century, Albrecht Haller either came to the same conclusion or simply repeated Humelberg's theory: *Fuisse opus Afri hominis, indicio est asparagus, quem Plinius Libycum, auctor nostrum vocat* (1771, 156). Johann Ackermann, writing a few decades after Haller, disagreed with Humelberg's conclusion about *asparagos nostros*, theorizing instead that the herbal is simply reporting that *asparagus agrestis* is called *asparagus noster* by a certain people, and that the author of the herbal was not necessarily referring to his *own* people when he wrote *nostros*. E. H. F. Meyer (1965, 323) disagreed with Ackermann's refutation, siding with Humelberg that *nostros* refers to a local plant name known to the herbal's author. Meyer did not conclude that Apuleius of Madaura was the true author of the herbal, but he was convinced that the herbal's author was North African because of Bosscha's argument (discussed above) about the similarities between the style of the herbal and that of Apuleius. Because he was convinced that the author of the herbal was from North Africa and considered the *asparagos nostros* as a local reference to Pliny's *libycum*, Meyer took this synonym as further evidence for the herbal's North African origin.

that *nostros* referred to *Lybicum* because of Apuleius of Madaura's location. Even if the *nostros* is an indication of the author's identity as Humelberg thought, and not simply a synonym used by *alii*, the *nostros* does not point to a particular location unless we already know the identity of the author, and we do not.

It is also worth pointing out that the *asparagos nostros* could refer to either of the other two synonyms listed by Pliny in this passage (*corrudam* or *orminum*). It is also possible that the herbal's author consulted a different passage in the *Naturalis Historia* for the *asparagus* synonyms. In an earlier chapter of his work (NH XIX.151) Pliny offered different synonyms for *asparagus*: *corrudam - hunc enim intellego silvestrem asparagum, quem Graeci ὅρμινον aut μυάκανθον vocant aliisque nominibus…* The name *μυάκανθον* in Pliny's work is very similar to the name *miacanta* attributed to the Greeks in the herbal, which might indicate that this passage was a source for at least some of the herbal's *asparagus* synonyms. None of the synonyms in the other passage from Pliny (*corrudam, Libycum,* or *orminum*) are repeated directly in the herbal (*miacanta, asparagos, sparagos agrios, sparagos rusticos,* and *sparagos nostros*). Only the herbal's *miacanta* can be tied to these passages in the *Naturalis Historia*; therefore, if the *asparagos nostros* really is a synonym that the herbal's author changed from Pliny's work, it seems more likely that *asparagos nostros* would refer to one of the synonyms listed in the passage with the plant name *μυάκανθον* in the *Historia Naturalis* because that passage has clearer evidence of a tie to the herbal.

Although there are no other instances in the herbal of the use of *noster* in a plant name, there are a few examples of named places that might help us to better understand the author's locality, or at least his knowledge of the geography of his world. Most of the specific places named in the herbal are areas in modern-day Italy. The herbal states that the plant *dractonea* grows in Apulia (HA XIV), and also claims that *grias* grows in Lucania (HA L), a region in Italy that bordered Apulia to the west. *Peonia* is said to grow on the island of Crete, and in manuscripts of classes β and γ, this plant is said to grow in both Crete and Sicily (HA LXV).

The final two places named are less certain locations, but probably point to areas in Italy or Greece: the herbal states that *gentiana* grows in a specific mountain range, *Gemellis montibus* (HA XVI), a name which likely refers to the two mountains in Italy known today as *Monti Gemelli*, located in the region of Teramo on the middle of the country's eastern coast. Howald and Sigerst (HA XVI), however, suggested that this place name could be a latinization of Greek τά Δίδυμα ὄρη, which they stated referred to a group of mountains in Thessaly (Greece) according to the *Geographica* of Strabo (XIVa.40). Pradel-Baquerre (2013, n.266) noted Pliny's statement (NH XXV.34) that the plant is found most abundantly at the foot of the Alps, a location that could again point to Italy or a central location in Europe. Finally, the herbal states that *erifion* grows *in Gallia in monte Soracti* (HA CXXVI), another mountain in Italy.[83] These two places named in the text of the herbal further suggest the author's familiarity with Italy and do not speak to a close association with Africa.

North Africa is not the only proposed location of the composition of the herbal, but it is the primary location to have been seriously considered in the herbal's scholarship. Italy has also been proposed as a possible location for the herbal's composition. R. Simonini's study of an eighth-century manuscript of the herbal in Modena (Modena Italy Archivio Capitolare O.I.11) mused that Apuleius Celsus of Centuripe, the first-century Roman physician and teacher of Scribonius Largus (or perhaps someone claiming his name), may have written the herbal (1929, 25). This authorship is no longer thought possible because Apuleius Celsus lived just before the lifetime of Pliny the Elder, whose *Naturalis Historia* is thought to be the primary source for the herbal. Simonini suggested Sicily as a possible place of composition for the text based on the potential connection between the herbal and Apuleius Celsus.[84] Simonini noted the several remedies that include astrological information (which he thought was evocative of ancient

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[83] Pradel-Baquerre (2013, 726, n. 1116) has suggested the alternative that *Gallia* should be *Galatia*, from the description of this plant found in Dioscorides' *De materia medica* III.46, in which Dioscorides stated that this plant is known as *moly* in Cappadocia and Galatia.

[84] H. J. De Vriend similarly proposed southern Italy, Sicily, or North Africa as possible locations for the herbal's composition, based on "palaeographic, iconographic, and botanical evidence" (1984, lviii). As well, A. D'Aronco (1988, 18) proposed North Africa or Sicily as possible locations, citing Simonini's work.

Roman medicine) as well as the phrase *in vino falerni* and the preference given to the Greek names of plants in the chapter headings, as evidence of a writer from the lower part of Italy or its islands, in connection with the Greek-Latin medical schools of that region (1929, 27 & 37).

The remedies in the herbal that mention the zodiac are likely later additions because they do not follow the herbal's typical formulaic remedy structure (see chapter three). The phrase *in vino falerni* does not appear in the herbal, but it might have made an appearance as an interpolation in the Modena manuscript that Simonini examined. Simonini may also have found this phrase in the work of Sextus Placitus, which accompanies the herbal in most manuscripts and could somewhat easily be construed as a continuation of the text (HA p. 245). In either case, this phrase does not (as far as I can tell) have a significant presence in the herbal's manuscript tradition, and it is therefore unlikely to be original. The preference for Greek plant names in the herbal's chapter headings very well could, however, be an indication of a Greek-Latin medical school environment.

The Theory of A Greek Original

Charles Singer (1927, 32-48) proposed the theory that the herbal was originally written in Greek during the fourth century and was quickly translated into Latin. His theory about a Greek original of the herbal was based on the text's preference for Greek plant names in the herbal's chapter headings, as well as the herbal's similarity to a Greek papyrus fragment from the second or third century that depicts and describes a few plants in a similar fashion to the herbal. Singer concluded that the mention of a Greek spider name (*splangiones*) as well as the use of latinized Greek words in some of the ailment names (*ad ictericos id est morbo regio, qui et auriginosi uocantur* HA III.12) indicate that the author or a revisor of the herbal knew Greek or had access to texts with some latinized Greek words.

In the seventeenth century, Thomas Johnson (1636) similarly claimed that the herbal was originally written in Greek, also because of the text's preference for Greek plant names in its chapter headings. Johnson suggested that the text had been translated into Latin multiple times

by different translators, which Johnson believed explained the many spelling variations in the extant manuscripts of the herbal. The title of the herbal in some of the text's extant manuscripts names the author as *Platonis Apoliensis*, *Apoliensis Plato*, or *Apulei Platonis*. Rather than thinking that *Apoliensis* and *Apulei* were references to Apuleius of Madaura (since Johnson did not think it possible for that person to have written the herbal), he argued that *Apuleius* was actually meant to indicate the city of Apoley. Johnson cited the *Lexicon Geographicum* of Phillip Ferrarius as stating that Apoley means Constantinople, a fact which furthered Johnson's conviction that the original herbal was written in Greek.

A Greek original of the herbal is no longer thought possible for several reasons.[85] Most significantly, the herbal's primary source, Pliny's *Naturalis Historia*, is a Latin text. Although the herbal does not transcribe Pliny's work word-for-word, there exist too many passages in the herbal that closely correspond to passages in Pliny's work (see chapter 2) for the herbal to have been written in Greek from Pliny's Latin and then translated back into Latin by someone else. It seems much more likely that the original herbal was written directly in Latin. Constantinople as a potential location for the herbal's composition is less probable without the theory of a Greek original.

Conclusion

Other than the previously-discussed North Africa theories, the above proposals for the herbal's composition are the only detailed explorations of the herbal's potential origins. Occasionally, one discovers proposals for other locations, but these are not discussed in detail.[86] As previously stated, North Africa is certainly the most-favored potential location for the text's original composition within the historiography of the herbal, but other scholars have had good reasons to propose alternative locations. Although the herbal was not originally written in Greek (and

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[85] Linda Voigts has offered a useful review of the question of the herbal's Greek origin (1978, 215 n. 8).

[86] For example, Blunt and Raphael (1979, 28) stated that the herbal was probably written in the south of France, but did not offer explanations for this theory.

therefore probably not in a locale where Greek was the favored language), the herbal does display an interest in the Greek names of plants. This preference might, as Simonini has argued, indicate a connection to an Italian medical school.[87] Conversely, this preference might point back to the preface's claim that the herbal was meant to be useful to people in a wide variety of locations, ensuring that they could properly identify the plants in the text by knowing both their Latin and Greek names, as well as additional regional synonyms. After examining all of the arguments about the herbal's potential place of composition, it is clear that although valiant effort has been made to solve this mystery, the herbal's original location has not been convincingly proven to have been any particular location more specific than the Mediterranean region.

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[87] Bosscha (1786-1823, 524) cited Kircherus as attempting to illustrate that the foreign names of the herbal's plants are from Arabic and Coptic: *T. III. Oedipi Aegyptiaci* p. 69 *et passim*. As far as I am aware, this is the only investigation into the potential Arabic or Coptic connections to the herbal's language and I was not able to access it.

Chapter Two: The Dating of the Herbal

Although the herbal presents itself as a second-century composition by the Roman author Apuleius of Madaura, most scholars of the text have never believed this attribution to be true, and have instead dated the creation of the text to the fourth century and have concluded that it was written by an anonymous author.[88] The evidence to support the fourth-century dating of the text primarily consists of the sources that the author of the herbal used, as well as later medical works that used the herbal as a source. The current justification for the herbal's fourth-century date is as follows: Marcellus of Bordeaux used the herbal as a source for his *De medicamentis*, which he wrote at the turn of the fourth and fifth centuries. The herbal must therefore have been written prior to that date. The *Medicina Plinii*, an anonymous reworking of Pliny's *Naturalis Historia*, is the latest known source for the herbal. The *Medicina Plinii* is believed to have been written c. 300-350 C.E.; therefore, the herbal must have been written after that period. The *De medicamentis* and the *Medicina Plinii* therefore provide us with a *terminus ante quem* and a *terminus post quem* for the herbal's composition, making its approximate dating relatively easy to narrow down. Based on this evidence, the text has a composition date of c. 350-400.

The focus of this chapter will be to review the relationship between the herbal and the two texts that provide us with its date of composition. Marcellus of Bordeaux's use of the herbal in his creation of the *De medicamentis* has already been well-established by Maggiulli and others.[89] I will therefore review and attempt to build upon their previous scholarship on this topic, especially in regard to how Marcellus' use of the herbal can shape our understanding of this text's earliest form (as opposed to its later, reworked versions). I will also offer a close

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[88] Howald & Sigerist 1927, xix-xx; Singer 1927, 38; Hunger 1935, xvii; Sigerist 1958, 141; Grape-Albers 1977, 2; Voigts 1978, 216; D'Aronco 1988, 17; Önnerfors 1993, 10; Maggiulli & Buffa Giolito 1996, 12-18; Hunink 1996, 300; Jones 1998, 17; Van Arsdall 2002, 68; Hernandez 2008, 36; Pradel-Baquerre 2013, 19-20 & 77-79; Collins (2000, 25) suggests 2nd-4th century. Langlsow (2000, 67) suggests 4th-6th century.

[89] Maggiulli 1997; Maggiulli and Buffa Giolito 1996, 11-18 & 67-82; Pradel-Baquerre 2013, 19-20; Niedermann 1960, xviii-xxiii.

examination of the herbal's borrowings from the *Medicina Plinii*. My comparison of these two treatises revealed a particular pattern of use by the herbal of the *Medicina Plinii* that may be evidence that the *Medicina Plinii* was not a source for the original version of the herbal. The remedies in the herbal that derive directly from the *Medicina Plinii* always appear as the final remedies in the herbal's chapters, which suggests that these remedies may have been added to the original chapters by a later revisor. The *Medicina Plinii* may therefore not actually provide us with a secure *terminus post quem* for the herbal's composition, meaning that the herbal could have been written at an earlier date than has previously been supposed.

Terminus Ante Quem: The *De medicamentis* of Marcellus of Bordeaux

Marcellus of Bordeaux (Marcellus Burdigalensis) was an aristocratic landholder and native of southern Gaul who wrote a medical text at the turn of the fourth and fifth centuries (Cilliers 2018, 129).[90] As far as can be determined, he was not a professional healer. In fact, he held an administrative governmental position under Theodosius II.[91] He appears to have been what the author of the herbal's preface claims to be: an aristocratic man with an interest in medicine, but not someone who practiced medicine as a profession. His medical work contains approximately 2,500 remedies that use plant, animal, and mineral *materia medica*.

The attribution to Marcellus of Bordeaux in the *De medicamentis* is thought to be accurate, and the *incipit*, which begins with a prefatory letter addressed to his sons, styles the author as *Marcellus Vir Inluster Ex Magistro Officiorum Theodosii Senior* (Niedermann 1968, 2). Because of this address, the *terminus ante quem* for the composition of the herbal is often cited as 395, the

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[90] He is also sometimes referred to as 'Marcellus Empiricus'. Langslow (2000, 66 n. 207) suggested that the origin of this moniker might be Marcellus' statement in his *de medicamentis* that he compiled his work '*de empiricis*'.

[91] He was given the title *magister officiorum* in 395. The Theodosian Code names a Marcellus as *magister officiorum* twice in 395 (in May and November) (Martindale, PLRE I, 551). The incipit of the *de medicamentis* (although it might not be original) places him in this position as well: *Marcellus vir iluster ex magistro officiorum Theodosii sen. filiis suis salutem D.* (Niedermann, 1968, 2). According to Cilliers (2018, 130), this was an administrative position over minor state officials.

year in which Marcellus held the position of *magister officiorum* at Theodosius' court. Cilliers (2006, 94 n.10), however, specified that this address must have been written after 408, because Theodosius I was not referred to as *senior* until the accession of his grandson in that year (who was also named Theodosius). Conversely, Langslow (2000, 82 n. 208) argued that this attribution could have been written as early as 402, because Theodosius II was joint regent with his father from that year to 408, when his father died and he became sole emperor of the Eastern portion of the Roman Empire. If this prefatory letter addressed to his sons was part of the original composition of Marcellus' work, the *terminus ante quem* for the composition of the herbal is 402.

The edition of the herbal by Howald and Sigerist includes citations of corresponding passages from the *De medicamentis* of Marcellus in the apparatus. Howald and Sigerist's apparatus notes about fifty correspondences between the two works, a number also noted by Maggiulli and Buffa Giolito (1996, 11), as well as by Niedermann and Liechtenhan in their edition of the *De medicamentis* (1960, xix-xxii).[92] According to Maggiulli and Buffa Giolito (1996, 12), the herbal is one of the primary sources for the *De medicamentis*, the other two being Pliny's *Naturalis Historia* (with approximately 260 correspondences) and the *Medicina Plinii* (with approximately 425 correspondences).

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[92] HA III.4: Marc. XXII.35; HA III.6: Marc. I.46; HA XVII,3: Marc. XXIII.26; HA XVIII.5: Marc. IX.21, IX.81; HA XX.2: Marc. IV.16; HA XX.3: Marc. XX.79; HA XX.4: Marc. XV.78; HA XXIX.1: Marc. XI.16; HA XXIX.3: Marc. XXXV.15; HA XXIX.4: Marc. XX.71; HA XXXI.1: Marc. VIII.163; HA XXXIV.1: Marc. XXII.32; HA XXXV.1: Marc. VIII.91; H&S XXXV.2: Marc. VIII.94; HA XLII.2: Marc. XXXIV.23; HA LXXII.2: Marc. XXXVI.6; HA LXXVI.6: Marc. XXXVI.9; HA LXXVIII.2: Marc. VIII.24; HA LXXX.3: Marc. IV.27; HA LXXX.7: Marc. VIII.131; HA LXXXV.2: Marc. XII.39; HA LXXXV.3: Marc. XIX.20; HA LXXXV.4: Marc. XXVI.49; HA LXXXVII.1: Marc. VIII.32; HA LXXXVIII.1: Marc. IX.85; HA LXXXVIII.6: Marc. XIV.16; HA XC.1: Marc. X.38; HA XC.2: Marc. XX.64; HA XC.3: Marc. XX.60; HA XC.14: Marc. I.73; HA XCI.2: Marc. XIX.21; HA XCII.2: Marc. XXIII.22, XXIII.35; HA XCIII.3: Marc. XX.20; HA XCVI.2: Marc. XII.39; HA XCIX.3: Marc. XXIII.60; HA XCIX.6: Marc. X.59, X, 63; HA XCIX.8: Marc. I.79; HA C.1: Marc. I.75; HA CVI.1: Marc. XXVI.61; HA CIX.3: Marc. XXXI.24; HA CXVI.3: Marc. XXII.1; HA CXVIII.1: Marc. I.74; HA CXVIII.2: Marc. XXVI.50; HA CXXV.1: Marc. XVI.21.

The herbal and the *De medicamentis* both drew upon Pliny's *Naturalis Historia* and the *Medicina Plinii*. Some of the correspondences between the herbal and Marcellus' work are therefore due to the fact that both texts rely upon the same sources. Their use of the same sources, however, cannot account for all of the similarities between the two texts, for occasionally the herbal and the *De medicamentis* are more similar to each other than they are to the *Naturalis Historia* and the *Medicina Plinii*. For example, if one compares the following passages of the herbal, the *De medicamentis*, and the *Naturalis Historia*, the correspondence between the first two works is strongest:

> ***De medicamentis* 4.16:** *Nasturcii semen mixtum adipi anserinae tritumque furfures capitis assidua lauatione depellit.*
> The seed of *nasturcium* mixed and crushed with duck fat removes dry scalp with continual washing.

> **HA XX.2**: *Ad capitis uitia uel porrigines uel furfures. Herbae nasturcii semen mixtum, cum adipe anserino tritum ablutione furfures ex capite eiciet.*
> For vexations of the head or dandruff or scurf. The seed of the herb *nasturcium*, mixed with goose fat and crushed, expels dry skin from the head when you wash with it.

> **NH XX.50.129:** *Sextius adicit ustum…porriginem et ulcera capitis cum adipe anserino.*
> Sextius adds that burnt [*nasturcium*]…removes dandruff and head sores when applied with duck fat.

Although all three passages express the same idea, the passages from the herbal and the *De medicamentis* are syntactically closer to each other than they are to the passage from the *Naturalis Historia.* They both include the same specifications (such as using the crushed seed of the plant and washing the head with the mixture) and follow almost the exact same word order. That two different authors both independently altered the remedy from the *Naturalis Historia* to include the same specifications is extremely unlikely; therefore, either both authors were influenced by some hidden source that we do not know, or (more probably) one of these texts influenced the other.

In addition to the passages shared between the herbal, the *De medicamentis*, and the sources of both, there are additional passages that are only shared between the herbal and the *De*

medicamentis. The preface to Niedermann and Liechtenhan's edition of the *De medicamentis* (1968, xviii-xxxii & xxxi-xxxv) provides an examination of the sources of Marcellus' work, but the most in-depth study of the herbal specifically as a source for the *De medicamentis* has been done by Maggiulli (1997). Maggiulli's comparative study of the herbal and the *De medicamentis* found that, out of the approximately fifty corresponding passages between the two works, thirty-two are closely related at a lexical and syntactic level, which suggests borrowing. Maggiulli examined each of these passages and concluded that Marcellus drew heavily from the herbal, with only a few cases where both texts converge with another work, such as the *Medicina Plinii*.

The close relationship between the herbal and the *De medicamentis* demonstrates that one was a source for the other. The primary reason for the consensus that Marcellus used the herbal, rather than that the herbal drew from Marcellus, is the fact that Marcellus cited Apuleius as one of the sources of the *De medicamentis*. In the prefatory letter addressed to his sons, Marcellus included a list of the authors whose works were consulted in the creation of his medical treatise:

> *...Nec solum ueteres medicinae artis auctores Latino dumtaxat sermone perscriptos, cui rei operam uterque Plinius et* ***Apuleius*** *[et] Celsus et Apollinaris ac Designatianus aliique nonnulli etiam proximo tempore inlustres honoribus uiri, ciues ac maiores nostri, Siburius, Eutropius atque Ausonius commodarunt, lectione scrutatus sum, sed etiam ab agrestibus et plebeis remedia fortuita atque simplicia, quae experimentis probauerant, didici.* (*De medicamentis* prol. sect. 2)
>
> I not only read the old authors of the art of medicine (at least those works written in Latin), including both Plinys, Apuleius [and] Celsus, Apollinaris, Designatianus, and even some other men of a more recent age who achieved positions of honor, our fellow citizens and ancestors, Siburius, Eutropius, and Ausonius, but I also learned random and simple remedies that had been learned through experience by rural and common folk.

Here we see the *uterque Plinius* (presumably Pliny's *Naturalis Historia* and the pseudonymous *Medicina Plinii*) followed by Apuleius and other authors. Marcellus only named Apuleius; he did not specify that the text of Apuleius he consulted was an herbal. A slight possibility therefore remains that his attribution to Apuleius is in reference to another medical work attributed to an Apuleius. However, when taking into account the several corresponding passages between

Marcellus' work and the herbal, the most likely solution is that Marcellus was referring to the herbal attributed to Apuleius when he named Apuleius as a source.

One should note the emended text in the Niedermann and Liechtenhan edition: *Apuleius et Celsus* has been changed to *Apuleius* [*et*] *Celsus*. According to Niedermann (1968, xviii), this emendation originated with Ludovico Bianconi in 1779. Bianconi was trying to solve the rather strange problem that Marcellus, who appears to have quite faithfully cited in his preface the authors he consulted, cited Celsus' *De medicina* as a source but does not appear to have actually used that work, while neglecting to cite Scribonius Largus' *Compositiones* even though he certainly borrowed from that work.[93] The purpose of removing the *et* in between *Apuleius* and *Celsus* was to transform the citation of two separate authors, *Apuleius* and *Celsus*, into the name of a single author: *Apuleius Celsus*.[94] According to Niedermann (1968, xvii), Apuleius Celsus of Centuripe was the teacher of Scribonius Largus in the first century, and so Bianconi's emendation was made with the suggestion that when Marcellus used the *Compositiones* of Scribonius Largus, he believed them to actually be the work of Scribonius' teacher, Apuleius Celsus.

Niedermann (1968, xviii) added to Bianconi's argument the observation that two of the prefatory letters in Marcellus' work are attributed to Celsus. Marcellus attached several letters from various medical treatises to the beginning of his work, many of which appear to be borrowed

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[93] Maggiulli and Buffa Giolito noted that Marcellus borrowed 172 of Scribonius Largus' recipes (1996, 12).

[94] Apuleius Celsus is mentioned elsewhere in the *de medicamentis* as a source for one of the remedies: *Hoc medicamentum Apulei Celsi fuit et praeceptoris nostri Valentis nec umquam ulli uius compositionem eius dedit, quia magnitudinem opinionis ex ea traxerat* (16.8). As Niedermann mentioned in the apparatus of the edition, this passage is actually taken from Scribonius Largus ch. 94: *hoc medicamentum Apulei Celsi fuit, praeceptoris Valentis et nostri, et numquam ulli se vivo compositionem eius dedit, quod magnam opinionem ex ea traxerat*. Marcellus' mention of Apuleius Celsus in 16.8 should therefore not be seen as evidence that he actually used a work of Apuleius Celsus, but as further evidence of his use of Scribonius Largus.

from the sources Marcellus consulted, such as the *Medicina Plinii*.[95] Two letters in this group are attributed to Celsus: *Cornelius Celsus G. Iulio Callisto Salutem Dicit* and *Cornelius Celsus Pullio Natali Salutem Dicit*. Neither of these two letters attributed to Celsus are authentic to that author, and the first of the letters actually comes from Scribonius Largus' *Compositiones*, where it is addressed *Scribonius Largus Callisto Suo Salutem* (Niedermann & Liechtenhan 1968, 36). Niedermann noted these letters as a clear example of Marcellus having confused Celsus and Scribonius Largus as he may also have done in his list of sources, believing that he was consulting the work of Scribonius Largus' teacher Apuleius Celsus when he was actually consulting the work of Scribonius himself. Niedermann thus agreed with Bianconi's emendation, and in the updated edition of 1968, Liechtenhan kept this emendation in agreement with Bianconi and Niedermann.

This change from *Apuleius et Celsus* to *Apuleius Celsus* rectifies the discrepancy in Marcellus' citation of Celsus and his silence about Scribonius Largus, but it also removes Marcellus' only mention of Apuleius when the herbal was an important source for Marcellus' work. Although helpful in reconciling Marcellus and Celsus, the emendation is unsatisfactory in relation to the herbal unless one assumes that Marcellus believed Apuleius Celsus to have been the herbal's author.

Maggiulli and Buffa Giolito (1996, 14-15) have instead proposed that the text should not be emended, and that the mistaken citation of Celsus for Scribonius Largus arose because Marcellus was working with an antigraph that contained the texts of Scribonius Largus and Aulus Cornelius Celsus, and either the antigraph did not differentiate between Celsus and Scribonius, flowing from one text to another without clear distinction (as sometimes happens in manuscripts), or

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[95] The titles of the letters prefacing the medical text of Marcellus are as follows (Niedermann & Liechtenhan 1968, 2-52): *Marcellus vir inluster ex magistro officiorum Theodosii sen filiis suis salutem dicit*; *Largis Designatianus filiis suis salutem dicit*; *Antiocho Regi Hippocrates Cous salutem dicit*; *Epistula alia eiusdem Hippocratis ex graeco translata ad Maecenatem*; *Epistula Plinii Secundi ad amicos de medicina*; *Cornelius Celsus G. Iulio Callisto salutem dicit*; *Cornelius Celsus Pullio Natali salutem dicit*; *Epistula Vindiciani Comitis Archiatrorum ad Valentinianum Imperatorem.*

Marcellus failed to notice the differentiation. They proposed that this compilation of works also contained a medical treatise translated from Greek, which would correspond to the second letter that Marcellus attributed to Celsus.

If indeed these works were conjoined into a single large volume, one wonders why nothing from Celsus appears in the *De medicamentis.* If Marcellus was working with a compilation that contained the works of Scribonius Largus and Cornelius Celsus, why would he not have used both, especially if he thought they were the same text? Maggiulli and Buffa Giolito (1996, 15) suggested that Marcellus found Scribonius' text to be more accessible because of its more limited content and its arrangement *a capite ad calcem*, whereas Celsus' eight books on medicine were too broad in scope. Although Marcellus may have had access to both works, he preferred to only use Scribonius Largus' text because of its format and style, which he presumably thought was a single section in a larger work by Celsus. Their suggestion is plausible, but we should not forget that Marcellus apparently did not find the several books on medicine in Pliny's enormous *Naturalis Historia* too broad to use.[96] A perfect solution to the problem presented in this passage of the *De medicamentis* has not yet been found. From the prefatory letters and the list of sources, it does seem that Marcellus experienced some confusion about the authors he consulted, but whether Marcellus' intention was to list Apuleius and Celsus as separate authors or to mention Apuleius Celsus as a single source, he must have somewhere in these names been thinking of the author of the herbal, because he undoubtedly drew from it for his *De medicamentis* .

Additional evidence for Marcellus' use of the herbal as a source arises from the fact that Marcellus also drew from some of the texts that make up what is known as the Pseudo-Apuleian Corpus or the Pseudo-Apuleius Group: the texts that travelled together in manuscripts with the herbal as a kind of unit. This group of texts includes several short epistolary treatises, a text on the medicinal uses of the badger entitled *De taxone* (c. 4th-5th century) , the Pseudo-Dioscorides herbal *De herbis femininis* (c. 5th-6th century), the *De herba vettonica* text of Pseudo-Antonius

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[96] Another possibility is that Marcellus knew exactly what texts he was using, and that he purposefully attributed the borrowings from Scribonius Largus to Celsus. Why he would choose to do so is a mystery, and this possibility has not been entertained by scholars.

Musa, and the *Medicina de quadrupedibus* of Sextus Placitus (c. fifth century). Some manuscripts of this group also transmit two *precationes* and a short medical treatise on the Mulberry. These texts were joined together at an early stage and were transmitted together in the manuscript tradition. Niedermann (1968, xxiii) has demonstrated that Marcellus used Sextus Placitus' text on animal medicine as a source. Although Marcellus did not include the preface of the herbal in his collection of dedicatory letters (an omission that will be discussed below), he did include one of the Pseudo-Apuleius Group's prefatory epistles, the letter from Hippocrates to Maecenas. The inclusion of these two texts, both of which are found in the Pseudo-Apuleius Group, together with the attribution to Apuleius and the shared passages between the herbal and the *De medicamentis*, clearly demonstrate that Marcellus drew upon the Pseudo-Apuleius Group, of which the herbal is a significant part.[97]

The Version of the Herbal Used by Marcellus

The earliest extant manuscript of the herbal dates to the late sixth century, and even at this early stage the text appears to have branched off into different classes in the manuscript tradition.[98] Marcellus' *De medicamentis*, as the earliest known text to have used the herbal as a source, can offer some insight into the form of the herbal as it appeared at a time before the earliest extant example of the text. Maggiulli and Buffa Giolito (1996, 11-19, 33-103) have teased out what the herbal may have contained in the early fifth century when Marcellus had access to it and what it may have looked like before it was reworked and filled with interpolations. If the herbal was

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[97] The fact that Marcellus consulted multiple treatises in the group for his early fifth-century work suggests that these texts were circulating as a unit before the earliest extant witness of the Pseudo-Apuleius Group (the sixth-century Leiden, Bibliotheek Der Rijksuniversiteit, Vossianus Latinus Q.9). In addition, the likelihood that Marcellus, writing in the early fifth century, considered the herbal to be a reliable ancient source of medicine suggests that the herbal could have been composed at an earlier date than the late fourth century.

[98] Howald and Sigerist divided the manuscript tradition of the herbal into three classes: α, β, and γ. The earliest extant manuscript of the herbal is Leiden, Bibliotheek der Rijksuniversiteit, Vossianus Latinus Q 9, a manuscript of class γ. This manuscript is described by Charles Singer, who compared its version of the herbal to a fragmentary Greek medical papyrus of the second or third century, known as the Johnson Papyrus (Singer, 1927, 43-45). The manuscript tradition of the herbal is also discussed by Maggiulli and Buffa Giolito (1996, 98-103) and by Pradel-Baquerre (2013, 99-119).

composed in the fourth century, then the version of the herbal that Marcellus consulted in the early fifth century was probably very similar to the original due to its temporal proximity. Maggiulli and Buffa Giolito argued that the *De medicamentis* therefore hints at an even earlier form of the herbal than what appears in the earliest extant manuscript of the text.

Marcellus' use of the remedies in the herbal spans from *verbenaca*[99] (the third plant) to *ocimum*[100] (the 118th plant), and we can therefore conclude that his version of the herbal contained at least those plants and probably everything in between, but the text may also have contained all of its other chapters that were not used by Marcellus. The penultimate chapters, on the plant *basilisca* and *mandragora*, are likely later additions because of their unusual forms. The chapter on *basilisca* completely departs from the herbal's typical structure of a list of remedies beginning with *ad* + [ailment name], and instead produces a paragraph expounding on the plant and its protective powers against snakes. The *basilisca* also does not feature in the two primary sources of the herbal, the *Naturalis Historia* and the *Medicina Plinii*, which further suggests it may be a later addition by a revisor working with other sources. The chapter on *mandragora* contains a long description of how to safely harvest the plant in addition to a selection of remedies, and also appears after a small description of a compound remedy that seems likely to be a later addition.

Most of the herbal's synonyms, as discussed in the previous chapter, are considered later additions. Howald and Sigerist (1927, xviii) suggested that the original form of the herbal contained no synonyms and that the illustrations of the plants would have been enough to allow readers from different locations to identify the plants. Maggiulli and Buffa Giolito (1996, 67-82), however, have argued that synonyms were fairly standard in works on plant *materia medica*, which would make a lack of synonyms in the herbal anomalous. They have also noted that the *De medicamentis* contains several synonyms that likely derive from the herbal, but only those attributed to the *Graeci* and *Itali*, as well as some *Galli* synonyms that Marcellus may have

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[99] J. André 2010, 202: *Verbena officinalis L.*, Common Verbena / Common Vervain.

[100] J. André 2010, 175: *Ocimum basiliscum* L., Basil.

added himself from his own knowledge. Based on the synonyms that Marcellus featured in his work, Maggiulli and Buffa Giolito concluded that Marcellus consulted a version of the herbal with only the Greek and Italian synonyms, and that it was a revisor who added the synonyms from other regions and peoples in order to fit the preface's statement about making the herbal useful for travelers or foreigners:

> *Proponamus ergo titulos morborum, quos nunc vel maxime tempus conduci, ut civibus meis, sociis quidem et peregrinis, quibus vexatio acciderit aliqua corporalis…* (HA prol.).
>
> Therefore, let us put forward for consideration the headings of some illnesses that are particularly relevant to our time, so that they may seem to be helpful to my fellow citizens, both neighbors and foreigners, for whom some medical issue might occur…

This statement also includes mention of the *tituli morborum*, which Maggiulli and Buffa Giolito argued were added by the revisor in order to make the herbal easier to consult. Rather than having to search for a remedy herb by herb, one could simply turn to the *tituli* and find all of the remedies organized according to ailment.

Maggiulli and Buffa Giolito (1996, 16-17) also observed that Marcellus neglected to include the prefatory letter of the herbal (from Apuleius addressed to his friends and neighbors) in his collection of prefatory letters at the beginning of the *De medicamentis*. The absence of this letter is odd because it fits contextually so well with the other letters in Marcellus' chosen collection. The prefatory letter of the herbal is similar in content and tone to one of the letters in Marcellus' collection, the prefatory letter of the *Medicina Plinii*. As will be discussed below, the herbal's preface likely even used the *Medicina Plinii* letter as a source. Both letters stress the importance of learning remedies for oneself so as to not have to rely upon greedy and untrustworthy professional healers. The herbal's letter, like the letter written by Marcellus, claims to be the work of a learned man with an interest in medicine (but not a physician) who has compiled some remedies that he thinks will be useful for the average reader, especially when traveling. These

sentiments are also present in Marcellus' letter to his sons, although he does not share the herbal's distaste for the medical profession.[101]

In the letter from Marcellus to his sons, he explained that he attached the prefatory letters of the sources that he used in compiling his medical treatise:

> *Epistulas quoque eorum, quorum studium aemulatum me esse scripsi, huic operi, ne quid deesset, adieci, quarum lectio et incitare uos ad necessariam cognitionem et instruere poterit ad salutem.* (*De medicamentis* prol. sect. 6).
>
> I have also added to this work the letters of those whose work I have imitated when writing, lest anything be missing, the reading of which can incite you to reach the necessary understanding and to teach you about health.

The letters in the prefatory collection support Marcellus' statement because they correlate to the sources Marcellus used:

1) Largis Designatianus to his sons: Marcellus names a Designatianus as one of his sources in his prefatory letter, and this letter is presumably from that Designatianus.

2) Hippocrates to the King of Antioch: Designatianus' letter to his sons claims that he is responsible for the translation of this letter, which explains why this letter directly follows the first.[102]

3) Hippocrates to Maecenas: this letter derives from the Pseudo-Apuleius Group, from which Marcellus consulted the herbal and Sextus Placitus' work on animal *materia medica*.

4) Pliny the Younger to his friends: this letter is the preface to the *Medicina Plinii*.

5) Cornelius Celsus to Iulius Callistus: this letter derives from Scribonius Largus' *Compositiones*, one of the main sources for the *De medicamentis* of Marcellus.

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[101] Marcellus even cautions his sons about making their own medicaments without the help of an experienced healer: *Moneo sane, si qua fuerint paranda medicamina, ne absque medico aut incuriousus conponantur aut indiligenter habeantur.* (*De medicamentis* prol. sect. 5).

[102] *Legi antehac Hippocratis Coi epistulam, medicinae auctoris uel peritissimi, quam de tuenda ualetudine ad Antiochum regem scripsisse fertur. Cuius quia praecepta et monita uobis ad salutis custodiam nota cuperem, collegi, ut potui, quidquid seriem eius continere memineram, eamque ore Romano interpretans scripsi* (Niedermann & Liechtenhan 1968, 18).

6) Cornelius Celsus to Pullius Natalis: this letter may be taken from the same work that contained the *Compositiones*, if one agrees with Maggiulli and Buffa Giolito's explanation about Marcellus' confusion between Celsus and Scribonius.

7) Vindicianus to Valentinian: Maggiulli and Buffa Giolito (1996, 16) noted that Marcellus' text includes a remedy (16.100) attributed to Vindicianus Afer (fourth century) and that there are 149 correspondences between the *De medicamentis* and the work of Theodorus Priscianus (c. 400 C.E.), the pupil of Vindicianus Afer.[103] They considered these correspondences the reason for Marcellus' inclusion of the letter from Vindicianus to Valentinian.

Because these letters are all evocative of the sources Marcellus consulted, the absence of the herbal's prefatory letter when the herbal was a source for the *De medicamentis* is worth questioning. Maggiulli and Buffa Giolito (1996, 16-17) proposed that the absence of this letter in Marcellus' work indicates that the version of the herbal consulted by Marcellus did not have a prefatory letter, the assumption being that Marcellus would have included the herbal's prefatory letter if he had known of it. Marcellus therefore did not include the herbal's preface because the version of the herbal from which he worked did not have a preface.

Maggiulli and Buffa Giolito argued that the reason that the herbal used by Marcellus did not have a preface is because the herbal's preface is not original to the text, but is a later addition by a revisor (their *Apuleius auctus*), who wanted to strengthen the herbal's ties to Apuleius of

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[103] Marcellus, *De medicamentis* 16.100: *ad tussem Vindiciani medici remedium singulare.* Vindicianus Afer was also Proconsul of Africa. His other known works are the *Gynaecia* and the *Epitome altera*, a treatise on anatomy and physiology (Prioreschi, 1991, 528-531). The surviving fragments of these works were edited by V. Rose (*Theodori Prisciani Euporiston cum physicorum fragmento et addimeentis pseudo-theodoris*, editi a Valentino Rose, *Accedunt Vindiciani Afri quae feruntur reliquae*. Lipsiae, Teubner, 1894). Theodorus Priscianus is known for two medical works, the *Euporiston* and the *Physica* (Prioreschi, 516-519). These works were also edited by V. Rose in 1894 (*Theodori Prisciani Euporiston, Libri III, cum physicorum fragmento et additamentis pseudo-theodoreis*, editi a Valentino Rose, Leipzig, Teubner, 1894). Theodorus Priscianus described Vindicianus as 'my teacher' (*magister meus*) in the *Physica* (*Theodori Prisciani Euporiston, Libri III*, 251).

Madaura, thereby elevating its authority as a medical work.[104] According to their argument, the preface was composed at some time after the composition of the *De medicamentis* in the early fifth century, but before the late sixth century, when the earliest extant manuscript of the herbal (Leiden, Bibliotheek der Rijksuniversiteit, MS Voss. Lat. Q. 9) was composed, since that manuscript contains the preface.

Working on the assumption that the herbal was written after the *Medicina Plinii* in the third century, the version of the herbal that Marcellus used was fairly close in time to the herbal's original composition, at least by comparison to other texts that used the herbal, such as the *Etymologiae* of Isidore of Seville or the *Hortulus* of Walafrid of Strabo.[105] Due to the proximity in time between the composition of the herbal and Marcellus' use of it for his work, Maggiulli and Buffa Giolito were convinced that if the preface had been part of the original herbal it would have made an appearance in Marcellus' text. To this I would add that the preface appears throughout the herbal's manuscript tradition, in all three classes, so even if the herbal had already branched off into its three classes by the time that Marcellus consulted it, the presence of the preface in the text would still be very likely regardless of which branch Marcellus possessed.[106] Although it is possible that Marcellus consulted a version of the herbal that dropped the preface (as such versions do occasionally occur), Maggiulli and Buffa Giolito's theory that the preface was written subsequent to Marcellus' *De medicamentis* is also plausible and less complicated.

That Marcellus would have included the herbal's preface if he had seen it is a probable idea, for he clearly considered the inclusion of such prefatory letters useful for his readership; however, there are reasons that could explain why Marcellus did not include the preface other than that he did not know of it. One possibility is that Marcellus considered the Pseudo-Apuleius Group to be

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[104] Maggiulli & Buffa Giolito 1996, 23-25, 114-116. See L. Voigts (1978) for a discussion about the various reasons why the herbal's true author may have attributed his work to Apuleius of Madaura.

[105] Pradel-Baquerre (2013, 91-98) provided an overview of the subsequent medical works that drew from the herbal.

[106] Maggiulli (1997) concluded that Marcellus used a version of the herbal closest to manuscripts of class α.

one unit, and took the letter from Hippocrates to Maecenas, which appears in first position within the group, as the prefatory letter for the entire collection of texts that make up the Pseudo-Apuleius Group, rather than using the preface to only one of the works in the collection. A small piece of evidence in support of this idea is the fact that Marcellus did not name Sextus Placitus as a source for his text, even though he consulted the *Medicina de Quadrupedibus* as a source. He only named Apuleius as his one source from the group and provided one letter from the group's collection of prefaces, which may indicate that he thought of the entire Pseudo-Apuleius Group as a cohesive unit. He may even have thought that the collection was written by one person, but this seems unlikely because almost every text in the Pseudo-Apuleius group contains an attribution to a named (if not accurate) author. Given, however, that Marcellus chose to include letters attributed to the sources he specifically named in his preface, the inclusion of the herbal's preface (which names Apuleius) would have been a more consistent choice than the Hippocrates letter.

Although Marcellus clearly included several of the prefatory letters of his sources in his treatise, he did not include the prefatory letter of the most important source for the *De medicamentis*, Pliny's *Naturalis Historia*. Perhaps Marcellus only used (or only had access to) certain books from the *Naturalis Historia*, but if he was able to pick out the prefatory letters from a compilation of Celsus' large collection and the work of Scribonius Largus, it does not seem unlikely that he could have found Pliny's preface, too. Marcellus' inclusion of the *Medicina Plinii*'s prefatory letter should not be counted as an attribution to Pliny the Elder because Marcellus clearly thought of Pliny the Elder and this Pseudo-Pliny as different persons (*uterque Plinius*), which suggests that he would have included the prefaces of both authors because he understood them to be different people. We cannot know with certainty whether Marcellus chose to exclude this preface or if he did not know of it, and the same consideration should be given to the preface of the herbal. Marcellus may have chosen not to include the preface for reasons unknown to us, or perhaps he simply missed the prefatory letter attached to the herbal. If Maggiulli and Buffa Giolito's theory that Marcellus missed the distinction between the works of Scribonius Largus and Celsus is correct, surely he could have made a similar mistake and not noticed the herbal's preface tucked into the larger Pseudo-Apuleius Group?

In addition to the small possibility that Marcellus may have chosen to exclude the herbal's preface from his work, the only other quibble to consider about Maggiulli and Buffa Giolito's argument is that the herbal's preface contains the only mention of Apuleius in the entire herbal. If Marcellus did not have access to the preface but still believed the herbal to have been written by Apuleius (which we can infer from his citing of Apuleius as a source), then what in the text made him think that Apuleius was its author? The text that Marcellus used must have had a title or *incipit* that named Apuleius, and thus the association between the herbal and Apuleius (whether Apuleius of Madaura or some other Apuleius) must have developed before the composition of the preface.

Maggiulli's (1997) comparative analysis of the remedies in the *De medicamentis* and the herbal has demonstrated that the version of the herbal that Marcellus consulted was closest to manuscripts of class α. Maggiulli found thirty-two remedies in the herbal and the *De medicamentis* that are comparable on a syntactic and lexical level, and found that the remedies that Marcellus likely pulled from the herbal are closest to readings in class α manuscripts. Maggiulli also concluded that the *precationes* that appear with some plants in the herbal were not present in the text Marcellus consulted. These *precationes* are relegated to the appendix in the Howald and Sigerist edition because they only appear in manuscripts of classes β and γ, and the editors thought that the text of class α manuscripts had the best textual tradition. Maggiulli (1997, 223) noted that Marcellus did not include any of the herbal's *precationes* in his work, even though he did include *precationes* from other sources. He therefore seems to have had no knowledge of these *precationes*. Either the *precationes* were not part of the original text or they did not appear in Marcellus' text because it was related to class α manuscripts, which do not transmit the *precationes*.

The version of the herbal that Marcellus consulted in the early fifth century resembles class α manuscripts of the herbal most closely. Whether this means that the herbal had already begun to branch off into different classes or that class α manuscripts are the closest in form to the original herbal is unclear, but the temporal proximity of Marcellus to the purported original composition

of the herbal in the fourth century would not have provided much time for the manuscripts of the herbal to begin exhibiting systemic divisions in content. Maggiulli and Buffa Giolito's examination of Marcellus' use of the synonyms and his silence on the herbal's *precationes* convincingly demonstrates that many of the synonyms and the *precationes* in the herbal are later additions. Maggiulli and Buffa Giolito offered a compelling argument for the herbal's preface to be a later addition to the text, although there might be other explanations for its absence in the *De medicamentis*. A subsequently-added preface would not have been unusual for a medical text from late antiquity, since the authenticity and originality of the prefaces of other contemporaneous medical texts are sometimes doubtful. One example of a medical text from this period with a preface that seems to have been added at a later date is the (4th-6th ?) *Alphabet of Galen*, since the style of the preface of that work, like the preface of the herbal, is quite different from the style of its body (Everett 2012, 13-18). The possibility that the herbal's preface was a later addition has serious ramifications for the dating of the herbal, as will be discussed below.

Terminus Post Quem: The *Medicina Plinii*

The primary source for the herbal is Pliny the Elder's *Naturalis Historia*. Other texts used as sources for the herbal include the (c. 2nd-3rd century) alphabetical Latin translation of the *De materia medica* of Dioscorides (the source for many of the herbal's plant name synonyms that are thought to be later additions to the text), and the anonymous third-century compilation entitled *Medicina Plinii*, a work of remedies in three books *a capite ad calcem* heavily based on the *Naturalis Historia* and attributed to Pliny. Pradel-Baquerre (2013, 53-91) has suggested as possible additional sources the *Carmen de viribus herbarum* (an anonymous Greek poetic fragment of probably the third century), as well as some Greek astrobotanical works. In addition, Teresa Santamaría Hernández (2008) has noted the similarities between the herbal's remedies for animal bites to various Greek works on poison.

The *Medicina Plinii*, being the latest of the texts securely identified as a source for the herbal, has regularly been used to determine the herbal's *terminus post quem* in discussions of the

herbal's dating.[107] The date of the composition of the *Medicina Plinii* is placed usually in the late third or early fourth century.[108] A. Önnerfors (1963, 18-26) has demonstrated that the only source that can be clearly determined for the *Medicina Plinii* is Pliny's *Naturalis Historia*, which means that the *Medicina Plinii* must have been written after Pliny's text. Because Marcellus of Bordeaux is known to have used the *Medicina Plinii* in the composition of his *De medicamentis*, the *Medicina Plinii* must have been written at some time before the composition of that work. Using both sources to reach a date range for the *Medicina Plinii*'s creation led Önnerfors to arrive at some time between the late first and the early fifth century.

V. Rose (1874) attempted to date the *Medicina Plinii* by examining the text's language and style. He concluded (1784, 34-35) that the language of the *Medicina Plinii* places the text after Gargilius Martialis (in the 3rd century). Rose also considered that, because Marcellus knew that the *Medicina Plinii* was not actually written by Pliny the Elder (hence his citation of *uterque Plinius*), a significant portion of time must have existed between the original composition of the *Medicina Plinii* and Marcellus' contact with the text - enough time for the attribution to Pliny the Elder to be accepted as false or referring to a different Pliny. Rose, therefore, placed the dating of the *Medicina Plinii* between c. 300 and 350, after Gargilius Martialis, but about fifty years before Marcellus. Önnerfors (1963, 143-238) similarly conducted his own lengthy analysis of the

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[107] Howald and Sigerist (1927), xix-xx; Pradel-Baquerre (2013), 19-20; Maggiulli & Buffa Giolito (1996), 15.

[108] The dating of the *Medicina Plinii* has been subject to debate. Önnerfors' (1963) philological study of the *Medicina Plinii* provides a very helpful summary of the differing opinions about the dating of this text. For example, according to Önnerfors (1963, 63), Joannes Keese argued that the *Medicina Plinii* was a source for the *Liber Medicinalis* of Quintus Serenus Sammonicus, which presented a problem because Serenus is thought to have been an author of the second-third century, which would require the *Medicina Plinii* to have been written at an earlier date than had been proposed. This discrepancy led Keese to the theory that the *Medicina Plinii* existed in two iterations, the extant version being a smaller compilation or abridgment based on an earlier *editio maior* of the text, which Keese claimed Serenus used. In fact, Keese argued that Serenus did not use Pliny's *Naturalis Historia* at all, but rather only consulted this no-longer-extant editio maior of the *Medicina Plinii*. Önnerfors (1963, 63-82) disagreed with Keese's theory. He argued that Serenus did not use the *Medicina Plinii* as a source, and neither did the *Medicina Plinii* use Serenus' *Liber Medicinalis* as a source. Rather, he concluded that their similarities are only due to the fact that each used Pliny's *Naturalis Historia*.

language of the *Medicina Plinii*. His analysis of the text's language still places the text in roughly the fourth century, and this date seems to be commonly accepted among scholars. Because the *Medicina Plinii* is a source for the herbal, the herbal is therefore thought to have been written sometime after the *Medicina Plinii*, thus after the early fourth century.

The connection between the herbal and the *Medicina Plinii* is evident. First, there are several remedies shared between the herbal and the *Medicina Plinii*. A similarity in content should be expected from these two texts, as both drew heavily from Pliny's *Naturalis Historia*; however, there are several passages where the herbal and the *Medicina Plinii* are more similar to each other than they are to Pliny's *Naturalis Historia*, or where the herbal and the *Medicina Plinii* share a passage that does not derive from any other known source. Both cases suggest that the *Medicina Plinii* was a direct source for the herbal. One can take as an example of the connection between these two texts the following remedy from the herbal and its corresponding passages in the *Medicina Plinii* and the *Historia Naturalis*:

> **HA CXIX.1:** *Ad epiforas oculorum. Herba apium tritum bene cum pane, oculi teguntur, mire facit.*
> For runny eyes. The eyes should be covered with the herb *apium* crushed well with bread; this works wonderfully.
>
> ***Medicina Plinii* I.8.2:** *apio viridi trito cum pane oculi teguntur.*
> The eyes are covered with fresh *apium* crushed with bread.
>
> **NH XX.44.112:** *praeterea oculis inlitum cum melle, ita ut subinde foveantur ferventi suco decocti, aliisque membrorum epiphoris per se tritum aut cum pane vel polenta inpositum mire auxiliatur.*
> Moreover [*apium*] applied to the eyes with honey is wonderfully helpful, provided that they are immediately fomented with a warm decoction. This is also wonderfully beneficial for other fluxes of the limbs when applied crushed, either by itself or with bread or pearl-barley.

In this example, the herbal and the *Medicina Plinii* apply the herb *apium* bruised with bread to the eyes in order to heal *epiphoras* of the eyes. These remedies seem to have resulted from a misreading of the two separate remedies in the *Naturalis Historia.* The first recommends applying the juice of *apium* and honey for the eyes, while the subsequent remedy applies *apium*

bruised with bread for *epiphoras* of the limbs. The herbal and the *Medicina Plinii* have each compressed the two remedies. Because both texts share the same remedy altered in the same way from the *Naturalis Historia*, one can see that their connection is closer to each other in this example than either text is to Pliny's work.

In addition to their shared remedies, the prefaces of both works are notably similar:[109]

Herbal (Howald & Sigerist 1927, 15)	***Medicina Plinii* (Önnerfors 1963, 4-7)**
Ex pluribus paucas uires herbarum et curationes corporis ad fidem ueritatis monumentis publicis tradidi ob stupiditatem uerbosam professionis, quod dicimus esse medicorum uenditationes potius quam curas, etiam hos homines inertia plerumque et inperitia enixos certe lucripetas uero nuncupari, qui etiam a mortuis mercedem expetunt. Quid agunt? Nihil; exspectant enim occasionem et faciunt reditus, dum ***tempus*** *curationum* ***extrahant****, puto, quia* ***saeuiores ipsis morbis existunt****. Proponamus ergo titulos morborum, quos nunc uel maxime tempus conduci, ut ciuibus meis, sociis quidem et peregrinis, quibus uexatio acciderit aliqua corporalis, nostra litterata scientia inuitis etiam medicis profuisse uideatur.* From several public documents, I have related a few virtues of plants and bodily remedies, in allegiace to the truth, because of the verbose stupidity of the medical profession, which we say are the 'hucksterings' rather than the 'cures' of physicians, and also that these men, in general zealous with their ignorance and incompetence, may truly be called greedy, who even claim a fee from their dead patients. What do they do? Nothing. Indeed, they wait for opportunity and they make money as long as they draw out the length of their patient's treatment, because, in my opinion, they are more dangerous than the diseases themselves. Therefore, let us put forward for consideration the headings of some illnesses that are particularly relevant to our time, so that they may seem to be helpful to my fellow citizens, both neighbors and foreigners, for whom some medical issue might occur, and so that our learned knowledge may even seem to be helpful to reluctant physicians.	*Frequenter mihi in peregrinationibus accidit ut aut propter meam aut propter meorum infirmitatem varias fraudes medicorum experiscerer, quibusdam vilissima remedia ingentibus pretiis vendentibus, aliis ea quae curare nesciebant cupiditatis causa suscipientibus. quosdam vero comperi hoc gener grassari ut languores, qui paucissimis diebus vel etiam horis possint repelli, in longum* ***tempus extraherent****, <ut> et aegros suos diu in reditu* ***haberent saevioresque ipsis morbis existerent****. quapropter necessarium mihi visum est ut undique valitudinis auxilia contraherem et velut breviario colligerem. ut quocumque venissem possem eiusmodi insidias vitare et hac fiducia ex hoc tempore <iter> ingredi, ut sciam, si quis mihi languor inciderit, non facturos illos ex me reditum nec taxaturos occasionem…* It frequently happened to me during my travels that when, either on account of my illness or that of my companions, I experienced various doctors' frauds; some selling useless remedies at enormous prices, others undertaking those (treatments) which they were unable to cure on account of greed. Truly I have learned that some approached illnesses which could be healed in the fewest number of days or even hours in this way; they woul prolong them for a long time, so that they could keep their patients for an extended period for profit, and they appear to be crueler than the diseases themselves. This is why it seemed necessary to me to gather remedies to illnesses from every source and produce them as a summary; so that whatever place I had come to I might be able to avoid this kind of treachery, and with confidence in this, to engage in travel since then, for I know that should any illness befall me they will neither be making a profit nor assessing an opportunity from me. [There follow some passages about the proper preparation of ingredients and measurements.]

[109] Translation of the *Herbarium* is my own. Translation of the *Medicina Plinii* is taken from Hunt (2019), 15.

Both prefaces express the same purpose: to provide medical remedies for the average reader so that one is not forced to rely upon greedy and untrustworthy professional healers when suffering from injury or ailment. This sentiment alone would not be enough to directly connect the two treatises, for a distrust of physicians was a fairly common opinion expressed in medical works of antiquity.[110] What ties the passages together is their shared wording (shown in bold above). The words in both passages from *tempus* to *existunt/existerent* echo each other and follow the same sequence, a similarity that suggests the influence of one of these texts on the other.

We have already discussed above the arguments by Magiulli and Buffa Giolito in regard to the preface of the herbal being a later addition to the original text by an *Apuleius auctus*. If the preface of the herbal is not original to the text, then the preface cannot be taken as an indication of the original author's use of the *Medicina Plinii* as a source. More importantly, Maggiulli and Buffa Giolito's theory opens up a significant question about the sources and the dating of the herbal: if it was, in fact, *Apuleius auctus* who drew from the *Medicina Plinii* to create the herbal's preface, how can we be sure that the remedies from the *Medicina Plinii* that are present in the herbal are due to the original author of the text and not simply to this *Apuleius auctus*? The answer to this question is important for our understanding of the dating of this work. If the *Medicina Plinii* was a source for the original composition of the herbal, then one can feel confident that the herbal must have been written after the early fourth century. If, however, the *Medicina Plinii* was only a source during the reworking of the herbal, the original composition of the text could be earlier than previously imagined, and could even stretch all the way back to just after the composition of Pliny's *Naturalis Historia* in the first century.

In order to answer this question, I compared all of the remedies in the herbal and the *Medicina Plinii* and noted what remedies in the herbal could derive from the latter work due to shared content and syntax. I then compared the related remedies to Pliny's *Naturalis Historia* in order to

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[110] A distrust of *medici* and the promotion of self-reliance was a very Roman sentiment, and is present in the prefaces to the works of several authors such as Cato the Elder, Aulus Cornelius Celsus, Scribonius Largus, and Pliny the Elder. For a more detailed discussion of this topic, see Chapter Three.

pick out any passages in the herbal that are similar to the *Medicina Plinii* because of their shared source, and not because of a direct borrowing from the *Medicina Plinii*. A trend that became apparent during my examination of the relationship between the herbal and the *Medicina Plinii* is that the passages in the herbal deriving from the *Medicina Plinii* are almost always the final remedy or the final series of remedies in a section, and sometimes they are additional remedies tacked on to others. I will demonstrate this point by discussing each example of a remedy from the herbal with close parallels to a passage in the *Medicina Plinii.*

Final Remedies in the Herbal Compared with Remedies in the *Medicina Plinii*

Menta

The herbal contains two remedies for *menta*. The second of the two remedies has a clear parallel in the *Medicina Plinii*:

> **HA CXXI.2:** *Ad ulcera in capite manantia. Herba menta contrita et inposita ulcera siccat.*
> For sores spreading on the head. The herb m*enta*, crushed and applied, dries up the sores.
>
> ***Medicina Plinii* I.3.2:** *ulceribus in capite manantibus… menta trita et apposita siccat.*
> For sores spreading on the head… *menta* crushed and applied dries them.
>
> **NH XX.53.148:** *ulcera in capite infantium mire sanat*
> It wonderfully heals sores on the head of infants.

The herbal's remedy is closer in both content and syntax to that of the *Medicina Plinii* than it is to the remedy from the *Naturalis Historia*. The *Naturalis Historia* remedy only states that *menta* is useful for healing ulcers on infants' heads, but contains none of the specifications about the preparation that are present in the other two texts. The herbal and *Medicina Plinii* remedies also do not specify that the cure is for infants as the *Naturalis Historia* does.

Centauria Minor

The herbal contains five remedies from the herb *centauria minor*. The final remedy in this chapter contains two separate cures, the second of which has a parallel cure in the *Medicina Plinii*:[111]

> **HA XXXV.5:** *Ad uenenum, qui sumpserit. Herbam centauriam minorem ex aceto tritam dato, bibat, mox discutit uenenum. Idem centauriae minoris radices pondus denarii i in ciatis iii uini bibatur.*
> If someone has ingested poison. Give the herb *centauria minor* crushed with vinegar to drink and it will soon dispel the poison. In the same way a weight of 1 denarius of the root of centauria minor should be drunk in 3 cyathi of wine.
>
> ***Medicina Plinii* III.37. 7:** *centauriae radicis pondus denarii in tribus cyathis vini bibitur.*

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[111] The first remedy in the herbal's section on *centauria minor* also has parallels to remedies in the *Medicina Plinii* and the *Naturalis Historia*; however, they are not similar enough to the herbal's remedy to be clearly determined as direct sources:

HA 35.1: *Ad uiperae morsum. Herba centauria minor, puluis eius aut ipsa pisata in uino ueteri potui data ualidissime proficit.*
For snakebite. The herb *centauria minor,* either powdered or beaten, given to drink in old wine, is the strongest benefit.

***Medicina Plinii* III.37. 7:** *centauriae radicis pondus denarii in tribus cyathis vini bibitur.*
The weight of a denarius of the root of *centauria* is drunk in three cyathi of wine.

NH XXV.55.100: *centaurii maioris radix drachma in vini albi cyathis tribus*
A drachma of the root of *centauria maior* in three cyathi of white wine.

Although all three remedies recommend the consumption of the herb in wine to cure a snake bite, the herbal's remedy is distinct from the other two in its specifications about the preparation of the plant, and it is also missing the measurement of the wine and the specification about using the root of the plant that both appear in the other two texts. The *Medicina Plinii* and the *Naturalis Historia* are closer to each other in this remedy than either of them are to the herbal; therefore, the *Medicina Plinii* should not be considered a direct source of this remedy in the herbal. The only remedy from *centauria minor* in the herbal that can be clearly tied to the *Medicina Plinii* is the last passage of the final remedy in the chapter.

> Against the bite of snakes and humans… The weight of a denarius of the root of *centauria* is drunk in three cyathi of wine.
>
> **NH XXV.55.100:** *centaurii maioris radix drachma in vini albi cyathis tribus*
>
> the root of *centauria maior* in three cyathi of white wine

The second of the two remedies in the herbal (*idem…bibatur*) is similar to the *Medicina Plinii* remedy for a snake bite. The sequence of words is almost exactly the same, while the passage from the *Naturalis Historia* is similar but offers slightly different measurements, specifies *vini albi*, and does not follow the same word order. The only significant difference between the herbal and the *Medicina Plinii* remedies is that the herbal specifies *centauria minor* while the *Medicina Plinii* does not specify which kind of *centauria.* Even in this case, the herbal is not closer to the *Naturalis Historia*, which recommends *centauria maior*. In addition, while the herbal's remedy is for someone who has ingested poison, the *Medicina Plinii* and *Naturalis Historia* remedies are both for snake bites, and so are meant to cure a slightly different ailment.

The source of the herbal's initial remedy here for poison (*herbam…uenenum*) is unclear, but it is neither the *Medicina Plinii* nor the *Naturalis Historia.* Neither of the two texts recommend either kind of *centauria* in vinegar. The inclusion of two remedies under one heading (*Ad uenenum, qui sumpserit*) in the herbal is not a frequent occurrence for this text unless the additional information clarifies how the treatment should be altered depending on the condition of the patient (for example, if they have a fever, or if they are a woman or child).[112] Because the first part of the remedy does not derive from the *Medicina Plinii*, this additional remedy from the *Medicina Plinii* may have been subsequently tacked on to the initial cure.

Centauria Maior

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[112] By my count, a second remedy beginning in this way with *idem* only occurs four times in the entire herbal, and most often the additional remedy cures a completely different ailment than what the heading indicates, a discrepancy that could point to later additions. In addition to the example from *centauria minor*, the other examples are: HA XCIII.1, XC.6, and XCIII.16.

The final remedy in the herbal's section on *centauria maior* contains the statement that pieces of meat boiled with *centauria maior* will adhere together again. This agglutinating property of the plant thus makes it useful for closing wounds. This idea can be found in both source texts:

> **HA XXXIV.5:** *Ad uulnera recentia. Herba centauria efficax est ad plagas glutinandas, ut etiam carnes cohaerescant, quae ex aqua eius coquuntur.*
> For fresh wounds. The herb *centauria* is effective for sealing wounds in order that the flesh cooked in its water may cling together.

> ***Medicina Plinii* III.3.6:** *centauriae radix tam efficax est ad plagas glutinandas ut etiam carnes cohaerescant quae cum ea coquuntur.*
> The root of *centauria* is so effective for closing wounds that even pieces of meat cooked with it stick together.

> **NH XXV.30.67:** *vis in vulneribus tanta est ut cohaerescere etiam carnes tradant, si conquantur simul.*
> Its power is so great for wounds that people say that it even causes pieces of meat to stick to each other if they are cooked with it.

Although the idea is present in all three works, the herbal and the *Medicina Plinii* are syntactically closer to each other, using precisely the same wording except for the herbal's specification that the meat should be cooked with the water of the plant. This passage in the herbal was likely taken directly from the *Medicina Plinii*, which may have borrowed its own passage from the *Naturalis Historia*.

Millefolium

The herbal contains four remedies from *millefolium*, the last of which is similar to remedies in the *Medicina Plinii* and the *Naturalis Historia*:

> **HA LXXXIX.4:** *Ad urinae difficultatem. Herbae millefolium sucus cum aceto bibitur, mire sanat.*
> For difficulty urinating. The juice of the herb *millefolium* should be drunk with vinegar; it heals wonderfully.

> ***Medicina Plinii* II.18.3:** *adversus urinae difficultatem millefolium tritum ex aceto bibitur.*
> Crushed *millefolium* is drunk in vinegar for difficulty urinating.

> **NH XXIV.95.152:** *bibitur ad difficultates urinae et vesicae*
> It is drunk for difficulty urinating and for bladder problems.

All three remedies recommend drinking *millefolium* for difficulty urinating, but the herbal and the *Medicina Plinii* both specify that the *millefolium* should be consumed with vinegar, while the *Naturalis Historia* does not make this specification. The herbal additionally specifies the juice of *millefolium*. The *Medicina Plinii* alternatively specifies that the *millefolium* should be crushed, which is slightly different from the directions in the herbal but still an action which would express the juice of the herb. The *Naturalis Historia* does not make any specification of this kind. The two remedies of the herbal and the *Medicina Plinii* are not precisely the same, but seem related to each other. If this herbal remedy is a slight reworking of the *Medicina Plinii* remedy, it is another example of a passage from that text being placed in the final position of a chapter in the herbal.

Hedera Crisocantes

The herbal contains a few chapters on herbs that offer only a single remedy. Two of these plants display a remedy from the *Medicina Plinii*. The first herb is *apium*, whose remedy using bread for *epiphoras* was discussed above and demonstrated to have retained the error made by the *Medicina Plinii* from a *Naturalis Historia* passage. The second herb is *hedera crisocantes*:

> **HA CXX.1:** *Ad idropicos. Herba hedera crisocantes, ideo quin grana fert coloris aurei, haec grana XX in uini sextario contrita, ex eo uino terni ciati bibantur per dies vii, qui per urinam exinaniuntur.*
> For dropsy. Crush 20 grains of the herb *hedera crisocantes*, so-called because it bears grains of a golden color, in a sextarius of wine, three cyathi of the wine should be drunk each day for 7 days; the dropsy is expelled through the urine.

> ***Medicina Plinii* III.22.7:** *est hedera quae chrysocarpos appellatur propterea quod fert grana aurei coloris: haec grana xx in vini sextario conteruntur et ex eo vino terni cyathi bibuntur qui per urinam exinaniunt.*
> There is a type of *hedera* which is called *chrysocarpos* because it bears berries of a golden color: twenty of these berries are pounded in a sextarius of wine, and from that wine three cyathi are drunk, which pass through urine.

> **NH 24.47.77:** *hedera quam chrysocarpon appellavimus bacis aurei coloris viginti in vini sextario tritis, ita ut terni cyathi potentur, aquam quae cutem subierit urina educit.*
> The *hedera* that I have called *chrysocarpon* draws away in the urine the water (of dropsy), if twenty of its golden berries are crushed in a sextarius of wine so that the mixture is drunk in a dose of three cyathi.

The herbal's remedy is syntactically closer to the remedy in the *Medicina Plinii*. The sequence of words is almost precisely the same in the two texts, the words and cases are closer (eg. *bibantur* and *bibuntur* vs *potentur*) and both share the final phrase (*qui…exinaniuntur/exinaniunt*), which is different from the phrasing in the *Naturalis Historia*.

Both *apium* and *hedera crisocantes* offer only a single remedy. Because each of these remedies likely derives from the *Medicina Plinii*, the chapters on these plants may be later additions or were perhaps modified by a revisor. Marcellus did not include either of these remedies in his *De medicamentis*, so we do not have direct evidence for their presence in the herbal in the early fifth century.

Rubus

In addition to the above examples of a single remedy from the *Medicina Plinii* occupying the final or only space in a list of remedies from a particular plant in the herbal, there are several examples where a sequence of the final remedies in a chapter of the herbal have parallels with the *Medicina Plinii*. For example, the herbal's final remedies from the chapter on *rubus* are all most similar to remedies in the *Medicina Plinii*:

Herbal	*Medicina Plinii*	*Naturalis Historia*
4: *Ad cardiacos. Herbae rubi folia per se trita inponuntur mamillae sinistrae, dolorem sistit.* For *cardiaci*. The crushed leaves of the herb *rubus* should be placed on the left breast; this stops the pain.	III.20.4: *folia rubi in quo mora nascuntur per se trita imponuntur eidem mammae.* The crushed leaves of *rubus* on which berries grow are applied to the same [left] breast.	XXIV.73.118: *folia commanducata prosunt, et ulceribus manantibus aut quibuscumque in capite inlinuntur. cardiacis vel sic per se inponuntur a mamma sinistra* The leaves are beneficial when chewed, and they are applied topically for running sores or for any sore on the head. The leaves are also beneficial for *cardiacus* when applied without other ingredients to the left breast.
5: *Aduersus gingiuarum et labrorum uitia. Herbae rubi coliculos teneros in uino decoctos, ipsum uinum in ore contineatur.* Against vexations of the gums and lips. The young buds of the herb *rubus* should be boiled in wine, and that wine should be held in the	I.12.2: *eiusdem generis rubi teneri pampini decoquuntur ex vino ad tertias idque vinum in ore continetur.* The young shoots of the same type of *rubus* are boiled in wine to a one-third part, and that wine is held in the mouth.	XXIV.73.119: *idem per se in cibo sumpti cymae modo aut decocti in vino austero labantes dentes firmant.* The same [shoots of the plant] eaten by themselves as one eats cabbage sprouts or decocted in tart wine strengthen loose teeth.

Herbal	*Medicina Plinii*	*Naturalis Historia*
6: *Ad uuae remedium. Herbae rubi folia arefiant in umbra; crematorum cinere in cocleario tacta resiliet, praesentaneum est.* A remedy for the uvula. The leaves of the herb *rubus* should be dried in the shade; when (the uvula) is touched by the burnt ashes (of the *rubus* herb) held in a spoon, it will recoil; this happens instantaneously.	I.15.2-3: *rubi in quo mora nascuntur cauliculi decoquuntur ex vino idque vinum gargarizatur praesentaneo remedio. eorundem ruborum folia arefiunt in umbra crematorumque cinere cochleari tacta resilit.* Shoots of *rubus* on which berries grow are boiled in wine, and that wine is gargled as an immediate remedy. The leaves of the same *rubus* dry in the shade, and when the uvula is touched by the ash of the burned leaves in a spoon, it recoils.	XXIV.73.119: *cauliculorum ex vino decoctum uvae praesentaneum remedium est….alvum sistunt et profluvia sanguinis, dysintericis prosunt, siccantur in umbra, ut cinis crematorum uvam reprimat.* A decoction of the plant's stems in wine is a fast remedy for the uvula…they dry up the bowels and profusions of blood, they are good for dysentery, they are dried in the shade so that the ashes of the burned stems check the uvula.
7: *Ad uulnera recentia. Herbae rubi aut flos aut mora, sine collectionis periculo sanat.* For fresh wounds. Either the flowers or berries of the herb *rubus* heal without danger of swelling.	III.3.5: *rubi sive platani vel flos vel mora sine collectionis periculo sanant.* The flower or berries of *rubus* or *platanus* heal without the danger of swelling.	XXIV.73.117: *adversantur serpentium sceleratissimis, haemorrhoidi et presteri, flos aut mora scorpionibus, vulnera sine collectionum periculo iungunt.* The plant heals the bite of the most wicked snakes, such as the *haemorrhois* and the *prester*; the flower or the berries of the plant heals the bite of scorpions; the plant closes wounds without danger of swelling.

Herbal	*Medicina Plinii*	*Naturalis Historia*
8: *Ad condolamata. Herbam rubum de uino coquito ad tertias eoque uino fouentur condolomata et omnia uitia sedat.* For anal inflammation. Cook the herb *rubus* in wine to a third part and wash the anal inflammation in that wine and this will stop all vexations.	II.17.1: *radices eiusdem rubi decoquuntur ex vino ad tertias eoque vino foventur condylomata et omnia vitia sedis.* The roots of *rubus* are boiled in wine to a third part, and *condylomata* and all complaints of the seat are fomented with that wine.	XXIV.73.120: *inter medicamenta quae styptica vocant nihil efficacius rubi mora ferentis radice decocta in vino ad tertias partes, ut coluantur eo oris ulcera et sedis foveanturque.* Among the type of medicines that are called 'styptics', none is more efficacious than the root of a *rubus* plant bearing berries cooked in wine to a third part so that sores in one's mouth and on one's bottom may be washed and fomented with the liquid.
9: *Contra serpentium et hominum morsus. Herbae rubi folia recentia trita inponantur.* Against the bite of snakes and of men. The fresh leaves of the herb *rubus* should be crushed and applied.	III.37.5: *mori folia trita recentia - si arida sint decocta et aeque trita - imponuntur.* Crushed fresh leaves of *morus*, if they are dried, boiled, and equally crushed, are applied.	XXIII.71.138: *folia mori trita aut arida decocta serpentium ictibus inponuntur aliquidque potu proficitur.* The crushed leaves of *molu*, or a decoction of its dried leaves, are applied topically against the bites of snakes; it is also beneficial to consume them in a drink.

4) This remedy in the herbal has close parallels to both source texts; however, the *Medicina Plinii* remedy is slightly closer to the herbal's passage because of the specification that the plant should be crushed (*trita*), which does not appear in the *Naturalis Historia* but does appear in the *Medicina Plinii*. The difference between the *Naturalis Historia* and *Medicina Plinii* remedies is admittedly small, but even if this fourth remedy of the herbal derives from the *Naturalis Historia*, all the subsequent remedies in this section offer stronger evidence to demonstrate that they derive from the *Medicina Plinii*, and thus the final sequence of remedies all close to the *Medicina Plinii* would still be intact if this remedy were not considered to be part of it.

5) Although both source texts share the specification about cooking the plant in wine, the herbal's remedy is closer to the *Medicina Plinii* because it shares the phrase *vinum in ore contineatur*, which does not appear in the *Naturalis Historia*.

6) The herbal's sixth remedy is closer to the *Medicina Plinii* remedy in its specifications and word order. The *Naturalis Historia* remedy is missing several of the details shared between the other two texts.[113]

7) The remedies in all three texts are quite similar in this example; however, the word order in the *Medicina Plinii*, almost an exact match for that of the herbal, makes this text a more likely candidate for being the source of this remedy.

8) The herbal's eighth remedy in this section shares several details with the *Medicina Plinii* that are absent in the *Naturalis Historia* remedy, which does not present the final part of the remedy (*eoque*…*sedat/sedis*) appearing in the other two texts.

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[113] Manuscripts of classes β and γ tend to read *ariefiunt* instead of *ariefiant*, but the former reading matches the *Medicina Plinii*'s text even more closely. *Crematorium* is missing in many manuscripts, but this word appears in both the *Medicina Plinii* and the *Naturalis Historia*, thus its disappearance in the herbal does not help to point out the source of the remedy.
The *De medicamentis* of Marcellus contains a similar remedy (14.16):

> *Folia rubi arefacta in umbra in cinerem concremantur; is cinis in cocleari uvae subiectus praesentaneo remedio eam contrahit.*
>
> The leaves of rubus are dried in the shade and burned to ash; the ashes are placed under the uvula in a spoon and they quickly repress it.

The direct derivation of this remedy is difficult to determine, but I would suggest the *Naturalis Historia* for the second half of the passage. The *is cinis*, *uvae*, and *presentaneo* from the *De medicamentis* could all derive from Pliny's text. The first half of the passage is too similar to both the herbal and the *Medicina Plinii* to determine either as a source.

9) The final remedy in this section has a close parallel in both source texts. The herbal has not included the extra specification in both earlier works about how to prepare the dried herb and has instead compressed the remedy. The *Medicina Plinii* is slightly closer to the herbal because of the specification that the leaves be fresh, which does not appear in the *Naturalis Historia* (although one could say it is implied by the alternate preparation of the dried herb). Both the *Medicina Plinii* and the *Naturalis Historia* use the plant name *morum*, while the herbal uses *rubus*. *Morum* can indicate mulberry, but the term is sometimes used to indicate blackberry (J. André 2010, 164). Mulberries and blackberries also look very similar. The herbal lists *mora silvatica* as a synonym for *rubus* from the *Romani*, a synonym thought to be a later addition to the original text (Howald & Sigerist 1927, 158). Perhaps the revisor of the herbal thought the *morum* in his source was the same plant as his *rubus*.

In each of these six examples, the herbal's remedy is similar to the remedy in the *Medicina Plinii*, both in terms of content and wording. While the *Naturalis Historia* presents similar remedies to what one finds in the herbal, the closer relationship between the herbal and the *Medicina Plinii* is evident in the repeated word order and the inclusion of information that is not present in the passages from the *Naturalis Historia*. While one can see echoes of Pliny's work in these remedies from the herbal, there is a stronger resemblance between the herbal and the *Medicina Plinii*.

Hedera Nigra

Another final series occurs in the herbal's eight remedies from *hedera nigra.* The final four have close parallels in the *Medicina Plinii*:

Herbal	*Medicina Plinii*	*Naturalis Historia*
5: *Ad ulcerum remedia. Herba hedera ex uino decocta inponitur.* For healing sores. The herb *hedera* is boiled in wine and applied.	III.4.17: *hedera ex vino decocta imponitur omnium generi ulcerum.* *Hedera* boiled in wine is applied to all types of sores.	XXIV.47.78: *inlinitur decocta quaecumque in vino omni ulcerum generi, etiamsi cacoethe sint.* Any kind [of *hedera* plant] cooked in wine is applied topically to every kind of sore, even if it is malignant.
6: *Ad nares male olentes. Herbae hederae sucus bene colatus in nares infunditur emendat.* For noses that smell bad. The juice of the herb *hedera*, well-strained and poured in the nostrils, is healing.	I.10.5: *graveolentia narium sic subvenitur. sucus hederae infunditur* Bad smells in the nose are aided in this way: the juice of *hedera* is poured in.	XXIV.47.76: *sucus hederae taedia narium graveolentiamque emendat, parecipue albae sativae* The juice of *hedera*, especially cultivated white *hedera*, heals ailments and bad smells in the nose.
7: *Ad aurium inutilitatem et qui minus audiunt. Herbae hederae sucus mundissimus cum uino stillatus medeter.* For deafness and for those who have difficulty hearing. The most pure juice of the herb hedera, dripped (in the ear) with wine heals this.	I.6.3: *sucus hederae tepidus cum vino instillatur.* Warm juice of *hedera* is dripped in with wine.	-

Herbal	*Medicina Plinii*	*Naturalis Historia*
8: *Ad caput, ne sole doleat. Herbae hederae folia mollissime trita cum aceto et rosacio, aduersus omnem dolorem fronti inlinitur.* So that the head will not be in pain from the heat. The leaves of the herb hedera, crushed as softly as possible with vinegar and rose oil, are applied to the forehead against every pain.	I.1.4: *hederae folia mollissima quaeque trita cum aceto et rosaceo adversum omnem dolorem fronti inlinuntur.* The softest leaves of *hedera*, crushed with vinegar and rose oil, are applied to the forehead against every pain.	XXIV.47.75: *omnia genera eiunt capitis dolorem sedant, praecipue cerebro continentique cerebrum membranae utiliter mollibus inpositis foliis cum aceto et rosaceo tritis et decoctis, addito posteo rosaceo oleo. inlinuntur autem fronti, et decocto eorum fovetur os caputque perunguitur.* All kinds of [*hedera*] diminish head pain; the soft leaves of the plant, crushed and cooked with vinegar and rose oil (with additional rose oil added after the cooking) and then applied topically, are especially useful for the brain and for the membrane surrounding the brain; the leaves are also applied to the forehead, and the mouth is fomented and the head smeared with a decoction of

5) The fifth remedy from *hedera nigra* in the herbal contains the same wording as the remedy from the *Medicina Plinii*, except for the final phrase in the latter text. The formula by which the herbal presents its remedies requires that the ailment is stated before the remedy, usually with *ad* + [accusative ailment name]. The final phrase in the herbal's remedies is almost always a statement about the efficacy or healing action of the remedy, and is usually a single verb of healing (like *emendat* and *medetur* in remedies five and six, above). Final phrases that reiterate the ailment like *omnium generi ulcerum* often don't appear in the herbal's remedies, perhaps because it would be redundant. The absence of this phrase in the herbal's passage is therefore a logical change for the herbal's author or revisor to have made. The remedy in the *Naturalis*

Historia expresses the same idea of cooking the plant in wine, but the words it shares with the herbal are broken up, as opposed to the sequence they are in within the *Medicina Plinii*. As well, the herbal tends slightly towards the *Medicina Plinii* with its use of *ex vino* instead of *in vino* and *inponitur* rather than *inlinitur*.

6) The herbal's sixth remedy from *hedera nigra* does not have an exact match in either the *Medicina Plinii* or the *Naturalis Historia*, but all three texts recommend the plant's juice for various complaints of the nose. The herbal is slightly more similar to the *Medicina Plinii*, because both texts recommend pouring *hedera nigra* into the nostrils, while the *Naturalis Historia* does not make a specification about how to apply the herb.[114]

7) The herbal's seventh remedy from *hedera nigra* does not have a close parallel in the *Naturalis Historia*, but resembles the *Medicina Plinii* remedy in content and wording, except that the herbal specifies that the juice of the plant be *mundissimus* while the *Medicina Plinii* specifies that it should be *tepidus*. The only somewhat similar remedy in the *Naturalis Historia* (NH XXIV.47.77) addresses ear pain, not difficulty of hearing. In addition, the *Naturalis Historia* remedy has different wording and specifications such that it does not seem to be a likely source for the herbal's remedy.

8) The herbal's final remedy from *hedera nigra* contains almost precisely the same wording as the *Medicina Plinii* remedy, and while the *Naturalis Historia* expresses the same idea, the wording is less similar to the herbal's passage. The *Naturalis Historia* remedy also contains many additional specifications that are not present in the other two texts.[115]

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[114] Manuscripts of classes β and γ tend to drop the *infunditur*; therefore, the readings of the *Medicina Plinii* and the *Naturalis Historia* are equally similar to the herbal's remedy in these manuscripts.

[115] This remedy also appears in the *De medicamentis* of Marcellus (I.79), but the wording is precisely the same as the wording of the *Medicina Plinii*, which is therefore the more likely source.

These final four remedies from *hedera nigra* represent a sequence of remedies that have close parallels to the *Medicina Plinii* and may derive directly from that work. The direct source for the sixth remedy is debatable, but the remaining remedies demonstrate a closeness to the *Medicina Plinii* that does not exist between these passages and the *Naturalis Historia*.

Ocimum

Another example of a series of remedies closely related to the *Medicina Plinii* is the herbal's chapter on *ocimum*. The herbal contains two remedies from *ocimum*, both of which may derive from the *Medicina Plinii*:

HA	*Medicina Plinii*	*Historia Naturalis*
1: *Ad capitis dolorem. Herba ocimum tritum cum oleo roseo aut mirtino uel aceto fronti inponitur, mire facit.* For head pain. The herb *ocimum*, crushed with rose oil or myrtle oil or with vinegar is placed on the forehead; it works wonderfully.	I.1.1: <*ocimum*> *cum rosaceo aut myrtino aut aceto fronti imponitur.* *Ocimum* is applied to the forehead with rose oil or myrtle oil or vinegar.	XX.48.121: *inlitum capitis doloribus cum rosaceo aut myrteo aut aceto* [*Ocimum*] is applied with rose oil or myrtle oil or vinegar for head pain.
2: *Ad epiforas oculorum. Herba ocimum ex uino optimo tritum oculis inlinatur. Item ad renes in mali granati cortice bibito.* For runny eyes. The herb *ocimum*, crushed with the best wine, should be applied to the eyes. Also, drink it with the skin of pomegranate for the kidneys.	I.8.2: *ocimo ex vino optimo trito oculi circumlinuntur.* The eyes are applied all over with *ocimum* crushed with the best wine.	XX.48.121: *oculorum epiphoris inpositum ex vino.* [*Ocimum*] is applied with wine for runny eyes.

Both remedies in the herbal more closely resemble the *Medicina Plinii* than the *Naturalis Historia*. The herbal's first remedy shares a phrase (*fronti inponitur*) with the *Medicina Plinii*

that does not appear in the *Naturalis Historia*, while the herbal's second remedy has replicated the *Medicina Plinii* remedy directly, except for a few grammatical changes.

Summary

The above examination of the herbal's remedies and their ties to the *Medicina Plinii* has demonstrated that there are several final remedies in various sections of the herbal that likely derive from the *Medicina Plinii*. There are enough examples to note the semblance of a pattern: the remedies in the herbal that derive from the *Medicina Plinii* are the final or only remedies in a chapter. Even when there is a sequence of several remedies from the *Medicina Plinii*, they appear at the end of a section. There are also no clear examples of a single remedy in the beginning or middle of any chapter in the herbal that can be clearly determined as deriving from the *Medicina Plinii*. If it was a later revisor of the herbal who used the *Medicina Plinii* and not the herbal's original author, then this placement of the *Medicina Plinii* remedies at the end of already-existing chapters would be a logical occurrence.

Additional Remedies in the Herbal Possibly Derived from the *Medicina Plinii*

The above remedies are the clearest examples of the herbal's use of the *Medicina Plinii* and the pattern of *Medicina Plinii* remedies present in final positions in the herbal's chapters. The herbal contains additional passages that have clear parallels to the *Medicina Plinii* and the *Naturalis Historia* but whose direct source is more difficult to ascertain because of the closeness of the source texts. Most of these examples are still final remedies in various sections of the herbal, so if they do derive from the *Medicina Plinii*, they still fit into the pattern of that text appearing as the source for only final remedies in the herbal.

Titimallus

The herbal contains four remedies from *titimallus*. The final remedy is comparable to remedies in both the *Medicina Plinii* and the *Naturalis Historia*:

HA CIX.4: *Ad lichenas qui et lepras. Herbae titimalli flos cum resina decoctus inlinitur.*

> For skin eruptions and *lepras*. The flower of the herb *titmallus* boiled with resin is applied.
>
> ***Medicina Plinii* I.18.5:** *tithymalli flos cum resina decoctus adhibetur.*
> The flower of *tithymallus* boiled with resin is applied.
>
> **NH XXVI.10.22:** *laudatur et tithymalli cum resina decoctum*
> [For lichen.] A decoction of *tithymallus* with resin is praised.

All three remedies are analogous. The remedies from the herbal and the *Medicina Plinii* are slightly closer because they both specify that the flower of *titimallus* should be prepared, while the *Naturalis Historia* remedy does not specify a particular part of the plant.[116] This difference is small, and so perhaps not enough to clearly demonstrate that the herbal's remedy derives from one text or the other. If the herbal's remedy does derive from the *Medicina Plinii*, it is another example of that text as the source for a final remedy in a chapter of the herbal.

Anetum

The final cure in the herbal's chapter on *anetum* is similar to a remedy from the *Medicina Plinii*:

> ***HA* CXXII.3:** *Ad capitis dolorem. Herbae aneti flos cum oleo decoque, temporibus linito et ligato.*
> For head pain. Boil the flower of the herb *anetum* with oil, apply it to the temples and tie it on.
>
> ***Medicina Plinii* I.1.2:** *anethum ita uti de horto sublatum est decoquitur ex oleo, et suco eius dolor unguitur.*
> *Anethum* is boiled with oil when it was picked from the garden, and the juice is applied to the pain.

Both remedies express the same idea - boil *anetum* with oil and apply its juice to the area in pain, but they are different enough from each other to make it difficult to conclude whether the herbal's remedy derives directly from the *Medicina Plinii* or if their similarities are due to shared sources. The herbal specifies the flower of *anetum*, while the *Medicina Plinii* recommends

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[116] Class γ manuscripts have dropped the *decoctus*, but the specification about preparing the flower (as opposed to the general plant) is consistent.

anetum freshly picked from the garden. The herbal contains an extra recommendation of tying the plant to the body. Both passages, however, share the same basic idea of cooking the plant in oil and applying it to the body. The *Naturalis Historia* does not have an equivalent remedy from *anetum*; however, Yvette Hunt (2019, 120) has suggested that the *Medicina Plinii* remedy is a misreading of a remedy using *anesum* from Pliny's text:

> **NH XX.73.190:** *prodest et capitis doloribus instillari sucum cum oleo decocti.*
> The juice of the plant is also beneficial for head pain when cooked with oil and dripped onto the head.

If Hunt's suggestion is correct, then the remedy in the herbal is closer to the remedy in the *Medicina Plinii*, for it continues the misreading of *anetum* for *anesum*. As this remedy is the final remedy in the herbal's chapter on this plant, it could be another example of a later addition from the *Medicina Plinii.*

Mentastrum

The herbal contains two remedies from *mentastrum*.[117] The final remedy is similar to passages in both source texts:

> **HA XCI.2:** *Ad elefantiosos. Herbae mentastri folia adhibeto, commanducet, mire sanare certum est.*
> For leprosy. Take the leaves of the herb *mentastrum* and eat them; it is certain that they will wonderfully heal you.
>
> ***Medicina Plinii* I.19.3:** *mentastri folia commanducata adhibentur;*
> The chewed leaves of *mentastrum* are applied;
>
> **NH XX.57.144:** *his [foliis] commanducatis et inpositis sanari elephantiasin Magni Pompei aetate fortuito cuiusdam experimento propter pudorem facie inlita conpertum est.*

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[117] The use of *-aster* as a suffix denoting a wild form of a plant (as in *mentastrum* 'wild mint' from *menta* 'mint') is discussed by Everett (2010). This suffix was used most commonly in antiquity and late antiquity by authors in an Italian context, such as Celsus, Columella, and Pliny (189). The herbal's use of this suffix here might be an indication of an Italian location and an early date.

> If these leaves [of *mentastrum*] are chewed up and applied, they heal elephantiasis; this remedy was discovered in the time of Pompey the Great by the chance experiment of someone who applied the leaves to their face out of shame [for the disease].

The remedy in the herbal has a form of the *Medicina Plinii*'s *adhibeo* rather than the *inpono* of the *Naturalis Historia*. The herbal shares *sanare* with the *Naturalis Historia*, a word that is absent in the *Medicina Plinii*; however, the herbal's *sanare* could be due to the author's editing the source remedy to include a statement of certainty about its efficacy, and thus to fit the herbal's typical structure. Due to the similarities in all three passages, the direct source of the herbal's remedy is unclear, but as this is a final remedy, it only adds to the argument of later additions if it derives from the *Medicina Plinii*

Puleium

The herbal's section on *puleium* offers eighteen remedies. The sixth remedy (thus not a final remedy) in the sequence derives from either the *Medicina Plinii* or the *Naturalis Historia*, but is similar enough to both texts that the direct source could be either:

> **HA XCIII.6:** *Ad tertianas. Herbae pulei ramulos lana inuolutos odoret ante accessionem; quod si coronam in capite habuerit, capitis dolorem sedat.*
> For tertain fevers. The person should smell the little sprigs of the herb *puleium* wrapped in wool before the onset of fever; and if they put a wreath of it on their head, it stops head pain.
>
> ***Medicina Plinii* III.16.2**: *pulei ramus in lana involutus ante accessionem olfaciendus datur aut stratis subditur.*
> A twig of *puleium* rolled up in wool is given to be smelled or is placed under beds before the onset of fever.
>
> **NH XX.54.155:** *Xenocrates pulei ramum lana involutum in tertianis ante accessionem olfactandum dari aut stragulis subici et ita collocari aegrum inter remedia tradit.*
> Xenocrates recommends within his remedies to give a stem of *puleium* wrapped in wool to be smelt before the onset of a tertian fever.

All three texts contain essentially the same phrase (*pulei…accessionem*) but with minor differences that are either due to the author of the herbal's editing or misreading.[118] The herbal is not clearly closer to either source text, and so one cannot determine whether this passage breaks the pattern of use from the *Medicina Plinii*.

Innula Campana

A similar example appears in the herbal's chapter on *innula campana*. This chapter contains three remedies, and the second remedy is similar to both source texts:

> **HA XCVI.2:** *Ad dentium remedia. Herbam innulam campanam ieiunus conmanducet, dentes confirmat*.
> For healing the teeth. The person should chew the herb *innula campana* on an empty stomach, it strengthens the teeth.
>
> ***Medicina Plinii* I.13.1:** *inula ab ieiunis commanducata dentes confirmat.*
> *Innula* chewed while fasting strengthens the teeth.
>
> **NH XX.19.38:** *Inula quoque a ieiunis commanducata dentes confirmat.*
> The plant *inula* also strengthens the teeth when chewed up on an empty stomach.

All three passages contain the final phrase (*ieiunis…confirmat*). The *Medicina Plinii* and the *Naturalis Historia* offer exactly the same reading, and it is the herbal that presents the only variation (*conmanducet* instead of *commanducata*). Because the source texts are the same, the herbal could have borrowed this remedy from either.[119]

Serpullum

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[118] Howald and Sigerist (1927, 169) noted that manuscripts of β read: *ramulos III inuoluis in lana ante accessionem*. This extra specification about the number of sprigs of the herb used is perhaps a misreading of the *tertianis* in the *Naturalis Historia* passage, as a number of sprigs is not specified in either source text. This possibility points to the *Naturalis Historia* as the source for this passage, but the measurement is not consistent throughout the herbal's manuscript tradition.

[119] Marcellus also transmits this remedy (12.40), but it is not close enough to any of the three other texts for a direct source to be identified.

The herbal's chapter on *serpullum* contains only two remedies. The first remedy has clear parallels to both the *Medicina Plinii* and the *Naturalis Historia*, such that a clear source cannot be easily determined:

> **HA C.1:** *Ad capitis dolorem. Herbae serpulli sucum cum oleo et sale frictum et in puluere redactum, omnia conmixta, caput perunctum sanat. Item serpullum decoctum in aceto, tritum inlinitur temporibus et fronti.*
> For head pain. The juice of the herb *serpullum,* rubbed with oil and salt and reduced to a powder and then mixed all together and applied to the head, is healing. You can also use the herb serpullum boiled in vinegar and crushed, then applied to the temples and the forehead.
>
> ***Medicina Plinii* I.1.3:** *serpullum decoctum in aceto inlinitur fronti et temporibus.*
> *Serpullum* boiled in vinegar is applied to the forehead and the temples.
>
> **NH XX.90.246:** *capitis doloribus decoctum in aceto inlinitur temporibus ac fronti cum rosaceo, item phreneticis, lethargicis.*
> The plant boiled in vinegar is applied topically to the temples and to the forehead with rose oil for head pain, and also for lunacy, and for lethargy.

The passages in the *Medicina Plinii* and the *Naturalis Historia* related to the herbal are precisely the same except for the order of *temporibus* and *fronti*. The order of the words in this phrase in the herbal is a match with the *Naturalis Historia*, which may indicate the closer relationship between those two texts; however, that difference of word order is quite small and could easily derive from authorial choice. The Howald and Sigerist edition (1927, 180) notes that classes β

and γ of the herbal do not include the portion of the remedy from *item* to the end.[120] Its presence in only one branch of the manuscript tradition suggests that this passage is a later interpolation, regardless of the source.

Plantago

The first plant in the herbal, *plantago*, contains a final sequence of remedies that may derive from the *Medicina Plinii*. This herb's chapter contains a large number of remedies when compared to most of the other plants in the text. *Plantago* offers twenty-four remedies in total, when most of the plants in the herbal offer only one to four remedies. Remedies 20 to 24, the last in the group from *plantago*, may all have used the *Medicina Plinii* as a their source, for they exhibit passages analogous to that work:

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[120] Marcellus' *De medicamentis* reports this remedy from *item* to *fronti*:
De medicamentis 1.75**:** *Serpullum decoctum ex aceto et tritum recte inponitur temporibus et fronti.*The plant serpullum boiled with vinegar and thoroughly crushed is applied to the temples and to the forehead.
Maggiulli (1997, 214) considered this passage from Marcellus' text to derive from the herbal because of its inclusion of *tritum,* but the difference of a single word does not amount to overtly compelling evidence, especially when the word is a common specification for a medicinal preparation that an author could think to add himself, and one that appears often in the herbal. As stated above, this remedy in the herbal appears only in manuscripts of class α, and the version of the herbal consulted by Marcellus most closely resembled manuscripts of that very class. Although Maggiulli (1997) has argued that Marcellus' version of the herbal pre-dated the reworkings of the herbal, it is possible that the reworking of the herbal took place before Marcellus accessed the text, and that his work does not transmit these elements from the herbal because they were missing in the class α manuscript that Marcellus consulted. Marcellus is thought to have written his work soon after the supposed composition date of the herbal, but if one considers that the herbal may be older than previously thought because of the *Medicina Plinii*, there may have been a few centuries for the herbal to have received such revisions and divisions in its manuscript tradition.

Herbal	*Medicina Plinii*	*Naturalis Historia*
1.20: *Ad parotidas. Herba plantago cum axungia uetere pisata et inposita persanat.* For swelling in front of the ear. The herb *plantago* beaten with old grease and applied completely heals it.	I.7.5: *plantago cum axungia vetere persanat.* *Plantago* with old grease completely heals.	-
1.21: *Ad ulcera oris. Herbae plantaginis sucus et folia eius cocta in ore tenentur et radix eius in ore commanducatur.* For mouth sores. The juice of the herb *plantago* and its cooked leaves are held in the mouth and its root is chewed up.	I.12.3: *ulcera plantaginis sucus emendat, et folia eius cocta radicesque eius commanducatae.* The juice of *plantago* improves sores, and its cooked leaves and roots are chewed.	XXV.89.174: *oris ulcera intus sucus plantaginis emendat et folia radicesque* commanducata The juice of *plantago*, as well as the leaves and roots when chewed up, heals sores inside the mouth.
1.22: *Ad fistulas sanandas. Herbae plantaginis sucus fistulis infunditur et inmittitur eisdem.* For healing fistulas. The juice of the herb *plantago* is poured on the sores and it works against them.	III.4.21 *plantaginis sucus infunditur fistulis, et imittitur isdem fel taurinum cum porri suco pari mensura.* The juice of *plantago* is poured into fistulas, and bull bile with an equal measure of of the juice of *porrum* is also applied.	XXVI.78.126: *fistulae… plantaginis sucus infusus.* [For fistulas] the juice of *plantago* is poured [into them].

Herbal	*Medicina Plinii*	*Naturalis Historia*
1.23: Ad *morsum rabidi canis. Herba plantago contusa et inposita facillime sanat.* For the bite of a rabid dog. The herb *plantago,* pounded and applied, very easily heals this.	III.10.2: *plantago pota et imposita facit et adversus canis rabiosi morsum et adversus omnium bestiarum.* *Plantago* drunk and applied helps against both a rabid dog's bite and against the bite of all beasts.	XXV.77.125: v*eneni vim canis quoque rabidi morsus habent, contra quos erit cynorrhodum, de quo diximus, plantago, et ad omnes bestiarum morsus, pota atque inlita, vettonica ex mero vetere.* The bites of a rabid dog also have a powerful venom, against which the plant *cynorrhodum* will be a remedy, as I have already said, as well as *plantago*; *vettonica* with old wine, either in a drink or applied, is a remedy against the bites of
1.24: *Contra omnes uesicae difficultates. Herbae plantaginis folia uel radices potae ex passo, fortiter medetur.* Against all bladder problems. The leaves or roots of the herb *plantago* drunk with raisin wine are vigorously healing.	II.18.10: *plantaginis vel folia vel radices potae ex passo prosunt.* Either the leaves or the roots of *plantago* are useful when drunk in raisin wine.	XXVI.49.78: *vesicae malis contraque calculos, gravissimis cruciatibus, ut diximus, auxilio est… plantago foliis vel radice potis ex passo* For bladder problems and for stones, which, as we have said, are the greatest tortures, an aid is…the leaves or the root of *plantago* taken to

20) The herbal's twentieth remedy from *plantago* has a clear parallel in the *Medicina Plinii*. The wording of both remedies is the same except for the two additional specifications (*pisata et inposita*) in the herbal. The *Naturalis Historia* does not appear to have a similar remedy.[121]

[121] Yvette Hunt (2018, 136) suggested that the *Medicina Plinii*'s remedy could be an altered form of *Naturalis Historia* XXV.103.163 (*medentur epiphoris folia inposita vel sucus inunctis*), but (in my opinion) this remedy does not appear similar enough to support that theory, and it does not use *plantago*, but rather *inlecebra*.

Because there is no clear source remedy from the *Naturalis Historia*, it is likely that this remedy in the herbal was taken from the *Medicina Plinii*.

21) The twenty-first remedy from *plantago* in the herbal has clear parallels to both the *Medicina Plinii* and the *Naturalis Historia*, but the wording between the herbal and the *Medicina Plinii* is slightly closer: both remedies present the *eius* after *radix* and *folia*, and their orders of words are more similar to each other than they are to the *Naturalis Historia.* Both also specify that the plant should be cooked, a specification that does not appear in Pliny's text.[122]

22) The twenty-second remedy from *plantago* in the herbal is closer to the corresponding *Medicina Plinii* remedy. The *Naturalis Historia* remedy expresses the same idea, but is missing a phrase of the other texts (*et inmittitur eisdem*).[123] This phrase in the *Medicina Plinii* is connected to an additional remedy recommending the application of bull bile. It is not surprising that the herbal did not include the bull bile remedy because of the text's focus on plants. Animal bile is not an ingredient featured in the herbal (although animal fat appears regularly in the text as a base for topical herbal treatments). The herbal appears to have taken its final phrase (*et inmittur eisdem*) from the first portion of the bull bile remedy and combined it with the *plantago* remedy.

23) The twenty-third remedy from *plantago* in the herbal uses the plant in a similar way for animal bites as remedies in the *Medicina Plinii* and the *Naturalis Historia*, but it is not a close copy of either text's remedy. The latter two texts recommend applying *plantago* topically as does the herbal, but they also recommend drinking *plantago.* Neither recommend that the plant be crushed beforehand as the herbal does. The *Medicina Plinii* remedy uses *inposita* like the herbal,

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[122] The readings of classes β and γ differ from the edition, but they still are closer to the passage from the *Medicina Plinii*. All classes contain the *eius.* Howald & Sigerist (1927, 24):
β: *Ad ulcera oris. Herbae plantaginis sucum in ore teneat uel folia eius commanducentur/ comanducabit, mirifice sanat.*
γ: *Ad ulcera oris. Herba plantaginis sucos in ore tenuntur uel folia eius commanducantur.*

[123] The phrase *et (in)mittitur eisdem* is consistent in classes α and γ (Howald and Sigerist 1927, 24). Class β manuscripts read: *fistulis infundis desuper multis diebus et sanatur*, which, although different, is not closer to the *Naturalis Historia* passage.

as opposed to the *Naturalis Historia*'s *inlita*, to describe the application of the plant, and so is perhaps closer to the herbal; however, the author of the herbal may have taken inspiration from either text and adapted the remedy to fit the herbal's formulaic structure.

24) The herbal's final remedy from *plantago* is notably similar to remedies in the *Medicina Plinii* and the *Naturalis Historia*. The wording of the *Medicina Plinii* remedy is almost an exact match for the wording of the herbal, while the *Naturalis Historia* remedy is clearly similar but exhibits minor differences in grammar.[124] The *Medicina Plinii* is slightly closer to the herbal, but perhaps not with enough of a distinction to confidently attribute it as the source here.

Sabina

The herbal's section on *sabina* (HA LXXXVI) contains four remedies, and the final two are similar to remedies in both the *Medicina Plinii* and the *Naturalis Historia*:

HA	*Medicina Plinii*	*Naturalis Historia*
3: *Ad carbunculum. Herbam sabinam cum melle inlinito.* For carbuncles. The herb *sabina* is applied with honey.	III.8.4: *herba sabina quae habet folia similia cupressi cum melle inlinitur.* The plant *sabina* that has leaves that are similar to *cupressum* is applied with honey.	XXIV.61.102: *inlinitur igni sacro et carbunculis cum melle* The plant is applied topically with honey for *ignis sacer* and for carbuncles.
4: *Ad ignem sacrum. Herbam sabinam ut supra cum melle inlinito.* For *ignis sacer*. The herb *sabina* is applied with honey as above.	III.24.3: *herba sabina tusa quae habet folia quasi cupressus cum melle inlinitur.* The ground-up plant *sabina,* [the kind that] has leaves like cupressum, is smeared on with honey.	XXIV.61.102: *inlinitur igni sacro et carbunculis cum melle* The plant is applied topically with honey for *ignis sacer* and for carbuncles.

[124] Class γ manuscripts have dropped *potae*, making it even more difficult to determine which source text was used in this case.

The derivation of these herbal remedies is somewhat convoluted. The two remedies of the herbal might derive from the two separate *Medicina Plinii* remedies; however, the single remedy in the *Naturalis Historia* could have been split into two separate remedies in the herbal. This idea is not difficult to imagine because these remedies appear right next to each other in the herbal, and in classes β and γ, they are actually conjoined into a single remedy (*Ad carbunculos uel ignem sacrum*), similar to what the *Naturalis Historia* presents (Howald and Sigerist 1927, 154). Given the reading of classes β and γ, it is possible that the original version of these two remedies was a single remedy pulled from the *Naturalis Historia*. If, however, these herbal remedies do derive directly from the *Medicina Plinii*, they would still fit the pattern of final remedies from that text.

Nasturcium

The final two remedies in the sequence of five remedies from *nasturcium* (HA XX) in the herbal appear closely related to the *Medicina Plinii*:

HA	***Medicina Plinii***	***Naturalis Historia***
4: *Ad strumas. Herba nasturcium cum lomento tritum, super strumas inponis superposito folio oleris.* For scrofulous tumors. You place the herb *nasturcium*, crushed with bean meal and put in a vegetable leaf, over the scrofulous tumor.	III.6.2 *nasturcium cum lomento contritum superposito folio hederae.* *Nasturcium* crushed with *lomentum* and with a leaf of *hedera* placed on top.	XX.127: *strumis cum lomento inlitum opertumque brassica praeclare medetur* It wonderfully heals scrofulous tumors when applied topically with bean meal and covered with a cabbage [leaf].
5: *Ad furunculos sanandos. Herba nasturcium cum fermento inponitur, coquet, mire sanat.* For healing boils. The herb *nasturcium* applied with yeast warms and wonderfully heals.	III.7.3: *nasturcium tusum cum fermento concoquit[ur].* *Nasturcium* cooked with leaven matures it.	XX.50.130: *furunculos concoquit cum fermento* One boils the plant with leaven for boils.

4) The fourth remedy from *nasturcium* in the herbal has a clear parallel in the *Medicina Plinii*: the word order is the same except for the herbal's extra phrase *super strumas inponis*. The remedy in the *Naturalis Historia* expresses the same idea but with different wording. Each text specifies a different kind of leaf in which to place the *nasturcium*: *holus*, *hedera*, or *brassica*, but the three remedies are clearly related. Because of the similarity in syntax between the herbal and *Medicina Plinii* remedies, the *Medicina Plinii* seems a likelier source for this herbal passage.[125]

5) The final remedy is fairly close to the comparable remedies in both the *Medicina Plinii* and the *Naturalis Historia*. The herbal's word order is slightly closer to the order in the *Medicina Plinii* (*cum fermento concoquit* vs *concoquit cum fermento*), but the difference is small and not enough evidence to clearly demonstrate that the *Medicina Plinii* should be preferred as the source.

Summary

This section has demonstrated that, although there appears to be a pattern in the herbal's remedies from the *Medicina Plinii*, there are also some examples of remedies in the herbal whose derivation cannot clearly be distinguished between the *Medicina Plinii* and the *Naturalis Historia*. Most often there appears to be a slightly closer relationship between the herbal and the *Medicina Plinii*, but the differences are not blatant enough to easily decide on a direct source. For most of these remedies, the direct derivation from either source would not affect the pattern of remedies from the *Medicina Plinii* only appearing in final position in the herbal because they are final remedies; however, there are three examples where the remedy in question appears in the middle or beginning of a section. If these remedies could be clearly determined as sourced from the *Medicina Plinii*, they would break the pattern. Because their source cannot be clearly determined, they do not provide direct evidence against the pattern, but they should be kept in mind as potential counter-evidence.

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[125] The *De medicamentis* of Marcellus of Bordeaux transmits this remedy (15.78), but it is notably similar to both the herbal and *Medicina Plinii* remedies, such that its direct source is unclear.

Final Remedy Sequences Derived from the *Medicina Plinii* and Unknown Sources

There are some additional examples in the herbal where a group of final remedies with clear parallels to the *Medicina Plinii* is broken up by a remedy with an unknown source, a passage that does not derive from the *Medicina Plinii* or the *Naturalis Historia*. One example of such an occurrence appears in the herbal's section on *sparagus agrestis* (HA LXXXV). This section contains several remedies that are comparable to remedies in the *Medicina Plinii*, but perhaps not taken directly from that source, as well as one remedy from an unidentified source:

HA	*Medicina Plinii*	*Naturalis Historia*
2. *Ad dentium dolorem. Herbae sparagi sucum in ore continere oportet.* For tooth pain. It is necessary to keep the juice of the plant *sparagus* in the mouth.	I.13.2: *asparagi erratici sucum in ore contineri oportet aduersum mobilitatem* The juice of *asparagus erraticus* should be held in the mouth against looseness.	XX.111: *in uino decoctae radicis sucum, si ore contineatur, dentibus mederi* The juice of the plant's roots boiled in wine heals the teeth if it is held in the mouth.
3: *Ad elefantiosos. Herbae sparagi radix contrita inponitur.* For leprosy. The crushed root of the herb *sparagus* is applied.	I.19.3: *radix asparagi decocta in aceto trita apponitur.* The root of *asparagus* boiled in vinegar and crushed is applied.	XX.109: *radix… in aceto decocta contra elephantiasim proficit.* The root of the plant boiled in vinegar is beneficial for leprosy.
4. *Ad renum dolorem. Herbae sparagi radix trita, cum uino potui data proficit.* For kidney pain. The crushed root of the herb *sparagus* given to drink with wine is beneficial.	II.14.4: *radix similiter asparagi trita et in vino potui data lumborum dolori medetur.* Similarly, the crushed root of *asparagus* given as a drink in wine heals pain in the loins.	XX.42.109: *trita et in uino albo pota calculos quoque exturbat, lumborum et renium dolores sedat* The plant crushed and consumed in a drink with white wine also draws out stones and diminished pain in the loins and in the kidneys.

HA	*Medicina Plinii*	*Naturalis Historia*
5. *Si quis maleuolus deuotauerit hominem. Herbae sparagi agrestis radicem siccam cum aqua fontana, lustrabis eum et solutus erit.* If some evil creature bewitches a man. Sprinkle the person with the dried root of the herb *sparagus agrestis* and water from a flowing source, and he will be freed from the curse.	-	-

2) The herbal's second remedy from *sparagus* can be related to passages in both source texts. The herbal repeats the *in ore* of the *Medicina Plinii* instead of *si ore* of the *Naturalis Historia*, the *Medicina Plinii*'s *contineri* is closer to the herbal's *continere* than the *contineatur* of the *Naturalis Historia*, and the herbal and *Medicina Plinii* remedies also share the *oportet* that does not appear in the third text. The herbal and the *Medicina Plinii* are slightly closer syntactically, but the differences are slight enough to be mistakes or intentional alterations. The herbal's passage does not demonstrate enough differentiation from Pliny's text to clearly determine the *Medicina Plinii* as the source.

3) The herbal's third remedy from *sparagus* is somewhat closer to a remedy in the *Medicina Plinii*. The herbal's *contrita inponitur* parallels the *Medicina Plinii*'s *trita apponitur*, which the *Naturalis Historia* does not share.[126]

4) The source of the herbal's fourth remedy from *sparagus* is more difficult to determine. Similar remedies exist in both source texts, and the wording of the herbal's remedy is closer to the

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[126] Marcellus of Bordeaux's *De medicamentis* (19.20) transmits this remedy, but it is likely taken from the *Medicina Plinii* because it includes the specification that the plant should be cooked in vinegar.

remedy in the *Medicina Plinii*; however, the herbal's remedy is a cure for pain of the *renes* (kidneys), while the *Medicina Plinii* remedy is intended to heal pain of the *lumbus* (lower back or loins), and the *Naturalis Historia* remedy uses both terms.[127] The herbal's remedy is closer syntactically to the *Medicina Plinii*, but the use of *renes* instead of *lumbus* suggests that the *Naturalis Historia* was consulted. The remedy from the *Medicina Plinii* appears in a section that addresses primarily pain of the *lumbus*, but also discusses remedies for the *renes*, and thus another possibility is that the author of the herbal altered the ailment name based on the section title in the *Medicina Plinii*.

5) The final remedy from *sparagus* in the herbal has no apparent parallels to either source text. The *Medicina Plinii* contains no remedies for bewitchment. The herbal contains one other cure for this ailment, the only remedy from *pedeleonis* (HA VII.1), which reads *si quis deuotus defixusque fuerit, sic eum resolues*, and similarly involves washing the patient with the herb. I have not been able to find a source for this cure, but it does not fit the herbal's typical formulaic structure, which consists of the ailment name + part of plant used + method of preparation + statement of efficacy:[128]

> *Herbae pedeleonis frutices septem sine radicibus coquito ex aqua luna decrescente, lauato eum et te ipsum, qui facis, ante limen extra domum prima nocte, et herbam incende aristolociam et subfumigato eum et redite ad domum et ne post uos respiciatis, resoluisti eum.*
>
> Cook seven sprigs of the herb *pedeleonis* without their roots in water while the moon wanes; wash the bewitched person and yourself (you who made the mixture) with it outside before the threshold of the home, in the first part of the night; burn the herb aristolochia and fumigate the person with it and return to the house; and neither of you should look back until you have released the person.

The remedy from *sparagus agrestis*, however, does fit the herbal's typical formula, even if it is curing an ailment that is unusual for the herbal.

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[127] Marcellus of Bordeaux's *De medicamentis* (26.19) transmits a version of this remedy, but it is not similar enough to any of the sources for its direct derivation to be determined.

[128] The structure of the herbal's remedies is discussed in the third chapter of this dissertation.

The first three remedies in this sequence all have ties to both source texts but probably do not exhibit enough similarities to one and differentiation from the other to have their direct sources clearly determined. It is therefore unclear whether the presence of this final, unsourced remedy presents a problem with the pattern of final remedies from the *Medicina Plinii*. Either way, it is clear that either the original author or a later revisor used additional, unknown sources for some of the extant remedies in the herbal.

Aristolochia

The herbal's section on remedies from *aristolochia* (HA XIX) contains seven cures, the last four of which are comparable to remedies in the *Medicina Plinii*, except for the sixth remedy in the chapter, which does not have a known source and might be contaminated:

HA	***Medicina Plinii***	***Naturalis Historia***
4: *Frigore exustis. Herba aristolochia ex oleo cocta calefactoriam uim habet, et cum axungia porcina.* For frostbite. The herb *aristolochia* cooked with oil has a warming power; it also has a warming power if you cook it with pork fat.	III.13.2: *aristolochia[m] ex oleo excalefactoriam vim habet. axungia porcina.* *Aristolochia* in oil has a warming power. Pork fat.	-

HA	*Medicina Plinii*	*Naturalis Historia*
5: *Contra serpentis morsum uel hominum. Herbae aristolochiae radicem pondus denarii unius, uinum eminam, saepius bibitur, discutit uenenum.* Against the bite of snakes or man. If one regularly drinks the root of the herb *aristolochia* in a weight of 1 denarius and a hemina of wine, this disperses the venom.	III.37.8: *aristolochiae radicis pondus denarii in vini hemina saepius bibitur.* The weight of a denarius of the root of *aristolochia* is frequently drunk in a hemina of wine.	XXV.55.101: *aristolochia radicis drachma in vini hemina, sed saepius bibenda.* A drachma of the roots of *aristolochia* in a hemina of wine, but it must be drunk often.
6: *Si infans contristatus fuerit. Herba aristolochia subfumigabis, tunc hilariorem facies infantem.* If an infant becomes very sad. Fumigate the child with the herb *aristolochia*, then you will make them feel better.	-	-
7: *Ad carcinomata, quae in naribus nascuntur.* *Herba aristolochia cum cipero et draconteae semen cum melle inpositum emendat.* For carcinomata that grows in the nostrils. The herb *aristolochia,* applied with cyperus, the seed of	1.10.5: *graueolentiae narium sic subuenitur sucus… infunditur aristolociae cum cypero* Bad smells in the nose are helped in this way: The juice of *aristolochia* with *cyperum* is poured in.	XXV.165: *narium ozaenas emendat aristolochia cum cypero* The plant *aristolochia* with *cyperos* heals polypus in the nose.

4) The fourth remedy from *aristolochia* in the herbal has a clear parallel to a remedy in the *Medicina* Plinii. The *Naturalis Historia* does not contain a comparable passage. The *Medicina Plinii* is therefore probably the source of this remedy in the herbal.

5) The herbal's fifth remedy from *aristolochia* has corresponding passages in both source texts, but the wording and the measurements in the *Medicina Plinii* are closer to the herbal's version than to the *Naturalis Historia* remedy, which does not include the *pondus denarii* measurement and uses *bibenda* instead of the *bibitur* favored by the other two texts.

6) The sixth remedy from *aristolochia* in the herbal represents a special case. Maggiulli & Buffa Giolito (1996, 138-139) argued that this remedy has been contaminated at some point during the transmission of the text. This remedy is similar to the second *aristolochia* remedy, which may explain why the child in this remedy is distressed - they are suffering from fever:

> ***Aristolochia* 2:** *Ad febres acerrimas. Herba aristolochia sicca, subfumigabis eum, tunc hilariorem facies; fugat et daemonia.*
>
> For the most severe fevers. Fumigate the feverish person with the dried herb *aristolochia*, then you will make the person feel better; it also chases away demons.

The sixth remedy from *aristolochia* is almost the same as the second remedy, except that it cures a different ailment, but some manuscripts have clearly combined these two remedies. The second remedy from *aristolochia* in two manuscripts of the herbal combines the remedy for fevers with the remedy for a distressed child into one remedy for a child who is upset because of a fever:

> *Infans si contristatus fuerit propter febres acerrimas, si febricitauerit, sic eum liberabis: Herba aristolochia, desiccabis abundanter et sub lecto subfumigabis, ubi infans languens iacuerit, summam salubritatem suscipiat et daemonia et omnes incessiones auertit.*[129] (Howald & Sigerist 1927, 56)
>
> If a child is distressed because of harsh fevers, if the child is ill from a fever, you will free him in the following way: thoroughly dry the *aristolochia* and place it under the child's bed to fumigate the child when the child is languishing from fever; the child will achieve the greatest health; he avoids both *daemonia* and all attacks.

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[129] Breslau, Biblioteka Uniwersytecka, MS III.F.19 (9th century) and Vienna, Österreichische Nationalbibliothek, MS 93 (13th century). Both manuscripts are class β.

The appendix to Howald and Sigerist's edition contains a remedy from *artemisia tagantes* that is analogous to the above two remedies from *aristolochia*. This remedy only appears in class β manuscripts, which is presumably why Howald and Sigerist thought it was a later interpolation:

> ***Artemisia Tagantes* 6:** *Ut infantem hilarem facias. Herbam artemisiam incende et subfumigabis infantem et omnes incursiones auertet et hilariorem faciet infantem.* (Howald and Sigerist 1927, 288)
>
> To make an infant cheerful. Burn the herb *artemisia* and fumigate the infant with it; it averts all attacks and makes the child happier.

There is some relation between the sixth *aristolochia* remedy and the sixth *artemisia tagantes* remedy, given how similar they are to each other. These remedies have no clear sources from the *Medicina Plinii*, the *Naturalis Historia*, or even the *De materia medica* of Dioscorides, but because of the sixth *aristolochia* remedy's contamination with the second in this chapter of the herbal, it is difficult to determine whether this sixth remedy is original to the text and, if it is, what its original form was.

7) The final remedy from *aristolochia* in the herbal shares the same phrase from the *Medicina Plinii* and the *Naturalis Historia*, so the derivation of the herbal's remedy cannot be determined between the two source texts.

Ruta

Another series of remedies from the *Medicina Plinii* appear in the herbal's chapter on *ruta hortensis* (HA XC). This chapter contains fourteen remedies, and several in the last half can be tied to the *Medicina Plinii*, but the last half also contains three remedies from unknown sources:

HA	*Medicina Plinii*	*Naturalis Historia*
7: *Ad morsum canis rabiosi. Herbae rutae pondux xv ex uino bibitur, plagae inponuntur rutae folia trita cum melle, sale et pice.* For the bite of a rabid dog. 15 pounds of the herb *ruta* should be drunk with wine, the leaves of the herb *ruta* crushed with honey, salt and pitche, are placed on the wounds.	III.10.1: *rutae suci pondus denariorum xv ex vino bibitur. plagae imponuntur rutae folia trita cum sale et melle vel cum pice et aceto.* A weight of 15 denarii of the juice of *ruta* is drunk in wine. The crushed leaves of *ruta* are applied to the bite with salt and honey or with pitch and vinegar.	XX.51.133: *acetabuli mensura sucus e vino bibitur, et folia trita vel commanducata inponuntur cum melle ac sale vel cum aceto et pice decocta* A measure of one acetabulum of the plant's juice is consumed in a drink with wine, and the crushed or chewed-up leaves are applied topically with honey and salt or boiled with vinegar and pitch.
8: *Ad cardiacos. Herbae rutae fasciculum cum rosacio decoquitur adiecta aloes uncia, et olei perunctio sudorem sistit.* For *cardiaci*. A small bunch of the herb *ruta* should be boiled in rose oil and combined with 1 uncia of aloe, and it will stop sweat when the oil is applied.	III.20.2: *rutae fasciculus cum rosaceo ex aceto decoquitur adiecta aloes uncia una: id oleum perunctione[m] <sudorem sistit>.* A bundle of *ruta* is boiled with rose oil in vinegar with one added uncia of aloe: that oil represses sweating when applied.	XX.51.142: *fasciculum eius in rosaceo decoctum addita aloes uncia perunctis sudorem reprimere, itemque generationem inpediri hoc cibo* A bunch of *ruta* boiled in rose oil with one ounce of aloes represses the sweating of those who have rubbed themselves with it.
9: Ad litargos excitandos. Herba ruta ex aceto infunditur fronti. For energizing those with lethargy. The herb *ruta* should be poured on the forehead with vinegar.	III.18.2 *castoreum fronti inlinitur. ruta ex aceto datur olfacienda.* Castoreum is applied to the forehead. *Ruta* in vinegar is given to smell.	XX.51.138: *dederunt et lethargicis ex aceto olfaciendum* *Ruta* is given to smell with vinegar to those with lethargy.

HA	*Medicina Plinii*	*Naturalis Historia*
10: *Ad ignem sacrum. Herba ruta ex aceto et oleo inlinita sanat.* For *ignis sacer*. The herb *ruta* applied with vinegar and oil heals this.	III.24.2: *ruta ex aceto et oleo inlinitur.* *Ruta* is applied with vinegar and oil.	XX.51.141: *ignem sacrum ex aceto et oleo vel psimtithio, carbunculum ex aceto.* *Ruta* in vinegar and oil or white lead heals *ignis sacer*. In vinegar it heals carbuncles.
11: *Ad aciem oculorum. Herbae rutae folia eius subinde manducet ieiunus, cum uino contrita potui data antidotum est.* For sharpness of the eyes. The person should eat the leaves of the herb *ruta* often on an empty stomach; it should be given to drink crushed with wine as an antidote.	-	-
12. *Ad profluuium mulieris. Herbam rutam circumscribe auro et ebore et argento, sublatam eam adligabis infra talum.* For a woman's excessive flux. Draw a circle around the herb *ruta* with gold and ivory and silver; tie the gathered herb below the ankle.	-	-

HA	*Medicina Plinii*	*Naturalis Historia*
13. *Ad fluentem semen nimis. Herba ruta manducetur a balneo cum liquamine.* For the flow of semen. The herb *ruta* should be eaten in a bath with fish sauce.	-	-
14: *Ad capitis dolorem. Herba ruta ex uino potui datur et trita stillatur capiti cum aceto et rosacio.* For head pain. The herb *ruta* should be given to drink with wine and the crushed root should be dripped on the head with vinegar and rose oil.	I.1.2: *ruta ex vino bibitur; et tritae sucus instillatur capiti cum aceto aut rosaceo.* *Ruta* is drunk in wine; the juice of the crushed plant is dripped onto the head with vinegar or rose oil.	XX.51.135: *item capitis dolores pota cum vino aut cum aceto et rosaceo inlita* *Ruta* is also consumed in a drink with wine or is applied topically with vinegar and rose oil for headaches.

7-8) In this chapter, remedies seven and eight exhibit the same wording and specifications as the *Medicina Plinii*, and are closer to that text than to the comparable remedies in the *Naturalis Historia*. In the seventh remedy, Howald and Sigerist (1927, 162) noted that manuscripts of classes β and γ are even closer to the reading of the *Medicina Plinii*, since they include forms of *denarius*, which is also present in the *Medicina Plinii* but not in the *Naturalis Historia*.

9) The ninth remedy in this chapter is somewhat similar to the remedies for lethargy in the source texts; however, both source texts recommend that the *ruta* should be smelled, while the herbal recommends that it be applied to the forehead. The explanation for this difference is unclear, but the previous remedy in the *Medicina Plinii* recommends that castoreum be applied to the head. It might be possible that the author of the herbal misread the *Medicina Plinii* and took *fronti inlinitur ruta ex aceto* to be a remedy. The previous remedy in the *Naturalis Historia* also recommends a treatment applied to the head, but the grammatical separation of the two remedies in the text seems less easy to bungle.

10) The herbal's tenth remedy from *ruta* contains the same specification of the two source texts that the plant should be applied with vinegar and oil; however, the herbal is slightly more similar to the version in the *Medicina Plinii* because of the *inlinitur* specification, which does not appear in the remedy from the *Naturalis Historia*. Whether the herbal's *inlinita* is borrowed from the *Medicina Plinii* or is an effect of the herbal's author altering the *Naturalis Historia* remedy to fit the herbal's typical formula is unclear; however, the herbal typically prefers forms of *inponere* rather than *inlinere* to describe topical application.[130]

11-13) The sources for the next three remedies in this chapter of the herbal are unclear. They do not derive from the known sources of the herbal, and they are all rather unusual remedies in the context of this medical work. The eleventh remedy from *ruta* is the only treatment for *acies oculorum* in the entire text. There are sixteen other remedies for various eye ailments, and they all treat the eyes with a topical salve. This remedy from *ruta* is the only eye remedy in the herbal to treat an eye ailment by consuming a drink. Similarly, the twelfth remedy from *ruta* is the only remedy for women's menses to use a ligature. The herbal's several other treatments for this condition prepare a plant consumed in a drink. The transmission of the thirteenth remedy is muddled. According to Howald and Sigerist (1927, 163), this remedy is *ad fluxum sanguinis* in manuscripts of class β, and is *ad profluuium sanguinis nimium* in manuscripts of class γ. Two of the herbal's class α manuscripts read *si fluit sanguis de naribus*.[131] The *Medicina Plinii* calls for rue to stop nosebleeds, (I.10.2), but the remedy does not consist of baths and fish sauce. The *Medicina Plinii* (I.27.4) also has one remedy where *liquamen* is applied while in the bath, but the remedy calls for ground sulphur and it cures itching, not a profusion of blood or other bodily fluids. The *Naturalis Historia* does not have any comparable remedies.

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[130] Over sixty forms of *inponere* are present in the herbal, but only twelve forms of *inlinere*. Howald and Sigerist (1927, 162) noted that this remedy appears combined with the previous remedy in manuscripts of classes β and γ.

[131] London, British Library, MS Harley 4986 (12th century) & Vienna, Österreichische Nationalbibliothek, MS Lat. 187 (12th century).

The herbal contains another remedy *ad semen nimium profluentem* (HA CIV.1) from *portulaca*, and the two remedies are quite similar. In the remedy from *portulaca*, the plant is eaten with *oxygarum*, fish sauce with vinegar, but not in the bath. The manuscripts demonstrate the same disagreements about the reading of the *portulaca* remedy: Classes β and γ read *ad sanguinem nimium profluentem*, while the same two class α manuscripts read *ad sanguinis nimium profluuium*. These three remedies from *ruta* are all unusual in the context of the herbal. They either cure a unique ailment or have unusual methods of healing compared to other remedies in the text. Because they are atypical for the herbal and appear in a sequence together, they might be later additions that derive from an unknown source.

14) The final remedy from *ruta* is syntactically closer to the remedy in the *Medicina Plinii* than it is to the remedy in the *Naturalis Historia.* Pliny's work does not contain the specification that one should drip the crushed plant on the head.

Scilla

The herbal's chapter on *scilla* (HA XLII) contains four remedies, the first and last of which have close parallels with the *Medicina Plinii*:

HA	*Medicina Plinii*	*Naturalis Historia*
1: *Ad idropicos. Herbae scillae bulbus torretur, deinde circumpurgatur et medium eius in aqua coquitur: cum madidum fuerit, eximito ex eo III obolos, dantur potui ex melle et aceto et euacuatur per urinam.* For dropsy. The bulb of the herb *scilla* is roasted, then it is cleansed and its middle is boiled in water: when it is soaked, take 3 oboli from it, and this should be given to drink with honey and vinegar and the dropsy will be purged through the urine.	III.22.4: *scillae bulbus torretur, deinde purgatur et medium eius in aqua coquitur. cum madidum est eximitur, ex eo tres oboli dantur potui ex melle et aceto: evacuatur per urinam.* A bulb of *scilla* is roasted, then it is cleaned and the middle of it is boiled in water. When it is soft it is removed, and from that three oboli are given in a drink with honey and vinegar: it is purged through urine.	XX.39.100: *tosta quoque purgatur et medium eius iterum in aqua coquitur. uisus sic coctae ad hydropicos, ad urinam ciendam tribus obolis cum melle et aceto potae.* Roasted *scilla* is cleaned, and then the middle of the plant is again cooked in water. When cooked this way, the plant has a medicinal power against dropsy; consumed in a drink with honey and vinegar in doses of three oboli it causes evacuation of the urine.
2: *Ad perniones. Herbae scillae quod est in medio eius, cum oleo feruefactum, atque ea, quae dolorem exhibent, perunguendo sedabuntur.* For chilblains. When the middle part of the herb *scilla* is warmed with oil and applied to the area that is in pain, the pain will be stopped by the application.	-	-
3. *Ad panaricia. Herbae scillae radix pistata cum aceto et pane, inposita panaricia mirifice sanat.* For *panaricia*. The root of the herb *scilla*, crushed with vinegar and millet and then applied, wonderfully heals the panaricia.	-	-

HA	*Medicina Plinii*	*Naturalis Historia*
4: *Item ad idropicis extinguendam sitim. Herbae scillae folium subiectum sub lingua sitim conpescit.* Again for quenching the thirst of dropsy. The leaf of the herb *scilla* placed under the tongue represses thirst.	III.22.4: *scilla subiecta linguae sitim compescit.* *Scilla* placed under the tongue represses thirst.	XX.39.99: *linguae quoque recens subiecta praestat ne hydropici sitiant* Fresh *scilla* placed under the tongue represses thirst in those with dropsy.

The first and final remedies in this section likely derive from the *Medicina Plinii* because of the similar wording, especially the first remedy, which is essentially a word-for-word copy of the *Medicina Plinii* passage. These two remedies enclose the two middle remedies, neither of which appear to derive from the *Medicina Plinii* or the *Naturalis Historia*. The *De materia medica* of Dioscorides (II.171.2-4) recommends the core of squill boiled with olive oil or soaked in pine resin for fissures on the feet, and baked squill topically applied for chilblains; however, Pradel-Baquerre's (2013, 53-68) analysis of the herbal's use of the *De materia medica* concluded that the similarities between remedies in the herbal and Dioscorides' text are likely not due to direct borrowing. The alphabetical Latin translation of the text is the source of many of the herbal's synonyms, but those are thought to be later additions.

The *De medicamentis* of Marcellus of Bordeaux (34.23) transmits the second remedy:

> *Scillae bulbi quod interius est cum oleo defervet eoque oleo dolores pernionum peruncti mitiscunt*.
>
> The inner part of the bulb of *scilla* thoroughly boiled with oil diminishes the pain of chilblains when applied topically.

The form of Marcellus' remedy is slightly different from the herbal's remedy, but because there is no other known source for this cure, it is fair to suppose that Marcellus borrowed this remedy from the herbal. If true, then this remedy must have been present in the herbal at an early point (but not necessarily before the herbal's revisions) when Marcellus had access to the text.

Papaver Silvaticum

The herbal contains three remedies from *papaver silvaticum* (HA LIII). The first remedy has a parallel in the *Medicina Plinii* but the subsequent remedies do not have comparable cures in either the *Medicina Plinii* or the *Naturalis Historia*:

HA	*Medicina Plinii*	*Naturalis Historia*
1: *Ad epiforas oculorum. Herbae papaueris siluatici sucum uel caliculus cum suo fructu oculis inponitur.* For runny eyes. The juice of the herb *papaver silvaticum* or its little calyx with its fruit is placed on the eyes.	I.8.3: *papveris cauliculus vel siccus vel viridis cum suo fructu tritus imponitur.* A stem of *papaver*, either dried or fresh, crushed with its fruit, is applied.	XX.80.209: *cuiuscumque autem papaveris caput viride vel siccum inlitum epiphoras oculorum lenit.* The bulb of any *papaver*, whether fresh or dry, relieves afflux of the eyes when applied.
2: *Ad emigraneum uel capitis dolorem. Herbam papauer siluaticum teres cum aceto et inpones super frontem, sedabit dolorem.* For headache or head pain. You bruise the herb *papuer siluaticum* with vinegar and apply it to the forehead, it will relieve the pain.	-	-
3: *Ad somnum, qui non dormiunt. Herbae papaueris siluatici suco si quem perungas, somnum cum sopore obicit.* If someone cannot sleep. If you apply topically the juice of the herb *papauer silvaticum*, the person will fall asleep with drowsiness.	-	-

The herbal's first remedy from *papaver silvaticus* is notably similar to the *Medicina Plinii* remedy, especially if one considers that the herbal's *sucum* could be a misreading of the *Medicina Plinii*'s *siccus*. The second and third remedies, however, have no apparent parallels to either source text. While *papaver silvaticus* is used for sleep problems in both the *Medicina Plinii* (I.19.4) and the *Naturalis Historia* (XX.199-202), the form and application of these remedies do not resemble the herbal's cure. Because none of the three remedies in the herbal's chapter on this plant derive from the *Naturalis Historia*, it is possible that this chapter was added to the herbal by a later revisor, as I have suggested occurred with other chapters in the text (such as *apium* and *hedera crisocantes.*

Summary

This final section has demonstrated that the pattern established in the first section of this chapter is not perfectly maintained throughout the text because of the presence of a handful of unsourced remedies. Some of these unsourced remedies are the final remedies in a chapter, and thus could have been added by a later revisor. Some are unusual compared to the rest of the herbal's passages, or they present problems in their textual transmission. Some of these remedies, however, are not final remedies and do fit the herbal's typical formula. It is possible that a revisor of the herbal used the *Medicina Plinii* and other sources, but it is also possible that the unsourced remedies that break up sequences of remedies from the *Medicina Plinii* are evidence that the original author used the *Medicina Plinii* and other sources in addition to the *Naturalis Historia*. Because this selection of the herbal's remedies remain unsourced, it is difficult to concretely conclude that the *Medicina Plinii* remedies were added subsequent to the original composition of the herbal, although a pattern seems suggested.

The Herbal's Language and Date of Composition

A close study of the language of the remedies in the herbal could provide the necessary supplemental information for dating the text; however, relying on the herbal's language for the purposes of dating is complicated by the likelihood that the herbal was revised in different centuries, which would naturally result in a text whose language is representative of multiple periods. For example, the herbal uses both *vis* and *virtus* to indicate the medicinal property or

power of a plant. *Vis* was the preferred term in antiquity, while *virtus* tended to be preferred from late antiquity onward (Everett 2012, 52). The herbal somewhat favors *vis* (HA prologue, XIX.1 [*vim veneni*], LXII.3, XCIII, CXV.2) over *virtus* (HA XI.4, XII, CXXVI.1), which is perhaps an indication of an early composition date for the herbal, but the preference is slight. The remedies that include either term do not derive from the *Medicina Plinii* or Pliny's *Naturalis Historia*; however both of these works consistently favored *vis* over *virtus* (Everett 2012, 53), which might explain the herbal's slight preference for the former term.

While the herbal's slight preference for *vis* might suggest an earlier composition date, one can also find examples of preferred words in the herbal that suggest a later date. The word *vitium* replaced *morbus* as a term for 'disease' or 'ailment' from the third century onwards (Everett 2012, 90). The herbal demonstrates a distinct preference for *vitium* over *morbus*, using the former eighteen times in a variety of contexts (HA II.1, II.3, XII.2, XVIII.4, XX.2, XXIII.1, XXIX.1, XXX.1, XXX.3, XXXV.2, LXXXVIII.5, LXXXVIII.8) while only using *morbus* twice outside of the standard phrase *morbus regius* (HA prologue & XCIII.16). This particular example of the herbal's use of language suggests a composition date after the third century, in direct opposition to what the herbal's favoring of *vis* seems to convey.

In his comparative linguistic study of different medical authors writing in Latin between the first and fifth centuries, D. R. Langslow (2000, 76-129) cautiously proposed that medical works post-fourth century more frequently used explanatory phrases (such as: X *quos Graeci* Y *uocant*) when incorporating a Greek term into their work than did earlier authors, who were more likely to include Greek borrowings without mentioning a Latin synonym. The herbal contains several Greek borrowings, but only uses an explanatory phrase to describe a Greek borrowing roughly four times (depending on the manuscript), two of which require the explanatory phrase because they are specifying a particular kind of animal rather than just creating an equivalency with a Latin term: *ad morsum araneorum quos Graeci spalangiones uocant* and *ad anguem apud Graeci sinancen uocant* (HA III.8 & XXIX.6). The other two examples are *ad ictericos id est morbo regio, qui et auriginosi uocantur* (HA III.12) and *ad morbum regium quod est auriginem*

(HA LXXXVI.1), both specifying the same ailment. Another possible example is *ad emigraneum uel capitis dolorem* (HA LIII.2), which may connect synonyms or differentiate between common head pain and a more specific condition. Following Langslow's observations on the dating of such phrases, we can surmise that the herbal's preference for seamlessly incorporating Greek borrowings without comment suggests a pre-fourth century composition date.

These three examples convey the difficulty in using the herbal's language to properly date the text. Different characteristics of the herbal's style and linguistic preferences suggest conflicting periods for its composition. These contradictions are further evidence suggesting that the herbal was revised at various points and that its language may be difficult to analyze in order to properly date the text.

Conclusion

The herbal's *terminus ante quem* is sufficiently determined by the dating of the *De medicina* of Marcellus of Bordeaux, the earliest known work to have used the herbal as a source. The herbal's *terminus post quem* is more difficult to establish. The *Medicina Plinii* has been thought to situate the herbal in the fourth century at the earliest; however, the *Medicina Plinii* might not have been a source for the original author of the herbal. If the *Medicina Plinii* was used only by a later revisor of the herbal, which may be the case because of the patterns discussed in this chapter, the herbal's *terminus post quem* would have to derive from Pliny's *Naturalis Historia* instead of the *Medicina Plinii*. This would open up the possibility that the herbal could be a few centuries older than previously supposed. As demonstrated above, however, a clear pattern of final passages in the herbal borrowed from the *Medicina Plinii* is limited by the fact that some of the herbal's remedies cannot be traced to a particular source and it is therefore difficult to know whether they belong to the original conception of the herbal or to some later revision. One might use the herbal's language as further evidence of the text's date of composition, but because the herbal likely represents a compilation that was revised at various points, the text contains characteristics of style and language that are emblematic of conflicting centuries. The dating of

the herbal is not precise, and its original composition may stretch back to the first century C.E., at some time after the publication of Pliny's work.

Chapter Three: The Medicine of the Herbal

The preface to the herbal claims that the author's primary purpose in compiling this work was to provide a source of remedies accessible to a reader with an interest in medicine (but who was not a practicing healer), whether at home or abroad. With a work such as this, the reader would not have to rely on the service of professional healers, whom the author maligns as greedy and incompetent:

> (HA prol.): *Ex pluribus paucas uires herbarum et curationes corporis ad fidem ueritatis monumentis publicis tradidi ob stupiditatem uerbosam professionis, quod dicimus esse medicorum uenditationes potius quam curas, etiam hos homines inertia plerumque et inperitia enixos certe lucripetas uero nuncupari, qui etiam a mortuis mercedem expetunt. Quid agunt? Nihil; exspectant enim occasionem et faciunt reditus, dum tempus curationum extrahant, puto, quia saeuiores ipsis morbis existunt.*
>
> From several public documents[132], I have related a few virtues of plants and bodily remedies, in truth allegiance to the truth, because of the verbose stupidity of the medical profession, what we say are the 'hucksterings' rather than the 'cures' of physicians, and also that these men, in general zealous with their ignorance and incompetence, may truly be called greedy, who even claim a fee from their dead patients. What do they do? Nothing. Indeed, they wait for opportunity and they make money as long as they draw out the length of their patient's treatment, because, in my opinion, they are more dangerous than the diseases themselves.

This kind of negative sentiment against professional healers was typical of Roman medical literature. A disparaging or suspicious view of physicians was a reflection of Roman mistrust of Greek healers and also the Roman cultural emphasis on medicine as part of the duties required of the *pater familias*, or head of household (Scarborough, 1970). In addition to increasing the chances of the text's popularity with a late antique, Latin-reading audience, the preface's adherence to this point of view helps to support its claim that the herbal was written by Apuleius of Madaura, who was a Roman author.

A negative view of the medical profession is also present in the sources of the herbal. As demonstrated in the second chapter of this dissertation, the herbal's preface is notably similar to

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[132] Or perhaps: 'I have handed down for public memorialization…'

the preface of the *Medicina Plinii*, one of the herbal's main sources. Both texts express annoyance at the ignorance and greed of professional healers. Pliny's *Naturalis Historia*, considered to be another significant source for the herbal, criticizes physicians for their absurd and pricey compound remedies (NH XXIX.8.23-38). Pliny's text also quotes a passage from Cato's *De agri cultura* that accuses Greek physicians of secretly trying to murder their Roman patients (NH XXIX.6.13-15). Importantly, Pliny (NH XXIX.8.16) noted that it was only the medical profession that deserved condemnation, not the practice of medicine itself, which he thought of as essential to human well-being. The nuance of this idea created space for works like the herbal, the preface of which establishes the text as quite 'Roman' with a negative view of physicians and its intention to provide easy, practical medicine to an amateur but educated reader. Given that the two primary sources for the herbal both illustrate this negative attitude towards the medical profession, it is not surprising that the herbal's preface also adopted this point of view.

This maligning of professional healers, however, only appears in the preface of the herbal, and is never mentioned anywhere within the body of the text. Because the preface of the herbal may have been added to the original text at a later date, any ideas expressed within the preface may not accurately represent the original author's intentions. One can then turn to the remedies within the herbal to try to tease out information about who the intended audience of the text was, what the original purpose of the text may have been, and how well the statements of the preface align with the actual content of the herbal's chapters. Like the preface, however, some of the herbal's remedies are likely later additions, with the result that a clear understanding of what the original herbal contained is difficult to concretely achieve. Despite the opacity of the herbal's original form, a study of the herbal's content in its various extant versions is at least beneficial for understanding what kind of medical text the herbal eventually became during the early medieval period when it was so popular.

Various aspects of the herbal's remedies have already been studied by several scholars. Pradel-Baquerre's dissertation thoroughly discussed the herbal's plants and remedies in order to situate the text within the late-antique practical genre (2013, 28-52). Maggiulli and Buffa Giolito's study

of the herbal's author included analysis of the pharmacological properties of certain plants in the text (1996, 26-30). Linda Voigts (1978) argued that the more magical or superstitious elements in the herbal's remedies strengthen the herbal's connection to Apuleius of Madaura, who had a reputation as a practitioner of magic in late antiquity. Voigts (1979) also examined how accessible the Old English versions of the text would have been to an early-medieval reader. In order to complement the previous and thorough work of these scholars, this chapter will examine the herbal's remedies with a focus on the claims made in the text's preface that the herbal is meant to be useful to non-professional readers in a wide variety of locations.

The herbal was, without a doubt, used in different ways by its many readers and copyists throughout the centuries of its circulation. Although a study of the herbal's various forms and likely audiences would be useful for understanding the text's medieval reception, the examination within this chapter will only focus on the ways that the herbal seems to uphold or contradict the preface's promise of utility for a non-professional audience. In attempting to determine the usefulness of the text for a reader with an interest in medicine, this chapter will examine what ailments the herbal addresses and how they are described; what plants the herbal contains and how common they were in antiquity; how accessible the herbal's format may have been for a reader with little experience of medicine; how complicated and theoretical the text's remedies are, and how much traditional or folk knowledge is emphasized in the text.

Despite the preface's potential later addition to the herbal, this examination will demonstrate that the herbal's remedies generally do match the ambitions of the preface's claims; however, the text also possesses certain characteristics that suggest that the herbal may have had intended uses beyond what the preface states. Although the herbal contains many chapters on plants that are described as commonly-available or well-known in the herbal's sources, the herbal also offers some chapters on plants that were probably dangerous for an unexperienced reader to use. The arrangement of the herbal by plant instead of by ailment makes the text rather difficult to consult for specific remedies, suggesting that the purpose of the herbal may have been more educational than practical. The herbal offers only brief information about the growing locations of its plants and how to identify them. The herbal also provides only basic instructions in its recipes, and

almost no information about measurements of ingredients or doses of medicine. The herbal's lack of detailed information on these important subjects perhaps indicates an expected level of foundational knowledge from a reader more experienced with herbal medicine than the preface suggests. An examination of the herbal's plants, format, remedies, and medical epistemology will demonstrate that the content of the herbal does not always uphold the claims made in the herbal's preface.

The Herbal and Travel

The herbal's preface makes the claim that the work is useful for foreigners or travelers (*peregrini*). Although it might be difficult to imagine someone lugging a treatise of over one-hundred plants (and usually accompanied by several additional texts of the Pseudo-Apuleius Group)[133] with them while on the road, such a purpose is at least suggested in the preface. Due to the likelihood that the preface is a later addition to the herbal, this claim may not reflect the actual purpose of the original text; however, whether by design or coincidence, the herbal does contain several remedies useful for travelers. The text suggests a topical treatment of *plantago*[134] and vinegar for feet that are swollen and aching from walking (*si pedes tumuerint ab itinere*) (HA I.17). The herbal recommends that someone carry *artemisia monoclonos*[135] for protection

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[133] The Pseudo-Apuleius group designates the collection of medical texts in which the herbal almost always appears in manuscripts. The group consists of several epistolary treatises, a text on the medicinal uses of the badger entitled *De taxone*, the Pseudo-Dioscorides *De herbis femininis*, the *De herba vettonica* of Pseudo-Antonius Musa, and the *Medicina de quadrupedibus* of Sextus Placitus. Some manuscripts also transmit two *Precationes* and a short medical treatise on the Mulberry.

[134] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

[135] J. André 2010, p. 26: *Artemisia arborescens* L. and *A. vulgaris* L., Common Mugwort.

during a journey (*ad iter faciendum*) (HA X.1).[136] The plant purportedly chases away demons, protects the wearer from evil persons, and can even prevent bad medicines from being given to you, which is a fitting echo to the preface's complaint about incompetent healers. A similar remedy for protection on a journey (*si quis in uia tutus ambulare uult*) recommends carrying *heraclea*[137] to ward off brigands (HA LXIII.1). Finally, a cure for seasickness prescribes a mixture *of puleium*[138], *absintium*[139], oil, and vinegar to be frequently rubbed on the nose (HA XCIII.3). These remedies all specify ailments that arise during travel, either on the road or on water.

This group of travel-themed remedies does not display the typical features of interpolations for this text. The passages follow the herbal's usual remedy structure (discussed below) and they do not appear in the final position of any chapter. As well, none of these remedies derive from the *Medicina Plinii*, which I have argued (in the second chapter of this dissertation) was used extensively by a revisor of the herbal rather than the original author. The presence of these remedies in the herbal seems to predate the preface's mention of travel; therefore, remedies for travelers or foreigners may have been of concern to the original author and part of the initial conception of the text.

Remedies for animal bites make up the second-largest group of remedies in the herbal, surpassed only in number by the many remedies for various kinds of pain (*dolor*). The importance of

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[136] This passage has analogues in Pliny's *Naturalis Historia*:
NH XXVI.89.150: *Artemisiam et elelisphacum alligatas qui habeat viator negatur lassitudinem sentire.*
It is said that a traveller who has *artemisia* and *elelisphacus* tied on him does not feel fatigue.
NH XXV.81.130: *Artemisiam quoque secum habentibus negant nocere mala medicamenta aut bestiam ullam, ne solem quidem.*
They say that bad medicines or any animal, or even the sun will not harm anyone who has *artemisia* with them.

[137] J. André 2010, 120: *Sideritis romana* L., Common Sideritis, Common Ironwort.

[138] J. André 2010, 210: *Mentha pulegium* L., European Pennyroyal.

[139] J. André 2010, 1: *Artemisia absinthium* L., Absinthe.

animals to the herbal is apparent not only in their emphasis within the text, but also in the fact that often the illustrated manuscripts of the herbal contain images of these creatures. Many manuscripts of the herbal are filled with depictions of snakes, rabid dogs, spiders, and scorpions lurking among the remedies that cure their bites.[140] The attention given to dangerous animals in the text perhaps suggests a fascination with or anxiety about that subject matter, and yet such a focus is also practical because wild animals have always carried the potential for danger to people in rural areas and to travelers. In fact, animal bites are still considered to be a significant travel risk today by the World Health Organization (WHO), since a rabies infection resulting from the bite of an animal still has the highest fatality rate of any currently-recognized infectious disease.[141] For a text that claims to be useful for travelers, the herbal is doing its due diligence in providing multiple remedies for bites from different animals a person might encounter on a journey.

In addition to the remedies in the herbal, the choice of plants and the lists of synonyms also make the text useful for readers in a variety of locations. As discussed in the first chapter, the herbal's plants grow throughout the Mediterranean, with the result that a person would likely be able to find at least some of the plants mentioned in the herbal regardless of where they were within that region. The synonyms address plant names from various areas and peoples throughout the Mediterranean region. A traveler in a new place could hope to locate a plant by looking up its regional name in the herbal's list of regional synonyms. A reader from a different part of the Mediterranean than the author could also use the herbal's lists of synonyms to look up the plant names that were local to their region in order to identify the herbal's plants. As discussed in chapter one, however, most of the synonyms in the extant versions of the herbal are thought to be later additions, with only the synonyms of the *Graeci* and the *Itali* proposed as belonging to the

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[140] Not all manuscripts of the herbal are illustrated, and the illustrations of the herbal are not always consistent between manuscripts. Two comparative studies of the text's illustrations, one by Heidi Grape-Albers (1977) and the other by Minta Collins (2000, 165-307), discuss the transmission of the illustrations in the herbal's manuscript tradition.

[141] "WHO Expert Consultation on Rabies, third report," *WHO Technical Report Series* 1012, (Geneva: World Health Organization, 2018), 23.

original text.[142] The original form of the herbal would not have been quite as helpful for a wide audience, but revisors subsequently added more synonyms with the result of fulfilling the herbal's promise of utility for a wide audience.

Although the herbal's lists of synonyms may have proved useful for readers in a variety of locations, their presence might not have originally been intended for that purpose. Most of the synonyms in the extended plant name lists in the extant versions of the herbal derive from the Latin alphabetical translation of Dioscorides' *De materia medica*, a text that included lengthy lists of synonyms but did not market itself overtly to travelers (Pradel-Baquerre 2013, 53-56). The herbal's synonyms might have served as a practical learned element if the text was meant to be studied for medical knowledge rather than merely being consulted during medical emergencies.

The multiple ways in which readers could find utility from these synonym lists highlights an important point about the herbal's content: although the herbal might appear to align itself through its content with the message offered in the preface, often a particular feature of the text, such as the synonyms or the illustrations, could have served several different purposes that varied depending on the reader. Thus, even though we can note the different ways in which the herbal seems to uphold the preface's claims, we should not assume that these features of the herbal could only have served one particular purpose nor that we understand exactly why the herbal's author included such features.

Another aspect of the herbal that would have made the text useful for those traveling to various locations is the herbal's subtle preference for the wild (as opposed to cultivated) varieties of its plants. The herbal never discusses the medicinal differences between wild and cultivated herbs; however, the text's preference for wild varieties can be inferred from the information in many chapters about where a plant grows and how to properly identify it. Most often these locations, such as meadows (*pratum*) or roadsides (*secus viae*), imply wild-growing plants. Occasionally

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[142] Howald & Sigerist 1927, viii; Maggiulli & Buffa Giolito 1996, 66-71.

these passages state that the plant grows in a garden (*hortus*), but such locations are mentioned less frequently than the wild growing locations.[143] As well, several of the herbal's plants are also specified as being wild (*silvaticus*).[144] The herbal's preference for wild plants is perhaps influenced by the belief held by many ancient medical authors that wild plants had stronger medicinal virtues than their cultivated varieties.[145] The emphasis on wild plants also fits the herbal's purpose of utility during travel, allowing the reader to find local plants nearby in the wild and to use them in medicine.

As discussed in the first chapter of this dissertation, the herbal's plants, plant name lists, and some of the herbal's remedies suggest that the text could have been useful to people in a variety of locations around the Mediterranean. Although we do not know how much this travel aspect of the herbal was emphasized or intentional in the original version of the text, the herbal's later revisors added features, such as extended synonym lists, which increased the utility of the text for this purpose, thereby validating the preface's claims.

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[143] About thirty-five of the herbal's plants are said to grow in wild locations, such as meadows, mountains, or forests. About fifteen of the herbal's plants are said to grow in gardens or cultivated places, but even when a plant is described as being cultivated, the herbal includes information about where the plant grows wild as well, with the result that a wild growing location is offered for every plant in the herbal whose growing location is mentioned at all (about fifty plants total). For example, *confirma* is said to grow in gardens, but also in swampy places and in fields (*nascitur locis paludis et campis uel hortis*, HA LX).

[144] *Lactuca silvatica, papaver silvaticum, pastinaca silvatica, cardus silvaticus, cucumis silvaticus, cannabis silvatica, ruta silvatica,* and *brassica silvatica.* The plant names of the herbal's chapters vary between their Greek and Latin forms depending on the manuscript in which they appear. A manuscript of the herbal might display *arnoglossa* instead of *plantago* as the plant name for the herbal's first chapter, and such variations are common throughout the herbal in its extant manuscripts. Howald and Sigerist's edition normalizes all of the plant names into their Latin versions, but the specification for wild plants is apparent in the manuscripts themselves even when they display some Greek plant names. For example, *silvaticus* appears in plant names several times in the earliest extant manuscript of the herbal (Leiden MS Voss. Q. 9, 6th-7th century): *lactuca silvatica, malva silvatica, papaver silvaticus*, etc.

[145] Pliny's *Naturalis Historia* often remarks on the additional medicinal benefits offered by wild versions of plants. For example: NH XX.55.156.
V. Bonet (2014) has demonstrated Pliny's preference for wild plants.

The Herbal's Ailments

Although the preface may be a later addition to the herbal, its establishment of the text as a work of practical medicine is echoed in the way that the herbal's chapters offer remedies. The kinds of ailments that the herbal addresses support the preface's claim that the text is meant to be consulted by a reader with an interest in medicine as it pertains to everyday health concerns, but not necessarily someone practicing medicine professionally. A comparison of the number of remedies supplied for each ailment in the herbal will demonstrate this conclusion. The following table lists the herbal's ailments in descending order of frequency in the text, and conveys the text's preference for general terms and common medical issues over technical vocabulary and chronic or obscure illnesses:[146]

Table 3.1: The Herbal's Ailments

Ailment Group	Number of Remedies
dolor [pain] (of various body parts)	116
morsus [bite] (from snakes, dogs, scorpions, spiders, and humans) *percussus* [striking] (when an animal is the cause)	39

[146] **Table 3.1:** I have collected the remedies of the herbal into separate categories based on the type of ailment they address. I have tried to group most of the remedies simply by their Latin names (such as *dolor*); however, I have made some groups (such as the group of remedies for menstrual flow) that include multiple kinds of ailments that are related in subject matter but have different names. These groupings are my own and they may not reflect how the author(s) of the herbal would have related these remedies. I have tried to be cautious when grouping remedies, not only because some Latin names for ailments can have multiple meanings, but also because the herbal's vocabulary is not homogenous, with multiple words from Latin or Greek origin describing the same ailment at different points in the text (Pradel-Baquerre 2013, 49-52). As an example, Pradel-Baquerre noted that the herbal expresses epilepsy with the terms *caduci*, *lunatici*, and *epilempticus*. To identify the ailment names, I have relied primarily on their interpretation in Pliny's *Naturalis Historia*, as that is where most of the herbal's remedies appear to derive.

Ailment Group	Number of Remedies
vulnera [wounds] (including *vulnera recentia* [recent wounds], *vulnera vetera* [old wounds]) *ad plagas sive a ferro sive a sude sive a serpente* [for wounds, either from an iron	23
General Terms (*vitia* [vices, defects], *vexatio* [discomfort, vexation], *molestias* [trouble], *difficultas* [trouble], *morbus* [morbus], *defectio* [weakness], or only the body part is named)	22
febris (including *quartana* [quartan fever], *tertiana* [tertian fever], *cotidiana* [daily fever], *hemitritaea* [semi-tertian fever], *acerrima* [harshest fever], *febricitans*	18
Abortion or Menstrual Flow *si qua mulier in utero pecus mortuum habuerit* [If a woman has a dead fetus in her womb] *si infans mulieri in utero mortuus fuerit* [If a fetus dies in the womb of a woman] *ad abortum* [for a miscarriage (abortion?)] *mulier si intrinsecus aliquid mali habuerit* [if a woman has something bad inside her] *ad menstrua prouocanda* [for provoking a woman's menses] *ad profluuium mulieris* [for a woman's	18
Specific Eye Conditions (*lippitudo* [inflammation], *caligo* [dimness], *epiphora* [afflux], *albugo* [white spot, eye disease], *acies* [sharp vision], *pili* [hairs, obstructions])	16
ulcera [sore, ulcer]	10
podagra [gout, swelling in the foot]	10

Ailment Group	Number of Remedies
tumor [swelling]	9
lumbricus [intestinal worms]	8
venenum [poison] (in food or drink, or from wild mushrooms)	8
Difficulty Urinating *ad duritiam urinae, si quis facere non potuerit urinam et stranguiriam patitur* [For hardness of urine, if someone cannot pass urine and suffers from difficulty urinating] *ad uesicae dolorem et stranguiriam* [For bladder pain and difficulty urinating] *ad stranguiriam* [For difficulty urinating] *ad uesicae dolorem et ad eos, qui urinam non faciunt* [For bladder pain and for those who cannot urinate]	8
tussis [cough]	7
duritia [hardness] (of various body parts or of the entire body)	7
idropicus [dropsy]	6
Bewitchment and Evil People *aduersus occursus malo*s [against bad meetings] *si quis maleuolus deuotauerit hominem* [if some evil creature bewitches a man] *ad occursus malos, ut non timeas* [so that you don't fear bad happenings]	6
struma [scrofulous tumor]	5
Jaundice (*ictericus* [jaundiced], *morbus regius* [jaundice], *aurigineus* [jaundiced color])	5
calculus [stones]	5

Ailment Group	Number of Remedies
combustus [burns]	5
ignis sacer [eresypilas, ergotism]	5
Coughing up Blood *qui purulentum excreant cum sanguine* [for those who cough up pus with blood] *ad eos, qui sanguinem reiciunt* [for those who cough up blood] *ad eos, qui sanguinem per os reiciunt* [for those who cough up blood]	5
parotida [swelling of the parotid gland, swelling near the ears]	4
c*ancer* [swelling, tumor, ulcer], *canceroma* [swelling, tumor, ulcer], *carcinomata* [swelling ulcer]	4
lunaticus [epilepsy], *caducus* [epilepsy]	4
Nosebleed *ad sanguinem, si de naribus fluit* [if blood flows from the nose] *ad sanguinem fluentem de naribus* [for blood flowing from the nose]	4
ad caput deplendum [for draining the head]	4
ad alveum concitandum [for moving the bowels]	3
Abscess *ad collectiones, quae in corpore nascuntu*r [for abscesses that grow on the body] *ad apostema* [for abscess] *ad suppurationes in corpore* [for abscesses on the body]	3
Stabbing *si quis ferro percussus fuerit* [if someone is stabbed by an iron implement] *ad percussum ferro uel sude* [for an injury from an iron or wooden implement]	3

Ailment Group	Number of Remedies
Luxus [dislocation]	3
Remedies Specified for Children *ad ramicem pueris* [for a rupture in boys] *si infans contristatus fuerit* [if a child grows sad] *ut infantem hilarem facias* [to make a child happy]	3
Remedies for Travel *ad iter faciendum* [for going on a journey] *si quis in uia tutus ambulare uult* [if someone wishes to walk protected on the road] *ne in naue nausieris* [against seasickness]	3
sciaticus [general hip pain, sciatica, sciatic gout]	3
colicus [colic] *terminosus* [colic]	3
ad aurium inutilitatem et qui minus audiunt [for deafness or difficulty hearing]	3
ad dentium dolorem uel si nutauerint [for tooth pain or if the teeth are loose]	3
suspiriosus [for difficulty breathing]	3
condylomata [anal inflammation]	2
inflationes [flatulence]	2
porrigo and furfur [dandruff, scurf]	2
cicatrices [scars]	2
liuores [bruises]	2
panicula [swelling]	2
furunculus [boils]	2
facit ad eas res, quae in homine nascuntur [for that which grows in/on a person]	1
ad ea, quae secanda sunt [for that which must be cut (from the body?)]	1

Ailment Group	Number of Remedies
ossa fracta [broken bones] *capitis fractura* [broken skull]	2
panaricia [whitlow]	2
ad fluentem semen nimis [for excessive flow of semen]	2
cardiacus [heartburn, irregular heartbeat, general heart ailment]	2
languens [weakness, feebleness]	2
nausea [nausea]	2
convulsus [convulsions?]	2
frigor exustis [frostbite]	2
frigores [chills]	2
fluxus ventris [gassy belly]	1
ad ventrem stringendum [to tighten the belly]	1
ad ventrem solvendum [to loosen the belly]	1
cruditas [indigestion]	1
languor stomachi [feebleness of the stomach]	1
infirmitas stomachi [weakness of the	1
lentigo [freckles]	1
scabies [itching]	1
impetigo [scabs]	1
prurigo [itch]	1
carbunculus [carbuncles]	1
perniones [chilblains]	1
ad capillos tinguendos [for dyeing the hair]	1
epaticus [liver problems]	1
spleneticus [spleen problems]	1
elefantiosus [leprosy, elephantiasis ?]	1

Ailment Group	Number of Remedies
tisicus [consumption]	1
lithargus [lethargy]	1
phlegma [phlegm]	1
emigraneum [headache]	1
ad somnum, qui non dormiunt [for those who cannot sleep]	1
pulmo extensio [swollen lungs]	1
ad nares male olentes [for noses that smell poorly, i.e. congestion or phantom smells?]	1
ad eos, qui induratas venas habent et cibos non recipiunt [for those with hardened veins and who cannot take food]	1
ad neruorum tremorem [for muscle tremors]	1
paralisin [paralysis]	1
encatisma [fomentations]	1
si aqua in aures introierit [if water gets in one's ears]	1
emorroida [hemorrhoids]	1
phreneticus [madness]	1
pulices [fleas]	1
ad stomachi arsuram [for a burning pain in the stomach]	1
ad lichenas qui et lepras [for skin eruptions, any scaly disease of the skin]	1
ad capillos mulierum nutriendos [for nourishing the hair of women]	1

The most-emphasized ailments in the herbal pertain to injury or accident, such as animal bites, wounds, pain, swelling, and general terms for medical issues (such as *vexatio*). In addition to

these kinds of ailments, the text is sprinkled more sparsely with remedies for other medical emergencies: ingesting poison (whether it be an intentional poisoning or from eating wild mushrooms), burns, nosebleed, broken bones and fractures, dislocations, sprains, and frostbite. These kinds of ailments suggest that the herbal was somewhat of a first-aid manual, a work to be consulted when a medical emergency occurred, especially if one did not want to (or could not) wait for a physician.

The herbal's focus on first aid is only one facet of the text. The herbal also offers many remedies for common troubles that vex most humans at various points during the course of life, but that do not usually constitute emergencies, at least in modern western medicine. In this group are the many remedies for gastro-intestinal issues, skin problems (such as dry or itchy skin), cough, poor sleep or insomnia, and water in one's ears. The general remedies for pain or vexations of the body could also fit in this category, depending on their severity and cause.

The herbal also contains a small number of beauty treatments, such as a dye for hair (HA XLVII.2), a treatment to 'nourish' hair (HA LI.1), as well as several treatments for removing bruises, freckles, scars, and warts. Cosmetics in a medical text suggest an ancient context (Everett 2012, 61; Riddle 1985, 88-92); however, there are not enough cosmetic treatments in the herbal to conclude that they were a focus of or of special interest to the author. The herbal's cosmetic treatments are neither plentiful nor varied, unlike the many kinds of sweet-smelling unguents, perfumes, and makeup recipes in Dioscorides' *De materia medica* or the several kinds of hair dye and depilatories in the pseudonymous *Alphabet of Galen*.[147] The herbal's treatment to nourish hair is practically an afterthought (and probably a later addition), since it is tacked on to the end of a treatment for colon pain (*ad coli dolorem*).

The text provides a single treatment to help with beekeeping (HA VI.1), which ensures that the bees will not stray from their hive. This beekeeping advice would have been useful for someone who consulted the herbal, as honey appears quite often in the text's remedies as an ingredient for

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[147] For cosmetics in the *Alphabet of Galen*, see: Everett 2012, 61-62. For cosmetics in the *De materia medica*, see Riddle 1985, 88-92.

herbal salves. The herbal also offers a treatment for removing fleas from one's home (*ad pulices. herbae coriandri aquam in domo spargito*, HA CIII.4), and additionally recommends hanging *artemisia*[148] in the house for protection (HA X.1). These seemingly non-medical prescriptions expand the herbal's focus to the keeping of hearth and home. These kinds of recipes, although not strictly medical to a modern eye, fit into the *pater familias* context discussed above, wherein the reader might consult the herbal not solely for medical recipes, but also for advice about taking care of one's estate and animals, as well as protecting one's household.

In addition to the remedies for accidents, trauma, and more common medical complaints, the herbal pays special attention to medical problems that pertain to women. The text contains a few remedies for pain and other general vexations that mention women specifically, such as the herbal's remedy for breast pain that arises when the breasts are swollen with milk (*ad mamillarum dolorem mulierum, quae lactem habent et tumorem*, HA XVIII.3) or the specification that a treatment for freckle removal is for women (*ad lentigines in faciem si mulier habuerit*, HA XXI.2). Beyond these mentions of women in otherwise general ailments, the herbal also offers several aids for menstruation, abortive treatments, and remedies for medical issues that arise during childbirth. The remedy *ad profluvium mulieris* appears several times, and in different instances is meant to either encourage or stop the excessive flow of menstrual blood. The herbal offers one remedy for inducing labor: *mulier ut cito pariat* (HA CIII.2). Several remedies in the herbal are meant to expel a fetus from the womb. Sometimes the fetus is supposed to be dead, as in *si qua mulier in utero pecus mortuum habuerit* (HA LXII.1) and *si infans mulieri in utero mortuus fuerit* (HA XCIII.7). At other times the herbal does not clarify this point: *ad abortum* (HA CXIV.2). The herbal also provides treatments for when the afterbirth is not discharged properly during childbirth, which could lead to fatal infection: *ad mulieres, quae a partu laborant et non purgantur* (HA LXXXI.1) or *si secundae a partu non sequuntur* (HA XCIII.10). The remedy *si mulier obticuerit* (HA XCIII.14) is apparently for a woman suffering from hysteria, a condition connected to the supposed movement of the womb, as

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[148] J. André 2010, 26: *Artemisia arborescens* L. and *A. vulgaris* L., Common Mugwort.

debated by ancient and medieval authors.[149] This remedy is the only place in the herbal where a healer who is not the reader is explicitly mentioned. The pessary to heal the woman should be given by a midwife (*subiciatur ab obstetrice*), a recommendation that demonstrates the herbal's assumption that a midwife would be present during labor, and a suggestion that perhaps midwives were not included in the preface's invective against professional healers.

Conversely, the herbal pays little attention to ailments particular to men. The Howald and Sigerist edition of the herbal provides two remedies for excessive or involuntary ejaculation: *ad fluentem semen nimis* (HA XC.13) and *ad semen nimium profluentem* (HA CIV.1). These remedies appear in manuscript Ca (Montecassino, Archivio della Badia V. 97, 9th-10th c.), the text of which the editors favored, but in most manuscripts of the herbal (all of classes β and γ, as well as two manuscripts of class α), these remedies are instead for excessive blood flow (*ad sanguinem nimium profluentem*).[150] Given that the majority of the manuscripts in each class display the blood flow reading, it is likely that these remedies were not intended for men's troubles in the original text. Howald and Sigerist may have preferred the reading of the Monte Cassino manuscript because of the passage in Pliny that states that *ruta* (one of the plants used for this remedy in the herbal) hinders the sexual organs, and that for this reason, the plant is given to people with spermatorrhea and lustful dreams (NH XX.51.143). Pliny also mentioned however, that *ruta* is effective for ailments like internal bleeding and nosebleed (NH XX.51.137). In any case, Pradel-Baquerre has argued that this remedy could apply to women as well, since *semen* could refer to both semen and vaginal discharge (2013, 686, n. 68).

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[149] Lorenz Helmut-Johannes (1954) first argued for this interpretation of this remedy in the herbal. For a broader discussion of the development of the 'wandering womb' idea in antiquity, see Christopher A. Faraoen "Magical and Medical Approaches to the Wandering Womb in the Ancient Greek World", *Classical Antiquity* 30:1, 2011, 1-32.

[150] The manuscript tradition of the herbal is discussed in the introduction of this dissertation. Howald and Sigerist divided the tradition of the herbal into three branches: α, β, and γ. γ represents the oldest (and smallest) group of manuscripts. α represents what Howald and Sigerist believed to be the most accurate textual tradition (although Maggiulli and Buffa Giolito (1996) have argued for the importance of reereexaminingxamining the contributions of class β manuscripts). β represents the largest group of the herbal's extant manuscripts, but also those with the most variation and, according to Howald and Sigerist, the least accurate textual tradition.

The remedy for sexual dysfunction, *si quis ad mulierem non potuerit* (HA XV.3), is one of the rare compound remedies in the herbal, and is therefore likely a later addition. The original form of the herbal is thought to have included only simples since nearly all of the herbal's remedies are such. The other two remedies for men in the text are meant to aid a man who has been bewitched or cursed: *si quis deuotus defixusque fuerit, sic eum resolues* (HA VII.1) and *si quis maleuolus deuotauerit hominem* (HA LXXXV.5). These remedies are also likely for sexual dysfunction. Several of the herbal's manuscripts express this idea more clearly, such as *si quis debilis fuerit defectusque in suis nuptiis*, which is found for the first remedy in class β manuscripts. Even if all four of these remedies for men were part of the original version of the herbal, their number is eclipsed by the over twenty remedies for women's medical issues.

Similarly, remedies for children are not a major focus of the herbal. Children are sometimes mentioned as an afterthought, as in the remedy *ad dolorem femorum vel surae*, which notes an additional use of the treatment for children at the end of the passage: *Herba filice fumigabis loca. Item infantem languidum si ex ea fumigaueris, facillime conualescit* (HA LXXVII.3). The herbal offers one remedy for intestinal pain in an infant (*ad dolorem intestinorum infantium*, HA XCIII.2), as well as the unusual remedy *si infans contristatus fuerit* (HA XIX.6), which is likely contaminated, as discussed in the second chapter of this dissertation. Finally, there is a single remedy for a rupture or hernia in a young boy: *ad ramicem pueris* (HA LXXVII.2). Like the small number of remedies specific to men, the treatments for children in the herbal are not as emphasized as those for women.

The remedies for women make up one of the largest groups of treatments in the herbal. Some of them are certainly later additions, given their atypical syntax, but many derive from Pliny's *Naturalis Historia*, follow the formulaic structure of the original text, and appear throughout the manuscript tradition of the herbal (including in its earliest manuscripts). Their consistent presence throughout the herbal indicates that women's medicine was thought by the text's author and revisors to be important for the focus of the herbal (or at least too interesting to leave out of it). Although pregnancy and childbirth are serious medical topics, they are also inevitable parts of

life for which a medieval reader would have wanted to be prepared. The herbal's inclusion of treatments for these conditions fits its claimed purpose of practicality for everyday life.

The Herbal's Plants

The herbal offers only brief statements about the availability of its plants, and no information about their cost; however, the preface's claim of utility for a non-professional audience would have us imagine that the plants in the herbal were relatively well-known and easily accessible to the general reader. The preface claims that professional healers are not only incompetent but also avaricious, that they intentionally draw out their treatments in order to charge their patients additional fees. From what the preface suggests about medicine as a profession, one might expect the physicians of the herbal's period to have desired to sell their patients costly and complex compound remedies, which they might have claimed were painstakingly prepared from rare plants only found in exotic locations, all with the hope of gouging the sick client with a high price for good health. In turn, one would expect the herbal, which fashions itself as an alternative to the quackery and scams of professional healers, to offer simple remedies made from ingredients that were not too expensive nor too difficult for the average reader to obtain.

A preference for simplicity and accessibility is present in many late antique Latin medical texts, and is related to the previously-discussed idea of self-sufficient medicine so treasured by Roman authors like Cato and Pliny. Simplicity was in contrast to the complicated theoretical 'nonsense' of Greek medicine practiced by the professionals about whom the herbal's preface complains. One component of this self-sufficient ideal was the euporistic tradition (from *euporistus* 'easily procured, common'), which favored simple remedies made from common plant, animal, or mineral material. This preference is clearly apparent in the title of a work such as the *Euporiston Phaenomenon* of Theodorus Priscianus (4th century), but is also subtly visible in works like the herbal that complain about the expense of remedies offered by professionals. The preface to the *Medicina Plinii*, for example, laments over the enormous prices of terrible remedies offered by fraudulent healers (*varias fraudes medicorum experiscerer, quibusdam vilissima remedia ingentibus pretiis vendentibus*, prol. 1), then explains that the purpose of the work is to enable the

author to create his own remedies when needed during travel.[151] Similar expressions of frustration with the medical profession and the expense of remedies can be found in the works of late antique authors like Marcellus of Bordeaux (5th century), Caesarius of Arles (5th century), and Sidonius Apollinaris (5th century). Even Oribasius (4th century), a physician himself, penned a worked entitled *Euporista*, meant for an average reader in the case that a professional healer was not available (Everett 2018, 118). The annoyances expressed in the herbal's preface are therefore part of the late antique tradition of practical medical texts meant for a non-expert audience. Although the herbal never explicitly states that it is a euporistic work, the preface's complaints about the price of remedies naturally place the herbal in a euporistic framework. As a work aligned with the euporistic tradition, the herbal should prioritize straightforward remedies and simple ingredients. Plants that were rare or costly would not have fit the preface's claimed purpose and would not have separated the herbal from the medicine it claims was practiced by professionals.

Although the herbal occasionally discusses the growing locations of some of its plants, these descriptions are too vague (such as *campis* 'fields' or *locis aggeribus* 'rocky places') to be of help for understanding the geographic distribution of the text's plants. Pliny's *Naturalis Historia*, however, regularly remarks on the popularity or common availability of these plants, and we can suppose that the author of the herbal, who seems to have relied heavily on Pliny's work, had access to this information and that it may have influenced the plants chosen for the herbal. Many of the herbal's plants are described in Pliny's *Naturalis Historia* as common, famous, or as growing everywhere*:*

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[151] *Medicina Plinii* prol. 2: *quapropter necessarium mihi visum est ut undique valitudinis auxilia contraherem et velut breviario colligerem, ut quocumque venissem possem eiusmodi insidias vitare et hac fiducia ex hoc tempore <iter> ingredi, ut sciam, si quis mihi languor inciderit, non facturos illos ex me reditum nec taxaturos occasionem*.
For this reason it seemed necessary to me to gather remedies for illnesses from every source and to compile them as a summary; so that whatever place I had come to I might be able to avoid treachery of this kind, and with this confidence, to travel after that time, since I know that if I experience any ailment, those healers will neither be making a profit nor appraising an opportunity from me. Yvette Hunt (2020), 15.

Table 3.2: Common Plants in the Herbal[152]

Herbal Plant Name & Identification	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Plantago (*Plantago* L., esp. *P. major* L., Common Plantain)	XXV.39.80: *Celebravit et Themiso medicus vulgarem herbam plantaginem tamquam inventor volumine de ea edito.* The physician Themiso too has spread the fame of a common plant, the plantain, having published a treatise about it as though he were the discoverer.	I: *Nascitur paludibus plurimum et pratis.* It grows especially in marshes and meadows.
Quinquefolium (*Potentilla* L., esp. *P. reptans* L., Creeping Cinquefoil)	XXV.62.109: *Quinquefolium nulli ignotum est, cum etiam fraga gignendo commendetur.* Cinquefoil is known to everyone, being popular for its actually producing strawberries.	II: *Nascitur in pratis et locis cultis et mundis.* It grows in meadows and in cultivated and clean places.
Verbenaca (*Verbena officinalis* L., Common Vervain)	XXV.59.105: *Nulla tamen Romanae nobilitatis plus habet quam hiera botane.* No plant however is so renowned among the Romans as hiera botane.	III: *Nascitur ubique in planis et aquosis locis.* It grows everywhere in flat and watery places.
Proserpinaca (*Polygonum aviculare* L., Knotgrass)	XXVII.104.127: *Proserpinaca herba vulgaris est.* Proserpinaca is a common plant.	XVII: *Nascitur ubique locis cultis et aggeribus.* It grows everywhere in cultivated and stony places.

[152] The translation of Pliny's *Historia Naturalis* in the following tables has been taken from W. H. S. Jones & A. C. Andrews, 1938-1962.

Herbal Plant Name & Identification	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Aristolochia (*Aristolochia* L., Birthwort)	XXV.54.95: *Inter nobilissimas aristolochiae nomen dedisse gravidae videntur, quoniam esset ἀρίστη λεχούσαις.* Among the most celebrated plants aristolochia received its name, as is clear, from women with child, because they considered it to be λεχούσαις.	XVIII: *Nascitur locis montuosis et solidis et cultis uel lapidosis.* It grows in mountainous, dense, and cultivated or stony places.
Asfodilus (*Asphodelus* L., Asphodel)	XXII.32.67: *Asphodelum de clarissimis herbarum, ut quod heroion aliqui appelaverint.* Asphodel is one of the most famous plants, so that some have styled it the plant of the	XXXII: (no information about growing location)
Marubium (*Marrubium vulgare* L. or *M. creticum* L., Horehound)	XX.89.241: *Marrubium plerique inter primas herbas commendavere, quod Graeci prasion vocant, alii linostrophon, nonnulli philopaeda aut philochares, notius quam ut indicandum sit.* Most authorities have placed among the especially valuable plants horehound, called by some Greeks prasion, by others linostrophon, by a few philopais or philochares, a plant too well known to need	XLV: (no information about growing location)

Herbal Plant Name & Identification	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Papaver Silvaticum (*Papaver* L., Poppy)	XIX.53.167: *Sunt quaedam comitantia aliorum satus, ut papaver; namque cum brassica seritur ac porcillaca… fuisse autem in honore apud Romanos semper indicio est Tarquinius Superbus, qui legatis a filio missis decutiendo papavera in horto altissima.* There are some plants that are sown in company with others, for instance the poppy, which is sown with cabbage and purslain…That the poppy has always been in favour at Rome is indicated by the story of Tarquinius the Proud, who knocked off the heads of the tallest poppies in his garden.	LIII: (no information about growing location)
Asterion (*Aster amellus* L., Italian Aster)	XXVI.59.92: *Inguinalis, quam quidam argemonion vocant, passim in vepribus nascens.* Inguinalis, called by some argemonion, a plant growing anywhere in briar patches.	LX: *Nascitur inter petras et loca aspera.* It grows between rocks and in harsh places.
Leporis Pes (*Trifolium arvense* L. or *Trifolium lagopus* Pourr., Clover)	XXVI.34.53: *Nascitur in segetibus.* It grows in cornfields.	LXI: (no information about growing location)
Peonia (*Paeonia* L., Peony)	XXV.10.29: *Vetustissima inventu paeonia est, nomenque auctoris retinet.* The first plant to be discovered was the peony, which still retains the name of the discoverer.	LXV: *Nascitur Cretae… plurimum noctu a pastoribus inuenitur et colligitur.* It grows in Crete…it is found and gathered most often at night by shepherds.

Herbal Plant Name & Identification	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Filix (*Polystichum filix mas* Roth., Male Fern)	XXVII.55.78: *Nascuntur ubique, sed maxime frigido solo.* Ferns grow everywhere, but especially in a cold soil.	LXXVII: (no information about growing location)
Gramen (*Cynodon dactylon* Pers., Bermuda Grass)	XXIV.118.178: *Gramen ipsum inter herbas vulgatissimum.* Grass is itself the very commonest of plants.	LXXVIII: (no information about growing location)
Ruta Hortensis (*Ruta graveolens* L., Common Rue)	XX.51.131: *In praecipuis autem medicaminibus ruta est.* But among our chief medicinal plants is rue.	XC: (no information about growing location)
Ebulum (*Sambucus ebulus* L., Dwarf Elder)	XXV.71.119: *Ebuli quoque, quam nemo ignorat, fumo fugantur serpentes.* The smoke of ebulum also, a plant known to everybody, drives snakes away.	XCII: (no information about growing location)
Peucedanum (*Peucedanum officinale* L., Hog's-Fennel)	XXV.70.117: *Sed inter prima celebratur peucedanum.* Among the most popular of plants is peucedanum.	XCV: (no information about growing location)
Absintium (*Artemisia absinthium* L., Absinthe)	XXVII.28.45: *Herbae facillimae atque inter paucas utilissimae, praeterea sacris populi Romani celebratae peculiariter.* It is a plant very easily found, and one of the most useful, being moreover especially honoured at the religious rites of the Roman people.	CI: *Nascitur locis cultis et montuosis et saxis.* It grows in cultivated places, in mountainous regions, and in stony places.

Herbal Plant Name & Identification	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Lilium (*Lilium candidum* L., White Lily)	XXI.11.22: *Lilium rosae nobilitate proximum est… nihilque est fecundius una radice quinquagenos saepe emittente bulbos.* The lily comes nearest to the rose in fame…No plant is more prolific, a single root often sending out fifty bulbs.	CVIII: (no information about growing location)
Lupinum Montanum (*Lupinus angustifolius* L. or *L. termis* Forsk or *L. birsutus* L., Lupine)	XVIII.36.133: *Lupini usus proximus, cum sit et homini et quadripedum generi ungulas habenti communis.* The next most extensively used plant is the lupine, as it is shared by men and hoofed quadrupeds in common.	CXI: *Nascitur secus saepibus aut locis sablosis.* It grows next to hedges or in sandy places.
Apium (*Apium graveolens* L., Celery)	XX.44.112: *Apio gratia in volgo est. namque rami lactis potionibus per rura innatant et in condimentis peculiarem gratiam habent.* Parsley is universally popular, for sprigs of it are found swimming in draughts of milk everywhere in the country, and in sauces it enjoys a popularity all its	CXIX: (no information about growing location)

Plantago, *quinquefolium*, and *verbenaca* are the first three plants in the herbal and are all described as being commonly available or well-known to all.[153] The herbal thus begins with

[153] A few of the herbal's plants, such as *simfoniaca* (HA XXV.27) or *heliotropia* (HA XXII.29) are mentioned in Pliny's work as having a kind or subtype that is common (such as *heliotropium tricoccum*), but it is often not clear what subtype of the plant the herbal intends, so I have not included these mentions in the above table.

famous or common plants, and several more are sprinkled throughout the text at various points. Plants that are described as ‘common’ or ‘growing everywhere’ should have been easy to obtain in Pliny’s time and likely when the herbal was written, too.

Some of the herbal’s plants are not explicitly said to be common in the *Historia Naturalis*, but they are described as being used in cooking, tanning, dyeing, and other such common tasks that suggest these plants were well-known:

Table 3.3: Plants in the Herbal used for Common Tasks

Herbal Plant Name	**Description in Pliny’s *Naturalis Historia***	**Description in the Herbal**
Ostriago (*Rubia tinctoria* L. or *Rubia peregrina* L., Madder)	XXIV.56.94: *Alia res erythrodanum, quam aliqui ereuthodanum vocant, nos rubiam, qua tinguntur lanae pellesque perficiuntur.* A different plant is erythrodanum, called by some ereuthodanum, and rubia by the Romans, which is used to dye wool and to tan leather.	XXVIII: *Nascitur circa monumenta aut in monumentis aut in parietibus, qui sunt circa montium radices*. It grows around monuments or in monuments or on walls and around the base of mountains.
Brionia (*Bryonia dioïca* Jacq., Bryony)	XXIII.16.22: *Novere id qui coria perficiunt, illo enim utuntur…radix numerosis utilitatibus nobilis.* This fruit [of the plant] is well known to the curriers, who use it in the preparation of leather…the root is famous for many uses.	LXVII: (no information about growing location)
Senecion (*Senecio vulgaris* L. and other mediterranean species of *Senecio* L., Groundsel)	XXV.106.169: *Praecordiis etiam cibo ex aceto eam praedicantes serentesque in hortis.* [The Romans] recommended it also as a salad with vinegar for the internal organs generally, and they planted it in gardens.	LXXVI: *Nascitur in tectis et circa parietibus.* It grows indoors and around walls.

Herbal Plant Name	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Sabina (*Juniperus sabina* L., Sabina)	XXIV.61.102: *A multis in suffitus pro ture adsumitur* Many use it instead of frankincense for fumigations.	LXXXVI: (no information about growing location)
Rubus (*Rubus fructicosus* L., Blackberry)	XXIV.73.117: *Nec rubos ad maleficia tantum genuit natura, ideoque et mora his, hoc est vel hominibus cibos, dedit.* Not even brambles did Nature create for harmful purposes only, and so she has given them their blackberries, that are food even for men.	LXXXVIII: (no information about growing location)
Saxifraga (*Pimpinella saxifraga* L., Pimpinella)	XXII.30.62: *Aliud adianto miraculum: aestate viret, bruma non marcescit, aquas respuit, perfusum mersumve sicco simile est —tanta dissociatio deprehenditur— unde et nomen a Graecis alioqui frutici topiario.* Maidenhair too is remarkable, but in other ways. It is green in summer without fading in winter; it rejects water; sprinkled or dipped it is just like a dry plant—so great is the antipathy manifested—whence too comes the name given by the Greeks to what in other respects is a shrub for ornamental gardens.	XCVIII: Nascitur in montibus, locis saxosis. *It grows on mountains and in stony places.*

Herbal Plant Name	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Cucumis Silvaticus (*Ecballium elaterium* Rich., Squirting Cucumber)	XIX.23.64: *Cartilaginum generis extraque terram est cucumis, mira voluptate Tiberio principi expetitus; nullo quippe non die contigit ei, pensiles eorum hortos promoventibus in solem rotis olitoribus rursusque hibernis diebus intra specularium munimenta revocantibus.* Belonging to the class of cartilaginous plants and growing on the surface of the ground is the cucumber, a delicacy for which the emperor Tiberius had a remarkable partiality; in fact there was never a day on which he was not supplied with it, as his kitchen-gardeners had cucumber beds mounted on wheels which they moved out into the sun and then on wintry days withdrew under the cover of frames glazed with transparent stone.	XCIV: *Nascitur locis maritimis et calidis.* It grows by the sea and in hot places.
Menta (*Mentha* L., esp. *Mentha viridis* L., Spearmint)	XIX.47.160: *Mensas odore percurrit in rusticis dapibus.* It is agreeable for stuffing cushions, and pervades the tables with its scent at country banquets.	CXXI: (no information about growing location)
Anetum (*Anethum graveolens* L., Dill)	XX.72.185: *Item viride aridumve omnibus quae condiuntur quaeque intinguntur desideratum, panis etiam crustis inferioribus subditum. saccis quoque additum cum amaris nucibus vina commendat.* Green also or dried, it is valued for all such foods as require seasoning or sauce; it is also put under the bottom crust of a loaf. Placed with bitter almonds on the strainers it improves wine.	CXXII: (no information about growing location)

Herbal Plant Name	Description in Pliny's *Naturalis Historia*	Description in the Herbal
Feniculum (*Foeniculum vulgare* Gaertn., Fennel)	XIX.56.173: *Reliqua sunt ferulacei generis, ceu feniculum anguibus, ut diximus, gratissimum, ad condienda plurima cum inaruit utile.* There remain the garden plants of the fennel-giant class, for instance fennel, which snakes are very fond of, as we have said, and which when dried is useful for seasoning a great many dishes	CXXV: (no information about growing location)
Sparagus Agrestis (*Asparagus* L., Asparagus)	XX.42.108: Inter *utilissimos stomacho cibos asparagi traduntur.* Asparagus is reported to be one of the. most beneficial foods to the stomach.	LXXXV: (no information about growing location)

The description of how these plants were commonly used by the Romans suggests their accessibility, such as *feniculum* being used to season many different dishes in Roman cuisine. C*ucumis* is described as a delicacy, which suggests that it was not a commonly-available food, but Pliny also connected this plant to a famous figure, as he did with several other plants that appear also in the herbal:

Table 3.4: Plants in the Herbal with Connections to Mythology or Famous Figures

Herbal Plant Name	**Description in Pliny's *Naturalis Historia***	Description in the Herbal
Molu (perh. *Allium nigrum* L., Black Garlic)	XXV.8.26: *Clarissima herbarum est Homero teste quam vocari a dis putat moly et inventionem eius Mercurio adsignat contraque summa veneficia demonstrationem. nasci eam hodie circa Pheneum et in Cyllene Arcadiae tradunt specie illa Homerica, radice rotunda nigraque, magnitudine cepae, folio scillae, effodi autem haud difficulter. Graeci auctores florem eius luteum pinxere, cum Homerus candidum scripserit. inveni e peritis herbarum medicis qui et in Italia nasci eam diceret, adferrique e Campania mihi aliquot diebus <posse> effossam inter difficultates*. The most renowned of plants is, according to Homer, the one that he thinks is called by the gods moly, assigning to Mercury its discovery and the teaching of its power over the most potent sorceries. Report says it grows today in Arcadia round Pheneus and on Cyllene; it is said to be like the description in Homer, with a round, dark root, of the size of an onion and with the leaves of a squill, and nota difficult to dig up. Greek authorities have painted its blossom yellow, though Homer describes it as white. I have met a herbalist physician who said that the plant was also to be found in Italy, and that one could be brought for me from Campania within a few days, as it had been dug out there in spite of the difficulties of rocky ground.	XLVIII: (no information about growing location, but the herbal notes that Homer wrote about the discovery of this plant): *Clarissima herbarum est Homero teste et inuentionem eius Mercurio adsignat contraque summa ueneficia demonstrationem.* Homer claims that this is the most famous of herbs and that it was discovered by Mercury and proven against the strongest poisons.
Camemelon (*Matricaria chamomilla* L., Chamomile)	XXII.26.53: *Anthemis magnis laudibus celebratur ab Asclepiade.* Chamomile is most highly praised by Asclepiades.	XXIII: (no information about growing location or the association with Asclepiades)

Herbal Plant Name	**Description in Pliny's *Naturalis Historia***	Description in the Herbal
Lactuca Silvatica (*Lactuca scariola* L., Milk Thistle)	XIX.38.128: *Divus certe Augustus lactuca conservatus in aegritudine fertur prudentia Musae medici, cum prioris C. Aemili religio nimia eam abnegaret, in tantum recepta commendatione ut servari etiam in alienos menses eas oxymeli tum repertum sit.* At all events it is stated that the late lamented Augustus in an illness, thanks to the sagacity of his doctor, Musa, was cured by lettuce, which had been refused him by the excessive scruples of his previous doctor, Gaius Aemilius; this was such a good advertisement for lettuces that the method was then discovered of keeping them into the months when they are out of	XXX: *Nascitur locis cultis et sablosis.* It grows in cultivated and sandy places.
Centauria Maior (*Centaurea centaurium* L.) Knapweed	XXV.30.66: *Centaurio curatus dicitur Chiron, cum Herculis excepti hospitio pertractanti arma sagitta excidisset ei in pedem, quare aliqui chironion vocant.* Centaury is said to have been the treatment given to Chiron when an arrow fell on his foot as he was handling the arms of Hercules, who was his guest; for which reason some call it chironion.	XXXIV: (no information about growing location)

Herbal Plant Name	**Description in Pliny's *Naturalis Historia***	Description in the Herbal
Polion (*Teucrium polium* L., Poley)	XXI.21.44: *Sicut apud Graecos polium, herbam inclutam Musaei et Hesiodi laudibus ad omnia utilem praedicantium superque cetera ad famam etiam ac dignitates, prorsusque miram, si modo, ut tradunt, folia eius mane candida, meridie purpurea, sole occidente caerulea aspiciuntur.* Hulwort, a plant extolled in the praises of Musaeus and Hesiod, who proclaim it to be useful for all things, and especially for winning reputation and honours, in fact as truly marvellous, if only it be true, as they assert, that its leaves are white to the eye in the morning, bright-red at mid-day, and sea-blue at sunset.	LVII: *Nascitur locis asperis.* It grows in rough places.
Nimfea (*Nymphaea* L., Water Lily)	XXV.37.75: *Nymphaea nata traditur nympha zelotypia erga Herculem mortua—quare heracleon vocant aliqui.* According to tradition nymphaea was born of a nymph who died of jealousy about Hercules—for this reason some call it heracleon.	LXVIII: (no information about growing location or mythological association)
Mercurialis (*Mercurialis annua* L.)	XXV.18.38: *Linozostis sive parthenion Mercurii inventum est. ideo apud Graecos Hermu poan multi vocant eam, apud nos omnes mercurialem…Hippocrates miris laudibus in mulierum usum praedicavit has; ad hunc modum medicorum nemo novit.* Linozostis or parthenion was discovered by Mercury, and so many among the Greeks call it "Hermes' grass", but all we Romans agree in calling it mercurialis… Hippocrates has bestowed very high praise on these plants for the diseases of women; no medical man recognizes its virtues after	LXXXIII: (no information about growing location or mythological assocation)

Plants that were renowned for their medicinal properties or that were linked to mythological figures may or may not have been easy to obtain in real life, but these associations could have made such plants more familiar to readers if their legends were regularly featured in texts like Pliny's *Naturalis Historia* because of their connection to interesting or historical figures.

Together, these different groups of plants amount to thirty-seven of the herbal's total of 131 herbs, about one-third of the whole. In addition to these plants, the herbal notes that *hieribulbum*[154], *malva erratica*[155], and *heliotropia*[156] grow everywhere (*ubique*). The remaining plants in the herbal are not necessarily rare; for most of these, Pliny simply did not mention information about their availability in his work. As well, a handful of plants in the herbal do not have a corresponding plant in Pliny's text.

Only a small number of the herbal's plants were described by Pliny as being difficult to find or as only growing in a particular place. Pliny wrote that *diptamnum*[157] only grew in Crete, and even there it did not grow widely (NH XXV.53.92). The herbal's *perdicalis*[158] (*helxine* in the *Naturalis Historia*) was described as not often seen and not available in every country (NH XXI.56.96). *Hedera*[159] was said to grow in Asia and on a mountain in India (NH XVI.62.144). *Coriandrum*[160] was apparently not found among wild plants, which presumably means that it required cultivation to grow successfully (NH XX.82.216). *Latirida*[161] was said to grow in Asia and in

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[154] J. André 2010, 123: *Muscari comosum* Mill. Grape-Hyacinth. (HA XXI).

[155] J. André 2010, 152: *Malva* L., Mallow. (HA XL).

[156] J. André 2010, 119: *Heliotropium europaeum* (European Heliotrope) or *H. supinum* L. (Prostrate Heliotrope). (HA XLIX).

[157] J. André 2010, 88: *Origanum dictamnus* L., Cretan Dittany.

[158] J. André 2010, 192: *Parietaria officinalis* L., Pellitory-of-the-Wall.

[159] J. André 2010, 117: *Hedera helix* L., Ivy.

[160] J. André 2010, 75: *Coriandrum sativum* L., Coriander (Cilantro).

[161] J. André 2010, 139: *Daphne gnidium* L. Daphne.

Greece (NH XIII.35.114). The herbal itself claims that *veneria*[162] was found only rarely (*haec herba raro inuenitur* HA VI.1).

Specific growing locations are only mentioned five times in the herbal: *dracontea*[163] grows on rocks in Apulia (HA XIV), *gentiana*[164] grows in the Gemellus mountains (HA XVI), *grias*[165] grows in Lucania (HA L), *peonia*[166] grows on the island of Crete (HA LXV), and *erifion*[167] grows on Mount Soracte (HA CXXVI). The plants of the herbal with limited growth distribution amount to a smaller group than those that are described as common in Pliny's work. The almost forty plants in the herbal that were described as common or well-known by Pliny might hint at the herbal's preference for common plants. Because, however, the growing locations of most of the plants in the herbal are simply not discussed by the herbal's author, we cannot assume that the author chose such plants because they were described as common by Pliny. Some of the plants in the herbal may have been chosen for inclusion for some reason other than their availability, such as the herbal's tendency to include plants whose healing properties were discovered by animals, a topic which will be discussed in detail below.

The herbal does not appear to have a preference between fresh or dried plants. Most remedies in the text do not specify between these states; only fifteen remedies require a fresh plant, while twelve require a dried plant. Even in the remedies that require a fresh plant, the herbal most often explains how the remedy should be altered if one only has the dried version of the plant:

> **HA XXXI.3:** *Ad uulnera et canceromata. Herba argimonia uiridis contusa et adposita uitia sanara apta est; si autem arida fuerit, in aqua tepida missa idem proficere creditur.*

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[162] J. André 2010, 268: *Iris pseudacorus* L., Flag Iris.

[163] J. André 2010, 90: *Arum dracunculus* L., Devil's-Tongue.

[164] J. André 2010, 109: *Gentiana lutea* L. (Yellow Gentian) or *Gentiana purpurea* L. (Purple Gentian).

[165] J. André 2010 113: *grias* remains unidentified.

[166] J. André 2010, 185: *Paeonia* L., Peony.

[167] J. André 2010, 97: *Ruta montana* L. (Mountain Rue) or *Ruta chalepensis* L. (Fringed Rue).

> For wounds and cancers. The fresh herb *argimonia*[168], thoroughly ground up and applied, is suitable for healing the problem; if however you have the dried plant, it is thought to be just as effective if it is placed in tepid water.

As in the above remedy, most of these specifications emphasize that the remedy will be equally effective whether the plant is fresh or dry. The herbal is flexible in regards to the way that the reader obtains the plant, allowing the reader to pick the plant in the wild and use it fresh, dry it and store it for later use, or even purchase the dried form of the plant from someone else. One of the herbal's remedies using *coriandrum* even requires that the plant be purchased from a gardener.[169] The herbal's lack of rigidity about its plants is another factor that would have made the remedies more accessible, because even if a reader could not find the herbal's plants in the wild, they could have been obtained in other forms that the herbal claims are just as useful for its medicine.

One aspect about the herbal's plants that seems to contradict its intention to be accessible to the general reader is the fact that the herbal makes medicinal use of several plants that Pliny described as dangerous and toxic. For example, Pliny (NH XX.76.201) wrote of the famous *papaver silvaticus*[170]*,* known for its soporific properties, and noted that it was condemned by some authors as a fatal drug because it was thought to cause blindness. Pliny agreed with this idea and disapproved of its use in medicines for the eyes. The herbal goes against Pliny's stance and uses *papaver silvaticus* for *epiforas* of the eyes, without any kind of warning about its potential negative side effects, nor any discussion of proper dosage in another remedy for insomnia that uses this plant (HA LIII.1). Pliny (NH XXV.7.25) explained that he did not include

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[168] J. André 2010, 23: *Agrimonia eupatoria* L., Agrimony.

[169] HA CIII.3: *Ad frigora, ad quartanas, ad tertianas et cotidianas. Herbam coriandrum ubi mane uideris ad olitorem propositum, accedis ad eum et proicies denarium et tollis fasciculum de coriandro, sed noli nominare et portas tecum, usque quo hora suspecta ueniat…*
When, in the morning, you see a kitchen gardener offering the herb coriander, approach him, throw down a coin, and take a small bunch of the coriander, but do not name it, and carry it with you until the suspected hour (of the onset of fever) approaches…
J. André 2010, 75: *Coriandrum sativum* L., Coriander (Cilantro).

[170] J. André 2010, 188: *Papaver* L., Poppy.

any abortives in his work because of their potential for danger, but as previously discussed, the herbal contains several remedies to induce miscarriage, labor, and menstrual flow.

Pliny (NH XX.51.131) warned that an overdose of *ruta hortensis* is poisonous (*Ruta graveolens* L., parts of which are toxic and can result in gastrointestinal irritation, fainting, and miscarriage).[171] The herbal contains fourteen remedies from this plant, one of which requires fifteen pounds of it to be consumed with wine (HA XC.7)! The herbal also does not shy away from making use of *simfoniaca* (one of the eleven species in the *Hyoscyamus* L. genus, known commonly as henbane), even though Pliny warned about its potential toxicity (NH XXV.17.36).[172] Pliny's statement agrees with modern medicine's view of this plant. Medicines and oils that use henbane (*Hyoscyamus* L.) today are prescription-only in the United States, due to the potential danger from the powerful, direct effect on the central nervous system of henbane's active alkaloids, hyoscyamine and atropine. The inclusion of these plants in the herbal is an interesting choice because their proper use would require a delicate hand and detailed instruction so as not to harm (or even kill) the patient. In these chapters, however, the herbal is

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[171] *Meyler's Side Effects of Herbal Medicines*, ed. J.K. Aronson. Amsterdam: Elsevier Press, 2021, 806-807.
J. André 2010, 221: *Ruta graveolens* L., Common Rue.

[172] *Papaver* L. and *Hyoscyamus* L. appear as ingredients in medicines of other medieval works, such as the soporific known as 'The Great Rest' (*requies magna*) in the *Antidotarium Nicolai*, a twelfth-century medical treatise widely considered to have been the standard work of compound medicines during the medieval period. The author of the herbal was therefore not alone in using potentially dangerous ingredients. The primary difference between the herbal's remedy and The Great Rest is that precise measurements are provided for each ingredient in the latter remedy. N. Everett and M. Gabra used the measurements of The Great Rest to determine that this compound remedy would probably not have been dangerous when given in the dose prescribed by the *Antidoarium Nicolai*. (Everett and Gabra, 2014). Everett and Gabra concluded that the measurements provided an effective dose of morphine, and that the henbane, because of its quicker onset and dissociative effects, prevented the sufferer from ingesting more opium, which easily became a lethal dose. For the herbal, one has no idea what dose would have been considered appropriate. The burden is placed on the reader to know the proper doses of these toxic plants. On the use of opium in antiquity: J. Scarborough "The opium poppy in hellenistic and roman medicine" in *Drugs and Narcotics in History*, ed. by J. Scarborough, R. Porter, and M. Teich (Cambridge, UK: Cambridge University Press, 1995) p. 4-23.
J. André 2010, 253: *Hyoscyamus* L., Henbane.

(in its typical way) not forthcoming about such details. The remedies in these chapters often contain no information about proper dosage. In fact, the chapters on *ruta hortensis* and *papver silvaticus* fail to mention that there is any potential danger to using these plants. An amateur reader would have been put at risk when making use of them. Why, then, were these plants included in the text?

Even when not dealing with poisonous plants, the herbal sometimes directly contradicts the advice found in the *Naturalis Historia*. Pliny (NH XXI.69.116) argued that *gladiolus*[173] should never be taken in drink, but every remedy in the herbal's chapter on this plant prepares it in a drink. Pliny (NH XXV.28.41) wrote that *linozostis* (the herbal's *mercurialis*[174]) is bad for the stomach, but the herbal uses this plant in a remedy for stomach problems. Pliny (NH XXVI.39.65) also claimed that *titimallus*[175] is bad for the stomach, but the herbal uses this plant for digestive problems. These remedies are probably the result of the author or later revisors reading other sources that disagreed with Pliny's opinions. For example, the *De materia medica* of Dioscorides, a text used in the subsequent creation of the herbal's extended synonym lists, prescribes *tithymallus* several times for purging the bowels (DMM IV.164). The *Medicina Plinii*, likely used by a revisor of the herbal, prescribes *gladiolus* in a drink (MedPlin III.16) as does the herbal, despite Pliny's prohibition. These differences indicate that, although Pliny's *Naturalis Historia* may be the primary source of the herbal's remedies, the herbal's author and revisors were not afraid to contradict Pliny's claims, and pulled remedies from other sources with differing medical information.

In addition to the plants to which the herbal devotes individual chapters, there are other medicinal ingredients that appear in the text as part of its various remedies, such as wine, vinegar, additional plants, leaven, and different sauces that are combined with the herbal's plants to make remedies. The herbal generally favors commonly-available materials in these instances.

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[173] J. André 2010, 111: *Iris* L., Iris.

[174] J. André 2010, 159: *Mercurialis annua* L., Annual Mercury.

[175] J. André 2010, 261: *Euphorbia* L., Spurge.

For example, a small number of the herbal's remedies require the use of a secondary plant. Sometimes this plant is fairly common, such as the rose (*rosa*), or it is a primary plant in another chapter of the herbal, such as *marrubium*. Sometimes, however, the plant is foreign or rare, such as *crocus* (*Crocus sativus* L., Saffron) or *mirra* (*Commiphora myrrha* Engl., Myrrh).[176] Pliny detailed the difficulty in finding or cultivating saffron, noting that it was declining everywhere, that it was unprofitable to cultivate because each plant produced so little essence that could be used medicinally or in spices, and that it only flowered for a few days each year.[177] Pliny similarly noted that myrrh had to be imported and that it could often be expensive depending on the supply of buyers.[178]

Perhaps, however, fake or adulterated versions of these seemingly-precious ingredients were easily accessible, since Pliny noted that 'nothing is adulterated as much as saffron' (*adulteratur nihil aeque*) (NH XXI.17.32) and also described the different ways that myrrh was commonly

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[176] J. André 2010, 79 & 167.

[177] NH XXI.17.31: *serere in Italia minime expedit, ad scripula usque singula areis decoquentibus…degenerans ubique…floret vergiliarum occasu paucis diebus.*
To grow it in Italy is most unprofitable, as a whole bed of saffron yields only a scruple of the essence…it is degenerating everywhere…the saffron plant flowers for only a few days at the setting of the Pleiades. (Jones, 1951, vol. VI, 183-185).

[178] NH XII.33.66: *Murram in iisdem silvis permixta arbore nasci tradidere aliqui, plures separatim; quippe multis locis Arabiae gignitur, ut apparaebit in generibus. convehitur et ex insulis laudata, petuntque eam etiam ad Trogodytas Sabaei transitu maris.*
Some authorities have stated that myrrh is the product of a tree growing in the same forests among the frankincense-trees, but the majority say that it grows separately; and in fact it occurs in many places in Arabia, as will appear when we deal with its varieimportedties. A kind highly spoken of is also imported from islands, and the Sabaei even cross the sea to the Cave-dwellers' Country to procure it.
NH XII.35.70: *Pretia ex occassione ementium varia, stactae a Ⱪ III ad Ⱪ I, sativae summum Ⱪ XI, Erythraeae XVI -hanc volunt Arabicam intellegi - Trogodyticae nucleo XVI s, ei vero quam odorariam vocant, XII.*
The prices vary with the supply of buyers; that of stacte ranges from 3 to 50 denarii a pound, whereas the top price for cultivated myrrh is 11 denarii and for Erythrean 16 - this kind is passed off as Arabian - and for the kernel of Cave-dweller 16.5, but for the variety called scented myrrh 12 (Jones vol. IV, 1945, 48-53).

adulterated.[179] In contrast with the *De materia medica* of Dioscorides, the *Alphabet of Galen*, and similar herbal texts where information about the adulteration of ingredients is regularly discussed, the herbal offers no warnings about the false varieties of these ingredients, and thus saffron and myrrh may have seemed as accessible as any of the herbal's other ingredients to an uninformed reader.

The herbal's reader would also need access to various kinds of oil (almond, iris, laurel, and rose) as well as specific drinks and sauces (*liquamen*, *mulsum*, and *oxymel*). Directions for the preparation of these ingredients are never offered in the herbal but can be easily found in other medical texts. Pliny explained the process of making *garum* in the *Naturalis Historia* as essentially soaking fish guts in salt, while the *Medicina Plinii* gives instructions for creating *oxymel* by mixing honey and vinegar.[180] Neither of these concoctions require rare ingredients or contain complex instructions. As a work of simples, and following the euporistic tradition, the herbal does not include labyrinthine compound remedies that would require many different ingredients to produce. Most of the herbal's remedies are made entirely from a single plant that is cooked, crushed, or boiled, but when additional ingredients are required, they are usually not so complicated so as to deter the general reader.

The Herbal's Format

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[179] NH XII.35.71: *adulteratur lentisci glaebis et cummi, item cucumeris suco amaritudinis causa, sicut ponderis spuma argenti.*
Myrrh is adulterated with lumps of lentisk and with gum, and also with cucumber juice to give it a bitter taste, as it is with litharge of silver to increase its weight (Jones, vol. IV, 1945, 52-53).

[180] NH XXXI.43.93: *Aliud etiamnum liquoris exquisisti genus, quod garum vocavere, intestinis piscium ceterisque quae abicienda essent sale maceratis ut sit illa putrescentium sanies.*
There is yet another kind of choice liquor, called garum, consisting of the guts of fish and the other parts that would otherwise be considered refuse; these are soaked in salt, so that garum is really liquor from the putrefaction of these matters (Jones, 1963, vol. VIII, 434-435).
MedPlin (prol. sect. 10): *Oxymeli faciemus duobus cyathis mellis in sextario aceti resolutis.*
We will make oxymel by dissolving two cyathi of honey in a sextarius of vinegar (Y. Hunt 2019, p. 14-15).

The function served by the order of the plants in the herbal is not clear. The chapters do not appear to be organized according to a coherent plan. The plants are not offered in alphabetical order. They do not appear to be grouped by properties or affinity, nor by importance. The plants with the most remedies are not placed together in the herbal. The order of plants in the herbal does not match the order of plants in Pliny's *Naturalis Historia*, so the author did not follow along Pliny's work sequentially when composing the herbal. Pradel-Baquerre (2013, 38-48) examined the herbal's order of plants in detail and found some logical subgroups within the overall order:

- The first four plants are associated with the planets: *plantago* (Mars), *quinquefolium* (Mercury), *verbenaca* (Venus), and *simfoniaca* (Jupiter). I would add that the first three plants are all described as well-known and common in Pliny's *Naturalis Historia*.

- Plants 8 and 9 (*scelerata* and *botracion statice*) are from the same genus (*Ranunculus* L.).

- The three kinds of *artemisia* (*monoclonos*, *tagantes*, and *leptofillos*) are grouped together (plants 10-12).

- Plants 23-27 all begin with 'came-' (*camemelon*, *camedris*, *camellea*, *camepitis*, and *camedafne*).

- *Centauria maior* and *centauria minor* appear one after the other.

- Plants 90-94 (*ruta hortensis*, *mentastrum*, *ebulum*, *puleium*, and *nepeta montana* follow the order of these plants in Pliny's *Naturalis Historia* (XX.138-158), except for the placement of *ebulum*, where instead there is *menta* in Pliny's work.

There are, however, plants in the herbal that are related but are not grouped together, such as the two forms of *ruta* (*hortensis* and *silvatica*), which are far apart in the text.[181] These smaller groups of related plants, combined with the apparent lack of organization or order to the overall text, is perhaps a sign that the author was looking at multiple sources at the same time in the original composition of this treatise.

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[181] J. André 2010, 221: *Ruta Hortensis* = *Ruta graveolens* L. (Common Rue).
Ruta Silvatica = *Ruta montana* L. (Mountain Rue) or *Ruta chalepensis* L. (Fringed Rue).

The order of the plants might also be a further indication of the herbal's multiple stages of composition and revision. There might have been an original, logical order that has been warped by revisors adding plant chapters to the text. It seems likely, for example, that the final two chapters (on *basilisca* and *mandragora*) are later additions, since these chapters are utterly different from any of the other chapters in the herbal. Rather than following the herbal's usual format, in which the name of the herb is followed by a small group of remedies, the chapter on *basilisca* consists of a long narrative description of several kinds of snakes and concludes with a statement that carrying the plant protects one from the snakes described in the chapter. The chapter on *mandragora* includes a lengthy description of the proper harvesting technique for the plant before commencing with the remedies.

Some of the chapters with interpolations from the *Medicina Plinii* appear together in the herbal. In the second chapter of this dissertation, I discussed two plant chapters (*apium*[182] and *hedera crisocantes*[183], HA CXIX & CXX) that each contain only a single remedy. These remedies derive directly from the *Medicina Plinii*. These two chapters appear next to each other and are preceded by the chapter on *ocimum*[184] (HA CXVIII), whose two remedies also both derive from the *Medicina Plinii*. Because the remedies in these chapters can all be traced to the *Medicina Plinii*, it is possible that this group of chapters was added to the herbal by a revisor who inserted this group into the middle of the herbal. Why a revisor may have placed these chapters within the previously-established text instead of adding them to the end is unclear. If extra plant chapters were inserted into the herbal at an early stage, these new chapters would skew the original order of the text.

One also wonders why the text is arranged according to plant instead of *a capite ad calcem*, as one finds in several late antique medical texts, such as Marcellus of Bordeaux's *De medicina*, the

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[182] J. André 2010, 20: *Apium graveolens* L., var. *sativum*, Wild Celery.

[183] J. André 2010, 117: *Hedera chrysocarpa* Walsh., Italian Ivy.

[184] J. André 2010, 175: *Ocimum basilicum* L., Basil

anonymous *Medicina Plinii*, book four of the *De medicina* of Celsus, and the *Compositiones* of Scribonius Largus. The organization of remedies for ailments from head to toe was presumably chosen to enhance the ease with which a reader could look up remedies for a particular ailment. The text organized by plant would make using the herbal as a medical reference work frustrating, for a reader would have to flip through every single chapter to find a remedy for a particular ailment. The text's organization by plant would be more useful for a reader who was interested in studying the medicinal properties of plants, rather than using the herbal on an as-need basis to address medical problems. Some of the herbal's later copyists seem to have agreed with this notion, since at least one of the herbal's extant manuscripts has rearranged the herbal according to ailment.[185] In addition, several of the herbal's manuscripts have kept the original arrangement of the herbal by plant, but have added at the beginning a table of contents arranged by ailment, presumably so that a reader could use the table to look up a remedy quickly.[186]

Another aspect of the herbal's format that appears to contradict the preface's claim is the lack of information for identifying the herbal's plants. In most chapters of the herbal, the only identifying information about the plant is its name and its regional synonyms. It would seem that a reader would be required to have some familiarity with the herbal's plants to make use of this information, especially if the lists of synonyms were originally more brief than the lists in the extant manuscripts. If the manuscript is illustrated, one could also use the image of the plant to help in its identification, but many of the herbal's manuscripts are not illustrated. Plant identification was even considered difficult when illustrations were present in a text, as Pliny

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[185] Modena, Archivio Capitolare, MS O. I 11 (ninth-century).

[186] London, British Library, MS Additional 8928 (10th century); London, British Library, MS Harley 5294 (12th-13th century); London, British Library, MS Harley 1585 (11th century); Florence, Biblioteca Medicea Laurenziana MS Plut.73.41 (10th century), are some examples.

noted that they can be misleading because a single illustration cannot capture the varying stages of a plant's life nor its seasonal changes in appearance.[187]

Some chapters in the herbal contain information about the plant's physical appearance or where the plant grows, but this information is always brief and usually vague. As discussed above, instead of noting a specific country or region in which a plant grows, the herbal usually states the general environment in which one might find the plant: *plantago*[188] grows especially in marshes and meadows (*nascitur paludibus plurimum et pratis*, HA I), *verbenaca*[189] grows in plains and watery places (*nascitur ubique in planis et aquosis locis*, HA III), *senecion*[190] grows on roofs and around walls (*nascitur in tectis et circa parietibus*, HA LXXVI). The remaining chapters continue in this fashion, with only a handful of chapters specifying particular growing locations.

Some later copyists apparently wanted more of this kind of information in the herbal, so we find a small group of manuscripts of the herbal interpolated with passages from Dioscorides' *De materia medica* that describe the herbal's plants and where they grow in great detail.[191] A manuscript of the herbal in Bratislava contains several interpolations from an astrobotanical work of Thessalus of Tralles interwoven with the text of the herbal and providing extra

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[187] NH XXV.4.8: *Pinxere namque effigies herbarum atque ita subscripsere effectus. verum et pictura fallax est coloribus tam numerosis, praesertim in aemulationem naturae, multumque degenerat transcribentium fors varia. praeterea parum est singulas earum aetates pingi, cum quadripertitis varietatibus anni faciem mutent.*
But not only is a picture misleading when the colours are so many, particularly as the aim is to copy Nature, but besides this, much imperfection arises from the manifold hazards in the accuracy of copyappearanceists. In addition, it is not enough for each plant to be painted at one period only of its life, since it alters its appearance with the fourfold changes of the year. (Jones, 1956, vol. VII, 140-141).

[188] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

[189] J. André 2010, 269: *Verbena officinalis* L., Common Vervain.

[190] J. André 2010, 235: *Senecio vulgaris* L, and other mediterranean species of *Senecio* L., Groundsel.

[191] These manuscripts are: London, British Library, Ms Harley 4986 (12th century); Vienna, Österreische Nationalbibliothek, Codex Vindobonensis Palatinus 187 (12th century); Bratislava, Biblioteka Uniwersytecka, MS III F 19 (9th century).

information about the astrological or planetary associations of the herbal's plants.[192] Given that later copyists felt the need to add this information to the herbal, one wonders whether anyone not already familiar with plant identification would have been able to accurately identify the herbal's plants. This is not to say that the herbal's illustrations and plant synonyms were useless (these things would not have been added to the text if they served no purpose) only that the practicality of using the herbal as it was intended to be used according to the preface is not always clear, and so the herbal was likely also used for purposes not described in the preface. Ceccarelli and Manara (1963, 1085), for example, have argued that Lucca, Biblioteca Governativa, no. 296, which presents a condensed version of the herbal, is a summary of lessons dictated on herbal medicine in early schools.[193]

The Herbal's Remedies

The herbal's instructions for making its remedies are usually simple but vague. These two characteristics point to different kinds of readers. Simple instructions support the preface's claimed audience of amateur readers, while vague instructions imply that the herbal expects readers to have a certain foundation of knowledge that would allow them to work with the limited information provided in the herbal's remedies. The remedies follow a typical structure that does not involve detailed descriptions of the process of their preparation. The very first remedy in the herbal is an example of the text's formulaic remedy structure:

> **HA I.1**: *Ad capitis dolorem. Herbae plantaginis radix in collo suspensa capitis dolorem tollit mirifice.*
> For head pain. The root of the herb *plantago*[194] hung on the neck wonderfully relieves head pain.

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[192] Bratislava, Biblioteka Uniwersytecka, MS III F 19 (9th century).

[193] Facsimile edition of this manuscript: *Herbolarium et materia medica (ms. 296)* : libro de estudios / ensayos de Alain Touwaide, con textos de Arsenio Ferraces Rodríguez ; trascripción y traducción del texto del manuscrito por José Manuel Cañas Reíllo. Madrid: AyN Ediciones, 2007.

[194] J. André 2010, p. 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

The ailment is named with an *ad* + [ailment name in the accusative] formula. The part of the plant used (*herbae plantaginis radix*) is named directly after, followed by the method of preparation or application (*in collo suspensa*) and ending with a statement assuring the efficacy of the treatment (*capitis dolorem tollit mirifice*). Some of the herbal's remedies veer off significantly from this formula, but these abnormalities are not typical. Most often the remedy is a simple rather than a compound, with perhaps one other ingredient such as animal fat or wine that helps to transform the raw plant into a topical or oral treatment. The herbal's syntax is practical and to-the-point, sometimes even rather terse (Pradel-Baquerre, 2013, 49-52). Some of the remedies are in a kind of recipe shorthand, so that one must supply certain grammatical features (such as an imperative verb) when translating into modern English. The herbal's remedies therefore read like quick and simple instructions. There is no flowery language to detract from the text's immediate practicality. The goal of the remedies is not to impress the reader with the author's style as one finds in didactic poetry, for example; the text's goal is merely to impart useful information.

In addition to the syntax, the vocabulary of the herbal's remedies consists of common terms. Pradel-Baquerre established that the vocabulary used in the herbal to name the different parts of the plant (such as *sucus*, *radix*, or *folia*) is generally simple and less technical than what one finds in the interpolations from Dioscorides' *De materia medica* (such as *capitellum* or *tyrsus*) (2013, 43). Often the herbal does not even mention a specific part of the plant that must be used, but rather refers to the entire plant. The simplicity of the vocabulary used to describe the preparation of the plants is another indication of the herbal's accessibility for a general readership.

The verbs used to describe the preparation of the remedies are similarly general. The same verb can appear in a variety of contexts. For example, in the herbal *coquere* is used in its normal sense of 'to cook', but can also mean 'to boil' when combined with *aqua*:[195]

> **HA XLV.1**: *Ad tussem grauem. Herbam marrubium* ***coques ex aqua*** *et dabis bibere eis, qui grauiter tussiunt, sanabuntur mirifice.*
> For a serious cough. You boil the herb *marrubium*[196] with water and give it to drink to those who have serious coughs; they will be wonderfully healed.

This flexibility in the meaning of the herbal's words further implies a non-specialist vocabulary. Some verbs in the herbal, however, do carry specific meanings. For example, Maggiulli (2004) argued that when the herbal uses *terere* to describe the grinding or pounding up of a plant, this action would have taken place in a *mortarium*, whereas the herbal's use of *tundere* implies the use of a *pilum*.

The herbal generally offers uncomplicated instructions, such as stating that the herb must be applied topically (with words like *inlitus* or *perungere*), and only rarely uses specific terms like *encatisma* or *cataplasma* to describe the form in which a medicine should be given or applied. When names of specific applications appear in the herbal, especially if they have a Greek derivation (such as *cataplasma* from Greek κατάπλασμα), the herbal exhibits language that shies away from the specific meaning of the term. Instead of instructing the reader to make a medicine into an emollient (*malagma*), the herbal tells the reader to make the medicine 'like' an emollient (*quasi malagma*, HA CXXIX.1). Rather than specifying a poultice (*cataplasma*), the herbal prescribes something 'like' a poultice (*vice cataplasma*, HA LV.1). Thus, even when the herbal displays these specific terms, the wording suggests that precision was not a necessity in the creation of these forms of medicine. The reader merely needed to shape the medicine into something resembling a poultice, emollient, or other specified term in order to create a useful

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[195] Generally 'to boil' is expressed with *decoquere*; however, there are several examples in the herbal where *coquere* has this meaning as well: VII.1, XXXV.2, XLII.1, LXXX.4, LXXXII.1, LXXXV.1, LXXXVIII.3, and LXXXVIII.8. Conversely, *bullire* 'to boil' only appears in one remedy within the text (HA CV.1).

[196] J. André 2010, 155: *Marrubium vulgare* L. or *Marrubium creticum* L., Horehound.

remedy. The reader would need to have some understanding of what these terms meant, but not necessarily a precise understanding of such.

The simplicity of the herbal's remedies often veers into vagueness. This issue is most clearly apparent in the lack of measurements and dosage in many of the herbal's remedies. The text often does not specify how much of each ingredient is required, either with specific measurements or with ratios when multiple ingredients are involved. When the plants must be cooked in wine or mixed together with fat, how much of these secondary ingredients must be used is generally unstated. The amount of the concoction that must be given to the ailing person, and for how long the medicine should be applied (and reapplied) are usually missing, as well. The herbal only notes different dosages for men and women in a single remedy (HA XXV.3). Some of the remedies, such as those that instruct you to carry the plant in your pocket or around your neck, do not require specific doses, but the many remedies for oral medicines should.

These different ways in which the herbal's remedies can be vague are all present in the following sample remedy:

> **HA I.24**: *Contra omnes uesicae difficultates. Herbae plantaginis folia uel radices potae ex passo, fortiter medetur.*
> Against all bladder problems. The leaves or roots of the herb *plantago*[197] drunk with raisin wine are vigorously healing.

This remedy requires the roots or the leaves of the plant, but does not specify a number. We might assume that the remedy requires all of the leaves or all of the roots from a single stalk of *plantago*, but this conclusion must be inferred. The amount of raisin wine or the ratio of roots to raisin wine is not stated, nor is the amount of the concoction that must be consumed and how often one should consume it for bladder problems. Finally, there is no mention of different dosages for men and women or for adults and children. These concepts are important for the effectiveness of an oral medicine, since too little of the plant in the wine could render the medicine ineffective, and too much of the remedy might be harmful. The vagueness of the

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[197] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

instructions might appear to be in conflict with the preface's statement that the herbal was meant for a non-professional audience or a sign that the purpose of the herbal was something other than offering practical treatments as the text claims. How can the herbal claim to be useful for the non-specialist reader and then not include what seems to be necessary information in its remedies, especially when potentially toxic plants are used?

The lack of specific dosage in many of the herbal's remedies is merely a consequence of their derivation from Pliny's *Naturalis Historia*. When discussing remedies for a particular ailment, Pliny often noted several useful plants in succession without providing many details about dosage. In the following example of one of the herbal's remedies for *podagra*, the amount of each ingredient required is vague. This passage has an analogue in Pliny's work that lists several different kinds of cures for *podagra* with undefined doses:

> **HA I.13**: *Ad podagram et omnium neruorum dolorem uel tumorem. Herbae* ***plantaginis folia*** *contusa uel pisata* ***cum salis modico*** *et inposita optime facere certum est.*
> For *podagra* and for pain or swelling in of all the muscles. The leaves of the herb *plantago*[198], pounded or beaten with a little salt and applied is certain to work extremely well.

> **NH XXVI.64.101**: *utrilibet vero convenit erigeron cum axungia,* ***plantaginis folia trita addito sale modico****, argemonia tusa ex melle.*
> Good for either kind [of *podagra* (hot or cold)] however is *erigeron*[199] with grease, *plantago* leaves crushed with a little salt added, and *argemonia*[200] pounded with honey.

In this example, the herbal does not offer specific measurements because the remedy transferred to the herbal by the author did not have such specifications in its source form.

Although the herbal's reticence about specific dosages might be attributed in part to Pliny as the potential source for the above remedy, there are several examples of remedies in the herbal that

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[198] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

[199] J. André 2010, 96: *Senecio vulgaris* L. and other species of *Senecio* L., Groundsel.

[200] J. André 2010 23: *Agrimonia eupatoria* L., Agrimony.

could derive from remedies in the *Naturalis Historia* with specific dosages that have not been included in the herbal. The remedy preceding the above treatment for *podagra* in the herbal is a treatment for quartan fevers, and also has an analogue in the *Naturalis Historia*. In Pliny's work, the remedy mentions a specific dose, but in the herbal, the dose is not present:

> **HA I.12:** *Ad quartanas. Herbae* ***plantaginis*** *sucus* ***in aqua mulsa ante duas horas accessionis potui*** *datur, miraberis effectum.*
> For quartan fevers. The juice of the herb *plantago* is given to drink in honey-water before two hours have passed from the onset of the person's fever; you will marvel at the effect.

> **NH XXVI.71.115:** *Febres frigidas leviores facit…****plantago ex aqua mulsa duabus horis ante accesionem pota*** *binis drachmis…*
> The chills of fever are relieved by…*plantago* in honey-water taken in two drachma doses within two hours before a paroxysm..

The herbal has retained the specification that the medicine must be given before the passing of two hours, but the dose of two drachma does not appear in the herbal.

If the herbal's author intentionally left out dose information from the herbal, this editorial decision might be a clue about how much the expected audience of the text knew about herbal medicine.[201] The vagueness of the herbal's directions (hopefully) implies that the reader was expected to have enough of a foundational knowledge of remedy-making to infer the necessary information from these sparse instructions. Perhaps it was not necessary to the author to include dosages and other details because he assumed that readers would be able to determine those specifics on their own. In fact, some of the remedies make that assumption clear:

> **HA XVIII.6:** *Ad disentericos. Herbae proserpinacae sucus foliorum, cum aqua calida potui dabis* ***quantum tibi uidebitur*** *sanus efficitur.*

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[201] It is also possible that such differences between the herbal and Pliny's text may derive from the herbal's author having consulted additional sources with analogous remedies. The herbal's author may even have consulted one of the no-longer-extant sources of Pliny's *Naturalis Historia* in the compilation of the herbal.

> For dysentery. Give to drink the juice of the leaves of the herb *proserpinaca*[202] with hot water **in an amount that seems appropriate to you**; this will bring about healing.

This remedy expects readers to have some sense of the necessary measurements and to rely on personal judgement. These instructions are similar to those found in modern cookbooks that expect the reader to already understand the difference between sautéing and searing or chopping and dicing. The instructions may be simple, but they require a certain level of familiarity with the subject matter.

Even when the herbal specifies doses, the reader is sometimes still required to use their own judgement, as in the following remedy:

> **HA III.4**: *Ad eparis dolorem.*
> *Herbam uerbanacam solistitio collectam, in puluerem redactam robusto dabis coclearia V ex uino quam optimo ciatis III, potui sumpta mire proficere creditur,* ***et ceteris pro cuiusque uiribus, sic dabis****.*
> For liver pain. Give 5 coclears of the herb *verbenaca*[203], picked on the solstice and reduced to a powder in an oaken mortar [or to a strong person ?] with 3 cyathi of the best wine; when consumed as a drink it is believed to be wonderfully beneficial; and **give it to each person according to their vitality**.

This remedy acknowledges that different doses of the medicine are required depending on the patient, and yet, the reader is supposed to know what doses are best for different people. Perhaps being able to infer the general doses for herbal remedies was a more common type of knowledge than it is today, especially among people who had a distrust of professional healers, who wanted self-reliance when it came to medicine, and for whom plants played a bigger role in everyday life than they usually do for people today. Many modern people automatically know the proper adult dosage of Advil or Aspirin because these medicines are so common and so-often used, even though generally our medicinal doses are prescribed to us by professionals and the average person knows only little about how medicines function. It is not difficult to imagine that the

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[202] J. André 2010, 208: *Polygonum aviculare* L., Knotgrass.

[203] J. André 2010, p. 269: *Verbena officinalis* L., Common Vervain.

average fourth-century or medieval reader might have been able to infer the necessary details from at least some of the herbal's instructions.

Conversely, the expectation of reader knowledge in the herbal might be an indication that the preface's claim is merely a stylistic feature of late antiquity and does not accurately describe the intended use of the text. Even though the preface of the text claims that its main purpose is to provide a source of remedies as an alternative to professional healers, thus far we have seen several characteristics of the herbal that probably made it difficult to use in that context: the herbal's format may have been cumbersome to a reader who wished to consult the herbal for practical application; several of the plants in the herbal were potentially dangerous (or even fatal); many of the plants would have been difficult to identify because the herbal offers so little information about their growing habitats and physical features; and the remedies are lacking seemingly crucial information about proper measurements and doses.

It is possible that a late antique or medieval reader, working with a different knowledge base and skill set than a modern reader, would not find these characteristics so challenging; however, the fact that several manuscripts of the herbal have reorganized the text or have filled in the previously-missing information about the plants' descriptions and habitats is a sign that even some medieval readers needed more than what the herbal originally offered in order to make practical use of the text.

Any discrepancies between the preface and the herbal might therefore derive from the fact that the preface attempts to market the herbal as something that it was not originally intended to be. Perhaps the herbal was intended for the purpose of study rather than of application, acting as a plant encyclopedia. This purpose would help to explain the herbal's organization and focus on synonyms. Perhaps the herbal's lack of detailed measurements is a sign that the text actually was intended for professional healers with a detailed foundational knowledge of medicine, as terrible as the preface might make that seem. Although we cannot know with certainty what the original author of the text intended, the herbal's content often seems to stray from the preface's claims. We might then consider the preface to be an untrustworthy introduction to the herbal.

Medical Theory in the Herbal

The medical theory of the herbal is subtle, even ephemeral. The herbal does not address many of the cornerstones of ancient theoretical medicine, such as health regimen, bloodletting, or uroscopy. A theoretical framework for the herbal's remedies is not explicitly expressed in either the preface or the body of the text. Despite the silence of the herbal on this topic, one can reasonably suppose that at least the preface holds a suspicious view of complex medical theory, which was associated with the untrustworthy Greek physicians described by Pliny, Cato, and other late antique authors on whose opinions the preface appears to have been modeled. The preface states that a physician's 'cures' (*curas*) might as well be called 'boastings' (*venditationes*), which conveys well enough the author's lack of faith in their medicinal abilities. The preface's stance would have us believe that the herbal is entirely devoid of theory, being a work of practical medicine based on empirical evidence, not the useless philosophical musings of incompetent physicians.

Because the preface might be a later addition and might not accurately represent the original herbal's perspective on medical theory, one must not assume that the herbal's remedies are devoid of theory simply because the preface suggests that they will be. As discussed above, however, the herbal does not usually explain how a remedy functions in practical terms; it only affirms that its remedies work well. In this way, the herbal's remedies do appear to subtly support the preface's stance. Despite the text's lack of overt theory, the herbal does operate within the scope of a medical rationale, but one based on experience and traditional knowledge rather than the medical theories promoted by professional Greek healers.

Humoral Theory

Hippocratic humoral theory, the theory of four balanced humors in the body promoted by Galen from the Hippocratic treatise *Nature of Man*, is never discussed in the herbal. The word *humor* appears three times in the text, but indicates the general meaning of 'bodily fluid', as it did in the works of Dioscorides (Riddle 1985, 42-43) and Pliny (Beagon, 1992). The herbal does not describe the balancing of disproportionate humors as a method of healing, nor the imbalance of

humors as the cause of an ailment. Each instance of *humor* in the herbal instead describes the purging of noxious fluids from the body:

> **HA III.9:** *Ad canis rabidi morsum et idrofoba. Herbam uerbenacam ad uulnus inponito, tritici quoque grana integra indito uulneribus, donec* ***humore*** *mollita expleant, iam tumida proicito illa gallinae; si non adpetit, simili modo alia grana coicito; si sic esse coeperit, periculi sublati signum erit.*[204]
> For the bite of a rabid dog and for hydrophobia. Place the herb *verbenaca*[205] on the wound, and also put whole grains of wheat on the wounds until the grains are soft and swollen with moisture; now throw the swollen grains to a chicken; if the chicken does not eat them, throw some other grains in the same way to the chicken; if then [the chicken eats them], it is a sign that the danger is gone.
>
> **HA XXXVI.6:** *Ad uulnera uetera, quae* ***humorem*** *praestant. Herbae personaciae radicem et spinam, quae in locis siccis nascitur, aequali pondere conteris et inponis.*

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[204] The passage of the hydrophobia remedy that mentions humors is likely a later addition to the herbal. As demonstrated by M.T. Santamaría Hernández (2008), the passage on chicken prognostication derives from Greek medical tradition, and has analogues in the writings of Galen, Oribasius, Aetius of Amida, Paul of Aegina, and others. The use of *verbenaca* as a topical treatment for the wound does not appear in the versions of the chicken prognostication remedy found in other medical works. Given that the *verbenaca* and chicken prognostication treatments do not derive from the same source remedies, the *verbenaca* treatment could have been the original form of the remedy in the herbal, to which the chicken prognostication was added by a revisor at some later point. If this passage is an addition, it must have been added before the sixth century or the archetype of the herbal's extant manuscripts, since the chicken prognostication is consistent in the manuscript tradition of the text.

The phrase describing the treatment with *verbenaca* follows the herbal's typical formulaic structure, with the name of the ailment + the name of the herb + the method of treatment with an imperative verb. The only feature missing from the formula is the usual remark about the healing power or effectiveness of this remedy in the final position, but it seems to have been cut off by the paragraph about chicken prognostication, where the herbal's typical formula completely breaks down. The chicken prognostication is also unusual for the herbal because the text does not usually discuss prognostication, only ailments and their treatments. As well, although the herbal contains many remedies for the bite of a rabid dog, this is the only remedy in the herbal for hydrophobia specifically. Since the chicken prognostication portion of this remedy is likely a later addition, we might suppose that the original title of this remedy was simply *ad canis rabidi morsum* (a regular ailment title in the herbal) and that *et idrofoba* was added to the title with the addition of the chicken prognostication, which pertains specifically to hydrophobia. Therefore, in the version of this remedy that was likely original to the herbal, humors are not mentioned.

[205] J. André 2010, 269: *Verbena officinalis* L., Common Vervain.

> For old wounds that are filled with exudate. Crush an equal weight of the root and the thorn of the herb *personacia*[206] (which grows in dry places), and apply it.

> **HA XCII.4:** *Ad idropicos. Herbae ebuli radicis sucus expressus ciati IV ex uino sextario semis potui semel in die datus, idropicis ualidissime proderit, per anum enim* ***humor*** *omnis detrahitur.*
> For dropsy. Four cyathi of juice pressed out of the root of the herb *ebulum*[207] should be given to drink with a half sextarius of wine once a day; it is most beneficial for those with dropsy, for every humor is drawn away through the anus.

In the remedy for hydrophobia, *humor* could refer either to the gathering of harmful bodily fluids at the site of a wound or to the liquid poison transferred from the rabid dog to the human victim through the bite. The latter option seems the more likely since it is this poison that the chicken is supposed to be able to detect on the grains of wheat. Conversely, the *humorem* of the second remedy is a substance that gathers in an old and festering wound. The remedy for dropsy conveys that *humor* can indicate several kinds of bodily fluids when it claims to draw away 'every humor' (*humor omnis*). The term does not even refer to bodily fluids in some passages of the herbal, as evidenced by the adjectival form *humorosus*, which appears in the text as a descriptor for the wet or watery locations in which an herb may grow (HA LI).

In addition to *humor*, *phlegma* and *bilis* each make a single appearance in the herbal:[208]

> **HA LVIII.1**: *Ad* ***flegmata*** *intercidenda. Herbae uictoriolae foliorum sucus ciatos II uel III dabis cum melle bibere ieiuno, mox* ***flegmata*** *intercidet.*
> For destroying phlegm. Give 2 or 3 cyathi of the juice of the leaves of the herb *victoriola*[209] with honey to drink on an empty stomach; it quickly destroys the phlegm.

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[206] J. André 2010, 194: *Arctium lappa* L., Burdock.

[207] J. André 2010, 92: *Sambucus ebulus* L., Dwarf Elder.

[208] As well, there are two remedies in the herbal for draining the head (*ad caput deplendum*, XVII.2 & XX.1), which imply the presence of an unspecified fluid.

[209] J. André 2010, 271: *Ruscus hypophyllum* L., Dutch Butcher's Broom.

> **HA XCIII.16**: *Ad morbum articulorum. Herbam puleium in oximelli quartario uel ciatis IV ieiuno dabis bibere, eiciet* ***bilem*** *et* ***saniem albam****; idem faciet, ut facile respiret.*
> For ailments of the joints. Give the herb *puleium*[210] in a quartarius or 4 cyathi of honey water to drink on an empty stomach, it expels bile and white, diseased blood; it also allows the person to easily breathe.

Given the various meanings of *humor* in the herbal, these two words are likely general terms rather than specific humors.[211] As well, if Hippocratic humoral theory were a component of the herbal's medical framework, one would expect these terms to make more frequent appearances in the text because of their importance to that theory. The herbal's remedies give no indication that the balancing of the four humors is the applied methodology. Instead, it seems likely that the mention of bodily fluids in these examples corresponds to practical, empirical medicine. Just as the herbal's remedies prove their efficacy with statements about their 'tried and true' status, most of the herbal's ailments are visible or tangible symptoms. Bile, phlegm, pus, sputum - these fluids are all noticeable signs of an ailment in the body because they are clearly visible and accompany illness. The purging of these fluids is likewise a visible sign of the illness leaving the body.

Many more of the herbal's remedies operate in this same way. Several of the herbal's remedies operate by drawing out bad substances from the body through the urine. Dropsy (*idropicus*) is consistently described as being purged through the urine (*per urinam*).[212] The remedies to heal

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[210] J. André 2010, 210: *Mentha pulegium* L., Pennyroyal.

[211] The specific disease or ailment that is affecting the joints in the second remedy is not named; however, from the description of how the remedy works (by expelling bile and white *sanies*) one can deduce that the joints are swollen and perhaps ulcerated. This remedy derives from neither the *Naturalis Historia* nor the *Medicina Plinii*, but both texts mention *sanies*. Pliny connected *sanies* to the discharge of a wound from an animal bite (NH XXIV.57.95). Celsus explained that *sanies* is discharged from bad ulcerations when sinews near the joints (especially around the knees) have been wounded (*De medicina* V.26). Perhaps in this remedy from the herbal, *morbus* can refer to a general disease or ailment but also more specifically to a wound that has resulted in swelling.

[212] HA XXV.3, XLII.1, CXX.1. Also XCII.4 (discussed above, which draws the fluid out through the anus).

calculus or stones treat this condition by breaking up the stones and expelling them.[213] Hardness (*duritia*) in the stomach or bowels is similarly purged.[214] The herb *peristereon*[215] is credited with the ability to purge the body of bad medicines by drawing them down (*deducere*) from the stomach, in a way that is similar to how *duritia* is drawn down (*detrahere*) from the stomach and purged through the urine (HA LXVI).

The herbal heals a fractured head and broken bones by drawing the broken bones out of the body:

> **HA XLVI.2**: *Ad capitis fracturam. Herba xifion, superior pars eius trita, sicca, aequis ponderibus mixta uino capitis ossa fracta extrahit, aut si quid in corpore subpuratum fuerit uel si pedibus calcata sint ossa serpentis, ea contra uenena efficax est.*
> For a head fracture. The upper part of the herb *xifion*[216], crushed, dried, and mixed with an equal weight of wine, draws out the broken bones from the head, or if there is any pus in the body or if the bones of a snake are stepped on by someone's feet, this is efficacious against venom.
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> **HA XIV.2**: *Ad ossa fracta in corpore. Herbae draconteae radix cum exungia pisata, factum quasi malagma, mox ossa fracta de corpore educit et lepidas extrahit.*
> For broken bones in the body. The root of the herb dracontia[217], beaten with grease and made like a cataplasm will soon draw the broken bones out of the body and it removes *lepidas*.

These remedies carry the implication that the bones to be removed from the body are splinters of bones, since extracting splinters of bones is mentioned in other medical texts, including Pliny's *Naturalis Historia* (NH XXV.89.138) and the *Medicina Plinii* (III.25.2-3). Celsus (*De medicina* VIII.8.1) expressed that it is important to remove splinters of bones if they are injuring the flesh, to cut the splinters off from the rest of the bone so that the blunted ends of the bone can be knit

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[213] HA XCIII.11, XCVIII.1 XCIX.1.

[214] HA VI.2, LXXXIII.1.

[215] J. André 2010, 193: *Lycopus europaeus* L. or *L. exaltatus* L. (Bugleweed).

[216] J. André 2010, 278: *Gladiolus segetum* Gawler, Common Sword-Lily.

[217] J. André 2010, 90: *Arum dracunculus* L., Devil's-Tongue.

together. Although extracting bones is mentioned by other medical authors, the drawing out of bone splinters in the first of these remedies is the result of an earlier misunderstanding. This remedy derives from Pliny's *Naturalis Historia* (XXV.89.138), which offers a remedy also found in Dioscorides' *De materia medica* (IV.20) that uses *xiphion* to draw out pricklers and splinters (instead of splintered bones) from the body.

Continuing in this method of extracting harmful substances, external conditions like ulcers, sores, and infected wounds are also healed by being opened and cleansed of any pus or putrid substance, and then being burned away or dissolved. A remedy made with the plant *scelerata* demonstrates that this herb heals ulcers by burning them off:

> **HA VIII.1**: *Ad ulcera cironia.*[218] *Herba scelerata tunsa cum axungia sine sale, inponis in uulnere, excomedet, et si qua fuerit sordes, expurgat, sed non diutius patiaris quam necesse est, ne et corpus sanum exedat.*
> For the sores of Chiron. You place the herb *scelerata*[219]*,* pounded with saltless grease on the wound; it will eat away at the sore, and if there is any filth, it cleanses it, but you should not endure it longer than is necessary, lest it consume the healthy flesh.

This passage describes how *scelerata* eats away at the diseased flesh, a characteristic that makes this plant useful for healing sores and other skin conditions, but one that can also be a danger to healthy skin. The herbal's other remedy in its chapter on *scelerata* continues in this vein, for it uses the plant to treat scrofulous tumors (*struma*) and boils (*furunculus*).

The above remedy's method of eating away at the sore and then cleansing and ejecting any pus or harmful substance is repeated in one of the remedies for animal bites and in the remedies for

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[218] Pradel-Baquerre (684, n. 32) has suggested that *ulcus cironius* is the *ulcus chironeum* described by Celsus (*De medicina*, V.28.5), a kind of chronic ulcer that was named for Chiron the centaur. Pliny wrote (NH XXIII.17.27) that the plant *bryonia* was known also by the name *Chironia*, and that this plant had a special ability to heal the specific kind of sore that grows on the necks of beasts of burden. Perhaps *ulcera cironia* is a reference to this specific kind of sore or a similar sore on the necks of humans, and is named for the plant that has the special affinity for treating it.

[219] J. André 2010, 229: *Ranunculus sceleratus* L. (Blister Buttercup) or *R. sardous* Crantz (Hairy Buttercup) or perh. *Oenanthe crocata* L. (Water-Hemlock).

wounds (*vulnera*). The snake bite remedy describes how a topical application of the plant will open up the bite wound and eject any bad substances (*exulcerant*) before closing and healing the wound:

> **HA III.11**: *Ad serpentium morsum. Ramulos ex uino decoctos et contritos, si ceca erit plaga cum tumor*[220], *plagae cum tumore inpositi adaperiunt primum, exulcerant deinde, postea crudi eum melle contriti et ulceri inserti, donec ad sanitatem, quod celeriter fit, perducant, inponuntur.*
> For snakebite. The sprigs should be boiled with wine and crushed, if it is a closed wound with swelling, when the sprigs are applied the wounds with swelling will open first, then they will ulcerate; afterwards, the uncooked sprigs crushed with honey should inserted on the sore until it heals; this happens quickly when the sprigs are applied.

The herbal makes a distinction between fresh and old (or closed) wounds, treats them differently, and thereby conveys that new and old wounds offer different challenges to the healer.

A remedy in the herbal for fresh wounds (*vulnera recentia*) emphasizes the sealing property of the treatment, because when the wound is fresh it has not yet collected harmful fluids. The primary goal of healing a fresh wound is to stop the bleeding and close the wound before the gathering of noxious fluids starts:

> **HA XXXIV.5**: *Ad uulnera recentia. Herba centauria efficax est ad plagas glutinandas, ut etiam carnes cohaerescant, quae ex aqua eius coquuntur.*
> For fresh wounds. The herb *centauria*[221] is effective for sealing wounds in order that the flesh warmed in its water may cling together.

Conversely, old wounds are dangerous in the herbal because they can fill with bad fluids (presumably because they were not treated properly when still fresh):

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[220] The Howald & Sigerist edition reads *acetauerit* for *ceca erit*. Lewis and Short identify *aceto* as an early form of *agito*. The reading *acetauerit* in the Howald & Sigerist edition is an emendation and does not appear in any of the manuscripts of the herbal, which give forms like *si hec erit* (L), *si ceca erit* (HaV), and *si cecaueri(n)t* (βγ). Pradel-Baquerre (156) decided upon the reading *si ceca erit plaga cum tumore*, and this seems the more likely choice because it is represented in the manuscripts and does not require the use of an unusual, early form of a word.

[221] J. André 2010, 55: *Centaurea centaurium* L., Knapweed.

> **HA XXXVI.6**: *Ad uulnera uetera, quae humorem praestant. Herbae personaciae radicem et spinam, quae in locis siccis nascitur, aequali pondere conteris et inponis.*
> For old wounds that are filled with exudate. Crush an equal weight of the root and the thorn of the herb *personacia*[222] (which grows in dry places) and apply it.

The extra information in this remedy about where the plant grows is unusual for the herbal, and perhaps is meant to convey the 'dryness' of the plant, which would be useful for drying out a moist wound.

One remedy in the herbal for a wound even offers different methods of preparation that will result in either opening or closing the wound:

> **HA LXXVI.2**: *Si quis ferro percussus fuerit. Herba senecion si mane ad horam sextam collecta fuerit et tunsa cum axungia uetere et in plaga inposita, plagam aperit et expurgat. Item si eam simili modo post meridiem colligas et cum axungia item pises et misceas, inposita plagae cludit et persanat.*
> If someone has been stabbed by an iron implement. If the herb *senecion*[223] is gathered in the morning up to the sixth hour of the day and is pounded with old grease and placed on the wound, the wound opens and is cleansed. Also, if you collect the plant in the same way, but after midday, and you crush it in the same way with grease and you mix these together, when placed on the wound it closes it and completely heals it.

The two methods of preparing *senecion* to treat a wound make this remedy useful for healing both fresh wounds that need to be closed and old wounds that must be reopened, cleansed, and then closed again.

Prognostication

The previously-discussed remedy for hydrophobia is one the herbal's only two clear examples of a method of prognostication. The grains of wheat are rubbed over the patient's bite until they soak up enough fluid to become swollen. The remedy relies on the chicken's ability to determine whether the fluids on the wheat grains are safe to eat, or if they are filled with the harmful

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[222] J. André 2010, 194: *Arctium lappa* L., Burdock.

[223] J. André p. 235: *Senevio vulgaris* L. and other mediterranean species of *Senecio* L., Groundsel.

substance that leads to hydrophobia. The chicken's decision to abstain from the grains is a sign that the dog's saliva is dangerous and will lead to further symptoms. If the chicken does eat the grains, this is a prognosis that the wound is safe from such infections and may be cleaned and allowed to close.

It is unclear when exactly humans understood rabies to be a disease that derived from the bite of a rabid animal, and that hydrophobia was a symptom of the animal bite; however, by the time of the herbal's composition, rabies and hydrophobia were regularly mentioned by both Greek and Latin medical authors.[224] The herbal's association between dogs and rabies is well-founded. According to the World Health Organization (WHO), domestic dogs are still responsible for transmitting the virus to humans in 95% of cases today (*WHO Expert Consultation*, 78). This remedy understands the connection between rabid dog bites and rabies, as it groups the two ailments together and addresses the hydrophobia by examining and healing the patient's wound from a dog.

The cause of the development of rabies in dogs had various explanations among ancient writers. Pliny (NH XXIX.32.100) concluded that canine rabies was caused by a small worm (*lytta*) found under the tongue of the affected dog, and that by removing the parasite, the disease would be cured. Most authors seem to have thought that the bite of a rabid dog transmitted some kind of poison or dangerous substance to the human. For example, Celsus (*De medicina* V.2) recommended that this poison (*virus*) be immediately sucked out of the wound or that the wound be cauterized to prevent the poison from spreading throughout the body. The herbal does not discuss the causes of diseases, but we can infer the presence of poison in this remedy because of its methodology. The wheat grains soak up what is presumably the poison that the chicken can detect and reject.

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[224] For a detailed examination of ancient and late antique perspectives on rabies in the Mediterranean region, see: J. Neville, "Rabies in the Ancient World" in *Historical Perspective of Rabies in Europe and the Mediterranean Basin*, ed. by A.A. King, A.R. Fooks, *et al.*, World Organization for Animal Health (Paris, France: Weybridge, UK), 2004.

Given the difficulty of properly diagnosing rabies today, the ability of a chicken to sniff it out from a person's wound is highly doubtful; however, the use of the chicken in this way indicates an understanding of the delay in visible symptoms of rabies after a person is bitten by a rabid dog. The rabies virus has an unusual incubation period, most often lasting a few months (*WHO Expert Consultation*, 18). During this period, most symptoms of rabies are not apparent because the virus is slowly working its way through the nervous system to the brain. Once the brain is infected, and symptoms such as hydrophobia become visible, the disease has progressed to such a point that it is virtually one hundred percent fatal.

In the herbal's remedy, the chicken acts as a prognosticator and is a necessary tool for determining whether the bite will lead to further dangerous symptoms. The treatment seems to understand that whether a person will develop hydrophobia upon being bitten is not immediately clear, and the chicken is supposed to be able to sense any danger of that in the fluids on the wheat grains before hydrophobia develops in the patient. This understanding of a delayed onset of visible symptoms of rabies is stated by many ancient and medieval authors, with time spans varying from a few weeks to several years. Paul of Aegina (*Medical Compendium* V.3), whose work repeats a version of the chicken prognostication, wrote that hydrophobia usually arises on the fortieth day after a bite, but sometimes will not occur for seven years afterwards.[225] He argued that this delay is why the chicken prognostication test is useful, because if a person heals and closes up the bite wound without realizing that it will spread rabies in the victim, this action will make the disease even more difficult to treat. In the herbal's remedy, the chicken's reaction to the grains of wheat is used to determine how to proceed with the treatment of the bite. The prognostication method and the treatment with *verbenaca* create a course of action that consists of determining whether the bite will lead to hydrophobia, and if the wound is not dangerous, a topical treatment to be applied to it. Although we can doubt the chicken's usefulness as a

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[225] Paulus Aegineta, *Medical Compendium in Seven Books*, ed. & trans. by Francis Adams, *The seven books of Paulus Aegineta: translated from the Greek: with a commentary embracing a complete view of the knowledge possessed by the Greeks, Romans, and Arabians on all subjects connected with medicine and surgery*. London: Sydenham Society, vol. II, p. 162-167.

diagnostic test, the rationale that the herbal uses in this remedy is clear and relatable to the unique development of the rabies virus in its host.

The second of the two remedies containing prognostication is the following:

> **HA XXIII.1**: *Ad oculorum uitia uel dolores. Herba camemelon, si quis ante solis ortum eam herbam carpuerit, dicit albuginem uel dolorem oculorum se carpere, eamque adligatam secum gestet. Facis autem de ea herba oleum camemelum et aegrum perunguis. Si sudauerit, uiuet; si autem non sudauerit, periclitabitur.*
> For vexations or pain of the eyes. If anyone picks the herb *camemelon*[226] before sunrise, he should say that he picks it for a white spot (in the eye) or for eye pain, and he should carry it tied to himself. Moreover, you make from this herb camomile oil and you apply it on the ailing person. If the person sweats, they will live; if however they do not sweat, they will be in danger.

The prognosis method appears in the final part of this remedy, in the phrase that describes how the sweating (or not sweating) of the patient is a sign of the outcome of their illness. This passage is likely a later addition, and if so, the prognosis was not a part of the original text. First, the prognosis passage is missing in many manuscripts of the herbal. Howald and Sigerist noted that in the herbal's textual tradition, this passage does not appear in any manuscripts of class β (the class with the largest number of manuscripts) or in several of the manuscripts of class α (the class thought to have the most accurate textual transmission, Howald & Sigerist 1927, 62). This prognosis method does not follow the herbal's typical formula for remedies, as described above. The passage does not derive from Pliny's *Naturalis Historia* or the *Medicina Plinii*. Finally, the passage about sweating does not seem to fit well with the first passage about eye problems. The two passages do not combine easily into a cohesive treatment plan. Sweating is nowhere else in the herbal or in Pliny's *Naturalis Historia* associated with eye problems. It rather seems like the passage about sweating has been added at a later point to the original remedy for eye problems.

Why these two passages may have been combined probably has little to do with a connection between them. This remedy for eye problems is the only remedy in the herbal's chapter on the

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[226] J. André 2010, p. 60: *Matricaria chamomilla* L., Chamomile.

plant *camemelon*, and so the passage about sweating is placed quite naturally at the end of the chapter as a later addition or an afterthought. The Howald & Sigerist edition of the herbal combines these two remedies into one, probably because the second remedy does not contain the herbal's typical *ad* + [ailment name] formula to signal a new treatment; however, the two treatments do not appear to belong together and the second passage might simply have favored using *autem* to signal a new remedy rather than the herbal's typical formula because it was added later by a person who did not adhere to the herbal's usual syntax.

In this passage, sweating provides a good prognosis, whereas not sweating foretells death. The only passages in Pliny's *Naturalis Historia* that describe sweat as a positive action are in the remedies for jaundice (*morbus regius*), where sweating is described as relieving the itching caused by the disease (NH XXXI.45.103 & XXXI.46.119). Although sweating as a form of prognosis does not appear in Pliny's work, the herbal's statement that sweating is a good prognosis for the patient echoes Celsus, who wrote that sweating throughout the body, especially if it led to the diminishing of fever, was a sign that an illness would not be fatal. Conversely, Celsus claimed that not sweating, or sweating only in certain body parts, portended death (*De medicina*, II.3-4). This prognosis passage using *camemelon* in the herbal could derive from an unknown source that contained a passage similar to what Celsus described, and was added later to the herbal to expand the chapter on this plant or to provide a useful method of prognosis that was lacking in the original version of the herbal.

Hot, Cold, Wet, Dry

The herbal does not explicitly discuss the concepts of opposites (hot and cold, wet and dry), but does describe the warming or cooling power of certain remedies:

> **HA CXV.2**: *Frigore exustis. Herba aristolochia ex oleo cocta calefactoriam uim habet, et cum axungia porcina.*
> For frostbite. The herb *aristolochia*[227] cooked with oil has a warming power; it also has a warming power if you cook it with pork fat.

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[227] J. André 2010, 25: *Aristolochia* L., Birthwort.

> **HA I.26**: *Ad uulnera. Herbae plantaginis semen tunsum, in uulnus asparsum, uulnera cito sanat, et ipsa tunsa et inposita refrigerat ea loca, quae nimio calore uruntur, et persanat.*
> For wounds. The pounded seed of the herb *plantago*[228] sprinkled onto wounds quickly heals them, and when pounded and applied, it cools places that burn with excessive heat and completely heals them.

> **HA XX.5**: *Ad furunculos sanandos. Herba nasturcium cum fermento inponitur, coquet, mire sanat.*
> For healing boils. The herb *nasturcium*[229] applied with yeast warms and wonderfully heals.

These remedies for frostbite and wounds employ opposites: a plant with warming power is used to warm a cold ailment, while the remedy for wounds cools hot places on the body. The mention of the warming power of aristolochia derives from the *Medicina Plinii* (*aristolochia*[*m*] *ex oleo excalefactoriam vim habet*, *MedPlin* III.13.2).[230] The remedy *ad furunculos sanandos* derives from the same source (*nasturcium tusum cum fermento conquit*[*ur*], *MedPlin* III.7.3). These remedies might therefore be later additions.

In addition to mentioning the warming properties of certain remedies, the herbal also recommends that particular treatments be given hot, warm, or lukewarm. The remedies that are recommended to be administered while lukewarm (*tepefactus*) tend to be aural drips for ear issues, gargles for mouth issues, or poultices:[231]

> **HA LXXIV.7**: *Ad dentium dolorem. Herbae celidoniae radicem et cipressi folia trita et taedam masculam aceto decoque, et tepefactum gargarizet.*

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[228] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

[229] J. André 2010, 170: *Lepidium sativum* L., Garden Cress.

[230] On the distinction between *vis* and *virtus* in the herbal, see the discussion in the second chapter of this dissertation and Everett (2012, 52).

[231] Other lukewarm remedies in the herbal: LXXX.3, LXXXVIII.1, XCVII.3, IV.1, XIV.1, XVIII.1, XVIII.5.

> For toothache. Boil the root of the herb *celidonia*[232] and the crushed leaves of cypress and male pinewood with vinegar, and gargle it when it is lukewarm.
>
> **HA LXXV.4**: *Ad auricularum dolorem. Herbae solatae sucum cum oleo ciprino misce et tepefacto stilla in auriculas.*
> For ear pain. Mix the juice of the herb *solata*[233] with goat oil and put lukewarm drops of this in the ears.
>
> **HA I.2**: *Ad ventris dolorem. Herbae plantaginis sucum tepefactum fomentando uentris dolorem tollit, et si tumores fuerint, tunsa et inposita tollit tumorem.*
> For belly pain. The lukewarm juice of the herb *plantago*[234] in a poultice relieves belly pain, and if there is swelling, *plantago* relieves the swelling when pounded and applied.

The lukewarm temperature of these concoctions could serve the practical purpose of preventing the ears, mouth, or skin from being burned by an excessively hot remedy, rather than having some deeper theoretical explanation.

Remedies given hot (*calidus*) treat a wide variety of ailments, but one common thread between them is that these remedies tend to be oral treatments meant for internal issues. There is no medicine that is offered cold in the herbal, and so the various recommendations that a medicine be given hot have no opposite in the text to which they can be compared. One of the only consistent recommendations in regard to heat is that a medicine be given with hot water instead of wine when a patient has a fever. This instruction appears in eight separate remedies for various ailments in the text, all of which are oral treatments for internal issues.[235] As well, all but one of the remedies in the herbal that recommend an oral treatment for a fever instruct that it should be given in hot water.[236]

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[232] J. André 2010, 62: *Chelidonium majus* L., Celandine.

[233] J. André 2010, 243: *Solanum nigrum* L., Black Nightshade.

[234] J. André 2010, 202: *Plantago* L. and particularly *P. major* L., Common Plantain.

[235] HA XI.1, XXV.1, XLV.2, LXI.1, LXII.1, XCVIII.1, XCIX.3, CVI.1.

[236] HA I.12, XLI.1, LXXX.9, XCVII.2, CXXIV.2. HA I.14 states that water or wine are both suitable.

In its usual fashion, the herbal does not provide an explanation for the importance of hot water instead of wine for a feverish condition. This specification can be found often in Pliny's *Naturalis Historia* (although Pliny sometimes recommended wine for fevers, such as in XXVI.71.117), but Pliny did not offer an explanation for this recommendation and none of the remedies in the herbal that make this specification derive from Pliny's work. The *Medicina Plinii* sometimes prescribes hot water for fevers, but also recommends wine in remedies for fevers several times (III.15-17). The remedies with this specification in the herbal also do not derive from the *Medicina Plinii*. The health benefits of wine and water are expounded in Dioscorides' *De materia medica*, but this specification pertaining to feverish persons is not discussed (DMM V.6 & V.10). Pradel-Baquerre (2013, 583) has noted that this same recommendation appears often in the Galenic work *De temperamentis ac facultatibus simplicium medicamentorum* (books VI-XI about simples), but her comparison of these two works concluded that the Galenic text is not a source for the herbal. The source and reasoning behind this specification is unclear.

The herbal twice warns that a remedy should not be allowed to cool. The text specifies in two remedies for bladder pain that a plant should be consumed in a hot drink and specifies further that cold drinks should be avoided:

> **HA LXXXV.1**: *Ad uesicae dolorem uel tumorem. Herbae* ***sparagi agrestis radicem*** *coque in aqua sextario* ***in pultario nouo ad quartas, et ieiunus diebus VII*** *sumat potui,* ***plurimis*** *diebus* ***balneum utatur, in frigida non descendat neque frigida bibat****, mirifice experietur.*
> For pain or swelling of the bladder. Cook the root of the herb *sparagus agrestis*[237] in a sextarius of water in a new porridge dish to a fourth part, and fasting for seven days let them consume it with drink, and let them bathe for several days, never getting out of the bath cold nor drinking anything cold; the person will experience the healing with wonder.
>
> **HA CXXV.2**: *Ad uesicae dolorem. Herbae feniculi uiridis fascem et apii uiridis radicem,* ***sparagi agrestis radicem****,* ***in pultario nouo*** *mittis et aquae sextarium, ut simul ferueat* ***ad quartas, et ieiunus*** *bibat* ***diebus VII*** *uel* ***pluribus, balneum utatur****,* ***in*** *recente* ***non descendat, frigida non bibat****, uesicae dolorem sedat sine mora.*

[237] J. André 2010, 28: *Asparagus* L., Asparagus.

> For bladder pain. Put a bundle of the fresh herb *feniculum*[238] and the fresh root of *apium*[239], the root of *sparagus agrestis* and a sextarius of water in a new porridge dish, cook the bundles together to a fourth part, and while fasting, let them drink this for seven days or more, and let them bathe (but not in a fresh bath); they should not get out of the bath cold nor drink anything cold; it removes bladder pain without delay.

These remedies clearly do not follow the typical structure of the herbal's treatments, and Pradel-Baquerre (2013, 603) has suggested that the first treatment is actually two treatments that have been mistakenly combined: one for bladder pain and one for fevers (*ad quartanas* instead of *ad quartas*). The same mistake might have occurred in the second treatment as well, which also reads *ad quartas*. In fact, the second remedy could have been contaminated by the first, as the two passages contain many of the same elements (in bold), and the second remedy even includes the main plant ingredient of the first remedy, *sparagus agrestis*, as one of its own ingredients. This contamination is odd because the plant chapters for *sparagus agrestis* and *feniculum* are not near each other in the herbal. If Pradel-Baquerre is correct, then the reference to avoid a cold remedy is in keeping with the herbal's tendency to give oral remedies in hot water to a feverish patient.

The danger of cold to the bladder mentioned in these remedies does not appear in Pliny's *Naturalis Historia* or in the *Medicina Plinii*. Although the *De materia medica* of Dioscorides ascribes to the notion of warming and cooling properties in plants, the text does not mention a specific danger associated with coldness and the bladder. Warnings about letting cold touch the bladder, however, do appear in Hippocratic writings, such as in the Hippocratic *Aphorisms*, which states that heat is good for the bladder and that cold is harmful (22). Although this idea does not appear in the known sources of the herbal, it is featured in other Latin medical works, such as the *De medicina* of Celsus (first century). In a remedy for stones, the *De medicina* states that a topical dressing should be repeatedly warmed with oil to prevent cold from touching the bladder (*isque subinde oleo tepido madefaciendus est, ut neque frigus ad vesicam admittat*,

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[238] J. André 2010, 103: *Foeniculum vulgare* Gaertn., Fennel

[239] J. André 2010, 20: *Apium graveolens* L., var. *sativum*, Wild Celery.

IV.5D). It is possible that this theory was present in some of the unknown sources that the herbal's author consulted.

The herbal never mentions the wet or dry properties of plants. Despite the herbal's silence on these properties, a small number of remedies are described as working by drying out a particular part of the body, such as an ulcer (*ad cancrum exsiccandum* HA II.9). A remedy for spleen pain is said to dry out the spleen, which suggests that the spleen is in pain due to an excess of moisture:

> **HA LXXIX.2**: *Ad splenis dolorem. Herbam gladiolum maturissimam lectam, siccatam et pistatam et in puluere mollissimo redactam et uino lenissimo, id est inertitio, mixto puluere, potui datum mire creditur splenem siccare.*
> For spleen pain. The herb *gladiolus*[240] picked at its most ripe state, dried, crushed, and reduced to the softest powder and then mixed with the mildest wine, that is 'inactive', mixed with the powder and given to drink, is believed to dry out the spleen.

This remedy made from the plant operates in a drying fashion, but the herbal never states why the spleen is wet or why that condition is painful. One could infer that the pain results from swelling, but the text does not state this explicitly. Despite the text's silence on this subject, drying out the spleen appears subtly in several remedies for spleen pain. The herb *brionia*, for example, seems also to heal spleen pain by drying out the organ:

> **HA LXVII.1**: *Ad splenem. Herba brionia in cibo datur et per urinam liens digeritur.*
> For the spleen. The herb *brionia*[241] is given with food and the morbid matter of the spleen is dissipated through the urine.

The verb *digero* is only used a single other time in the herbal, and it is in reference to excess water from dropsy being flushed out through the urine (*mirifice aquam omnem de corpore per urinam digerit*, HA XXV.3). This remedy is very similar and likely works by flushing out the

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[240] J. André 2010, 278: *Gladiolus segetum* Gawler, Common Sword-Lily.

[241] J. André 2010, 39: *Bryonia dioïca* Jacq., Bryony.

excess moisture from the organ. This flushing or purgative aspect of spleen remedies is also suggested in the following remedy for spleen pain:

> **HA XCIII.17**: *Ad splenis dolorem. Herbam puleium decoque ex aceto et idem acetum calideum permixtum potui dabis; ne quid puleium praegnanti dederis.*
> For spleen pain. Cook the herb *puleium*[242] in vinegar and give that same vinegar mixture hot to drink; you should not give the herb *puleium* to pregnant women.

The specification that the plant should not be given to pregnant women implies that *puleium* purges things from the body, and could therefore result in a miscarriage. That the purging ability of the plant is useful for spleen pain suggests that this pain is caused by something that must be purged from the spleen. One can see a subtle undercurrent of flushing out moisture and drying out the organ in these examples.

Sensory Paradigm, Opposites, and Sympathy

The herbal does not appear to follow an organoleptic paradigm, meaning that the way a plant smells, tastes, or feels does not have any bearing on the kinds of ailments the herbal uses the plant to heal. A few chapters in the herbal contain descriptions of the physical characteristics of a plant, but these do not correspond to what kind of ailments the plant is used to treat. Both bitter and sweet plants, for example, are applied topically for the bite of a snake (HA XIV & XVI). These plant descriptions seem to function only as aids for identifying between plants, such as the various details about how some of the plants smell when they are crushed or rubbed, or unique features the plants have (such as a root shaped like a dragon's head, HA XIV). These descriptions also ensure that the correct version of a plant is used, as in the case of *simfoniaca*, of which the herbal declares there are two kinds: the dark is poisonous and the white is medicinal (HA IV).

There is a single pair of plants in the herbal whose physical characteristics might correlate to a specific ailment they aim to cure. Two plants in the herbal are described as 'shining' or 'glowing' at night, in passages that are somewhat analogous:

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[242] J. André 2010, 210: *Mentha pulegium* L., European Pennyroyal.

HA LX.1: *haec herba* [*asterion*] *nocte tamquam stella in caelo lucet et qui uidet ignorans dicit fantasma se uidere et metu plenus inridetus; maxime autem a pastoribus pecorum inuenitur.*

This herb [*asterion*[243]] **shines at night like a star in the sky** and whoever sees it and does not know (this about it) says that they have seen an apparition and they laugh full of fear; **this herb is found most often by shepherds of cattle.**

HA LXV: [Peonia] *inuenitur plurimum a pastoribus. Haec in extrema regula baculas habet mali granati magnitudine, quae nocte sic lucent tamquam lucerna, quod est granum cocci simile; plurimum noctu a pastoribus inuenitur et colligitur.*

[*Peonia*][244] **is most often found by shepherds.** This plant has berries on its outermost twigs that are the size of pomegranates, and **these shine at night like lamps** because the seed is similar to the berry of scarlet oak; **it is found and gathered most often at night by shepherds.**

Both of these plants are used to cure someone with epilepsy (*lunaticus* and *caducus*), and given the connection drawn between epilepsy and the moon in many ancient medical texts, the herbal may be creating a link between the purported nocturnal glow of these plants and their use to cure an ailment thought to be influenced by the moon. The source of these descriptions is neither the *Naturalis Historia* nor the *Medicina Plinii*.[245] It is worth noting, however, that there are other plants in the herbal that are used to cure epilepsy and that are not described in this way.

Just as the herbal does not regularly adhere to opposites in healing, the text also does not discuss sympathy (the concept of 'like curing like') or its opposite, allopathy. The closest the herbal gets to sympathy is in the connection between the names of some of the plants and the ailments those plants treat. This connection most often occurs with plant names that are related to snakes:

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[243] J. André 2010, 29: *Aster amellus* L., Italian Aster.

[244] J. André 2010, 185: *Paeonia* L., Peony.

[245] Pliny warned that *peonia* must be gathered at night or one will run the risk of having one's eyes plucked out by a bird that protects the plant during the day (NH XXV.10.29). G. Ducourthial (2003, 147) noted the similarity between the description of glowing peony and a passage in the *Jewish War* of Flavius Josephus about a plant the author calls *baaras*. The passage states that this plant glows at night and, interestingly, the way in which Josephus recommended the plant be collected is exactly the same as the *mandragora* text in the herbal, which states that the *mandragora* be collected by tying a dog to the plant and inciting the dog to run, thereby uprooting the plant without fatally touching it, but causing the dog to die (HA CXXXI).

viperina[246] is used to treat the bite of a viper (HA V.1). *Dracontea*[247] (HA XIV.1) and *basilisca*[248] (HA CXXX) are similarly used for snake bites. The plant *splenion*[249] is used to treat spleen pain (LVI.1). The herbal is not always consistent with these connections. One might expect the plant named *veneria*[250] (HA VI, with the synonym *afrodisias*) to be used for sexual impotence or a related ailment, but the herbal only uses this plant for bee-keeping and for difficulty urinating.

When Pliny's *Naturalis Historia* discusses the connection between a plant's name and its medicinal uses, the herbal does not often repeat this information. Pliny wrote that *aristolochia*[251] is so-named (from *λεχούσαις*) because it is excellent for women in labor, but the herbal does not include any treatments about pregnancy or birth in its chapter on this plant.[252] The herbal repeats Pliny's passage about how *symphyton* (*confirma*[253] in the herbal) binds pieces of meat together when used in cooking (NH XXVII.24, HA LIX). Pliny explained that the plant is named for its binding abilities, which makes it useful for healing broken bones and dislocations. The herbal, however, does not use this plant to heal such ailments.[254]

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[246] J. André 2010, 273: perh. *Polygonum bistorta* L., Bistort. (?)

[247] J. André 2010, 90: *Arum dracunculus* L., Devil's-Tongue

[248] *Basilisca* remains unidentified.

[249] J. André 2010, 247: *Ceterach officinarum* Willd.

[250] J. André 2010, 268: *Iris pseudacorus* L., Flag Iris.

[251] J. André 2010, 25: *Aristolochia* L., Birthwort.

[252] NH XXV.54.95: *Inter nobilissimas aristolochiae nomen dedisse gravidae videntur, quoniam esset ἀρίστη λεχούσαις.*

[253] J. André 2010, 73: *Symphytum officinale* L., Comfrey.

[254] The herbal uses *confirma* to restrict a woman's menses, so perhaps the binding aspect of the plant is present in this remedy; however, the herbal also uses *confirma* for the opposite purpose of purging or loosening, in remedies for cough and digestion.

There are several plants in the *Naturalis Historia* whose names Pliny attributed to physical features, such as the sword-like leaf of *radiolus*[255] or the abundance of leaves in *millefolium*.[256] The herbal never creates connections between a plant's name and its physical features despite this being a regular occurrence in Pliny's work. Although Pliny wrote that the name *millefolium* derives from this plant's many leaves, the herbal instead connects another name for this plant (*achillea*) to a story about Achilles finding this plant and healing his wounds with it, and so continues its favoring of origin stories and famous mythological discoverers (discussed above) for the plants and their names (NH XXIV.95.152, HA LXXXIX).[257]

The Causes of Disease

The causes of the herbal's ailments are only rarely discussed. The two most-numerous kinds of ailments in the herbal (pain and animal bites) demonstrate the lack of information about the causes of illnesses. Pain (*dolor*), as demonstrated above, is by far the most-emphasized ailment in the text, with over one hundred remedies that address many different parts of the body. The cause of the pain in these treatments is almost never explained, and most remedies only name the body part: *ad capitis dolorem* or *ad pedum dolorem*, for example. Only two remedies suggest a specific cause of the pain: the remedy *ad nervorem dolorem ex aegritudine* states that the cause is sickness, but a specific illness is not named (HA LXXI.2). We might think of this kind of pain as the aches that one experiences during a variety of illnesses, such as the flu, but this conclusion must be inferred by the reader. The remedy *ad caput ne a sole doleat* attributes the headache to the sun, but is similarly vague about why the sun causes headaches - is it the brightness of the sun's light worsening a migraine, a headache caused by heat exhaustion, or something else (HA XCIX.8)? The remaining remedies for pain in the herbal do not provide any indication of a cause.

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[255] J. André 2010, 214: *Polypodium vulgare* L., Adder's Fern.

[256] J. André 2010, 162: *Achillea* L., esp. *A. millefolium* L., Yarrow.

[257] HA LXXXIX: *Hanc herbam Achilles inuenit, unde uulnera ferro percusses sanabat, quae ob id Achillea uocatur, de hac sanasse Telephum dicitur.*

Achilles found this herb, with which he healed his wounds when he was pierced by a sword, which is why this plant is named after Achillea; it is said that he healed Telephum with this.

The second-most numerous ailment in the herbal is the bite of an animal (*morsus*), with thirty-nine remedies.[258] The biting animals of the herbal are snakes, dogs, scorpions, spiders, and even humans.[259] The herbal typically uses general terms for these creatures (such as *serpens* for snake), but the text does name two specific snakes (the *aspis* and the *sinancen*, once each), as well as a spider apparently called *splanagius* by the Greeks (from φαλάγγιον). In Nicander of Colophon's *Theriaka*, the famous second-century BCE Greek work on animal toxicology, detailed descriptions are offered of how the venoms of different kinds of creatures affect the human body. For example, Nicander wrote that the venom of the asp puts a person into a lethargic, slumberous state and that they will die without pain or swelling, while the venom of the viper causes swelling, oozing pus, occasional blistering, convulsions, extreme thirst, vomiting, and sweating (*Theriaka* ll. 180-190 & 235-257). The herbal takes a more streamlined approach. The text does not delve into explanations of the various effects of animal venom, nor is there a clear distinction in how different types of venom are treated. As with the remedies for pain, the ailment is simply stated and the method of treatment follows, almost always a topical herbal remedy.

The herbal's simple remedy formula and its reticence on topics like the descriptions of diseases or the methodology behind the remedies support a Roman, self-sufficient, and non-specialist audience. A work meant for physicians might delve heavily into medical theory, prognosis, and the causes of diseases. Instead, as a practical work, the herbal's focus rests on offering useful remedies. How the remedies work is not as pertinent for the Roman reader as the simple fact that

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[258] *Morsus* is most often used to describe a person bit by an animal, but the herbal also sometimes uses *percussus* to indicate the same idea, as in: *ad percussum serpentis* (HA CVIII.1).

[259] The herbal's two remedies for bites from humans are both part of remedies for snake bites, as in *contra serpentis morsum uel hominum*. The combination of humans and snakes into a single remedy is due to the fact that the herbal has pulled these remedies from a chapter of the *Medicina Plinii* entitled *contra serpentis et hominis morsum*. The *Medicina Plinii* gives no explanation as to the reason for combining these remedies (and the chapter is really more about snake bites, with only a few mentions of human bites thrown in sporadically).

the remedies do work; therefore, the herbal spends more time affirming the success of its remedies than it does explaining their methodology.

Empirical and Traditional Knowledge

The herbal places its trust in two avenues of knowledge: empirical knowledge (a reference to the author's personal experience of the effectiveness of the herbal's medicine, not the medical sect) and traditional knowledge (remedies that are well-known or have been passed down from person to person). The first of these types of knowledge is apparent in many of the statements that the herbal makes about the author's personal testing or observation of the efficacy of particular remedies. As previously discussed, the herbal's typical structure for its remedies contains a final phrase emphasizing the efficacy of the treatment. Several of these phrases, whether truthfully or not, reassure the reader by stating that the author has experienced the benefit of the particular treatment (such as *etiam ipsi experti sumus*, HA XVII.5).[260]

The herbal occasionally states that the reader himself will experience the efficacy of the remedy in these phrases (*experieris* or *mirifice experietur*).[261] In the previously-discussed remedy for the sores of Chiron, the herbal even urges the reader to personally test the plant's caustic property by performing the following experiment:

> **HA VIII.1**: *Si argumentum rei experiri uolueris, tunde eam et super manum sanam inpone et adligato, statim rodit corpus.*
> If you wish to test the truth of this, pound the herb and place it on a healthy hand and tie it there; it will immediately corrode the flesh.

A similar urging to test the remedies out for oneself can be found in the chapter on the plant *confirma*[262], in which a passage states that you can recognize this plant by cooking it in a pot with pieces of beef because the plant will cause the pieces of beef to stick to each other (HA

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[260] Similar statements appear in HA XXXIV.2, XXXVIII.4, LXXIV.1.

[261] HA II.9, XVII.3, XVIII.1, XXX.1, LVI.1, LVII.1, LXXXV.1.

[262] J. André 2010, 73: *Symphytum officinale* L., Comfrey.

LIX.4).[263] These statements of personal experience reaffirm the preface's emphasis on self-reliance in medicine. The preface tells the reader not to trust physicians, but to use this herbal as a resource that allows the reader to be a self-sufficient healer. The text then tells the reader to try out the remedies and to rely on personal experience to see their efficacy. These statements lessen the importance of medical theory in the text. The reader is assured that the remedies work because the author has seen them work and because the reader can see for himself that they work. The authority of such personal experience bears more weight in this text than do theoretical conceptions of diseases. Empirical knowledge is the foundation of the herbal's medicine.

Instead of stating that the author himself has seen the benefit of a particular medicine, sometimes the herbal makes a general statement that the remedy has been tested or experienced successfully by unnamed others (*experimentum factum est*, *certum est*, *tam praesens effectus ab expertis traditur*, HA LVII.1, XCIX.1, XCVIII.1). These phrases suggest traditional remedies that have been shared, and they can be trusted for the same reason that one can trust the remedies the author has experienced himself: their worth is in their repeated successful use by others, which should be proof enough for the reader that they are useful medicines.

The herbal also uses *creditur* and *dicitur* in its statements of efficacy, such as *mire proficere creditur* (HA III.4). These statements could indicate a measure of doubt or prudent authorial distance, and are perhaps modeled after similar statements found in the works of Pliny and Dioscorides.[264] Another possibility is that these statements are acknowledgements of popular belief. As well, the herbal occasionally mentions authors or authorities (*auctores*), never naming specific sources, and often noting the personal experience of efficacy by the *auctores* (*hanc compositionem praecipue auctores adfirmant*, *certus auctor adfirmat*, *plures auctores adfirmant*,

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[263] This statement is noticeably similar to the previously-discussed remedy in the herbal that uses *centauria* to help torn flesh mend by washing the flesh with the warm water in which the plant has been cooked.

[264] Pradel-Baquerre 2013, 26.

HA XXXVIII.1, III.8, II.8). Thus, even when authorities are mentioned, their first-hand, empirical knowledge of the remedies, rather than texts they have written, is what is emphasized.

As outlined in Table 3.4, the only sources of knowledge the herbal names explicitly are mythological figures, either the authorities to whom the herbal's knowledge is attributed in its title (Chiron, Aesculapius, and Achilles) or legendary discoverers of medicines. Most of the anecdotes about the mythological discovery of the herbal's plants have analogues in Pliny's *Naturalis Historia*, and although the primary purpose of these passages is to impart etymological details, it is probably significant that all but one (Paeon) of the legendary figures mentioned in them relate back to the herbal's title. These anecdotes about those figures strengthen the text's association with its sources of medical knowledge. These characters from mythology are represented as empirical healers who discovered on their own the medicinal virtues of particular plants. In addition to providing etymological information, these statements act as another kind of assurance to the reader that the herbal's remedies are effective because they were discovered and experienced by ancient figures who represent the origins of all medical knowledge.

A final example of empirical knowledge in the herbal appears in passages featuring animals. Several cures in the text derive from apparent observations of animals consuming plants as medicine. In the herbal's chapter on *lactuca silvatica*[265], the author observes that eagles will moisten their eyes with the juice of the herb in order to achieve clear sight before taking flight; therefore, the herbal's remedy for dim eyesight (*ad caliginem oculorum*) requires the patient to apply the juice of *lactuca silvatica* in the same way (HA XXX.1). The herbal's chapter on *diptamnum*[266] contains an anecdote describing how a deer, after being wounded by a hunter's spear, will eat *diptamnum* to expel the spear from its body and heal the wound (HA LXII.2-3). Consequently, the herbal uses *diptamnum* in a remedy for wounds caused by piercing or stabbing. Another example appears in the herbal's chapter on *lactuca leporina*[267], in which the

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[265] J. André 2010, 136: *Lactuca scariola* L., Milk Thistle.

[266] J. André 2010, 88: *Origanum dictamnus* L., Cretan Dittany.

[267] J. André 2010, 136: *Chondrilla juncea* L., Nakedweed.

author observes that this plant heals rabbits when they feel weak from summer heat (HA CXIII). In a remedy for spleen pain, the author recalls that some people say that pigs who eat the root of *splenion*[268] are able to live without a spleen, indicating that this plant is useful for those with spleen conditions (HA LVI.1). One of the herbal's plants is even borne from a wild animal, and a typically dangerous one, too: the author notes the claim that the plant *dracontea*[269] should be grown in the blood of a snake, and the text states that this plant can be used to cure the bite of any kind of serpent (HA XIV). The snake is the source of the danger as well as the source of the cure.

Thus we find several instances of animals in the herbal teaching people about the medicinal properties of plants through our observations of their habits. Just as the chicken in the hydrophobia treatment is somehow able to detect the disease on the wheat grains, the animals in the above examples are able to discern the medicinal benefits of certain plants. These anecdotes are somewhat evocative of the modern field of zoopharmacognosy, in which the consumption or topical application of plants by animals is studied for potential signs of self-medication.[270] Because of the fantastical nature of some of these passages, however, it would be more accurate to say that they derive from popular fables and folk legends, rather than from the actual observations of the herbal's author(s). In fact, some of these passages have clear analogues in other medical works, primarily Pliny's *Naturalis Historia*.[271] These apparent observations can therefore be thought of as representations of both empirical and traditional knowledge. They represent an important method through which the herbal imparts medical information and they had an influence on some of the remedies that were chosen for inclusion in the text.

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[268] J. André 2010, 247: *Ceterach officinarum* Willd.

[269] J. André 2010, 90: *Arum dracunculus* L., Devil's-Tongue.

[270] Michael A. Huffman, "Animal self-medication and ethno-medicine: exploration and exploitation of the medicinal properties of plants," *Proceedings of the Nutrition Society* 62, no. 2 (2003): 371-381.

[271] NH VIII.41.97.

The text's passages depicting animals as the source of the knowledge of certain remedies are perhaps meant to echo the herbal's claim that some of the medical knowledge contained within its pages derives from the teachings of Chiron the centaur, a liminal animal-human creature famous for his associations with Achilles and Aesclepius, two other figures mentioned in the herbal. Chiron is name as one of the sources of the herbal's knowledge in the title of the work: *Herbarius Apulei Platonici, quem accepit a Cirone centauro, magistro Achillis, et ab Aesculapio*.[272] Through this association to the centaur, the herbal owes its very creation, at least in part, to an animal. In this way, the herbal as a whole represents the medical teachings of an animal-like creature to humans, and the inclusion of these anecdotes about animal discoverers of medicines is therefore a fitting feature.

Pliny's *Historia Naturalis* as a Source or Analogue of the Herbal

Much of the argumentation in this chapter has relied on the assumption that Pliny's *Naturalis Historia* was the main direct source for most of the herbal's remedies. Many of the analogues between Pliny's work and the herbal are noted in the Howald & Sigerist (1927) edition of the herbal, as well as Pradel-Baquerre's dissertation (2013, 72-79). That similar remedies exist

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[272] HA p. 15. This title does not appear in every manuscript and varies between manuscripts where it does appear; however, the mention of Chiron as a source is present in several manuscripts of the herbal, including the oldest manuscript of the tradition, Leiden, Bibliotheek der Rijksuniversiteit, Vossianus Latinus Q 9 (sixth century), fol. 20r. Chiron also appears in the title of the herbal in every manuscript of class γ:
Ivrea, Biblioteca Capitolare MS 94 (7th century, fragmentary)
Kassel, Landesbibliothek, 2° MS phys. et hist. nat. 10 (10th century)
Vatican, Biblioteca Apostolica Vaticana, Reg. Lat. MS 846 (11th century)
Chiron also appears in the title of the herbal in Biblioteca Governativa di Lucca, MS 296 (9th century), a manuscript of class α, which Howald and Sigerist believed had the most accurate textual tradition.
London, British Library, Cotton Vitellius MS C.III (fol. 19v) (11th century): this manuscript of the herbal also includes an author portrait (on fol. 19r) of Aesclepius, Plato, and Chiron. London, Wellcome Library, MS 573 also mentions Chiron in the explicit.
The incipit of Monte Cassino, Archivio della Badia, MS V.97 (9th-10th century) is missing, but the explicit reads: *explicit herbarium apulei platonis, quem accepit ab scolapium et chirone centauro, magistro acchilli.*
An example of the herbal's title without mention of Chiron is: *incipit liber apulei platonici de medicaminibus herbarum* (London, British Library, Harley MS 4986, 12th century).

between the *Naturalis Historia* and the herbal is clear, as has been demonstrated by these earlier studies and also at various points in this dissertation. During the comparison of Pliny's work and the herbal undertaken for the preparation of this chapter, however, it appeared that many of the remedies shared between these two works contain similar ideas but noticeably different wording. For example, note the following two remedies for *podagra*:

> **HA I.13**: *Ad podagram et omnium neruorum dolorem uel tumorem. Herbae **plantaginis folia** contusa uel pisata cum **salis modico** et inposita optime facere certum est.*
> For *podagra* and for pain or swelling in of all the muscles. The leaves of the herb *plantago*, pounded or beaten with a little salt and applied is certain to work extremely well.
>
> **NH XXVI.745.122**: *Podagrae morbus…**plantaginis folia** trita addito **sale modico**.*
> [For] gout…plantain leaves beaten up with a little salt added.

These two remedies are similar in that they both apply the herb with a little salt for *podagra*, and yet the herbal's remedy uses slightly different language (*contusa uel pisata* vs. *trita*) and contains some specifications that are not in Pliny's version. These remedies are analogues, but are perhaps not similar enough for the *Naturalis Historia* remedy to be deemed a direct source in this instance.

A systematic analysis of Pliny's *Naturalis Historia* as a source for the herbal has not been undertaken in this dissertation (except by comparison to the *Medicina Plinii*, as seen in the second chapter). Such an analysis would be required for a thorough understanding of the connections between these two works. My preliminary examination, however, has revealed several examples like the above comparison where the two texts contain analogous passages rather than what appear to be direct interpolations.[273] Several factors could account for these kinds of passages. It is possible that the herbal's original author, in using Pliny's work as a direct source, added to and altered the information found in the *Naturalis Historia*. Also likely is the

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[273] Pradel-Baquerre (2013, 72-79) concluded that about sixty passages in the herbal have direct sources in Pliny's *Naturalis Historia*; however, the comparative example she provided (HA 20 & NH XX.127) contained (in my opinion) significantly different language. She did also note that some of the herbal's remedies have only an analogous relationship to Pliny's work (72).

possibility that these passages have been altered during the herbal's revisions by various copysists, an eventuality that seems probable because of the other signs of alteration and addition in the text. Another possibility is that the herbal used the sources of the *Naturalis Historia* in place of or in addition to the *Naturalis Historia* itself. Proving such an idea is difficult because many of the sources named by Pliny are no longer extant, such as Solomon of Smyrna.[274]

Despite the difficulty of addressing the sources of Pliny's work in relation to the herbal, this examination could be critical for what it might further reveal about not only the dating and context of the herbal, but also the herbal's medical content and epistemology. Perhaps it is the use of now-lost sources that could explain some of the apparent inconsistencies between the content found in Pliny's work and in the herbal, such as some of the dangerous plants, how they were used, where they could be found, and so on. Additional work in this area will be necessary for further study of the herbal.

Conclusion

This examination of the herbal has demonstrated that the text seems to favor a general readership while also assuming a certain level of foundational knowledge. The herbal's preface claims that the author despises professional healers and offers his knowledge to self-sufficient readers. Most of the herbal's remedies address common ailments rather than chronic conditions. The herbal contains no bloodletting or uroscopy, but does contain a small number of surgical remedies (such as extracting splintered bones from the skull). The herbal describes many of its plants as 'common' or 'growing everywhere', but also includes a few rare (and perhaps fantastical) plants. As well, the herbal does not shy away from plants that were thought by its sources to be toxic or in other ways dangerous. The secondary ingredients in the herbal's remedies are usually common, but costly ingredients make occasional appearances. The remedies in the herbal are uncomplicated but brief, a characteristic that further suggests a required foundational knowledge. Similarly, the herbal's arrangement by plant makes the text

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[274] On Pliny's sources, see: Wellmann (1924), Scarborough (1986), and Everett (2012, 74-75).

cumbersome for someone trying to look up specific remedies when needed. This format rather suggests that the herbal could have been useful for the study of herbal medicine or botany. The herbal does not overtly rely on medical theory, but rather trusts in remedies that have been established through experience.

The herbal is thus a text of contradictions, often favoring what is simple and accessible while also delighting in the potentially dangerous and complex. These apparent contradictions may be the results of several different people adding to the herbal at various points, or they could be signs of the original author's varied interests. A compilation such as the herbal would naturally exhibit remedies of different styles and levels complexity, having been altered by various people. Because the herbal is believed to have been revised, it is practically impossible to know the exact form of the authorial text and what remedies were included in it. One can at least conclude that the preface of the herbal does not completely prepare the reader for all that they might find within the pages of the herbal.

Conclusion

The *Herbarium* of Pseudo-Apuleius is a text of many contradictions. What at first appears to be a straightforward practical medical treatise written by an ancient authority unravels as the details of its content and history are investigated. The idea that the herbal was originally composed in North Africa was borne from valuable investigations into the text, but the evidence to support such a claim is not strong enough to provide convincing proof of that idea. The style of the herbal might occasionally resemble the style of Apuleius of Madaura (a similarity that is perhaps an intentional intervention by later revisors of the text), but the herbal's style does not strongly suggest a North African location of composition. The plants and critters mentioned in the herbal grow throughout the Mediterranean region and are therefore not helpful for narrowing down the location of the herbal's creation. The plant synonyms that were likely part of the herbal's original composition likewise do not provide evidence of a North African location. The herbal contains a small number of elements (such as place names and geographic features in Italy or the focus on Greek plant names) that might suggest an Italian context, but there is not an abundance of evidence to support any particular location more specific than the Mediterranean as the herbal's place of composition. Although the idea that the herbal was composed in North Africa is tempting because of the text's attribution to the author Apuleius of Madaura, there is little within the content and style of the herbal that suggests such a location, and what little there is might derive from the intentional misrepresentation of the herbal as an authentic Apuleian text by its later revisor(s).

Marcellus of Bordeaux's *De medicamentis* firmly establishes the herbal's *terminus ante quem* and offers some insight into the form of the herbal as it existed before our earliest extant manuscript evidence of the text. The version of the herbal that Marcellus used in the composition of his work likely did not contain the copious lists of synonyms that one finds in many manuscripts of the herbal, particularly those of class β. In fact, the version of the herbal consulted by Marcellus probably represented an early form of class α. One might conclude that class α manuscripts have the most accurate textual tradition because of the temporal proximity

between Marcellus of Bordeaux (fifth century) and the presumed composition date of the herbal (late fourth century). The herbal's date of composition is based on its use of the (third century) *Medicina Plinii* as a source. The *Medicina Plinii*, however, may have only been a source for some later additions to the herbal, whereas the original herbal drew upon the first-century *Naturalis Historia* of Pliny (or perhaps the sources of Pliny's *Naturalis Historia*). The uncertainty about the herbal's use of the *Medicina Plinii* and Pliny's *Naturalis Historia* results in the possibility that the herbal is older than has been previously considered. If the herbal was written even a century before Marcellus accessed it, the text could have already begun to branch into its various classes at the time when Marcellus read the herbal, and what the original form of the herbal may have been becomes more difficult to discern.

The questions about the herbal's use of these sources have important ramifications about the dating of the text, but also about its authorship. The herbal's attribution to Apuleius of Madaura has long been held to be false because of the herbal's use of the (third century) *Medicina Plinii* as a source, which post-dates Apuleius of Madaura's lifetime (second century). If, however, the *Medicina Plinii* was only a source for a later revision of the herbal, then this work could potentially have been written during Apuleius' lifetime.

Apuleius professed to have an interest in medicine; however, he never described himself as a physician in his known written works nor did he mention having written a work in the medical genre (Voigts, 1978). There is, however, some small evidence suggesting that Apuleius of Madaura may have written a medical text, if not the herbal itself. The sixth-century author Priscian mentioned a medical work by an Apuleius in his *Insitutiones Grammaticae*. Priscian quoted many different Latin authors as examples of particular features of Latin grammar in his work, and he cited one of his quoted examples as deriving from '*Apuleius in medicinalibus*' (VI l.13). The passage Priscian quoted is '*cepe sucum melle mixtum*', which does not appear in any extant version of the herbal (and also not in any other extant medical text, as far as I have been able to determine). Apuleius is also mentioned in the *De re rustica* of Palladius (4th-5th century), who recorded a medicinal remedy that is apparently from Apuleius: '*Appuleius asserit semina bubulo felle maceranda antequam spargas*' (*De re rustica* I.35.9). This remedy is also not from

any extant version of the herbal. These mentions of medicinal remedies offered by Apuleius led J. Fabricius (1774, 43) and J. Bosscha (1786-1823) to suppose that there may have been a lost medical text written by Apuleius of Madaura (or perhaps Apuleius Celsus), and that this lost text was one of the sources used in the creation of the pseudonymous herbal. The herbal in its extant forms contains many remedies from unknown sources. Perhaps Apuleius could have had a hand in this text's creation as a source rather than as its sole author.

The preface of the herbal establishes a specific intent for the work, fashioning the herbal as a type of practical medical handbook that readers might use on their own to avoid physicians - and yet the preface might be a later addition that gives the reader a somewhat misleading impression of the herbal's original purpose. Some aspects of the herbal's content, such as the focus on common ailments, appear to support the preface's claims. The herbal's reliance on traditional and experiential practices in its medical epistemology also uphold the preface's sentiment by demonstrating a preference for self-sufficiency and personal experience over cited authorities and professional healers. In these ways, however, the herbal is as much of a fraud as the physicians about whom it complains, since most of the remedies in the text were likely not, in fact, experienced by the author, but can instead be easily traced to other late antique sources.

The only cited authorities in the herbal are famous mythological figures. These attributions still uphold the herbal's claimed preference for experiential knowledge, since these legendary figures (such as Aesculapius and Achilles) are portrayed as early discoverers of medicine through their personal experience of the efficacy of particular plants. In a similar fashion, the herbal displays a marked penchant for an early form of zoopharmacognosy in its several passages describing the discovery of medicinal plants by various animals. These descriptions of animals are likely related to the herbal's association with Chiron the Centaur, one of the claimed sources of the herbal's medical knowledge.

Other aspects of the text, such as the rare or dangerous ingredients and the lack of detailed instructions or measurements, suggest that the herbal addressed readers with some prior knowledge of herbal medicine and botany. The herbal's format appears most useful for

encyclopedic study of the text's plants, rather than for medical consultation. The original purpose of the herbal is difficult to establish because of the potential that the herbal was revised. What is clear from the extant manuscripts of the text is that medieval readers and copyists felt free to alter the herbal to suit their individual preferences and needs, transforming the text into the various distinct versions that are still extant.

The herbal as we know it today is the result of multiple stages of authorship, compilation, and revision. In seeking answers to our questions about the herbal's author, location, date of composition, original intent, and other details about its creation, we are left with the somewhat frustrating conclusion that the herbal likely had multiple contributors who wrote in different places and at different times, and who sought different uses for the text. As well, the herbal's extant manuscripts have been altered to suit the distinct needs of its various readers. All of these factors have resulted in the current forms of the herbal and complicate any investigation of the original form of the text. Despite its frustratingly obscure origins and authorship, late antique and early medieval readers and copyists found much of interest in the *Herbarium*. Its study is therefore invaluable for understanding the history of medicine in pre-Salternitan Europe.

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Appendices

Appendix A: A Modern English Translation of the Herbal

HERBARIUS APVLEI PLATONICI quem accepit a Cirone centauro, magistro Achillis, et ab Aesculapio.

The Herbal of Apuleius Platonicus, which he received from Chiron the centaur, teacher of Achilles, and from Aesculapius.

Apuleius Platonicus ad ciues suos.

Ex pluribus paucas uires herbarum et curationes corporis ad fidem ueritatis monumentis publicis tradidi ob stupiditatem uerbosam professionis, quod dicimus esse medicorum uenditationes potius quam curas, etiam hos homines inertia plerumque et inperitia enixos certe lucripetas uero nuncupari, qui etiam a mortuis mercedem expetunt. Quid agunt? Nihil; exspectant enim occasionem et faciunt reditus, dum tempus curationem extrahant, puto, quia saeuiores ipsis morbis existunt. Proponamus ergo titulos morborum, quos nunc uel maxime tempus conduci, ut ciuibus meis, sociis quidem et peregrinis, quibus uexatio acciderit aliqua corporalis, nostra litterata scientia inuitis etiam medicis profuisse uideatur.

Apuleius Platonicus to his fellow countrymen.

From several public documents[275], I have related a few virtues of plants and bodily remedies, in allegiance to truth because of the verbose stupidity of the medical profession, what we say are the 'hucksterings' rather than the 'cures' of physicians, and also these men, in general zealous with their ignorance and incompetence, may truly be called greedy, who even claim a fee from their dead patients. What do they do? Nothing. Indeed, they wait for opportunity and they make money as long as they draw out the length of their patient's treatment, because, in my opinion, they are more dangerous than the diseases themselves. Therefore, let us put forward for consideration the headings of some illnesses that are particularly relevant to our time, so that they may seem to be helpful to my fellow citizens, indeed to allies and to foreigners, for whom some medical issue might occur, and so that our learned knowledge may even seem to be helpful to reluctant physicians.

I. HERBA PLANTAGO

1. Ad capitis dolorem.

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[275] Or perhaps: 'I have handed down for public memorialization…'

Herbae plantaginis radix in collo suspensa capitis dolorem tollit mirifice.

For head pain.

The root of the herb plantago hung on the neck wonderfully relieves head pain.

2. Ad ventris dolorem.

Herbae plantaginis sucum tepefactum fomentando uentris dolorem tollit, et si tumores fuerint, tunsa et inposita tollit tumorem.

For belly pain.

The lukewarm juice of the herb plantago in a poultice relieves belly pain, and if there is swelling, plantago relieves the swelling when pounded and applied.

3. Ad dolorem interiorem.

Herbae plantaginis sucum potui datum et interiora sanat et toracem hominis purgat mirifice.

For intestinal pain.

The juice of the herb plantago given to drink both heals the intestines and wonderfully clears up a person's chest.

4. Ad disentericos.

Herbam plantaginem cum lente coquito et da, manducet, stringet uentrem.

For dysentery.

Cook the herb plantago with lentils and give it [to the person with dysentery]; it will tighten the belly when the person eats it.

5. Qui purulentum excreant cum sanguine.

Herbae plantaginis sucum dato eis bibere, sanabuntur.

For those who cough up pus with blood.

Give the juice of the herb plantago to them to drink; they will be healed.

6. Ad uulnera.

Herbae plantaginis semen tunsum, in uulnus asparsum, uulnera cito sanat, et ipsa tunsa et inposita refrigerat ea loca, quae nimio calore uruntur, et persanat.

For wounds.

The pounded seed of the herb plantago sprinkled onto wounds quickly heals them, and when pounded and applied, it cools places that burn with excessive heat and completely heals them.

7. Ad uentrem stringendum.

Herba plantago ex aceto cocta in mero bibatur mensura ciati unius.

For tightening the belly.

The herb plantago cooked with vinegar should be drunk in pure wine[276] in a dose of one cyathus.

8. Ad morsum serpentis.

Herba plantago trita ex uino et sumpta commoda erit.

For snakebite.

The herb plantago crushed and drunk with wine will be useful.

9. Ad scorpionis morsum.

Herbae plantaginis radicem adligatam mire prodesse creditur.

For a scorpion bite.

The root of the herb plantago bound [to the body] is believed to be wonderfully beneficial.

10. Ad lumbricos.

Herbam plantaginem contundis et sucum eius de cocleario uel de ligula dabis bibere, ipsam quoque herbam tunsam in umbilico inponito.

For intestinal worms.

You pound the herb plantago and give a coclear or a ligula of its juice to drink; also place that same pounded herb on the navel.

11. Si qua duritia in corpore fuerit.

Herba plantago pisata cum axungia sine sale et factum quasi malagma, inponis in duritia et discutit.

If there is some hardness in the body.

You place the herb plantago, beaten with unsalted grease and made like a cataplasm, on the hardness and it breaks it up.

12. Ad quartanas.

Herbae plantaginis sucus in aqua mulsa ante duas horas accessionis potui datur, miraberis effectum.

For quartan fevers.

The juice of the herb plantago is given to drink in honey-water before two hours have passed from the onset of the person's fever; you will marvel at the effect.

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[276] Wine that is not mixed with water.

13. Ad podagram[277] et omnium neruorum dolorem uel tumorem.

Herbae plantaginis folia contusa uel pisata cum salis modico et inposita optime facere certum est.

For *podagra* and for pain or swelling in of all the muscles.

The leaves of the herb plantago, pounded or beaten with a little salt and applied are certain to work extremely well.

14. Ad tertianas.

Herbae plantaginis radices tres conterito et sub accessionem cum uino aut ex aqua ieiuno da, bibat.

For tertian fevers.

Crush three roots of the herb plantago and give them with either wine or water to the person to drink on an empty stomach before the onset of fever.

15. Ad secundarum dolorem.

Herbae plantaginis semen contritum et potui datum prodesse creditur.

For pain of the womb.

It is believed that the crushed seed of the herb plantago given to drink is beneficial.

16. Ad uulnera recentia.

Herba plantago contusa, cum axungia uetere sine sale inponitur, sanus efficitur.

For fresh wounds.

The pounded herb plantago, applied with old, saltless grease, brings about health.

17. Si pedes tumuerint ab itinere.

Herba plantago contusa, cum aceto inposita tumorem tollit.

If the feet are swollen from walking.

The pounded herb plantago applied with vinegar relieves swelling.

18. Si ulcus secus oculum uel secus nasum natum fuerit.

Herbae plantaginis sucus expressus contusae, et lanam mollem suco madefactam inponat per dies IX, sanus efficitur.

If a sore develops below the eyes or nose.

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[277] *Podagra* in the herbal might indicate the modern meaning of ‘gout’ or other kinds of swelling in the feet.

The juice of the herb plantago, squeezed out of the pounded plant, and some soft wool that has been soaked in this juice should be applied for nine days; it brings about health.

19. Ad disentericos uel terminosos

Herbae plantaginis semen tritum pro polenta in uino calido dato, bibat, sanus efficitur.

For patients with dysentery or colic.

Give the seed of the herb plantago crushed like pearl barley in warm wine; it will bring about health when consumed.

20. Ad parotidas.

Herba plantago cum axungia uetere pisata et inposita persanat.

For swelling in front of the ear[278].

The herb plantago beaten with old grease and applied completely heals it.

21. Ad ulcera oris.

Herbae plantaginis sucus et folia eius cocta in ore tenentur et radix eius in ore commanducatur.

For mouth sores.

The juice of the herb plantago and its cooked leaves are held in the mouth and its root is chewed up.

22. Ad fistulas sanandas.

Herbae plantaginis sucus fistulis infunditur et inmittitur eisdem.

For healing fistulas[279].

The juice of the herb plantago is poured on the fistulas and it works against them.

23. Ad morsum rabidi canis.

Herba plantago contusa et inposita facillime sanat.

For the bite of a rabid dog.

The herb plantago, pounded and applied, very easily heals this.

24. Contra omnes uesicae difficultates.

Herbae plantaginis folia uel radices potae ex passo, fortiter medetur.

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[278] As in, swelling of the parotid gland.

[279] *Fistula* in Pliny's *Naturalis Historia* is thought to be essentially synonymous with the modern term (Jones, vol. VII, 554).

Against all bladder problems.

The leaves or roots of the herb plantago drunk with raisin wine are vigorously healing.

Nomina herbae.

A Graecis dicitur arnoglossa, alii arnion, alii probation, alii cinoglossa, alii eptapleuron, Galli tarbidolotius, Spahi tetharica, Siculi polineuron, <alii> tirsion, profetae ura egneumonos, Aegyptii asaer, alii thetarion, Daci sipoax, Itali plantago lata, Romani plantago maior, alii septeneruia.

Nascitur paludibus plurimum et pratis.

Plant name.

It is called arnoglossa by the Greeks, others call it arnion, others probation, others cinoglossa, others eptapleuron, the Gauls call it tarbidolotius, the Spahi call it tetharica, the Sicilians call it polineuron, others call it tirsion, the Prophets ura egneumonos], the Egyptians call it asaer, others call it thetarion, the Dacians call it sipoax, the Italians call it plantago lata, the Romans call it plantago maior, others call it septeneruis.

It grows especially in marshes and meadows.[280]

II. HERBA QUINQUEFOLIUM

1. Ad uitia articulorum siue percussa fuerint.

Herba quinquefolium tunsa cum axungia sine sale inposita sanabit.

For problems or injuries of the joints.

The herb quinquefolium, pounded with saltless grease and applied will be healing.

2. Ad uentris dolorem.

Herba quinquefolium tunsa, sucum eius dabis bibere, sine more dolorem tollit, coclearia II dabis.

For belly pain.

Give to drink the juice from the pounded herb quinqefolium; it relieves the pain without delay; give two coclears.

3. Ad uitia oris aut linguae aut gulae.

Herbae quinquefolii radices ex aqua coctas dabis, gargarizet, etiam ubi sanies, tollet et arteriam purgat.

For problems of the mouth, tongue, or throat.

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[280] Pliny (NH XXV.39) wrote that *plantago* is most efficacious when it grows in wet places.

Give the roots of the herb quinquefolium cooked in water; the person should wash their mouth with it; it relieves and cleanses the windpipe, even where there is pus.

4. Ad capitis dolorem.

Herbam quinquefolium circumscribito ter, digito medio et pollice sublata et trita et capiti inlita efficaciter sanat; peracto remedio loco puro reponi conuenit.

For head pain.

Draw a circle around the herb quinquefolium three times, gather the plant with the middle finger and the thumb; the plant crushed and applied to the head is an effective remedy. After the remedy is complete, it is appropriate to put the plant back in an untrodden place.

5. Ad sanguinem de naribus nimis profluentem.

Herbae quinquefolii sucus potus uel inlitus restringit sanguinem.

For excessive bloodflow from the nose.

The juice of the herb quinquefolium drunk or applied topically binds the blood.

6. Ad ancen[281] remedium.

Herbae quinquefolii sucus ciati III potui datur.

A cure for ancen.

3 cyathi of the juice of the herb quinquefolium are given to drink.

7. Ad morsum serpentis.

Herba quinquefolium contrita et sucus eius expressus, cum uino potui datus mirifice remediat.

For snakebite.

The juiced expressed from the crushed herb quinquefolium and given to drink with wine is a wonderful remedy.

8. Ad combustum.

Herbam quinquefolium portatam prodesse plures auctores adfirmant.

For a burn.

Many authors affirm that carrying the herb quinquefolium is beneficial.

9. Ad cancrum exsiccandum.

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[281] This may be a snake name related to *sinancen*.

Herba quinquefolium cum uino et cum adipe suilla ueteri sine sale pisata de ligno in ligno, vino sane veteri aspargis et sic inponis, rem unicam experieris.

For drying out an ulcer.

You apply the herb quinquefolium, beaten with a wooden pestle in a wooden mortar with wine and with old, saltless pig fat, and then sprinkled with really old wine. You will experience a unique thing.

Nomina herbae.

A Graecis dicitur pentafillos, alii pseudoselinon, alii callipetalon, alii xiloloton, alii aspaltion, alii tymatitis, Aegyptii asufi, alii thebeoti, profetae ibeos onix, alii ptereon ibeos, alii pecusideon, alii Hermudactilon, Galii pinpedonum, Daci procedila, Itali quinquefolium, Romani manus Martis, Graeci pentafillon, Democritus[282] theon astron (?), Siculi pentafillos, alii pentapetes, alii pentadactylon, alii pentaquinon.

Nascitur in pratis et locis cultis et mundis, gustu aspero, tactus molli. Legis eam mense Augusto.

Herb name.

It is called pentafillos by the Greeks, others call it pseudoselinon, others callipetalon, others xiloloton, others aspaltion, others tymatitis, the Egyptians call it asufi, others thebeoti, the prophets ibeos oniz, others ptereon ibeos, others pecusideon, others Hermudactilon, the Gauls call it pinpedonum, the Dacians procedila, the Italians quinquefolium, the Romans manus Martis, the Greeks pentafillon, Democritus calls it theon astron (?), the Sicilians call it pentafillos, others pentapetes, others pentadactylon, others pentaquinon.

It grows in meadows and in cultivated and clean places. It has a bitter taste and it soft to touch. You pick it in August.

III. HERBA VERBENACA

1. Ad ulcera et parotidas.

Herbae uerbenacae radix in collo ligata summe proficit.

For sores and swellings near the ear.

The root of the herb verbenaca hung around the neck is especially beneficial.

2. Ad strumas et parotidas.

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[282] In book XXV.5 of the *Naturalis Historia*, Pliny named Democritus and Pythagoras among the authors who first wrote about the medicinal properties of plants. Perhaps the mention of these figures in Pliny's work led to their inclusion in the herbal's lists of plant names.

Herba uerbenaca tunsa et inposita mirifice sanat.

For scrofulus tumors and swellings near the ear.

The herb verbenaca pounded and applied is a wonderful remedy.

3. Ad eos, qui induratas uenas habent et cibos non recipiunt.

Herbae uerbenacae sucus datur bibere, sed coctum, postea miscetur cum uino et melle et aqua et statim sanat.

For those who have hardened veins and do not take food.

The juice of the herb verbenaca is given to drink, but it is cooked, and afterwards it is mixed with wine and honey and water, and it is immediately healing.

4. Ad eparis dolorem.

Herbam uerbanacam solistitio collectam, in puluerem redactam robusto dabis coclearia V ex uino quam optimo ciatis III, potui sumpta mire proficere creditur, et ceteris pro cuiusque uiribus, sic dabis.

For liver pain.

Give 5 coclears of the herb verbenaca, picked on the solstice and reduced to a powder in an oaken mortar[283] with 3 cyathi of the best wine; when consumed as a drink it is believed to be wonderfully beneficial; and give it to each person according to their vitality.

5. Ad calculosos.

Herbae uerbenacae radix contusa, ex mulso optimo tepido dato, incredibiliter cauculosis succurrit, non solum ipsis cauculosis, sed et quidquid esset, quod urinam inpediret, celeriter reducit.

For stones.

Give the root of the herb verbenaca pounded with the best lukewarm honey-wine; it not only offers incredible relief for those suffering from stones, but it also quickly reduces whatever there is that hinders [the evacuation of] urine.

6. Ad capitis dolorem.

Herbae uervenacae corona facta, in capite inposita dolorem capitis tollit.

For head pain.

The herb verbenaca made into a wreath and placed on the head relieves head pain.

7. Ad serpentium morsus.

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[283] Or perhaps: to a strong person?

Herbam uerbenacam cum suis foliis et radicibus quisquis offultam cinctamque secum portauerit, ab omnibus serpentibus erit tutus.

For snakebite.

Whoever carries the herb verbenaca with its leaves and roots wrapped up and tied to the body will be protected from all snakes.

8. Ad morsum araneorum, quos Graeci spalangiones uocant.

Herbae uerbenacae ramulos ex uino decoctos, deinde contritos, quod acetauerit[284] plagae inponis, postea crudam cum melle contritam in ulcus audaciter insertam mature ad sanitatem perducere certus auctor adfirmat.

For the bite of the snake that the Greeks call ‘spalangiones’.

You place the sprigs of the herb verbenaca, boiled with wine and then crushed, on the wound until it throbs; an author affirms that it is certain that after there is blood, if the herb is crushed with honey and is placed boldly onto an old sore, this leads to health.

9. Ad canis rabidi morsum et idrofoba.

Herbam uerbenacam ad uulnus inponito, tritici quoque grana integra indito uulneribus, donec humore mollita expleant, iam tumida proicito illa gallinae; si non adpetit, simili modo alia grana coicito; si sic esse coeperit, periculi sublati signum erit.

For the bite of a rabid dog and for hydrophobia

Place the herb verbenaca on the wound, and also put whole grains of wheat on the wounds until the grains are soft and swollen with moisture; now throw the swollen grains to a chicken; if the chicken does not eat them, throw some other grains in the same way to the chicken; if then the chicken eats them, it is a sign that the danger is gone.

10. Ad uulnera recentia.

Herba uerbenaca contrita cum butiro uulneri inponatur.

For fresh wounds.

The herb verbenaca crushed with butter should be placed on the wound.

11. Ad serpentium morsum.

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[284] Lewis and Short identified *aceto* as an early form of *agito*.

Ramulos ex uino decoctos et contritos, si ceca erit[285] plaga cum tumor[286], plagae cum tumore inpositi adaperiunt primum, exulcerant deinde, postea crudi eum melle contriti et ulceri inserti, donec ad sanitatem, quod celeriter fit, perducant, inponuntur.

For snakebite.

The sprigs should be boiled with wine and crushed, if it is a closed wound with swelling, when the sprigs are applied the wounds with swelling will open first, then they will ulcerate; afterwards, the uncooked sprigs crushed with honey should be placed on the sore until it heals; this happens quickly when the sprigs are applied.

12. Ad ictericos id est morbo regio, qui et auriginosi uocantur.

Herbae uerbenacae dragma I et nardi oboli III, bacae crudae foliorum expressus sucus et paululum mirra contrita ex aqua ciatis III, potui data expellere morbum creditur.

For jaundice, that is 'the royal disease', which is also called 'auriginosi'.

1 drachma of the juice pressed from the fresh berries of the leaves of the herb verbenaca, 3 oboli of nard, and a little bit of myrrh crushed with 3 cyathi of water, are given to drink; this is thought to remove the illness.

Nomina herbae.

A Graecis dicitur hierobotnae, alii peristereon, alii Dios elacate, alii trigonion, alii pecorobn, alii collesis, alii sideritis, alii aristereon, alii ciparissos, alii Persefonion, alii Demetrias, alii panchroma, Aegyptii pempemthar, Pythagoras erisisceptron, itali uerbenaca, alii gallinacia (?), alii lustrago, alii columbinam, alii militariam, alii uertipedium.

Nascitur ubique in planis et aquosis locis.

Herb name.

It is called hierobotnae by the Greeks, others call it peristereon, others Dios elecate, others trigonion, others pecorobn, others collesis, others sideritis, others aristereon, others ciparissos, others Persefonion, others Demetrias, others panchroma, the Egyptians call it pempemthar, Pythagoras calls it erisisceptron, Italians call it verbenaca, others call it gallinacia (?), others lustrago, others columbinam, others militariam, others uertipedium.

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[285] The reading *acetauerit* in the Howald-Sigerist edition is an emendation and does not appear in any of the manuscripts of the herbal, which give forms like *si hec erit* (Lucca, Biblioteca Statale, MS 296), *si ceca erit* (London, British Library, MS Harley 4986 & Vienna, Österreichische Nationalbibliothek, MS Lat. 187), and *si cecaueri(n)t* (βγ). Pradel-Baquerre (2013, 156) decided upon the reading *si ceca erit plaga cum tumore*, and this seems the more likely choice because it is represented in the manuscripts and does not require the use of an unusual, early form of a word.

[286] See note 9, above.

It grows everywhere in flat and watery places.

IV. HERBA SIMFONIACA

1. Ad aurium dolorem.

Herba simfoniaca, sucus eius tepefactus in aurem stillatus aurium dolorem mire tollit: etiam si uermes fuerint, necat.

For ear pain.

The lukewarm juice of the herb simfoniaca dripped into the ear wonderfully relieves ear pain: even if there are worms (in the ear) it kills them.

2. Ad tumorem genuorum uel tibiarum uel crurarum aut ubi tumor fuerit.

Herba simfoniaca tunsa et inposita tumorem tollit.

For swelling of the knees, shins, or legs, or wherever there is a swelling.

The herb simfoniaca, pounded and applied, relieves the swelling.

3. Ad dentium dolorem.

Herbae simfoniacae radix cocta cum uino austeri, sorbeat et teneat eam in dente, qui dolet, mox sanat dentium dolorem.

For tooth pain.

The person should drink root of the herb simfoniaca cooked with strong wine and should hold it against the teeth that hurt; this soon relieves the tooth pain.

4. Ad inguinum dolorem.

Herbae simfoniacae radix adligata in femore et dolorem et tumorem inguinum tollit.

For groin pain.

The root of the herb simfoniaca tied on the thigh relieves both pain and swelling of the groin.

5. Ad pedum dolorem.

Herba somfoniaca adligata pedum dolorem tollit, et tunsa ea cum sua radice et super pedes inposita mire et dolorem et tumorem pedum tollit.

For foot pain.

The herb simfoniaca tied on [the body] relieves foot pain; and pounded with its root and placed upon the feet, it wonderfully relieves both pain and swelling of the feet.

6. Ad iocinerum et pulmonum dolorem uel uexationem.

Herbae simfoniacae sucum da bibere, cum summa admiratione sanabit.

For pain or discomfort of the liver and the lungs.

Give the juice of the herb simfoniaca to drink, it heals with greatest wonder.

7. Ad pectinem[287] mulierum.

Herbae simfoniacae sucum mixtum cum croco, dabis potionem et miraberis effectum.

For the pubic bone of women.

Give the juice of the herb simfoniaca mixed with saffron as a drink and you will marvel at the effect.

Nomina herbae.

A Graecis dicitur iosciamum, Itali laterculum uocant, alii simfoniacam, alii caligularem.

Nascitur locis cultis et sablosis et hortis. Est et altera subnigro colore, foliis sordidis et uenenosis. Ille ergo candidior has vires habet.

Herb names.

It is called iosciamum by the Greeks, the Italians call it laterculum, others simfoniaca, others caligularem.

It grows in cultivated places, in sandy places and in gardens. There is also another kind of this plant that is a blackish color, with dark and poisonous leaves. It is the whiter kind that has these medicinal virtues.

V. HERBA VIPERINA

1. Ad uiperae morsum.

Herba uiperina trita cum uino potui data mirifice morsus sanat et uenenum discutit.

Nascitur secus flumina uel in segete foliis mollibus gustatus aspero. Legis eam mense aprile.

For snakebite.

The herb uiperina crushed with wine and given to drink wonderfully heals the bite and dissipates the venom.

It grows beside streams or in fields of grain; it has soft leaves and a bitter taste. Pick it in April.

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[287] *Pecten* indicates the pubic bone in the work of Celsus (VIII.1), but can mean pubic hair in Pliny's text (XXIX.1). This remedy does not derive from the *Naturalis Historia*, so the precise meaning of the word is somewhat unclear. Because this remedy is administered orally, an internal malady is most likely what is being treated. The herbal tends to treat internal problems with oral medicines and external problems with topical remedies. The other remedies that affect one's hair in the herbal are all topical remedies to be rubbed on the head.

VI. HERBA VENERIA

1. Ne apes examinent uel ne effugiant.

Herbam ueneriam in uaso apium suspensam habeto, nunquam seducentur. Haec herba raro inuenitur nec eam scire poterit, nisi cum flosculum emiserit.

So that bees will not swarm or fly away [from their hive].

Have the herb ueneria hanging on a beehive and the bees will never be led astray. This herb is found only rarely and you will not be able to recognize it unless it has flowered.

2. Ad duritiam urinae, si quis facere non potuerit urinam et stranguiriam patitur.

Herbae ueneriae radicem ex aqua decoctam ad tertias dabis bibere per triduo, urinam mirifice deducit et stranguiriam sanat.

For hardness of urine, if someone cannot pass urine and suffers from difficulty urinating.

Give to drink over the course of three days the root of the herb ueneria boiled in water to a third part; it wonderfully draws out the urine and heals strangury.

Nomina herbae.

A Graecis dicitur acorum, alii Afrodisias, Galli piper apium, Itali ueneria, alii radix nautica, alii singentiana.

Herb names.

It is called acorum by the Greeks, others call it Afrodisias, the Gauls call it piper apium, the Italians, ueneria, others radix nautica, others singentiana.

VII. HERBA PEDELEONIS

1. Si quis deuotus defixusque fuerit, sic eum resolues.

Herbae pedeleonis frutices septem sine radicibus coquito ex aqua luna decrescente, lauato eum et te ipsum, qui facis, ante limen extra domum prima nocte, et herbam incende aristolociam et subfumigato eum et redite ad domum et ne post uos respiciatis, resoluisti eum.

If someone has become cursed and bewitched, this is how you free them.

Cook seven sprigs of the herb pedeleonis without their roots in water while the moon wanes; wash the bewitched person and yourself (you who made the mixture) before the threshold of the home, in the first part of the night; and burn the herb aristolochia and fumigate the person [with it] and return to the house; and neither of you should look back until you have freed the person.

Nomina herbae.

Graeci dicunt leontopodium, alii Aethiopis, alii platifillon, alii pedeleonis.

Nascitur circa campos et circa fossas et arundineta.

Herb names.

The Greeks call it leontopodium, others Aethiopis, others platifillon, others pedeleonis.

It grows around fields and around ditches and thickets.

VIII. HERBA SCELERATA

1. Ad ulcera cironia.

Herba scelerata tunsa cum axungia sine sale, inponis in uulnere, excomedet, et si qua fuerit sordes, expurgat, sed non diutius patiaris quam necesse est, ne et corpus sanum exedat. Si argumentum rei experiri uolueris, tunde eam et super manum sanam inpone et adligato, statim rodit corpus.

For the sores of Chiron.

You place the herb scelerata, pounded with saltless grease on the wound; it will eat away [at the sore], and if there is any filth, it cleanses it, but you should not endure it longer than is necessary, lest it consume the healthy flesh. If you wish to test the truth of this, pound the herb and place it on a healthy hand and tie it there; it will immediately corrode the flesh.

2. Ad strumas et furunculos.

Herba scelerata tunsa et subacta cum fimo porcino, inpone strumis et furunculis, et intra paucas horas discutit et pus eicit.

For scrofulus tumors and boils.

Place the herb scelerata, pounded and worked with pig dung on the scrofulus tumors and boils, and within a few hours it diminishes them and ejects their pus.

Nomina herbae.

A Graecis dicitur botracion, alii choras, alii chloropis, alii Nilion, alii stalticen, alii canticen, alii cloropin, alii ioselinon, alii catastalticen, alii pheution, alii lycopnum, Siculi selinon agrion, Aegyptii senecon, Romani apium rusticum, alii herba scelerata, alii apiurisu.

Nascitur locis humidis et aquosis. Si quis homo eam ieiunus gustauerit, ridendo exanimatur, est enim caustica.

Herb names.

It is called botracion by the Greeks, others call it choras, others chloropis, others Nilion, others stalticen, others canticen, others cloropin, others ioselinon, others catastalticen, others pheution, others lycopnum, the Sicilians call it selinon agrion, the Egyptians senecon, the Romans apium rusticum, others herba scelerata, others apiurisu.

It grows in humid and watery places. If any man eats it on an empty stomach, he will die from laughing, for it is caustic.

IX. HERBA BOTRACION STATICE

1. Ad lunaticos.

Herba botraction si lunatico in ceruice ligetur lino rubro, luna decrescente, cum erit signum tauri uel scorpionis parte prima, mox sanabitur.

For epilepsy.

If the plant botracion is tied with a red string on the neck of a person with epilepsy while the moon is waning, when it is in the sign of Taurus or in the first part of the sign of Scorpio, the person will soon be healed.

2. Ad cicatrices nigras.

Herba botracion tunsa cum sua radice, mixta cum aceto inponis his, qui habent cicatrices nigras, exedit eas et similem corpori facit colorem.

For black scars.

You place the herb botracion, pounded with its root and mixed with vinegar, on those who have black scars; it destroys them and makes them a similar color to the rest of the body.

Nascitur locis sablosis et campis arenosis. Radix eius uerticillo est similis, radiculas paucas et tenuissimas habet.

It grows in sandy places and in sandy fields. Its root looks like the whirl of a spindle; it has a few very thin, small roots.

X. HERBA ARTEMISIA MONOCLONOS

1. Ad iter faciendum.

Herba artemisia, si quis iter faciens eam secum in manu portauerit, non sentiet itineris laborem. Fugat et daemonia et in domo posita prohibet mala medicamenta. Auertit oculos malorum hominum.

For going on a journey.

If someone is going on a journey and carries the herb artemisia with them in their hand, they will not feel the toil of the journey. It both chases away *daemonia* and, when placed in the house, wards off bad medicines. It averts the evil eye.

2. Ad pedum dolorem.

Herba artemisia tunsa cum axungia et inposita pedum dolorem tollet.

For foot pain.

The herb artemisia, pounded with grease and placed on the foot, removes the pain.

3. Ad interaneorum dolorem.

Herba artemisia pisata et in puluerem redacta, cum aqua mulsa potui data intestinorum dolorem sedat.

For pain of the intestines.

The herb artemisia, beaten and reduced to a powder and then given to drink with honeyed-wine water, settles intestinal pain.

Nomina herbae.

A Graecis dicitur toxotis, alii Ias, alii Efesia, alii aristolochia (?), alii partenicon, alii apolissos, alii anacirios, alii sozusa, alii leucofris, profetae ema antropu, alii ceetyssice, alii onychantes, alii rizanaytes (?), alii theon esis, alii Bubasteos cardia, alii osta antropu, alii ema Cronu, alii gonos Efaestu, alii filacterion mega, Aegyptii aneses, alii neiasar, Pythagoras pexasis, alii toxobolus, Galli titumen, Ostanes…, Daci zired, Itali serpullum maius, alii ualentia, Romani artemisia.

Nascitur locis lapidosis et sablosis.

Herb names.

It is called toxotis by the Greeks, others call it Ias, others Efesia, others aristolochia (?), others partenicon, others apolissos, others anacirios, others sozusa, others leucofris, Prophets call it ema antropu, others ceetyssice, others onychantes, others rizanaytes (?), others theon esis, others Bubasteos cardia, others osta antropu, others ema Cronu, others gonos Efaestu, others filacterion mega, the Egyptians call it aneses, others neiasar, Pythagoras calls it pexasis, others call it toxobolus, the Gauls call it titumen, Ostanes…, the Dacians call it zired, the Italians serpullum maius, others call it ualentia, the Romans artemisia.

It grows in stony and sandy places.

XI. HERBA ARTEMISIA TAGANTES

1. Ad uesicae dolorem et stranguiriam.

Herbae artemisiae tagantes sucus, scripulos duos ex uino potui dato, febricitanti ex aqua calida ciatis duobus potui dabis.

For bladder pain and difficulty urinating.

Give 2 scrupuli of the juice of the herb artemisia tagantes in wine to drink; for those with a fever, give 2 cyathi of it with water to drink.

2. Ad coxarum dolorem.

Herba artemisia tagantes, tundes eam cum axungia et aceto, bene subiges et inpones et adligabis, tertia die sanabitur.

For hip pain.

Pound the herb artemisia tagantes with grease and vinegar, work it well and place it on the body and tie it to the body; the person will be healed by the third day.

3. Ad neruorum dolorem uel tumorem.

Herbam artemisiam tagantes tunsam et cum oleo bene subactam inpone, mirifice sanat.

For pain or swelling of the muscles.

Apply the herb artemisia tagantes, pounded and worked well with oil; it is a wonderful remedy.

4. Ad pedum dolorem, si quis grauiter uexatur.

Herbae artemisiae radicem ex melle dabis manducare; item cenato, purgabitur, ut uix credi possit tantam uirtutem eam habere posse.

For foot pain, if someone is severely troubled with it.

Give the root of the herb artemisia with honey to eat; as soon as it is eaten [the pain] will be driven away so that it can scarcely be believed that an herb could have such medicinal virtue.

5. Si quis febribus uexatur.

Herbae artemisiae sucum cum oleo rosacio perungues, febres tollet.

If someone is troubled with fevers.

Apply the juice of the herb artemisia with oil of roses; it dispels fevers.

Hanc herbam si confricaueris, laseris optimi odorem habet.

If you rub this herb vigorously, it has the smell of the best laser (assafoetida).

XII. HERBA ARTEMISIA LEPTOFILLOS

1. Ad stomachi dolorem.

Herba artemisia tunsa, cum oleo amigdalino bene subacta, more malagmae inducis panno mundo et inponis, quinto die sanabitur; et si fuerit eius artemisiae radix super limen aedificii suspensa, domui ei nemo nocebit.

For stomach pain.

You shape the herb artemisia, pounded and worked well with almond oil, into the form of a cataplasm with a clean cloth and apply it; it will be healed on the fifth day; and if the root of the herb artemisia is hung over the threshold of a home, then no one may do harm to the inhabitants of that home.

2. Ad neruorum tremorem.

Herbae artemisiae suco cum oleo rosacio mixto perungues eos indesinenter et tremulos omne uitium tollit.

For muscle tremors.

You besmear those suffering incessantly and trembling with the juice of the herb artemisia mixed with oil of roses; this will relieve every malady.

Nascitur circa fossas et aggeres. Flosculum eius si contriueris, samsuci odorem habet.

Nam has tres artemisias Diana dicitur inuenisse et uirtutes earum et medicamina Cironi centauro tradidit qui primum de his herbis medicinam instituit. Has autem herbas ex nomine Dianae, hoc est artemisiam nuncupauit.

It grows around ditches and mounds. If you crush its small flower, it has the smell of samsucus (marjoram/elder).

For it is said that Diana found these three artemisias and explained their medicinal virtues and medicines to Chiron the centaur, who first created medicine with these herbs. These herbs, therefore, are named after Diana, that is, they are called ‘artemisia’.

XIII. HERBA LAPATIUM

1. Ad paniculam, quae in inguine nascitur.

Herba lapatium, contundes eam cum axungia, ut duplo sit quam herba, et bene mixtum facies turundulam et inuoluis in folium coliculi et mittis eam sub cinus calidum, et cum caluerit, tunc inponis super paniculam et panno ligabis. Hoc eximium est et optimum.

For a swelling that grows on the groin.

You crush the herb lapatium with grease so that there is twice as much grease as herb, and when it is well-mixed you make it in the shape of a bread bin and you wrap it in the leaf of a small cabbage and you place it under hot ashes, and when it grows warm, then you place it on the swelling and you tie it on with cloth. This is remarkable and the best remedy.

Nomina herbae.

Romani rumicem dicunt.

Nascitur locis sablosis et aggeribus.

Herb names.

The Romans call it rumicem.

It grows in sandy and stony places.

XIV. HERBA DRACONTEA

1. Ad omnium serpentium morsus et aspidis.

Herbae draconteae radix ex uino trita, tepefacta, dabis potionem, uenena discutit.

For the bite of all snakes and especially of asps.

Give to drink the root of the herb dracontea crushed with wine and made lukewarm; it disperses the venom.

2. Ad ossa fracta in corpore.

Herbae draconteae radix cum exungia pisata, factum quasi malagma, mox ossa fracta de corpore educit et lepidas extrahit.

For broken bones in the body.

The root of the herb dracontea, beaten with grease and made like a cataplasm will soon draw the broken bones out of the body and it removes *lepidae*.

Nomina herbae.

A Graecis dicitur dracontea, alii Asclepias, alii Pitonion, alii anchomanes, alii sanchomaton, alii aris (?), alii aron (?), alii seeon, alii dorcadion, profetae…Tifonos, alii corcodrillion, alii…, Ostanes…, Zoroastres theriofonon, Aegyptii eminion, Itali dracontea.

Draconis sanguine nata fertur esse dracontea. Nascitur in montibus summis, ubi sunt luci, maxime locis sanctis, terra Apulia super saxis, tactu molli, gustu dulci, tamquam castaneae uiridis saporem habens, radix eius ima caput draconis habet.

Herb names.

It is called dracontea by the Greeks, others call it Asclepias, others Pitonion, others anchomanes, others sanchomaton, others aris (?), others aron (?), others seeon, others dorcadion, Prophets…Tifonos, others corcodrillion, others…, Ostanes…, Zoroastres therifonon, Aegyptii eminion, Itali dracontea.

It is said that dracontea grows from the blood of the snake. It grows on the highest mountains, where there are forests, especially in holy places, on stones in the land of Apulia; it is soft to the touch, sweet in taste, although it has the flavor of a young chestnut; its lowest root has (the shape of) a dragon's head.

Legis eam mense Iulio.

Pick it in July.

XV. HERBA PRIAPISCUS

1. Ad ulcera difficilia uel cicatrices.

Herbae priapisci radices tundis et inponis, expurgat et cicatrices curat.

For troublesome sores or scars.

You crush and apply the roots of the herb priapiscus; this both cleanses and heals the scars.

2. Ad lippitudinem oculorum.

Herbae prispisci suco oculos inunguis et lippitudinem et dolores tollit sine mora.

For inflammation of the eyes.

You smear the eyes with the juice of the herb priapiscus and without delay it relieves the inflammation and the pain.

3. Si quis ad mulierem non potuerit.

Herbae priapisci radicem, sed et testiculum dextrum, qui maior est, teres eum, et piperis grana XLVII, mellis uncias IV, in uino optimo medicamen soluis et pondus scripula IX per triduo sumes.

If someone cannot [have intercourse with] a woman.

You grind the root of the herb priapiscus, but also the larger right testicle[288] and 47 kernels of pepper with 4 unciae of honey; you stir the medicine in the best wine and you consume a weight of 9 scruples over a period of three days.

Nomina herbae.

A Graecis dicitur satirion, alii cinos <orchis>, alii entaticon, alii eritronion, alii Panion, alii Serapion, alii orchis, Aegyptii mene, Galli ura, Itali priapiscus, alii testiculos.

Herb names.

It is called satirion by the Greeks, others call it <orchis>, others entaticon, others eritronion, others Panion, others Serapion, others orchis, the Egyptians call it mene, the Gauls ura, the Italians priapiscus, others testiculos.

Nascitur in montium radicibus, locis solidis et pratis et maritimis.

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[288] Pliny (NH XXVI.62) wrote that this plant has a double root that looks like human testicles (*radice gemina ad formam hominis testium*), and the *testiculum* in this remedy therefore probably refers to the part of the plant, not a human testicle.

It grows at the base of mountains, in dense places and in meadows and by the sea.

Legis eam mense Iulio.
Pick it in July.

XVI. HERBA GENTIANA

1. Ad serpentium morsus.
Herbae gentianae radicem siccam et in puluerem redactam, pondus dragmam unam dabis in uino ciatis III, sumptum ualidissime proderit.
For snakebite.
Give a weight of 1 drachma of the dried and powdered root of the herb gentiana in 3 cyathi of wine; when consumed it will be most vigorously beneficial.

Nomina herbae.
A Graecis dicitur aloe Gallica, alii gentiana, alii narcin, alii Cironion, Dardani aloitis, Romani gentiana, alii comitialem.
Herb names.
It is called aloe Gallica by the Greeks, others call it gentiana, others narcin, others Cironion, the Dardani call it aloitis, the Romans gentiana, others comitialem.

Nascitur Gemellis montibus. Haec herba facit ad omnia antidota, tactu molli, gustu amaro, scapo solido.
It grows in the Gemellus mountains. This herb makes antidotes for all ailments, is soft to the touch, has a bitter taste, and has a solid stem.

XVII. HERBA ORBICULARIS

1. Ad caput deplendum.
Herbae orbicularis sucus ciatus unus et acetum optimum in naribus mittitur.
For draining the head.
1 cyathus of the juice of the herb orbicularis and the best vinegar is put in the nostrils.

2. Ad alvum concitandum.
Herbae orbicularis collirio facto et iniecto catarticum est.
To encourage the bowels.
Apply a salve of the herb orbicularis; it is a purgative.

3. Ad splenis dolorem.

Herbae orbicularis sucum ciatum unum et aceti optimi cocliaria V, diebus continuis IX potui dabis, miraberis effectum.

Item radix eius in collo suspensa, ut contra splenem pendeat, efficaciter medetur. Nam et ciclaminis suco quisquis anum tetigerit, mire celeriter alui solutionem experietur.

For pain of the spleen.

Give 1 cyathus of the juice of the herb orbicularis and 5 coclears of the best vinegar to drink for 9 continuous days; you will marvel at the effect.

Also, hang its root on the neck so that it hangs against the spleen; it will effectively heal it. Also, if someone touches the anus with the juice of ciclamen, they will very quickly experience relief in their belly.

Nomina herbae.

A Graecis dicitur ciclaminos, alii cissantemon, alii cissofillon, alii chelonion, alii Gillena, Zoroastres stimfalitis, Ostanes asphet, profetae maalpha, Aegyptii palalia, alii thiteo, Itali terrae malum, alii orbicularis, alii rapum terrae, alii rapum porcinum, Syri clargia.

Herb anems.

It is called ciclaminos by the Greeks, others call it cissantemon, others cissofillon, others chelonion, others Gillena, Zoroastrians call it stimfalitis, Ostanes call it asphet, prophets call it maalpha, Egyptians call it palalia, others thiteo, Italians call it terrae malum, others orbivularis, others rapum terra, others rapum porcinum, the Syrians cann it clargia.

Nascitur locis cultis et montuosis.

It grows in cultivated and mountainous places.

Legis eam omni tempore.

Pick it at any time.

XVIII. HERBA PROSPERPINACA

1. Ad eos, qui sanguinem reiciunt.

Herbae proserpinacae sucum cum uino optimo austeri sine fumo tepefactum ieiunus bibat per dies IX, miram rem experieris.

For those who cough up blood.

The person should drink the lukewarm juice of the herb prosperpinaca (warmed up without steam) with the best sour wine on an empty stomach for 9 days; you will experience a wonderful thing.

2. Ad lateris dolorem.

Herbae proserpinaca sucum cum oleo rosacio saepius perungues, dolorem tollit.

For pain in the sides.

Regularly apply the juice of the herb prosperpinaca with oil of roses; it relieves the pain.

3. Ad mamillarum dolorem mulierum, quae lactem habent et tumorem.

Herba prosperpinaca tunsa et cum butiro subacta, inposita discutit mire dolorem et tumorem tollit.

For breast pain in women who produce milk and have swelling.

The herb prosperpinaca, pounded and worked with butter and applied, wonderfully diminishes the pain and relieves the swelling.

4. Ad oculorum uitia uel dolores.

Herba proserpinaca, uadis ad herbam ante solis ortum uel occasum et circumscribis eam cum anulo aureo et dicis tollere te eam remedium oculis; uadis ibi postero die ante solis ortum, sublatam circumdabis collo, proficiet diligenter.

For difficulties or pains of the eyes.

You seek out the herb proserpinaca before sunrise or sunset; you draw around it with a little golden ring and you say that you pick that remedy for your eyes; you go there the next day before sunrise, hang the gathered herb around your neck; it is an effective remedy.

5. Ad aurium dolorem.

Herbae prosperinacae sucus tepefactus et auribus stillatus dolorem mirifice discutit, etiam ipsi experti sumus. Potenter proficit, ut et ulcera quoque aurium sanet.

For ear pain.

The lukewarm juice of the herb prosperpinaca dripped in the ears wonderfully diminishes pain; I have even experienced this myself. It is of powerful benefit, such that it even heals sores in the ears.

6. Ad disentericos.

Herbae proserpinacae sucus foliorum, cum aqua calida potui dabis quantum tibi uidebitur sanus efficitur.

For dysentery.

Give to drink the juice of the leaves of the herb prosperpinaca with hot water in an amount that seems appropriate to you; this will bring about healing.

Nomina herbae.

A Graecis dicitur poligonos, alii cinocalce, alii poligonatos, alii aspaltion, alii policarpon, alii carcinetron, alii echinopodion, alii mirtopetalon, Aegyptii zeclias, alii thepin, alii setempin, profetae gonos eroos, alii onix mios, Romani sanguinaria, Itali proserpinaca, alii statunaria, alii serutum, alii scorpinacem.

Herb names.

It is called poligonos by the Greeks, others call it cinocalce, others poligonatos, others aspaltion, others policarpon, others carcinetron, others echinopodion, others mirtopetalon, the Egyptians call it zeclias, others thepin, others setempin, prophets call it gonos eroos, others onix mios, Romans call it sanguinaria, Italians call it proserpinaca, others statunarai, others serutum, others scorpinacem.

Nascitur ubique locis cultis et aggeribus.

It grows everywhere in cultivated and stony places.

Legis eam aestiuo tempore.

Pick this in the summertime.

XIX. HERBA ARISTOLOCHIA

1. Ad uim ueneni.

Herba aristolochia trita uel pisata, cum mero potu data uenenum uincit.

Against the power of poison.

The crushed or beaten herb aristolochia given to drink with pure wine overcomes poison.

2. Ad febres acerrimas.

Herba aristolochia sicca, subfumigabis eum, tunc hilariorem facies; fugat et daemonia.

For the most severe fevers.

Fumigate the feverish person with the dried herb aristolochia, then you will make the person feel better; it even chases away *daemonia*.

3. Ad fistulas.

Herbae aristolochiae radix purgata ex uino, teris et pastellum in uulneribus inponis, expurgat et ad sanitatem perducit. Medici quoque sine ea succerrere non ualent.

For fistulas.

You grind the root of the herb aristolochia cleansed in wine and apply the paste to the wounds; it cleanses them and leads to health. Even professional healers are not able to provide help without this plant.

4. Frigore exustis.

Herba aristolochia ex oleo cocta calefactoriam uim habet, et cum axungia porcina.

For frostbite.

The herb aristolochia cooked with oil has a warming power; it also [has a warming power if you] cook it with pork fat.

5. Contra serpentis morsum uel hominum.

Herbae aristolochiae radicem pondus denarii unius, uini eminam, saepius bibitur, discutit uenenum.

Against the bite of snakes or man.

If one regularly drinks the root of the herb aristolochia in a weight of 1 denarius and a hemina of wine, this disperses the venom.

6. Si infans contristatus fuerit.

Herba aristolochia subfumigabis, tunc hilariorem facies infantem.

If an infant becomes distressed.

Fumigate the child with the herb aristolochia, then you will make them feel better.

7. Ad carcinomata, quae in naribus nascuntur.

Herba aristolochia cum cipero et draconteae semen cum melle inpositum emendat.

For *carcinomata*[289] that grows in the nostrils.

The herb aristolochia, applied with *cyperus*, the seed of *dracontea*, and with honey, heals it.

Nomina herbae.

A Graecis dicitur aristolochia, alii adra riza, alii melocarpon, alii feuxicterus, alii Efesia, alii erectitis, alii pixinon, Dardani sopitis, Aegyptii sopoep, alii camemelus, Itali opetes, alii terrae malum, Daci absentium rusticum.

Herb names.

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[289] The editor of Pliny's *Naturalis Historia* defined *carcinoma* as a "superficial malignant disease, severe forms of which are called *cacoethe*. It seems impossible to distinguish, at least in Pliny, *carcinoma* from *ulcera cacoethe*, *phagedaena* and *gangraena*" (*Historia* Naturalis, ed. by Jones 1945, vol. VII, 553).

It is called aristolochia by the Greeks, others call it adra riza, others melocarpon, others feluxicterus, others Efesia, others erartemisiaectitis, others pixinon, the Dardani call it sopitis, Egyptians call it sopoep, others camemelus, Italians call it opetes, others terrae malum, the Dacians call it absentium rusticum.

Nascitur locis montuosis et solidis et cultis uel lapidosis.
It grows in mountainous, dense, and cultivated or stony places.

XX. HERBA NASTVRCIVM

1. Ad caput deplendum.
Herba nasturcium, naribus inicis, caput deplet.
Hoc nasturcium non seritur, sed ab se nascitur circa parietibus imis.
For draining the head.
You place the herb nasturcium in the nostrils; it drains the head.
This nasturcium is not cultivated, rather it grows on its own at the bottom of walls.

2. Ad capitis uitia uel porrigines uel furfures.
Herbae nasturcii semen mixtum, cum adipe anserino tritum ablutione furfures ex capite eiciet.
For vexations of the head or dandruff or scurf.
The seed of the herb nasturcium, mixed with goose fat and crushed, expels dry skin from the head when you wash with it.

3. Ad cruditatem.
Herbam nasturcium et puleium ex aqua decoctum bibere dato, emendabis, et discutit cruditatem.
For indigestion.
Give to drink the herb nasturcium and the herb puleium boiled with water; you will heal the ailment and it dissipates the indigestion.

4. Ad strumas.
Herba nasturcium cum lomento tritum, super strumas inponis superposito folio oleris.
For scrofulous tumors.
You place the herb nasturcium, crushed with bean meal and placed in a vegetable leaf, over the scrofulus tumor.

5. Ad furunculos sanandos.

Herba nasturcium cum fermento inponitur, coquet, mire sanat.

For healing boils.

The herb nasturcium applied with yeast warms and wonderfully heals.

Nomina herbae.

A Graecis dicitur cardamon, alii cinocardamon, alii Iberis, alii cardamina, Aegyptii semet, Itali nasturcium.

Herb names.

It is called cardamon by the Greeks, others call it cinocardamon, others Iberis, others cardamina, the Egyptians call it semet, the Italians nasturcium.

XXI. HERBA HIERIBULBUM

1. Ad articulorum dolorem.

Herba hieribulbum, adipem caprinum, oleum libras II, in se pisatum et conmixtum, uteris, dolorem tollit.

For joint pain.

You use the herb hieribulbum, beaten by itself and mixed together with goat fat and 2 pounds of oil; it relieves the pain.

2. Ad lentigines in faciem si mulier habuerit.

Herbam hieribulbum, radicem cum lumento lupinacio conmixtum, mulier si faciem lauerit, lentiginosam statim purgat.

If a woman has freckles on her face.

If a woman washes her face with the root of the herb hieribulbum mixed together with flour of lupin, it immediately cleanses the freckled face.

Nascitur ubique circa saepes, locis sordidis.

It grows everywhere around hedges and in foul places.

XXII. HERBA APOLLINARIS

1. Ad uulnera cironia et ad ranatum[290].

Herbam apollinarem cum axungia uetere sine sale teris et uinum uetus sine fumo ciatum I, axungia libra, simul pisabis et facies tamquam malagma et inponis, sanabitur.

For wounds of Chiron and *ranatum*.

You crush the herb apollinaris with old, saltless grease and at the same time you beat 1 cyathus of old, unsteamed wine, and a pound of grease and make it into a cataplasm and apply it; the person will be healed.

Nomina herbae.

A Graecis dicitur Dircaeon, alii stricnon manicon, alii doricnion, alii caccabon, Itali apollinaris, alii herba uaticina, Daci coecolida. Apollo hanc herbam dicitur inuenisse et Asclepio dedisse, unde nomen ei inposuit apollinaris.

Herb names.

It is called Dircaeon by the Greeks, others call it stricnon manicon, others doricnion, others caccabon, the Italians call it apollinaris, others call it herba uaticina, the Dacians call it coecolida.

It is said that Apollo found this herb and gave it to Asclepius, for which reason he gave the name ‘apollinaris’ to it.

XXIII. HERBA CAMEMELON

1. Ad oculorum uitia uel dolores.

Herba camemelon, si quis ante solis ortum eam herbam carpuerit, dicit albuginem uel dolorem oculorum se carpere, eamque adligatam secum gestet.

Facis autem de ea herba oleum camemelum et aegrum perunguis. Si sudauerit, uiuet; si autem non sudauerit, periclitabitur.

For vexations or pain of the eyes.

If anyone picks the herb camemelon before sunrise, he should say that he picks it for a white spot [in the eye] or for eye pain, and he should carry it tied to himself.

Moreover, you make from this herb camomile oil and you apply it on the ailing person. If the person sweats, they will live; if however they do not sweat, they will be in danger.

Nomina herbae.

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[290] The meaning of this word is unclear, and several of the manuscript readings differ. Pradel-Baquerre (2013, 684, no. 33) suggested that *ranatum* could be for *rana* or *ranula*, meaning a small swelling on the tongue.

A Graecis dicitur camemelon, alii partenion, alii dryocolafon, alii trociscos eliacos, alii aperitos, alii nimfaeos, alii hierantemis, alii helynoeprotes, Itali beneolentem, alii superbam, alii aloitica, Aegyptii thauori, Galli oualoida, Campani amolocia, Tusci abiana, Daci amolusta.

Herb names.

It is called camemelon by the Greeks, others call it partenion, others dryocolafon, others trociscos eliacos, others aperitos, others nimfaeos, others hierantemis, others helynoeprotes, Italians call it beneolentem, others call it superbam, others aloitica, Egyptians call it thauori, Gauls oualoids, Campani amolocia, Tusci abiana, Dacians amolusta.

XXIV. HERBA CAMEDRIS

1. Ad conuulsos.

Herba camedris contusa de ligno in ligno, adicito uinum, potui datam etiam ruptos sanare adsignat.

For convulsions.

Pound the herb camedris with a wooden mortar and pestle and throw it in wine; it is also used to heal ruptures when given to drink.

2. Ad uiperae morsum.

Herba camedris in puluere mollissimo redacta, in uino ueteri potui data uenenum uehementer discutit.

For snakebite.

The herb camedris reduced to the softest powder and given to drink in old wine will vigorously dispel the venom.

3. Ad podagram.

Herbam camedrim item dabis ut supra, calidam, mire paregoriam praestat.

For *podagra*.

Give the herb camedris as above but hot; it wonderfully excels in alleviating the ailment.

Nomina herbae.

A Graecis dicitur camedris, alii dris, alii driitis, alii Teucrion, alii camerops, Itali trixago maior.

Nascitur locis montuosis et solidis, legis eam mense Augusto.

Herb names.

It is called camedris by the Greeks, others call it dris, others driitis, others Teucrion, others camerops, the Italians call it trixago maior.

It grows in mountainous and dense places. Pick it in August.

XXV. HERBA CAMELLEA

1. Ad epaticos.

Herbae camelleae sucus potui datus cum uino, febricitanti cum aqua calida, mire proficit.

For liver problems.

The juice of the herb camellea given to drink with wine (or with hot water for those with fevers) is wonderfully beneficial.

2. Ad uenenum, si quis acceperit.

Herbam camelleam siccam in puluerem redactam et in uino datam, discutit uenenum.

If someone ingests poison.

The herb camellea, dried and reduced to a powder, and given in wine, dispels poison.

3. Ad idropicos.

Herba camellea et camedafne et camedris et camepitis aequali pondere tunsae et mollissime cribratae, sic in potione uini mixtae, iuuenibus coclearia V, item minoribus et mulieribus coclearia III, pueris coclearium I, mirifice aquam omnem de corpore per urinam digerit.

For dropsy.

Take equal weights of the herbs camellea, camedafne, camedris, and camepitis, pounded and sifted as finely as possible, then mix into a drink of wine; give 5 coclears to young men, the same amount to adolescents and 3 coclears to women, 1 coclear to young boys; it wonderfully dissipates all the water from the body through the urine.

Nomina herbae.

A Graecis dicitur camellea, alii corcodrillion, alii dipsaca, alii onocardion, profetae Afroditis lutron, Aegyptii semmeor, alii imelita, Itali labrum Veneris, alii cicer rusticum, alii staticius, alii muraria, Spani alentidium, Daci sciare, alii calox cardiatos, Aegyptii cer, Ostanes ceruaste, alii salpho.

Herb names.

It is called camellea by the Greeks, corcodrillion by others, others call it dipsaca, others onocardion, prophets call it Afroditis lutron, Egyptians semmeor, others imelita, Italians labrum Veneris, others cicer rusticum, others staticius, others muraria, the Spanish call it alentidium, Dacians sciare, others calox cardiatos, Egyptians cer, Ostanes ceruaste, others salpho.

XXVI. HERBA CAMEPITIS

1. Ad uulnera.

Herba camepitis contusa et inposita, si autem altior uulnus fuerunt, sucum eius in uulnere mittis.

For wounds.

The herb camepitis, pounded and applied (is a remedy), but if the wounds are deeper, you put its juice on the wound.

2. Ad strofi dolorem.[291]

Herba camepitis potui data dolorem strofi tollit.

For painful indigestion.

The herb camepitis given to drink relieves *strofus* pain.

Nomina herbae.

A Graecis dicitur camepitis, alii ortozelos, alii olociron, alii brionia agria, alii sideritis, profestae ema Athenas, Itali abiga, alii cipressus nigra, alii ruta (?), alii spicula, alii mammale, Aegyptii memenepsa, Daci doctila.

Herb names.

It is called camepitis by the Greeks, others call it ortozelos, others olociron, others brionia agria, others sideritis, prophets call it ema Athenas, Italians abiga, others cipressus nigra, others ruta (?), others spicula, others mammale, Egyptians memenepsa, Dacians doctila.

XXVII. HERBA CAMEDAFNE

1. Ad alueum concitandum.

Herba camedafne in puluere redacta mollissimo, in aqua calida potui data alueum concitat.

For moving the bowels.

The herb camedafne, reduced to the softest powder and given to drink with hot water, moves the bowels.

Nomina herbae.

A Graecis dicitur dafnitis, alii idragogos, Itali mustelago, alii lactilago, Galli usuben.

Herb names.

It is called dafnitis by the Greeks, others call it idragogos, Italians mustelago, others lactilago, the Gauls usuben.

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[291] *Strophus* is not a part of the body, but rather indicates ‘bellyache, the gripes, colic’.

XXVIII. HERBA OSTRIAGO

1. Facit ad eas res, quae in homine nascuntur.
Herba ostriago tunsa et inposita omnes res, quae in corpore nascuntur, sanat.
Make this remedy for those things that grow on a man.
The herb ostriago, pounded and placed on all the things that grow on the body, heals them.

Hanc herbam si uolueris cuellere, mundus et ante solis ortum legis eam mense Iulio.
If you want to pick this herb, pick it when you are clean and before sunrise in July.

Nascitur circa monumenta aut in monumentis aut in parietibus, qui sunt circa montium radices.
It grows around monuments or in monuments or on walls and around the base of mountains.

XXIX. HERBA BRITTANICA

1. Ad uitia, quae in ore nascuntur
Herba brittanica sumpta uiridis in modum lactucae sanat et per se trita eaque expressa. Sucus in ore contineatur et aliquid ex eo deuoretur; aeque proficit ad oscidinem herba brittanica; quam si uiridem non habueris, etiam arida contusa cum uino, ut mellis crassitudo fiat, eodem modo sumpta eundem effectum exhibet.
For vexations that grow in the mouth.
The herb brittanica eaten fresh heals the same way that lettuce does, both when it is crushed on its own or when it is pressed for juice. The person should hold the juice in their mouth and should swallow some of it; the herb brittanica is just as good for cavities; if you don't have a fresh plant, the dried herb can also be throughly pounded with wine, so that it becomes as thick as honey-water; it is eaten in the same way and it has the same effect.

2. Ad dentium dolorem uel si nutauerint.
Herba brittanica mira quadam potentia succurrit. Reponenda autem est in hieme, sucus uel puluis eius, nam non semper adparet. Sucum eius seruabis in uaso Arretino uel ipsam herbam arefacito et puluerem eius reponito. Nam ad eosdem usus cum uino sumpta aeque efficaciter prodest.
For tooth pain or if your teeth are loose.
The herb brittanica heals [these ailments] with a certain wonderful power. Its juice or powder should be saved in the winter, for it does not grow throughout the year. Serve its juice in an

Arretino dish or dry this herb and store its powder, for when drunk with wine for the same reasons it is an equally effective cure.

3. Ad paralisin.

Herba brittanica uiridis cum radicibus contusa, uini meri optimi ciati II uel III, potui sumpta mire proficere creditur.

For paralysis.

The fresh herb brittanica, beaten with its roots and consumed in a drink with 2 or 3 cyathi of the best pure wine, is thought to be wonderfully beneficial.

4. Ad alueum concitandum.

Herbae brittanicae sucus pro uiribus cuiusque potui datus per se sine periculo purgat.

For moving the bowels.

The juice of the herb brittanica, given to drink by itself according to the strength of the person, purges without danger.

5. Ad splenem.

Herba brittanica uiridis cum radicibus contusa, uini meri optimi ciati II uel III, potui sumpta mire proficere creditur.

For the spleen.

The fresh herb brittanica, beaten with its roots and taken as a drink with 2 or 3 cyathi of the best pure wine, is thought to be a wonderful cure.

6. Ad anguem, quod Graeci sinancen uocant.

Herbae brittanicae flos, antequam tonitruum audiat collectus, deuoratus, per annum totum anguem non experietur.

For the snake that the Greeks call ‘sinancen’.

If someone eats the flower of the herb brittanica, collected before one hears thunder, the person will not come across a snake for an entire year.

Nomina herbae.

A Graecis dicitur brittanica, alii damasonium, prophetae acluros, Itali brittanicum, alii beta plantaginis, alii bibonem.

Herb names.

It is called brittanica by the Greeks, others call it damasonium, Prophets call it acluros, Italians brittanicum, others beta plantaginis, others bibonem.

XXX. HERBA LACTVCA SILVATICA

1. Ad caliginem oculorum.

Dicitur, cum aquila altum uult uolare, ut prospiciat rerum naturam, lactucae siluaticae folium euellere et de suco sibi tingere oculos et accipere maximam claritatem.

Herbae ergo lactucae siluaticae sucum mixtum cum unio ueteri et melle acapno, quod sine fumo collectum est. Optimum sucum herbae, uinum et mel in se conmisce et tere et in ampulla uitrea conde et ex eo uteris, summam medicinam experieris.

For weak eyesight.

It is said that when an eagle wants to fly high so that it can look out over all of nature, it plucks a leaf of the herb lactuca silvatica and moistens it eyes with the juice of the herb and achieves the clearest sight.

Therefore, the juice of the herb lactuca silvatica is mixed with old wine and acapnus honey (which means that the honey is obtained without driving bees away by smoke). Mix together the best juice of the herb, the wine, and the honey and crush it and store it in a glass ampulla, and when you use some of it, you will experience the greatest medicine.

Nomina herbae.

A Graecis dicitur tridax agria, alii hieracion, alii aspideion, alii picris, Aegyptii ibonsus, Itali lactuca siluatica.

Nascitur locis cultis et sablosis.

Herb names.

It is called tridax agria by the Greeks, others call it hieracion, others aspideion, others picris, the Egyptians call it ibonsus, and the Italians call it lactuca siluatica.

It grows in cultivated and sandy places.

XXXI. HERBA ARGIMONIA

1. Ad oculorum uitia uel dolorem.

Herba argimonia uiridis per se trita, si arida fuerit, in calida aqua intincta, ut facillime teri possit, inlinita, suggellationem et liuores in oculis mature discutit.

For vexations or pain of the eyes.

The fresh herb agrimonia is crushed by itself, (but if it is dry, then it is soaked in hot water so that it can most easily be crushed). When applied it powerfully removes the dark and black spots in the eyes.

2. Ad uentris dolorem.

Herbae argimoniae radicem tritam bibere dato, mire prodest.

For stomach pain.

Give the crushed root of the herb agrimonia to drink; it is wonderfully helpful.

3. Ad uulnera et canceromata.

Herba argimonia uiridis contusa et adposita uitia sanara apta est; si autem arida fuerit, in aqua tepida missa idem proficere creditur.

For wounds and *canceromata*.

The fresh herb argimonia, crushed and applied, is suitable for healing the problem; if however you have the dried plant, it is thought to be just as effective if placed in tepid water.

4. Ad luxum.

Herba argimonia contrita et adposita mire doloribus et tumoribus ex luxo concitatis succurrit.

For a dislocation.

The herb argimonia, crushed and applied, wonderfully gives relief to the pains and swellings brought about by a dislocation.

5. Ad morsum serpentis.

Herbae argimoniae dragmas II cum uini ciatis II potui dato, discutit uenenum mirifice.

For snakebite.

Give 2 drachmas of the herb argimonia with 2 cyathi of wine to drink; it wonderfully dispels the venom.

6. Ad percussum ferro uel sude.

Herba argimonia contusa et inposita mirifice sanat.

If you have been stabbed by a sword or a wooden stake.

The herb argimonia, crushed and applied, is a wonderful remedy.

7. Ad uerrucas tollendas.

Herba argimonia cum aceto inposita tollet uerrucas.

For removing warts.

The herb argimonia applied with vinegar removes warts.

8. Ad splenis dolorem.

Herba argimonia in cibo sumpta splenem consumet.

For spleen pain.

The herb argimonia taken with food destroys [pain of] the spleen.

9. Ad ea, quae secanda sunt.

Herba argimonia contrita et inposita aperit et persanat.

For anything that must be cut from the body.

The herb argimonia, crushed and applied, opens and completely heals it.

Nomina herbae.

A Graecis dicitur argimoniam arsena, alii sarcocolla, Itali argimonia.

Herb names.

It is called argimoniam arsena by the Greeks, others call it sarcocolla, the Italians call it argimonia.

XXXII. HERBA ASFODILVS

1. Ad dolorem tibiarum uel pedum.

Herbae asfodili sucus cum oleo amigdalino, ungues quod dolet, mirifice sanabitur. Etiam si tumores fuerint, ipsam tunsam et subactam inponis.

For shin or foot pain.

Apply the juice of the herb asfodilus with almond oil to the area that is in pain and it will be wonderfully healed. Even if there will be swelling, you apply the pounded and worked herb.

2. Ad iocinerum uel eparis dolorem.

Herbae asfodili radicem decoque et ex aqua mulsa da potui, iocinerum dolorem mirifice tollit.

For pain of the liver.

Boil the root of the herb asfodilus and give it to drink in honey water. It wonderfully relieves liver pain.

Nomina herbae.

A Graecis dicitur asfodilus, Itali albucium dicunt, alii hastula regia.

Herb names.

It is called asfodilus by the Greeks, the Italians call it albucium, others call it hastula regia.

XXXIII. HERBA LAPATIVM ACVTVM

1. Si qua duritia in corpore fuerit.

Herba lapatium acutum ex axungia ueteri suilla pisata et ex pane domestico facta quasi malagma, inposita, mirifice sanat.

If there is any hardness in the body.

The herb lapatium acutum, beaten with old pig fat and homemade bread, then made like a cataplasm and applied, is a wonderful remedy.

Nomina herbae.

A Graecis dicitur oxilapatium, Itali lapatium acutum.

Herb names.

It is called oxilapatium by the Greeks, the Italians call it lapatium acutum.

XXXIV. HERBA CENTAURIA MAIOR

1. Ad eparis dolorem.

Herba centauria maior in uino decocta ac potui data mirifice auxiliatur.

For liver pain.

The herb centauria maior, boiled in wine and given to drink, wonderfully helps.

2. Ad spleneticos.

Herba centauria maior item ex uino decocta et potui data splenem persanat, experti sumus.

For those with spleen problems.

The herb centauria maior, boiled in wine in the same way [as above] and given to drink, completely heals the spleen, we have tested this.

3. Ad ulcerosa uulnera et canceromata.

Herba centauria maior contrita et inposita tumorem fieri non patitur.

For ulcerous wounds and *canceromata*.

The herb centauria maior is crushed and applied; the person will not suffer from swelling.

4. Ad suggillationes et liuores.

Herbae centauriae maioris sucus perunctus ex aqua summe facit.

For bruises.

The juice of the herb centauria maior applied with water is of greatest benefit.

5. Ad uulnera recentia.

Herba centauria efficax est ad plagas glutinandas, ut etiam carnes cohaerescant, quae ex aqua eius coquuntur.

For fresh wounds.

The herb centauria is [so] effective for sealing wounds tha even skin warmed in its water will cling together.

Nomina herbae.

A Graecis dicitur centauria maior, alii Nession, alii Maronion, alii Peletronias, alii limnestis, profetae ema Eracleus, alii Chrionias, alii apogorisapro, alii poliidis, alii emericos, Aegyptii antiamas, Itali fel terrae, alii iunifera, alii centauria maior, Punici abussusi.

Herb names.

It is called centauria maior by the Greeks, others call it Nession, others Maronion, others Peletronias, others limnestis, Prophets call it ema Eracleus, others call it chironias, others apogroisapro, others poliidis, others emericos, Egyptians call it antiams, Italians fel terrae, others iunifera, others centauria maior, the Phoenicians call it abussusi.

XXXV. HERBA CENTAVRIA MINOR

1. Ad uiperae morsum.

Herba centauria minor, puluis eius aut ipsa pisata in uino ueteri potui data ualidissime proficit.

For snakebite.

The herb centauria minor, either powdered or beaten, given to drink in old wine, is the strongest benefit.

2. Ad oculorum uitia.

Herbae centauriae minoris sucus oculis inunctus aciem extenuatam sanat, adiecto etiam melle idem proficit. Caliginantibus quoque oculis, ut claritas restituatur, centauriae minoris manipulum in uini congio coquito ac triduo macerato, mox eximito, inde cotidie ad eminam mixtum melle adiecto ieiunus bibat.

For vexations of the eyes.

The juice of the herb centauria minor applied to the eyes heals diminished sharpness of sight; it also has the same benefit when given with honey. Also for weak-sighted eyes, so that clearness of sight is restored, cook a handful of centauria minor in a congius of wine and steep it for three days, then take it out and every day the person should drink a hemina of the mixture with honey poured in it on an empty stomach.

3. Ad auriginem.

Herbam centauriam minorem decoque in aquae ad tertia et ex eadem dabis bibere quantum potuerit, sanabitur.

For jaundice.

Boil the herb centauria minor in water to a third part and give from that however much the person can drink; they will be healed.

4. Ad lumbricos et tineas.

Herbam centauriam minorem dabis ut supra, eiciet tineas.

For intestinal worms and [other] worms.

Give the herb centauria minor as above; it expels the worms.

5. Ad uenenum, qui sumpserit.

Herbam centauriam minorem ex aceto tritam dato, bibat, mox discutit uenenum.

Idem centauriae minoris radices pondus denarii I in ciatis III uini bibatur.

If someone has ingested poison.

Give the herb centauria minor crushed with vinegar to drink and it will soon dispel the poison.

In the same way a weight of 1 denarius of the root of centauria minor should be drunk in 3 cyathi of wine.

Nomina herbae.

A Graecis dicitur centauria minor, alii elleborites, profetae ema Eracleus, Aegyptii amarat, Daci stirsozila, Itali febrifugia, alii multiradix.

Ciro centaurus has herbas fertur inuenisse, unde et tenent nomen centauriae.

Nascuntur locis solidis et fortibus.

Herb names.

It is called centauria minor by the Greeks, others call it elleborites, Prophets call it ema Eracleus, Egyptians call it amaret, Dacians call it stirsozila, Italians febrifugia, others multiradix.

It is believed that Chiron the centaur found these herbs, for which reason they have the name ‘centauria’.

They grow in solid and strong places.

XXXVI. HERBA PERSONACIA

1. Ad uulnera omnia.

Herbae personaciae sucus cum uino ueteri, potione data, omnes morsus serpentium uel colubri mirifice sanat.

For all wounds.

Give in a drink the juice of the herb personacia with old wine; it wonderfully heals all bites of serpents or snakes.

2. Ad febres.

Herbae personaciae foliis cinges febricitantem, statim mirifice effugat febres.

For fevers.

Tie on to the feverish person the leaves of the herb personacia, immediately it wonderfully dissipates their fevers.

3. Ad uulnus, si cancerauerit.

Herbae personaciae aqua foueto, deinde ipsam cum nitro et axungia et picula cum aceto tere et in panno indue et pone.

For a swollen wound.

Foment [the person] in the water of the herb personacia, then crush that same herb with soda ash and grease and a little pitch with vinegar, put the mixture in a piece of cloth and apply it.

4. Ad intestinorum dolorem.

Herbae personaciae sucus ciatus I, ex melle ciatis II ieiunus bibat.

For pain of the intestines.

The person should drink 1 cyathus of the juice of the herb personacia with two cyathi of honey on an empty stomach.

5. Ad canis rabidi morsum.

Herbae personaciae radices cum sale marino tritas morsu inponito, mox sanat.

For the bite of a rabid dog.

Place on the bite the roots of the herb personacia crushed with sea salt; this will soon heal the bite.

6. Ad uulnera uetera, quae humorem praestant.

Herbae personaciae radicem et spinam, quae in locis siccis nascitur, aequali pondere conteris et inponis.

For old wounds that are filled with exudate.

You crush an equal weight of the root and the thorn of the herb personacia (which grows in dry places), and apply it.

7. Ad combustum.

Herbae personaciae sucum ciatum I ex melle ciatis II bibat.

For burns.

The person should drink 1 cyathus of the juice of the herb personacia with 2 cyathi of honey.

Nomina herbae.

A Graecis dicitur prosopis, alii Bacchion, alii elefantosis, alii elefas, alii nefelion, Itali personacia, alii bardana, alii manifoliu, Galli betilolen, Daci riborasta.

Herb names.

It is called prosopis by the Greeks, others clal it Bacchion, others elefantosis, others elefas, others nefelion, the Italians call it personacia, others bardana, others manifoliu, the Gauls call it betilolen, the Dacians riborasta.

XXXVII. HERBA FRAGA

1. Ad splenis dolorem.

Herbae fragae sucus ex melle potui datus mire proficit.

For spleen pain.

The juice of the herb fraga given to drink with honey is wonderfully beneficial.

2. Ad suspiriosos et colicos.

Herba fraga cum pipere albo et melle mixta et potui data, mirificum est.

For difficulty breathing and severe stomach pain.

The herb fraga given to drink mixed with white pepper and honey is wonderful.

Nascitur locis opacis et mundis et collibus.

It grows in shady places, in clean places, and on hills.

Legis eam mundus.

Pick it when you are clean.

XXXVIII. HERBA IBISCVM

1. Ad podagram.

Herba ibiscum pistata cum axungia ueteri inposita tertia die sanabit; eius herbae experimentum auctores plures adfirmant.

For *podagra*.

The herb ibiscum, crushed with old grease and applied, will heal by the third day; many authors affirm the effect of this herb.

2. Ad collectiones[292], quae in corpore nascuntur.

Herba ibiscum decocta cum feno Graeco et lini seminis polline inposita duritias omnes discutit.

For an abscess that grows on the body.

The herb ibiscum, boiled with fenugreek and powdered flax seed and applied, dispells all hardness.

3. Ad omnes encatismas.

Herba ibiscum decocta cum malua et feno Graeco, de eadem aqua fouebis et haec omnia teres et encatismas inpones.

For all fomentations.

Boil the herb ibiscum with malua and fenugreek, foment [the person] with the water from the herbs and you crush all these herbs together apply the fomentation.

4. Ad intestinorum dolorem.

Herba ibiscum item ut supra decocta singula et ut encatisma posita, ex aqua calida intestinum foues, tertio die sanabitur, experti sumus.

For pain of the intestine.

Boil the herb ibiscum as above (but by itself), and as the fomentation is applied, you warm the intestines with hot water; it will heal on the third day, we have tested this.

Nomina herbae.

A Graecis dicitur altea, alii alteas riza, alii eleomolocin, alii molocen Creticen, alii anadendromolocin, alii sicofillon, Romani ibiscum dicunt.

Herb names.

It is called altea by the Greeks, others call it alteas riza, others eleomolocin, others molocen Creticen, others anadendromolocin, others sicofillon, the Roman call it ibiscum.

Nascitur locis humidis et campis.

It grows in humid places and on fields.

XXXIX. HERBA EQVISETA

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[292] In Pliny's work, *collectio* is the most general term for a boil or abscess (Jones vol. VII, 554).

1. Ad disentericos.

Herba equiseta, sucus eius ex uino dulci ciatis II potui datus disenteriam sanare creditur.

For dysentery.

The juice of the herb equiseta, given to drink with 2 cyathi of sweet wine, is thought to heal dysentery.

2. Ad eos, qui sanguinem per os reiciunt.

Herbae equisetae sucum ex uino austerissimo sine fumo ieiunus bibat, mox restringet sanguinem.

For those who cough up blood.

The person should drink the juice of the herb equiseta with the most sour wine (made without smoke) on an empty stomach; soon it will keep back the blood.

Nomina herbae.

A Graecis dicitur ippirum, Itali equiseta.

Herb names.

It is called ippirum by the Greeks, the Italians call it equiseta.

XL. HERBA MALVA ERRATICA

1. Ad uesicae dolorem.

Maluae erraticae cum totis radicibus suis libram pensatam, hanc libram in congio aquae coctam ad dimidias per triduo ieiuno dabis bibere, sanabitur.

For bladder pain.

Give to drink to someone on an empty stomach over three days a pound of malva erratica with all its roots, this pound cooked in a congius of water to a half part; the person will be healed.

2. Ad neruorum dolorem.

Malua erratica pistata cum axungia ueteri et inposita neruorum dolorem mirifice sanat; facit et ad omnes encatismas decocta cum ibisco et feno Graeco.

For muscle pain.

Malva erratica, crushed with old grease and applied, wonderfully heals muscle pain; one also uses [this herb] for all fomentations cooked with ibiscum and fenugreek.

3. Ad lateris dolorem.

Maluam erraticam decoquis cum oleo et, postquam destringis folia, in mortario teris, in panno inducis et inponis, triduo non soluis, emendasti dolorem.

For pain in the sides.

You boil malva erratica with oil and, after you strip off the leaves, you crush them in a mortar, you put them in a cloth and apply them; do not remove the cloth for three days, you relieved the pain.

4. Ad uulnera recentia.

Maluae erraticae radicem in cinere decoctam contere et inpone.

For fresh wounds.

Crush the root of malva erratica cooked on ash and apply it.

5. Ad paniculas, quae in inguine nascuntur.

Herba malua erratica…

For a swelling that grows on the genitals.

The herb malua erratica…

Nomina herbae.

A Graecis dicitur moloce agria, alii eleomolocin, alii acopon, alii colliris, alii molocin iption, alii eliotropia, alii mios ura (?), Itali malua rustica, alii malua erratica.

Herb names.

It is called moloce agria by the Greeks, others call it eleomolcin, others acopon, others colliris, others molocin iption, others eliotropia, others mios ura (?), Italians malua rustica, others malua erratica.

Nascitur ubique locis cultis.

It grows everywhere in cultivated places.

XLI. HERBA BOVIS LINGVA

1. Ad tertianas siue quartanas.

Herba bouis lingua, quae tres tirsos seminis mittit, eius radicem totam ex aqua decoque, potui dabis, remediabis. Quae autem quattuor tirsos habet, facit ad quartanas, dabis ut supra. Alia item herba similis est ei, quae folia lapatii fert minuta, eius radix potata ex aquae ranis et serpentibus aduersatur.

For tertian or quartan fevers.

Boil the whole root of the herb bouis lingua, the kind that produces three stalks of seed, in water, give it to drink, you will heal. The kind that has four stalks, however, one uses for quartan fevers, give it as above. There is another herb similar to this one, that bears small leaves like lapatium; when drunk with water, the root of this herb wards off frogs and serpents.

2. Ad suppurationes in corpore.

Herba bouis lingua ex melle et pane pistata, uice malagmatis inposita mirifice rumpit.

For abscesses in the body.

The herb bouis lingua, crushed with honey and millet and applied like a cataplasm, wonderfully removes [the abscess].

Nomina herbae.

A Graecis dicitur buglossa, profetae gonos aeluru, ostanes anuci, Aegyptii antuerenbesiar, Romani lingua bubula, Lucani corrago.

Herb names.

It is called buglossa by the Greeks, Prophets call it gonos aeluru, Ostanes anuci, Egyptians antuerenbesiar, Romans lingua bubula, Lucanians corrago.

Nascitur locis cultis et sablosis. Legis eam mense Iulio.

It grows in cultivated and sandy places.

Pick it in July.

XLII. HERBA SCILLA

1. Ad idropicos.

Herbae scillae bulbus torretur, deinde circumpurgatur et medium eius in aqua coquitur: cum madidum fuerit, eximito ex eo III obolos, dantur potui ex melle et aceto et euacuatur per urinam.

For dropsy.

The bulb of the herb scilla is roasted, then it is cleansed and its middle is boiled in water: when it is soaked, take 3 oboli from it, and these should be given to drink with honey and vinegar and the dropsy will be purged through the urine.

2. Ad perniones.

Herbae scillae quod est in medio eius, cum oleo feruefactum, atque ea, quae dolorem exhibent, perunguendo sedabuntur.

For chilblains.

The middle part of the herb scilla is warmed with oil and the areas that are in pain will be relieved by the application.

3. Ad panaricia.

Herbae scillae radix pistata cum aceto et pane, inposita panaricia mirifice sanat.

For *panaricia*.

The root of the herb scilla, crushed with vinegar and millet and then applied, wonderfully heals the *panaricia*.

4. Item ad idropicis extinguendam sitim.

Herbae scillae folium subiectum sub lingua sitim conpescit.

Again for quenching the thirst of dropsy.

The leaf of the herb scilla placed under the tongue represses thirst.

Nomina herbae.

A Graecis dicitur bulbus scilliticus, alii stoecas, alii scilla, alii Alcibiadeon, alii pancration, alii Tifonia, Aegyptii subtho, profetae oftalmon Tifonos, Itali scilla rubra mascula, alii bulbus scillites.

Herb names.

It is called bulbus scilliticus by the Greeks, others call it stoecas, others scilla, others Alcibiadeon, others pancration, others Tifonia, Egyptians subtho, Prophets oftalmon Tifonos, Italians scilla rubra mascula, others bulbus scillites.

Legis eam omni tempore.

You can pick this at any time.

XLIII. HERBA COTVLEDON

1. Ad strumas discutiendas.

Herba cotuledon pistata cum axungia ouilla, feminis, sine sale, aequis ponderibus, calidum inponis, strumas discutit.

For dispersing scrofulus tumors.

You apply the herb cotuledon, crushed with an equal weight of saltless fat from a female sheep; [apply it] warm and it disperses the scrofulus tumors.

Nomina herbae.

A Graeccs dicitur cotiledon, alii cepos Afrodites, alii ges omfalos, alii stoecas, alii stergetron, Romani cimbalaris, Itali umbilicum Veneris.

Herb names.

It is called cotiledon by the Greeks, others call it cepos Afrodites, others ges omfalos, others stoecas, others stergetron, Romans cimbalaris, Italians umbilicum Veneris.

Nascitur in tectis uel in monumentis. Legis eam hiemis tempore.

It grows in indoors or on monuments.

Pick it during the winter.

XLIV. HERBA GALLICRVS

1. Ad morsum canis.

Herbam gallicrus teris cum axungia et pane domestico et inponis, mox sanabitur.

Idem et duritias discutit.

For a dog bite.

You crush the herb gallicrus with grease and homemade bread and you apply it; the bite will soon be healed.

It also diminishes hardness.

Alii sanguinariam uocant.

Some call this herb ‘sanguinariam’.

Nascitur locis solidis et circa uias.

It grows in dense places and around roads.

XLV. HERBA MARVBIVM

1. Ad tussem grauem.

Herbam marrubium coques ex aqua et dabis bibere eis, qui grauiter tussiunt, sanabuntur mirifice.

For a serious cough.

You boil the herb marrubium with water and give it to drink to those who have serious coughs; they will be wonderfully healed.

2. Ad stomachi dolorem.

Herbae marrubii sucum potum stomachi dolorem tollit, et si febricitat, ex aqua calida potum, satisque eleuat, si…

For stomach pain.

The juice of the herb marubium, when drunk, relieves stomach pain; and if the person has a fever, it should be drunk in hot water; and it sufficiently removes the fever, if…

3. Ad lumbricos.

Herbae marrubii, absintii et lupinorum paria pondera in aqua mulsa cocta, cum uino bis aut ter super umbilicium positum necat lumbricos.

For intestinal worms.

Equal weights of the herbs marubium, absinthium, and lupinum cooked in honey water and placed on the navel two or three times with wine, kills the worms.

4. Ad condolomata.

Herbam marrubium conbure, eius cinerem infrica, sanabit.

For anal inflammation.

Roast the herb marrubium, rub on its ashes; the swelling will heal.

5. Si quis uenenum acceperit.

Herbae marrubii sucum dabis ex uino ueteri, discutit uenenum.

If someone ingests poison.

Give the juice of the herb marrubium with old wine, it disperses the poison.

6. Ad scabiem uel inpetiginem.

Herbam marrubium discoque et ex aqua corpus lauato, scabiem discutit et inpetiginem.

For itching or scabs.

Boil the herb marrubium and wash the body with the water from that; it removes the itching and scabs.

7. Ad pulmonum extensionem.

Herbam marrubium ex melle coctam sumat, mire curat.

For swollen lungs.

The person should eat the herb marrubium cooked with honey, it is a wonderful cure.

8. Ad omnem duritiam.

Marrubium tunsum cum axungia et inpositum mire sanat.

For every hardness.

Marrubium pounded with grease and applied heals wonderfully.

9. Ad pedum dolorem aut si quis lassus ab opere inciderit in languorem et habuerit neruorum dolorem et spasmum.

Herbae marrubii suco cum oleo rosacio permixto perungues eum, sine mora sanabitur.

For foot pain or if someone who is weary from work falls into languor and has pain and spasms of the muscles.

You smear the person with the juice of the herb marrubium mixed with rose oil, the person will be healed without delay.

Nomina herbae.

A Graecis dicitur prasion, alii eupatorion, alii filopaes, Aegyptii asteritam, profetae ema tauru alii afedros, alii gonos Oru, Romani marrubium, alii melissam, alii ulceraria, alii camelopodium, alii nossotrofon (?) dicunt.

Herb names.

It is called prasion by the Greeks, others call it eupatorion, others filopaes, Egyptians call it asteritam, Prophets call it ema tauru, others afedros, others gonos Oru, Romans call it marrubium, others melissam, others ulceraria, others camelopodium, others nossotrofon (?).

XLVI. HERBA XIFION

1. Ad fistulas, quae in corpore nascuntur.

Herbae xifion radix unciae VI, amuli unciae VI, aceti ciati II, adipes uulpinus unciae III, ex uino pisabis, in panno linis et inponis, miraberis.

For fistulas that grow on the body.

Crush 6 unciae of the root of the herb xifion, 6 unciae of starch, 2 cyathi of vinegar, and 3 unciae of fox grease with wine, apply it with linen cloth; you will marvel.

2. Ad capitis fracturam.

Herba xifion, superior pars eius trita, sicca, aequis ponderibus mixta uino capitis ossa fracta extrahit, aut si quid in corpore subpuratum fuerit uel si pedibus calcata sint ossa serpentis, ea contra uenena efficax est.

For a head fracture.

The upper part of the herb xifion, crushed, dried, and mixed with an equal weight of wine, draws out the broken bones of the head, or if there is any pus in the body or if the bones of a snake are stepped on by someone's feet, this is efficacious against venom.

Alii fasganion dicunt.

Some call it 'fasganion'.

XLVII. HERBA CALLITRICVM

1. Ad strumas uirginum.

Herba callitricum pistata per se et inposita uirginibus strumas sanat.

For fresh scrofulus tumors.

The herb callitricum, crushed by itself and applied to new scrofulus tumors heals them.

2. Ad capillos tinguendos.

Herba callitricum in oleo trita et in caput peruncta capillos inficit.

For dyeing the hair.

The herb callitricum, crushed in oil and applied to the head, dyes the hair.

XLVIII. HERBA MOLV

Clarissima herbarum est Homero teste et inuentionem eius Mercurio adsignat contraque summa ueneficia demonstrationem, radice rotunda nigraque, magnitudine caepae.

Homer claims that this is the most famous of herbs and that it was discovered by Mercury and proven against the strongest poisons. It has a round and black root; it is the same size as an onion.

1. Ad dolorem matricis.

Herba molu contusa et inposita dolorem matricis sedat.

For pain of the womb.

The herb molu, pounded and applied, relieves pain of the womb.

XLIX. HERBA HELIOTROPIA

1. Ad omne uenenum.

Herbae heliotropiae puluerem mollissimum ex ea aut sucum eius, cum uino ueteri optimo potui datum mire uenena discutit.

For all poison.

The herb heliotropia, made into the softest powder (or the juice taken from it), and given to drink in the best old wine, wonderfully dispels poison.

2. Ad luxum.

Herba heliotropia contusa et adposita efficaciter sanare dicitur.

For a dislocation.

The herb heliotropia, crushed and applied is said to effectively heal.

Nomina herbae.

A Graecis dicitur heliotropia, alii heliotropos, alii heliopun, alii adialtion, alii scorpion, alii Heraclea, profetae gonos scorpiu, alii ema Titanu, alii ura scorpiu, Pythagoras parmoron, Aegyptii nisene, Itali uertumnum, alii mulcetram, alii intibum siluaticum.

Herb names.

It is called heliotropia by the Greeks, others call it heliotropos, others heliopun, others adialtion, others scorpion, others Heraclea, Prophets call it gonos scorpiu, others ema Titanu, others ura scorpiu, Pythagoras calls it parmoron, Egyptians nisene, Italians uertumnum, others mulcetram, others intibum siluaticum.

Nascitur ubique locis cultis et mundis et in pratis. Huius herbae diuinae ad solis cursum floscelli se uertunt, et cum sol occidit, floscelli se cludunt; rursum cum sol oritur, floscelli se aperiunt.

Facit ad remedia multa.

It grows everywhere in cultivated places, in clean places, and in meadows. The little flowers of this divine herb turn themselves towards the course of the sun, and when the sun sets, the little flowers close themselves up, and when the sun rises again, the little flowers open up.

It makes many remedies.

L. HERBA GRIAS

1. Ad sciaticos.[293]

Herbae grias radix pistata et quasi malagmae genus inposita sciaticos tertia die sanat.

For *sciatica*.

The root of the herb grias, beaten and applied as a kind of cataplasm, heals *sciatica* by the third day.

2. Ad omnes dolores in corpore.

Herbae grias radix pistata et inposita omnes dolores sedat.

For all bodily pains.

The root of the herb grias beaten and applied relieves all pains.

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[293] *Sciaticos* might indicate those with sciatica, with general hip pain, or with sciatic gout.

Nascitur in Lucania, marmoris albi colorem habet, quattuor rubicundis ornata culiculis.

It grows in Lucania; it has a marble-white color and is adorned with four red calyxes.

LI. HERBA POLITRICVM

1. Ad coli dolorem.

Herba politricum, quae habet ramulos quasi seta porcina, folia eius contrita cum piperis granis IX et seminis coriandri granis IX, simul contrita cum uino optimo, dabis bibere introeunti in balneo.

Facit et ad capillos mulierum nutriendos.

For colon pain.

The leaf of the herb politricum, which has twigs like the bristles of a pig, crushed with 9 grains of pepper and 9 grains of coriander seed, crushed together in the best wine, give it to drink to someone about to bathe.

One also makes this for nourishing the hair of women.

Nomina herbae.

A Graecis dicitur adianton, alii politricum, alii tricomanes, alii ebenotricon, alii pterion, Aegyptii ethuc, Romani cincinnalis, alii terrae capillos, alii supercilium terra.

Herb names.

It is called adianton by the Greeks, others call it politricum, others tricomanes, others ebenotricon, others pterion, Egyptians call it ethuc, Romans cincinnalis, others terrae capillos, others supercilium terra.

Nascitur in parietibus, locis humorosis.

It grows on walls and in moist places.

LII. HERBA ASTVLA REGIA

1. Ad disentericos.

Herbae astulae regiae radix cum uino trita potui datur disentericis, statim sentiunt beneficium.

For dysentery.

The root of the herb astula regia crushed with wine is given to drink for those with dysentery, immediately they will feel the benefit.

2. Ad uentris fluxum, ut restringat.

Herbae astulae regiae semen mixtum cum aceto acerrimo potui datum uentrem restringet.

To tighten gassy bowels.

The seed of the herb astula regia, mixed with the harshest vinegar and given to drink binds the bowels.

A Graecis dicitur molocin agrian.

It is called molocin agrian by the Greeks.

LIII. HERBA PAPAVER SILVATICVM

1. Ad epiforas oculorum.

Herbae papaueris siluatici sucum uel caliculus cum suo fructu oculis inponitur.

For runny eyes.

The juice of the herb papaver silvaticum or its little calyx with its fruit is placed on the eyes.

2. Ad emigraneum uel capitis dolorem.

Herbam papauer siluaticum teres cum aceto et inpones super frontem, sedabit dolorem.

For headache or head pain.

You crush the herb papuer siluaticum with vinegar and apply it to the forehead, it will relieve the pain.

3. Ad somnum, qui non dormiunt.

Herbae papaueris siluatici suco si quem perungas, somnum cum sopore obicit.

If someone cannot sleep.

If you smear someone with the juice of the herb papauer silvaticum, the person will fall asleep with drowsiness.

Nomina herbae.

A Graecis dicitur mecon roeas, alii oxigonon, alii mecon agrios, alii anemone, Itali papauer album, alii papuer siluaticum.

Herb names.

It is called mecon roeas by the Greeks, others call it oxigonon, others mecon agrios, others anemone, Italians call it papuer album, others papuer siluaticum.

LIV. HERBA OENANTE

1. Ad stranguiriam.

Herbae oenantes radicem in puluerem redactam dato ad stranguiriam in uino ciatis II, summe facit.

For difficulty urinating.

Give the root of the herb oenante reduced to a powder in 2 cyathi of wine for difficulty urinating; it works wonderfully.

2. Ad tussim.

Herbae oenantes radicem dabis ut supra, tussim sedat.

For cough.

Give the root of the herb oenante as above, it relieves cough.

LV. HERBA NARCISSVS

1. Ad uulnera, quae ab se nascuntur.

Herbae narcissi radix contusa cum oleo et farina uice cataplasmae inponitur in uulnere et sanat mirifice.

For wounds that grow from themselves.

The root of the herb narcissus, crushed with oil and flour is applied like a poultice on the wound and is wonderfully healing.

Nomina herbae.

A Graecis dicitur narcissos anigros, alii autogenes, alii bolbos emeticos, Aegyptii emotonae, profetae cingoglossa, alii ema probatu (?) , Itali bulbus uomitorius.

Herb names.

It is called narcissos anigros by the Greeks, others call it autogenes, others bolbos emeticos, Egyptians call it emotonae, Prophets cinoglossa, others ema probatu (?), Italians bulbus uomitorius.

LVI. HERBA SPLENION

1. Ad splenis dolorem.

Herbae splenion radix in puluere mollissimo redacta, in uino leniori potui data, summam rem experieris, constataque sic inuentam: cum exta super eam proiecta essent, adhaesisse lieni eumque exinanisse, propter hoc a quibusdam splenion uocatur. Narrant etiam sues, qui radicem eius edunt, sine splene inueniri. Quidam ramis isopi, surculosam, folio oblogno fabae eodem nomine appellant. Legunt eam, cum floret, maxime ex Ciliciae et Pisidiae montibus laudant.

For spleen pain.

The root of the herb splenion reduced to the softest powder, given to drink in a rather gentle wine, you will experience the greatest thing, and it is agreed that it was discovered thus: when entrails were thrown on it, [it is said that] it clung to and consumed the spleen, because of this it is called ‘splenion’ by some people. People also say that pigs who eat its root are found without a spleen. Some [people say that it is] woody like the branches of hyssop, with a leaf the length of a bean; it is called by the same name [because of this].

People pick it when it flowers; they especially praise it when it comes from the mountains in Cilicia and Pisidia.

Nomina herbae.

A Graecis dicitur splenion, alii hemionion, alii scolopendrion, alii loncitis, alii Frigia, alii Frigitis, alii filtrodotis, Itali Teucrion, profetae ema gales.

Nascitur locis aquosis uel humectis.

Herb names.

It is called splenion by the Greeks, others call it hemionion, others scolopendrion, others loncitis, others Frigia, others Frigitis, others filtrodotis, Italians Teucrion, Prophets ema gales.

It grows in watery or damp places.

LVII. HERBA POLION

1. Ad lunaticos.

Herbae polion sucum conmisces cum aceto scillitico, perungues eso, qui patiuntur, antequam accedat eis.

Item pilulam eius et radicem in linteolo mundo circa collum eius, qui patitur, ligabis, experimentum factum est.

Nascitur locis asperis.

For epilepsy.

You mix together the juice of the herb polion with squill vinegar, you apply it to persons who are suffering after they have eaten and before the attack comes upon them.

Also, tie a little pill of it and its root in a small and clean linen cloth around the neck of the ailing person, the truth of this is proven.

It grows in rough places.

LVIII. HERVA VICTORIOLA

1. Ad flegmata intercidenda.

Herbae uictoriolae foliorum sucus ciatos II uel III dabis cum melle bibere ieiuno, mox flegmata intercidet.

For destroying phlegm.

Give 2 or 3 cyathi of the juice of the leaves of the herb victoriola with honey to drink on an empty stomach; it quickly destroys the phlegm.

Nomina herbae.

A Graecis dicitur dafnoides, alii dafne Alexandrina, alii pelleon, alii Idaea, alii diglosson, alii eupetalos, alii Nices fillon, alii dafne Samotracine, alii dafne ipoglossos, alii carpofillon, alii dafnitis, alii stefanos Alexandru, Itali uica peruica, alii Victoriae folium, alii laurus Alexandrinus, alii Alexandri corona, alii uictoriola.

Herb names.

It is called dafnoides by the Greeks, others call it dafne Alexandrina, others pelleon, others Idaea, others diglosson, others eupetalos, others Nices fillon, others dafne Samotracine, others dafne ipoglossos, others carpofillon, others dafnitis, others stefanos Alexandru, Italians call it uica peruica, others Victoriae folium, others laurus Alexandrinus, others Alexandri corona, others uictoriola.

LIX. HERBA CONFIRMA

1. Ad profluuium mulieris.

Herbae confirmae puluerem mollissime tritum potui dabis in uino, mox restringet.

For a woman's excessive flux.

Give to drink in wine the herb confirma crushed into the finest powder, it soon restricts [the flow].

2. Ad conuulsos uel qui ab intus rupti sunt.

Herbae confirmae radicem in cinere tepido coquito, ex melle ieiuno dabis, ut edat, sanabitur, et toracem totum purgat.

For convulsions or for someone who has an interior rupture.

Cook the root of the herb confirma in lukewarm ash, give it with honey to eat on an empty stomach, the person will be healed and it also purges the whole chest.

3. Ad stomachi languorem.

Herbam confirmam si cum oxigaro edat, magnum beneficium sentiet.

For feebleness of the stomach.

If someone eats the herb confirma with a sauce of vinegar and garum, they will feel a great benefit.

4. Ad tussim.

Herbae confirmae radicem de calda decoques in mixtura et teres cum mellis parte dimidia, piperis granis XXV, castorei scripulo I, mire facit.

For cough.

You boil the root of the herb confirma in hot (water) in a mixture and you crush it with a half part of honey, 25 grains of pepper, and 1 scripulus of castoreum; it works wonders.

Haec herba hoc argumento intellegitur: carne bubula concisa et in caccabo missa, si eius radicem miseris ad dragmas II, cocta bubula in unum cohaerebit.

This herb is known by this evidence: cut-up beef is put in a cooking pot, and if you add 2 drachmas of the root of confirma, the cooked pieces of beef will cling together as one.

Nomina herbae.

A Graecis dicitur sinfitum, alii confrima, alii conferua, alii pecte, alii alum Gallicum.

Herb names.

It is called sinfitum by the Greeks, others confirma, others conferua, others pecte, others alum Gallicum.

Nascitur locis paludis et campis uel hortis.

It grows in swampy places and in fields or gardens.

LX. HERBA ASTERION

1. Ad caducos.

Herba asterion, baccas eius si dederis manducare luna decrescente, cum erit signum uirginis, et ipsam herbam in collo habet suspensam, remediabitur.

For epilepsy.

If you give the berries of the herb asterion to eat when the moon is waning, when it is in the sign of Virgo, and the person has this herb hung on their neck, they will be healed.

Haec herba nocte tamquam stella in caelo lucet et qui uidet ignorans dicit fantasma se uidere et metu plenus inridetus; maxime autem a pastoribus pecorum inuenitur.

This herb shines at night like a star in the sky and whoever sees it and does not know [this about it] says that they have seen an apparition and they laugh full of fear; this herb is found most often by shepherds of cattle.

Romani inguinalem dicunt.
Romans call this herb inguinalem.

Nascitur inter petras et loca aspera.
It grows between rocks and in harsh places.

LXI. HERBA LEPORIS PES

1. Ad uentrem soluendum.
Herba leporis pes siccata et in puluerem redacta, dabis potionem in uino, si sine febre est; si autem febricitat, in aqua calida; mox uentrem soluit.
For loosening the bowels.
Give the herb leporis pes dried and reduced to a powder as a drink in wine if the person does not have a fever; however, if the person does have a fever, you give this herb in hot water; soon it loosens the bowels.

Herba leporis pes, quam Afri adundi dicunt, Romani benedicta.
The herb leporis pes, which the Africans call adundi and the Romans call benedicta.

LXII. HERBA DIPTAMNUM

1. Si qua mulier in utero pecus mortuum habuerit.
Herbae diptamni sucum, si sine febre fuerit, cum uino dabis; si autem febricitat, cum aqua calida, mox eiciet pecus sine periculo.
If a woman has a dead fetus in her womb.
Give the juice of the herb diptamnum with wine if the woman does not have a fever; however, if she does have a fever, give the herb with hot water, it will expel the fetus without danger.

2. Ad plagas siue a ferro siue a sude siue a serpente.
Herbae diptamni sucum in plaga infundet aliquis et bibet, mox sanus erit. Ad serpentium autem morsum sucum eius in uino bibat, mox discutit uenenum.
For wounds, whether from a sword or a wooden implement or a snake.

Whoever will pour the juice of the herb diptamnum on the wound and drink it will soon be healed. Moreover, if the person will drink its juice in wine against a snakebite, it will soon dispel the venom.

3. Si quis uenenum sumpserit.
Herbae diptamni sucum item cum uino potui datum.
If someone ingests poison.
The juice of the herb diptamnum is given to drink in wine, as above.

Nam tanta uis est diptamni, ut non solum interficiat, ubicumque fuerint, serpentes praesentia sui, sed et si odor eius a uento tollitur, ubicumque eos adtigerit, mox occidet.
Fertur et hoc exemplum: si caprea in uenatione telo percussa fuerit, cum sagitta perueniet ad herbam diptamnum, mox pascitur et telum a se eicitur et plaga sanatur pascendo diptamnum.
For the power of diptamnum is so great that not only does it kill snakes wherever they are by its presence, but also if its odor is carried by the wind, wherever it reaches snakes, it will soon kill them.
And this story is also known: if a deer is pierced by a spear on a hunt, she comes with the shaft to the herb diptamnum, soon she eats it and the spear is expelled from her body and the wound is healed from eating the diptamnum.

LXIII. HERBA SOLAGO MAIOR

1. Ad serpentium morsus et scorpionis ictus.
Herba solago maior siccata et in puluere mollissimo redacta, in uino potui data et ipsa contusa plagae inponitur.
For snakebite and scorpion sting.
The herb solago maior, dried and reduced to the softest powder, is given in wine to drink and the pounded herb is applied to the wound.

A Graecis dicitur eliotropion.
It is called eliotropion by the Greeks.

LXIV. HERBA SOLAGO MINOR

1. Ad lumbricos necandos.
Herba solago minor siccata et in puluerem redacta, in aqua calida potui data lumbricos occidet.

For destroying intestinal worms.

The herb solago minor, dried and reduced to a powder, is given in hot water to drink; it kills intestinal worms.

LXV. HERBA PEONIA

1. Ad lunaticos.

Herba peonia si lunatico iacenti inposita fuerit, statim se leuat ut sanus, et si eam secum habuerit, nunquam ei accedit.

For epilepsy.

If the herb peonia is placed on a person with epilepsy while they are lying down; immediately they will stand up as if they are healthy, and if they keep the plant with them, the affliction will never attack them again.

2. Ad sciaticos.

Herbae peoniae radicem, partem adligabis lino, eum qui patitur circumcinges, res est saluberrima.

For gout.

Tie the root of the herb peonia (you will bind this part in cloth) around the person who suffers from this affliction, this treatment is very good for health.

Nomina herbae.

A Graecis dicitur pentorobon, alii gliciside, alii aglaofotis, Itali peonia.

Herb names.

It is called pontorobon by the Greeks, others call it gliciside, others aglaofotis, Italians call it peonia.

Inuenta peonia nomen auctoris retinet. Nascitur Cretae. Quam Homerus, sacer auctor, libris suis inseruit. Inuenitur plurimum a pastoribus. Haec in extrema regula baculas habet mali granati magnitudine, quae nocte sic lucent tamquam lucerna, quod est granum cocci simile; plurimum noctu a pastoribus inuenitur et colligitur.

Peonia retains the name of the author by whom it was found. It grows in Crete. Homer, the sacred author, includes this plant in his books. It is most often found by shepherds. This plant has berries on its outermost twigs that are the size of pomegranates, these shine at night like lamps because the seed is similar to the berry of scarlet oak; it is found and gathered most often at night by shepherds.

LXVI. HERBA PERISTEREON

1. Ad omnia uenena.

Herbae peristereon puluerem si quis potui dederit, omnia uenena discutit.

For all poisons.

If someone gives the powder of the herb peristeron to drink, it dispells all poisons.

Nomina herbae.

A Graecis dicitur peristereon ortos, alii trigonion, alii bunion, alii hierobotanim, alii filtrodotis, Aegyptii tiabsenti, profetae Eliu <dacrion>, alii ema gales, Itali crista gallinacia, alii columbina, alii Herculania, alii ferraria, alii exuperans, alii matricalis.

Herb names.

It is called peristeron ortos by the Greeks, others call it trigonion, others bunion, others hierobotanim, others filtrodotis, Egyptians tiabsenti, Prophets Eliu <dacrion>, others ema gales, Italians crista gallinacia, others columbina, others Herculania, others ferraria, others exuperans, others matricalis.

Haec herba admodum columbis est familiaris, unde nomen habet. Hanc habentes negant latrari a canibus. Contra uenena omnia magicasque artes erit primum illud Homericum molu, deinde Mithridation et scordotis et centaurea; potui data omnia mala medicamenta exigit per alueum deducendo.

This herb somewhat resembles doves, from which it gets its name. If someone holds this herb, they can stop the barking of dogs. The herb Homericum molu will be the best against all poisons and magical arts, then Mithridation and scordotis and centaurea; given to drink, it expels all bad medicines by moving them down through the stomach.

LXVII. HERBA BRIONIA

1. Ad splenem.

Herba brionia in cibo datur et per urinam liens digeritur.

Haec herba tam laudabilis est, ut in teriacis potionibus mittatur.

For the spleen.

The herb brionia is given with food and [the morbid matter] of the spleen is dissipated through the urine.

This herb is so praiseworthy that it is put in the drink Theriac.

Nomina herbae.

A Graecis dicitur brionia, alii ampelos leuce, Romani oua taminia, Itali uitis alba, alii coriaria, alii apiastellum, Daci aurumetti, Cilices galiadiana, Bessi dinupula, alii discopela.

Herb names.

It is called brionia by the Greeks, others call it ampelos leuce, Romans call it oua taminia, Italians uitis alba, others coriaria, others apiastellum, Dacians aurumetti, Cilices galiadiana, Bessi dinupula, others discopela.

LXVIII. HERBA NIMFEA

1. Ad disentericos.

Herbae nimfeae semen cum uino tritum potui datur. Item radicem eius radis et dabis manducare disenterico diebus decem. Item sucum in uino austeri si datum fuerit, uentris cursum restringit.

For those with dysentery.

The seed of the herb nimfea crushed with wine is given to drink. Also, you scrape its root and give it to eat for ten days to someone suffering from dysentery. If its juice is given in sour wine, it restricts the flow of the stomach.

Nomina herbae.

A Graecis dicitur nimfea, alii nimfea pteris, alii caccabos, alii lotometra, alii androginos, alii idragogos, alii Heracleos, alii arneon, Itali nimfea.

Herb names.

It is called nimfea by the Greeks, others call it nimfea pteris, others caccabos, others lotometra, others androginos, others idragogos, others Heracleos, others arneon, Italians call it nimfea.

LXIX. HERBA CRISION

1. Ad faucium dolorem.

Herbae crision radicem, si quis in collo eam portauerit suspensam, fauces ei nunquam dolebunt.

For throat pain.

If someone carries the root of the herb crision hung on their neck, their throat will never give them pain.

Nomina herbae.

A Graecis dicitur crision, alii acanta.

Herb names.

It is called crision by the Greeks, others call it acanta.

LXX. HERBA ISATIS

1. Ad morsum serpentis.

Herbae isatis folium contritum cum aqua et in plaga inpositum adiuuat et dolorem tollit.

For snakebite.

The leaf of the herb isatis crushed with water and placed on the wound heals it and relieves the pain.

Nomina herbae.

A Graecis dicitur isatis, alii aogineme, profetae apision, Itali alutam.

Herb names.

It is called isatis by the Greeks, others call it aogineme, Prophets call it apision, Italians alutam.

LXXI. HERBA SCORDEON

1. Ad morsum serpentis.

Herba scordeon coquitur, et datur ius eius potui cum uino; ipsa autem contusa in plaga inponitur.

For snakebite.

The herb scordeon is cooked and its juice is given to drink with wine; the plant is also pounded and placed on the wound.

2. Ad neruorum dolorem ex aegritudine.

Herba scordeon trita cum oelo laurino subacta tollit dolorem.

For muscle pain that results from illness.

The herb scordeon crushed and worked with laurel oil relieves pain.

3. Ad cotidianas uel tertianas.

Herba scordeon adligata circa corpus hominis tollit cotidianas uel tertianas.

For daily or tertian fevers.

The herb scordeon tied around the body of the person relieves daily or tertian fevers.

LXXII. HERBA VERBASCVM

1. Aduersus occursus malos.

Herbae uerbasci uirgulam qui secum portauerit, nullo metu terrebitur, neque occursus mali molestabunt eum.

Against bad meetings.

Whoever carries a small stick of the herb verbascum with them will not be terrified with fear and run-ins with an evil person will not bother them.

2. Ad podagram.

Herba uerbascum contusa atque inposita intra paucas horas dolorem adeo efficaciter sedat, ut etiam ambulare audeat. Hanc conpositionem praecipue auctores proficere adfirmant.

For *podagra*.

The herb verbascum, pounded and applied, so effectively relieves the pain within a few hours that the person will even try to walk. Authors affirm that this medicine is especially beneficial.

Nomina herbae.

A Graecis dicitur flomos, alii flonon, alii licnitis, profetae Hermu rabdos, Aegyptii natal, Daci diessathel, Itali uerbascum.

Herb names.

It is called flomos by the Greeks, others call it flonon, others licnitis, Prophets call it Hermu rabdos, Egyptians natal, Dacians diessathel, Italians uerbascum.

Nascitur locis sablosis et aggeribus. Hanc herbam dicitur Merurius Ulixi dedisse, cum aduenisset ad Circem, ut nulla mala facta eius timeret.

It grows in sandy and stony places. It is said that Mercury gave this herb to Ulysses when he came to Circe so that he would not fear her evil deeds.

LXXIII. HERBA HERACLEA

1. Si quis in uia tutus ambulare uult.

Herbam heracleam si tecum in uia portaueris, latrones non timebis, quin etiam fugat eos.

If someone wishes to be protected as they walk on the road.

If you carry the herb heraclea with you on the road, you will not fear brigands, indeed it will even put them to flight.

2. Ad caliginem oculorum.

Grana herbae suprascriptae purgato et in oculo mittito, tolles ea cum albugine.

For weak eyesight.

Clean grains of the above-mentioned herb and place them in the eye, you remove them with white spots.

Nomina herbae.

A Graecis dicitur heraclea, alii sideritis, alii sceparnon, alii sideritis orte, alii curitis, alii aristereon, Itali ferraria nigra, alii heraculanea, alii exuperans, alii patricalis.

Herb names.

It is called heraclea by the Greeks, others call it sideritis, others sceparnon, others sideritis orte, others curitis, others aristereon, Italians call it ferraria nigra, others heraculanea, others exuperans, others patricalis.

LXXIV. HERBA CELIDONIA

1. Ad caliginem oculorum et qui ulcera in oculis habent et scabritudinem et albuginem oculorum extenuat.

Herba celidonia, sucum de radice eius conteris cum uino ueteri et melle Attico et pipere albo, in se bene contritum inunguis deintus. Experti sumus. Aliquis de suco eius, id est lacte, oculos sibi unguet.

For weak eyesight and for those who have sores in their eyes, and it diminishes itching and white spots in the eyes.

You crush the juice of the root of the herb celidonia with old wine, Attic honey, and white pepper; you apply the well-crushed mixture on the inner part of the eye. We have tested this. Anyone will smear their eyes with the juice, that is the milk, of the herb.

2. Ad caliginem oculorum.

Herbae celidoniae sucus uel flos eius expressus et mixtus cum melle Attico in uaso aereo, leniter cineri feruenti conmixtus decoctusque singulare remedium contra caliginem oculorum. Quidam suco tantum utuntur.

For weak eyesight.

The juice or the flower of the herb celidonia, pressed and mixed with Attic honey in a copper dish, then mixed together gently with hot ash and boiled separately, is a remedy against weak eyesight. Some people use only the juice.

3. Ad parotidas.

Herba celidonia cum axungia trita inponitur, sed ante aqua foueto.

For swelling in front of the ears.

The herb celidonia crushed with grease is applied, but beforehand wash with water.

4. Ad auriginem.
Herbam celidoniam tritam ex aqua bibat, miraberis.
For jaundice.
One should drink the herb celidonia crushed with water, you will marvel at the effect.

5. Ad combustum.
Herbam celidoniam cum seuo caprino conteres et inpones.
For burns.
Crush the herb celidonia with goat fat and apply it.

6. Ad capitis dolorem.
Herbam celidoniam ex aceto contritam inlinto fronti et capiti.
For head pain.
Apply to the forehead and the head the herb celidonia crushed with vinegar.

7. Ad dentium dolorem.
Herbae celidoniae radicem et cipressi folia trita et taedam masculam aceto decoque, et tepefactum gargarizet.
For toothache.
Boil the root of the herb celidonia and the crushed leaves of cypress and male pinewood with vinegar, and gargle it when it is lukewarm.

Nomina herbae.
A Graecis dicitur celidonia, alii peonia, alii crataea, alii auius, alii glaucius, alii Pandionos riza, alii Filomelion, alii othonnion, Aegyptii mopop, Daci ebustrone, Itali hirundinina, Romani celidonia.
Herb names.
It is called celidonia by the Greeks, others call it peonia, others crataea, others auius, others glaucius, others Pandionos riza, others Filomelion, others othonnion, Egyptians call it mopop, Dacians ebustrone, Italians hirundinina, Romans celidonia.

LXXV. HERBA SOLATA

1. Ad ignem sacrum.
Herbae solatae sucus inlinitus cum aceto summe prodest.

For *ignis sacer*.
The juice of the herb solata applied with vinegar is the most beneficial remedy.

2. Ad tumorem corporis.
Herbam solatam tunsam cum oleo subactam inpone, prodest.
For bodily swelling.
Apply the herb solata pounded and worked with oil; it will be beneficial.

3. Si qua mulier ab inferiori parte laborat.
Herbae solatae suco se sublauet.
If a woman suffers in her groin.
One should wash from beneath with the juice of the herb solata.

4. Ad auricularum dolorem.
Herbae solatae sucum cum oleo ciprino misce et tepefacto stilla in auriculas.
For ear pain.
Mix the juice of the herb solata with goat oil and put lukewarm drops of this in the ears.

5. Ad dentium dolorem.
Herbae solata bacas conmanducet.
For toothache.
The person should eat the berries of the herb solata.

6. Ad sanguinem, si de naribus fluit.
Herbae solatae suco madido linteolo nares obturet, mox restringit.
For nosebleed.
The person should stop up the nostrils with a little cloth soaked in the juice of the herb solata; this soon ceases the blood flow.

Nomina herbae.
A Graecis dicitur strignos, alii alicaccabos, Aegyptii alselo, Galli scobilo, Itali coculum, alii solatam, alii strignon.
Herb names.
It is called strignos by the Greeks, others call it alicaccabos, Egyptains alselo, Gauls scobilo, Italians coculum others solatam, others strignon.

LXXVI. HERBA SENECION

1. Ad uulnera quamuis uetustissima.

Herba senecion tunsa et subacta cum axungia uetere, in plaga inposita sanat uulnera.

For wounds, even if they are very old.

The herb senecion, pounded and worked with old grease, heals wounds when placed on them.

2. Si quis ferro percussus fuerit.

Herba senecion si mane ad horam sextam collecta fuerit et tunsa cum axungia uetere et in plaga inposita, plagam aperit et expurgat.

Item si eam simili modo post meridiem colligas et cum axungia item pises et misceas, inposita plagae cludit et persanat.

If someone has been stabbed by an iron implement.

If the herb senecion is gathered in the morning up to the sixth hour of the day and is pounded with old grease and placed on the wound, the wound opens and is cleansed.

Also, if you collect the plant in the same way, but after midday, and you crush it in the same way with grease and you mix these together, when applied to the wound it closes it and completely heals it.

3. Ad pedum tumorem uel dolorem aut idem neruorum.

Herba senecion tunsa cum axungia et inposita pedum dolorem sedat uel neruorum potentissime.

For foot swelling or pain, or for the same things in the muscles.

The herb senecion, pounded with grease and applied, most powerfully relieves foot or muscle pain.

4. Ad stomachi dolorem.

Herbae senecionis flosculi cum cariota bene subacti, ut sit malagmae genus, inpositum in stomacho summe dolorem sedat.

For stomach pain.

The little flowers of the herb senecion are well-worked with *cariota*, so that the mixture is formed like a cataplasm; when placed on the stomach, it greatly relieves pain.

5. Ad lumborum et coxarum dolorem.

Herba senecion per se ieiuno potui data ualidissime prodest.

For pain of the groin and hips.

The herb senecion, given by itself to drink on an empty stomach, is a most effective remedy.

6. Ad podagram.

Herba senecion trita cum sale, ut sit genus malagmae, adposita pedibus prodesse dicitur.

For *podagra*.

The herb senecion, crushed with salt so that it is like a cataplasm, and placed on the feet, is said to be beneficial.

Nomina herbae.

A Graecis dicitur gerontea, alii erigeron, alii ydosgeros, Tusci odia, Itali senecion.

Herb names.

It is called gerontea by the Greeks, others call it erigeron, others ydosgeros, Tuscans call it odia, Italians call it senecion.

Nascitur in tectis et circa parietibus.

It grows indoors and around walls.

LXVII. HERBA FILIX

1. Ad uulnera.

Herbae filicis radicem contritam, uulneri adpositam, argimoniae dragmas II, cum uino potui si dederis mox sedat dolorem.

For wounds.

The crushed root of the herb filix is placed on the wound, and if you give 2 drachma of agrimony wine to drink, it soon relieves the pain.

2. Ad ramicem pueris.

Herbam filicem, quam in radice esculi arboris inueneris, tunde eam cum axungia et panno indue; cum inposueris, fasciam sursum uersus ligabis, quinto die sanabitur.

For a rupture in boys.

Pound the herb filix (which you find in the roots of the chestnut tree) with grease and put it in a cloth; when you apply this, tie the bandage facing up, the young man will be healed by the fifth day.

3. Ad dolorem femorum uel surae.

Herba filice fumigabis loca.

Item infantem languidum si ex ea fumigaueris, facillime conualescit.

For thigh or calf pain.

Fumigate the place with the herb filix.

Also if you fumigate a weak infant with it, it will most easily grow strong.

Alii pterigion dicunt.

Some call this plant pterigion.

LXVIII. HERBA GRAMEN

1. Ad splenis dolorem.

Herba gramen, decoques eius florem et in panno linis et inponis in splenem, sentiet beneficium.

For spleen pain.

Boil the flower of the herb gramen and apply it to the spleen in a linen cloth; the person will feel the benefit.

2. Ad epiforas oculorum.

Herba gramen, quod in se trifurcum habet, nam in plura diuiditur, decrescente luna sublatum, quam plurimum repositum habeto, deinde unum ex his lippire incipienti ad collum ligato, celeriter inpendentem epiforam discutere creditur.

For runny eyes.

The herb gramen, which has has three branches, for it is divided into several parts, is picked during the waning moon; keep most of the parts stored, then tie one from those parts to the neck of the person beginning to have watery eyes, it is believed that this will dispell the wateriness when it is quickly hung on the person.

LXXIX. HERBA GLADIOLVM

1. Ad uesicae dolorem et ad eos, qui urinam non faciunt.

Herbam gladiolum effodies et siccato cortice radicis eius conterito et addito in uino ciatis II, aquae ciatos IV coniunges et sic potabis.

For bladder pain and for those who cannot urinate.

Dig up the herb gladiolum, then dry and crush the bark of its root, and put it in 2 cyathi of wine and 4 cyathi of water; you combine these things and you drink it thus.

2. Ad splenis dolorem.

Herbam gladiolum maturissimam lectam, siccatam et pistatam et in puluere mollissimo redactam et uino lenissimo, id est inertitio, mixto puluere, potui datum mire creditur splenem siccare.

For spleen pain.

The herb gladiolus picked at its most ripe state, dried, beaten, and reduced to the softest powder and then mixed with the mildest wine, that is ‘inactive’, mixed with the powder and given to drink, is believed to dry out the spleen.

3. Ad coli dolorem uel praecordiorum.

Herbae gladioli bacas tritas ex lacte caprino, melius si asinino, tepefactum dato bibere, desinit dolor.

For neck or chest pain.

Give the berries of the herb gladiolum, crushed with goat’s milk, (it is better if it is donkey’s milk) lukewarm to drink; it stops the pain.

LXXX. HERBA ROSMARINVM

1. Ad dentium dolorem.

Herbae rosmarini radix conmanducata dentium dolorem sine mora tollit; sucum eius super dentem si tenuerit, mox sanat.

For toothache.

The chewed-up root of the herb rosmarinum relieves tooth pain without delay; if the person holds its juice against their teeth, it will soon heal them.

2. Ad languentes.

Herba rosmarinum trita cum oleo, languidum perungues, mire sanabit.

For weakness.

You apply the herb rosmarinum, crushed with oil, on the weak person and it wonderfully heals them.

3. Ad pruriginem.

Herbam rosmarinum conteris et sucum eius cum uino ueteri et aqua calida per triduo bibat.

For an itch.

You crush the herb rosmarinum and the person should drink its juice with old wine and hot water for three days.

4. Ad eparis dolorem uel interaneorum.

Herbae rosmarini fasciculum concidis ex aqua, adicis illi amomum pusillum aut spicam nardi et palmulas duas, rutae caliculum, in se coque et aquam earum dabis bibere, sanus fiet.

For pain of the liver or of the intestines.

You break down a small bunch of the herb rosmarinum with water, combine it with a small amount of amomum or spikenard and two dates, a little piece of rue, cook them together and give to drink the water in which these things have been cooked; it brings about healing.

5. Ad tussim.

Herbam rosmarinum cum pipere et melle teris et facis pastillos et dabis unum mane et unum sero, cum dormitum uadit, tussem sedat.

For cough.

You crush the herb rosmarinum with pepper and honey and make little pills of the mixture; give one in the morning and one in the evening before bed; it stops the cough.

6. Ad interaneorum dolorem.

Herbam rosmarinum uiridem aut aridam dabis ut supra.

For intestinal pain.

Give the herb rosmarinum, fresh or dry, as above.

7. Ad albuginem in oculis.

Herbae rosmarini cinerem conmisces cum melle Attico et inungues.

For white spots in the eyes.

You mix together the ashes of the herb rosmarinum and Attic honey and apply the mixture.

8. Ad uulnera recentia.

Herba rosmarinum contusa, cum axungia inposita optime facit.

For fresh wounds.

The herb rosmarinum, pounded with grease and applied, is the best remedy.

9. Ad tertianas.

Herba rosmarinum contusa, in calida aqua potui dabis sub accessionem.

For tertian fevers.

Give the crushed herb rosmarinum to drink in hot water before the onset of fever.

Nomina herbae.

A Graecis dicitur libanotis, alii icteritis, Itali rosmarinum, Punici zibbir.

Herb names.

It is called libanotis by the Greeks, others call it icteritis, Italians rosmarinum, Phoenicians, zibbir.

Nascitur locis marinis et hortis; antequam thus sciretur, de hac herba homines deos placabant.

It grows by the sea and in gardens; it used to be known as an incense - people would use the incense made from this plant to appease the gods.

LXXXI. HERBA PASTINACA SILVATICA

1. Ad mulieres, quae a partu laborant et non purgantur.

Herba pastinaca siluatica cocta, de aqua eius se fomentet, sanabitur.

For women who struggle during delivery and are not healed.

The woman should wash herself with the water in which the herb pastinaca siluatica has been boiled; she will be healed.

2. Ad purgationem mulieris.

Herba pastinaca cocta, cum eadem aqua, ubi cocta est, conmisce et dato bibere, purgabitur.

For healing women.

Mix together the boiled herb pastinaca and the water in which the herb was boiled, and give this to drink; the woman will be healed.

Nomina herbae.

A Graecis dicitur stafilin agrian, alii giger, alii eggon, alii udon aulion, Itali pastinaca siluatica.

Herb names.

It is called stafilin agrian by the Greeks, others call it giger, others eggon, others udon aulion, Italians pastinaca siluatica.

Nascitur locis saxosis et aggeribus.

It grows in stony and harsh places.

LXXXII. HERBA PERDICALIS

1. Ad podagram

Herba perdicalis coquitur in aqua, et ex ea aqua fouebis pedes uel genua, deinde ipsam tunsam cum axungia inpones panno inductam in pedibus uel in genua, sanabit mire.

For gout.

The herb perdicalis is cooked in water; wash the feet or the knees with that water, then place that herb pounded with grease in a cloth that is then put on the feet or the on the knees; it will wonderfully heal them.

Alii muralem dicunt, alii parietariam.
Some call this herb muralem, others parietariam.

Nascitur per parietibus aut macteriis aut aggeribus.
It grows on walls or enclosures or in harsh places.

LXXXIII. HERBA MERCVRIALIS

1. Ad uentris duritiam.
Herbam mercurialem coques et tritam ex passo dabis, statim detrahet et stomachum purgat; nam semen eius tritum ex passo dabis, idem detrahet.
For hardness of the stomach.
You cook the herb mercurialis and you give it crushed with raisin wine; immediately it draws down and purges the stomach; if you give its seed crushed with raisin wine, this also draws down the stomach.

2. Ad menstrua prouocanda.
Herbam mercurialem admotam cum irino uel rosacio oleo, potui datam, mox prouocat.
For provoking the menses.
The herb mercurialis is added to oil of iris or roses and given to drink, it will soon provoke the menses.

3. Ad oculorum epiforas.
Herbae mercurialis folia cum uino albo ueteri inponantur.
For runny eyes.
The leaves of the herb mercurialis should be applied with old white wine.

4. Si aqua in aures introierit.
Herbae mercurialis sucum tepidum in aurem stillatum, mox liberabitur.
If water enters the ears.
The lukewarm juice of the herb mercurialis is dripped in the ear; the ear will soon be free [of water].

Nomina herbae.

A Graecis dicitur linozostis agria, alii argiros, alii argiritis, alii parthenion, alii crisitis, profetae Hermu basilion, Itali mercurialis.

Herb names.

It is called linozostis agria by the Greeks, others call it argiros, others argiritis, others parthenion, others crisitis, Prophets call it Hermu basilion, Italians mercurialis.

LXXXIV. HERBA RADIOLVM

1. Ad capitis dolorem

Herbam radiolum contusam, ante curiose depurgatam, cum aceto scillitico usque adeo decoctam, donec non pareat, perunguendo capitis dolorem sedat.

For head pain.

The herb radiolum, cleansed carefully before being crushed with squill vinegar until it is so boiled that it is not visible, relieves head pain when applied.

2. Ad alueum concitandum.

Herbae radioli radicem euulsam et cultro corticem depurgatam, coctam cum malua, et ita ius earum bibitur, sine labore uel aliquo taedio uentrem deducit et omnes aestus.

For moving the bowels.

The root of the herb radiolum, gathered and with the outer layer removed with a knife, is cooked with mallow, and the broth of those ingredients is thus drunk; it draws down the stomach and all agitation without suffering or any wait.

Alii filicinam dicunt. Similis est filici, quae fere in lapidetis nascitur uel in parietinis, habens in foliis singulis binos ordines punctorum aureorum.

Some call this plant filicinam. It is similar to filici, which grows abundantly in stony places or on walls, having two rows of gold spots on all its leaves.

LXXXV. HERBA SPARAGVS AGRESTIS

1. Ad uesicae dolorem uel tumorem.

Herbae sparagi agrestis radicem coque in aqua sextario in pultario nouo ad quartas, et ieiunus diebus VII sumat potui, plurimis diebus balneum utatur, in frigida non descendat neque frigida bibat, mirifice experietur.

For pain or swelling of the bladder.

Cook the root of the herb sparagus agrestis in a sextarius of water in a new porridge dish to a fourth part, and let the person consume it as a drink on an empty stomach for seven days, and let them bathe for several days, never getting out of the bath cold nor drinking anything cold; the person will experience the healing with wonder.

2. Ad dentium dolorem.
Herbae sparagi sucum in ore continere oportet.
For tooth pain.
It is necessary to keep the juice of the herb sparagus in the mouth.

3. Ad elefantiosos.[294]
Herbae sparagi radix contrita inponitur.
For leprosy.
The crushed root of the herb sparagus is applied.

4. Ad renum dolorem.
Herbae sparagi radix trita, cum uino potui data proficit.
For kidney pain.
The crushed root of the herb sparagus given to drink with wine is beneficial.

5. Si quis maleuolus deuotauerit hominem.
Herbae sparagi agrestis radicem siccam cum aqua fontana, lustrabis eum et solutus erit.
If some evil creature bewitches a man.
Sprinkle the person with the dried root of the herb sparagus agrestis and water from a flowing source, and he will be freed.

Nomina herbae.
A Graecis dicitur miacanta, alii asparagos, alii sparagos agrios, Itali sparagos rusticos, alii sparagos nostros.
Herb names.
It is called miacanta by the Greeks, others call it asparagos, others sparagos agrios, Italians call it sparagos rusticos, others sparagos nostros.

LXXXVI. HERBA SABINA

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[294] Pliny uses *elephantiasis* as a regular term for leprosy (Jones vol. VII, 554).

1. Ad morbum regium, quod est auriginem.

Herba sabina cum melle et uino pota auriginem discutit, cum uino trita idem facit.

For the royal disease, that is jaundice.

The herb sabina, drunk with honey and wine, disperses the jaundice; when crushed with wine it does the same thing.

2. Ad capitis dolorem.

Herba sabina diligenter trita, cum aceto et oleo rosacio mixta, capiti et temporibus inlinita ualde prodest.

For head pain.

The herb sabina, well-crushed and mixed with vinegar and rose oil, then applied to the head and the temples, is very beneficial.

3. Ad carbunculum.

Herbam sabinam cum melle inlinito.

For carbuncles.

Apply the herb sabina with honey.

4. Ad ignem sacrum.

Herbam sabinam ut supra cum melle inlinito.

For *ignis sacer*.

Apply the herb sabina with honey as above.

Nomina herbae.

A Graecis dicitur boratos, alii antirrinon, alii anarrinon, alii cinocefalion, alii pitecion, alii bucranion, alii ametiston, alii bratin, profetae ciriomorfon, alii neothos, Aegyptii acatachyros, Itali herba sauina.

Herb names.

It is called boratos by the Greeks, others call it antirrinon, others anarrinon, others cinocefalion, others pitecion, others bucranion, others ametiston, others bratin, Prophets call it ciriomorfon, others neothos, Egyptians call it acatachyros, Italians herba sauina.

LXXXVII. HERBA CANIS CEREBRVM

1. Ad epiforas oculorum.

Herbae canis cerebrum radicem cum aqua decoctam, de ea aqua subinde oculos foueat, epiforas celeriter lenit.

For runny eyes.

The root of the herb canis cerebrum is boiled in water, then one should wash the eyes with that water; it quickly relieves the runiness.

Nomina herbae.

A Graecis dicitur cinocefalos, alii antirrinon, profetae Osireos tafe, Itali canis cerebrum, alii digitum Veneris.

Herb names.

It is called cinocefalos by the Greeks, others call it antirrinon, Prophets Osireos tafe, Italians canis cerebrum, others digitum Veneris.

LXXXVIII. HERBA RVBVS

1. Ad aurium dolorem.

Herbae rubi teneri cimas, sucus expressus, tepefactum et stillatum, aurium dolorem liberat et persanat, certum est.

For ear pain.

The lukewarm and distilled juice pressed from the shoots of a recently-sprouted herb rubus releases the ear pain and completely heals; this is certain.

2. Ad emorroidas restringendas.

Herbae rubi teneri cimas IX et murtae siluaticae cimas idem IX, mali granati sicci cortices III, coquantur in se et in calida earum sedes encatisma, et cum iam refrigerauerit, fomentabis tibi anum; hoc triduum facies, mirifice restringit et sanat.

For binding hemoirrhoids.

Take 9 shoots of the recently-sprouted herb rubus and also 9 shoots of murta silvatica, 3 pieces of the bark of dried pomegranate, these should be cooked together and then you place a fomentation in the hot water in which these things have been cooked, and when it cools, you wash your anus with it; you do this for three days, it wonderfully closes and heals the hemoirrhoids.

3. Ad profluuium mulieris.

Herbae rubi cimas teneras ter septenas coque in aqua usque ad tertias et triduo ieiuno potui dabis, ita ut cotidie renoues potionem.

For a woman’s excessive flux.

Cook 21 shoots of a newly-sprouted herb rubus in water to a third part and give it to drink on an empty stomach for three days; you should make a new drink this way every day [for the three days].

4. Ad cardiacos.[295]

Herbae rubi folia per se trita inponuntur mamillae sinistrae, dolorem sistit.

For *cardiaci*.

The leaves of the herb rubus, crushed on their own, are placed on the left breast; this stops the pain.

5. Aduersus gingiuarum et labrorum uitia.

Herbae rubi coliculos teneros in uino decoctos, ipsum uinum in ore contineatur.

Against vexations of the gums and lips.

The young buds of the herb rubus are boiled in wine, and that wine should be held in the mouth.

6. Ad uuae remedium.

Herbae rubi folia arefiant in umbra; crematorum cinere in cocleario tacta resiliet, praesentaneum est.

A remedy for the uvula.

The leaves of the herb rubus should be dried in the shade; when [the uvula] is touched by the burnt ashes [of the rubus herb] held in a spoon, it will recoil; this happens instantaneously.

7. Ad uulnera recentia.

Herbae rubi aut flos aut mora, sine collectionis periculo sanat.

For fresh wounds.

Either the flowers or berries of the herb rubus heal without danger of swelling.

8. Ad condolamata.

Herbam rubum de uino coquito ad tertias eoque uino fouentur condolomata et omnia uitia sedat.

For anal inflammation.

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[295] "The adjective refers to either disease or patient. Sometimes a simple ailment, heartburn, is referred to, at other times a serious complaint, said by W.G. Spencer on Celsus III.19 to be a kind of syncope. In fact the reference may be to any ailment supposed to be connected with the heart" (Jones vol. VII, 553).

Cook the herb rubus in wine to a third part and the anal inflammation is washed in that wine and this will stop all vexations.

9. Contra serpentium et hominum morsus.
Herbae rubi folia recentia trita inponantur.
Against the bite of snakes and of men.
The crushed fresh leaves of the herb rubus should be applied.

Nomina herbae.
A Graecis dicitur batos Idaea, alii cinosbatos, alii asintrofon, profetae ema Titanu, alii ema ibeos, Itali sentix, alii rubus, Romani mora siluatica.
Herb names.
It is called batos Idaea, by the Greeks, others call it cinosbatos, others asintrofon, Prophets ema Titanu, others ema ibeos, Italians sentix, others rubus, Romans mora siluatica.

LXXXIX. HERBA MILLEFOLIVM

1. Ad dentium dolorem.
Herbae millefolium radicem ieiunus conmanducet.
For tooth pain.
The person should chew up the root of the herb millefolium on an empty stomach.

2. Ad uulnera de ferro facta.
Herba millefolium cum axungia pistata et inposita uulnera purgat et sanat.
For a wound from a sword.
The herb millefolium, beaten with grease and applied, cleanses and heals wounds.

3. Ad tumores.
Herbam millefolium contusam cum butiro inpone.
For swellings.
Apply the herb millefolium pounded with butter.

4. Ad urinae difficultatem.
Herbae millefolium sucus cum aceto bibitur, mire sanat.
For difficulty urinating.
The juice of the herb millefolium should be drunk with vinegar; it heals wonderfully.

Nomina herbae.

A Graecis dicitur miriofillon, alii ambrosiam, alii ciliofillon, alii crisitis, Galli mulicandos, alii uigentia, Daci diodela, Itali millefolium, alii militaris, alii Achillion, alii supercilium Veneris, alii cereum siluaticum.

It is called miriofillon by the Greeks, others call it ambrosiam, others ciliofillon, others crisitis, the Gauls call it mulicandos, others uigentia, the Dacians diodela, Italians millefolium, others militaris, others Achillion, others supercilium Veneris, others cereum siluaticum.

Hanc herbam Achilles inuenit, unde uulnera ferro percusses sanabat, quae ob id Achillea uocatur, de hac sanasse Telephum dicitur.

Achilles found this herb, with which he healed his wounds when he was pierced by a sword, which is why this plant is named after Achillea; it is said that he healed Telephum with this.

XC. HERBA RVTA HORTENSIS

1. Ad sanguinem fluentem de naribus.

Herba ruta hortensis frequentius odorata sanguinem de naribus mire restringit.

For nosebleed.

The herb ruta hortensis wonderfully stops nosebleed when smelled regularly.

2. Ad inflationes.

Herbam rutam hortensem crudam, paululum edito uel in potione sumito.

For flatulence.

Eat or drink a little bit of the crushed herb ruta hortensis.

3. Ad stomachi dolorem.

Herbae rutae semen cum sulfure uiuo et aceto ieiunus gustato.

For stomach pain.

Eat the seed of the herb ruta with live sulfur and vinegar on an empty stomach.

4. Ad inguinum dolorem.

Herba ruta uiridis coquitur ex oleo, deinde conmisceatur cera et ut cerotum in linteolum utitur.

For groin pain.

The fresh herb ruta is cooked in oil, then it is mixed together with wax and is used as a plaster in a little cloth.

5. Ad epiforas oculorum.

Herba ruta cum polenta bene trita et inposita lenit epiforas, nam et radix contusa et inlinita emendat.

For runny eyes.

The herb ruta, well-crushed with pearl barley and applied, relieves runniness, its root pounded and applied also heals it.

6. Ad caliginem oculorum.

Herbae rutae rore matutino madentis sucos collectos in uasculo habeto et ex eo unguebis. Idem ad carbunculos ex aceto tunsa inponitur.

For weak eyesight.

Apply the juices of the herb ruta when they are collected wet with morning dew and kept in a vessel. It is also pounded with vinegar and applied for carbuncles.

7. Ad morsum canis rabiosi.

Herbae rutae pondus XV ex uino bibitur, plagae inponuntur rutae folia trita cum melle, sale et pice.

For the bite of a rabid dog.

15 pounds of the herb ruta are drunk with wine, the leaves of the herb ruta crushed with honey, salt and pica, are placed on the wounds.

8. Ad cardiacos.

Herbae rutae fasciculum cum rosacio decoquitur adiecta aloes uncia, et olei perunctio sudorem sistit.

For *cardiaci*.

A small bunch of the herb ruta is boiled in rose oil and combined with 1 uncia of aloe, and an application of the oil will stop sweat.

9. Ad litargos excitandos.

Herba ruta ex aceto infunditur fronti.

For energizing those with lethargy.

The herb ruta is poured on the forehead with vinegar.

10. Ad ignem sacrum.

Herba ruta ex aceto et oleo inlinita sanat.

For *ignis sacer*.

The herb ruta applied with vinegar and oil is healing.

11. Ad aciem oculorum.

Herbae rutae folia eius subinde manducet ieiunus, cum uino contrita potui data antidotum est.

For sharpness of the eyes.

The person should eat the leaves of the herb ruta often on an empty stomach; it is given to drink crushed with wine as an antidote.

12. Ad profluuium mulieris.

Herbam rutam circumscribe auro et ebore et argento, sublatam eam adligabis infra talum.

For a woman's excessive flux.

Draw a circle around the herb ruta with gold and ivory and silver; tie the gathered herb below the ankle.

13. Ad fluentem semen nimis.

Herba ruta manducetur a balneo cum liquamine.

For the flow of semen.

The herb ruta should be eaten in a bath with fish sauce.

14. Ad capitis dolorem.

Herba ruta ex uino potui datur et trita stillatur capiti cum aceto et rosacio.

For head pain.

The herb ruta is given to drink with wine and the crushed plant is dripped on the head with vinegar and rose oil.

Nomina herbae.

A Graecis dicitur peganon, erifion.

Herb names.

It is called peganon (and?) erifion by the Greeks.

XCI. HERBA MENTASTRVM

1. Ad aurium dolorem.

Herbae mentastri sucus cum uino austeri mixtus et in auricula coniectus uermes natos necare creditur.

For ear pain.

The juice of the herb mentastrum mixed with sour wine and placed in the ear is believed to kill worms living there.

2. Ad elefantiosos.

Herbae mentastri folia adhibeto, conmanducet, mire sanare certum est.

For leprosy.

Take the leaves of the herb mentastrum and the person should eat them; it is certain that they will wonderfully heal.

Nomina herbae.

A Graecis dicitur calaminte, alii glechon agria, alii osmitis, Aegyptii bremu, alii tesmu, Ostanes…, profetae gonos Apollonos, Itali mentastrum.

Herb names.

It is called calaminte by the Greeks, others call it glechon agria, others osmitis, Egyptians bremu, alii tesmu, Ostanes…, Prophets gonos Apollonos, Italians mentatastrum.

XCII. HERBA EBVLVM

1. Ad cauculosos.

Herba ebulum tenerum cum foliis tritum ex uino potui datum cauculos expellit.

For stones.

The fresh herb ebulum, crushed with its leaves and given to drink in wine, removes the stones.

2. Ad splenem.

Herbae ebuli radicem coctam ad tertias cum aqua bibat.

For the spleen.

The person should drink the root of the herb ebulum boiled to a third part with water.

3. Ad colubri morsum.

Herba ebulum, antequam succidas eam, tenes eam et ter nouies dicis: omnes malas bestias canto, atque eam ferro quam acutissimo e limo secundum terram trifariam praecidito et id faciens de eo cogitato, cui mederis, reuersus ita ne respicias et ipsam herbam contritam adponito, continuo sanabitur.

For snakebite.

You take the herb ebulum, and before you cut it you say the following twenty-seven times: ‘I enchant all evil beasts’. With as sharp a knife as possible, cut it three times outside your door on the ground, and when you are doing it, think about the person whom you are healing; turn away and do not look back again, and apply that crushed herb; the person will continually be healed.

4. Ad idropicos.

Herbae ebuli radicis sucus expressus ciati IV ex uino sextario semis potui semel in die datus, idropicis ualidissime proderit, per anum enim humor omnis detrahitur.

For dropsy.

Four cyathi of juice pressed out of the root of the herb ebulum given to drink with a half sextarius of wine once a day is most beneficial for those with dropsy, for every humor is drawn away through the anus.

5. Ad splenis dolorem.

Herbae ebuli radicem siccatam et in puluere mollissimo redactam in uino ciatis III, pulueris coclearium in limen stans bibat et ebulum secum semper habeat, sed ebulum sine ferro lectum.

For spleen pain.

A coclear of the powdered root of the herb ebulum, dried and reduced to the softest powder in 3 cyathi of wine, should be drunk while standing on a threshold; and the person should always keep the herb ebulum with himself, but do not pick ebulum with an iron implement.

Nomina herbae.

A Graecis dicitur camaesice, alii mecon afrodes, alii camaeacte, alii eleos acte, alii Euboice, Galii ducone, Daci oma, Itali ebulum.

Herb names.

It is called camaesice by the Greeks, others call it mecon afrodes, others camaeacte, others eleos acte, others Euboice, Gauls ducone, Daci oma, Italains ebulum.

XCIII. HERBA PVLEIVM

1. Caput ne ab aestu concalescat.

Herbam puleium tecum aut super aurem aut sub anulo portato.

Hoc et hieme toto facito, nec grauedinem senties nec perfrictionem.

So that the head does not swell from heat.

Carry the herb puleium with you either over the ear or under the ring finger.

Also do this throughout winter, so that you do not feel a head cold or a violent cold.

2. Ad dolorem intestinorum infantium.

Herbam puleium et ciminum tritum ex aqua super umbilicum inponito, continuo sanus fiet.

For pain in the intestines of an infant.

Place over the navel the herb puleium and cinnamon crushed with water; this will continually heal it.

3. Ad stomachi nausiam.

Herbam puleium tritam uel in aqua maceratam cum aceto potui dabis, nausiam stomachi sedat.

For an upset stomach.

Give the herb puleium, crushed in water or steeped in vinegar, to drink; it stops nasuea.

4. Ad ueretri pruriginem.

Herba puleium in aqua feruente macertaum, tamdiu donec bibi possit aqua, optimum est, pruriginem sedat.

For itchy gentials.

The herb puleium is steeped in warm water; it is best to do this until the water is a drinkable temperature; it stops the itching.

5. Ad uentris dolorem.

Herba puleium conmanducatum et in umbilico positum, religatum ne excidat, continuo dolorem discutit.

For stomach pain.

The herb puleium, chewed up and placed on the navel, and tied there so that it does not fall off, continually dispels the pain.

6. Ad tertianas.

Herbae pulei ramulos lana inuolutos odoret ante accessionem; quod si coronam in capite habuerit, capitis dolorem sedat.

For tertain fevers.

The person should smell the little sprigs of the herb puleium wrapped in wool before the onset of fever; and if they put a wreath of it on their head, it stops head pain.

7. Si infans mulieri in utero mortuus fuerit.

Herbae pulei codas tres recentes, quae olent suauiter, tritum, in uino ueteri optimo quartario dabis bibere.

If a fetus dies in the womb of a woman.

Give to drink three fresh, sweet-smelling shoots of the herb puleium crushed in a fourth part of the best old wine.

8. Ne in naue nausieris.

Herbam puleium et absintium simul tere ex oleo et aceto et nares frequenter frica.

So that you do not get seasick.

Crush the herb puleium and absintium together with oil and vinegar and frequently rub your nose with this.

9. Si mulier minus purgatur.

Herbae pulei pondus semunciam in oximelli ciatis duobus mane ieiuna bibat.

If a woman is not well-healed.

She should drink a half uncia weight of the herb puleium in two cyathi of honey water in the morning on an empty stomach.

10. Si secundae a partu non sequuntur.

Herbae pulei tres discinge codas, in uino bono da, ut bibat.

If the afterbirth does not leave the body.

Remove three shoots of the herb puleium, give them to drink in good wine.

11. Ad uesicae dolorem et cauculum.

Herbam puleium in uino ciatis II bene contritum ieiunus bibat et continuo in solium descendat, intra paucos dies sanat et cauculum expellit.

For pain of the bladder and for stones.

The person should drink the herb puleium crushed in 2 cyathi of wine on an empty stomach and they should stay sitting in a chair; it heals them and expels the stones within a few days

12. Si quis circa cor uel pectus dolet.

Herbam puelium gluttiat ieiunus.

If someone feels pain around their heart or chest.

The person should swallow the herb puleium on an empty stomach.

13. Si spasmus fuerit.

Herbam puleium in aceto ciatis II ieiunus bibat.

If someone has spasms.

The person should drink the herb puleium in 2 cyathi of vinegar on an empty stomach.

14. Si mulier obticuerit.

Herba puleium contritum et in puluere redactum, lana inuolutum subiciatur ab obstetrice.

If a woman is struck silent.

The herb puleium, crushed and reduced to a powder, should be wrapped in wool and placed under the body by a midwife.

15. Ad stomachi inflationem aut intestinorum.

Herbam puleium ex aqua calida contritum uel ex uino aut per se datum, remitteris cito.

For flatulence of the stomach or intestines.

The herb puleium, crushed in hot water, is given in wine or by itself; you will quickly relax.

16. Ad morbum articulorum.

Herbam puleium in oximelli quartario uel ciatis IV ieiuno dabis bibere, eiciet bilem et saniem albam; idem faciet, ut facile respiret.

For ailments of the joints.

Give the herb puleium in a quartarius or 4 cyathi of honey water to drink on an empty stomach, it expels bile and white, diseased blood; it also allows the person to easily breathe.

17. Ad splenis dolorem.

Herbam puleium decoque ex aceto et idem acetum calideum permixtum potui dabis; ne quid puleium praegnanti dederis.

For spleen pain.

Cook the herb puleium in vinegar and give that same vinegar mixture hot to drink; you should not give the herb puleium to pregnant women.

18. Ad isciam uel coxarum dolorem.

Herbam puleium et piper aequis ponderibus tritum in balneo fricabis, ubi dolet frequenter, sanus erit.

For pain of the hips or hip joints.

Crush the herb puleium and an equal weight of pepper and rub it on in a bath, when someone is in frequent pain, they will be healed.

A Graecis dicitur glicon.

This herb is called glicon by the Greeks.

Puleium quam uim medicamenti secum habet, multi ignorant. Duo enim genera sunt, masculus et femina. Masculus florem album habet, femina rubeum siue purpureum. Utrique utiles sunt et mirabiles, mirabile autem in se habent, quod maximis caloribus floreant, cum fere aliae herbae arescunt.

Although puleium has the power of medicine within itself, many do not know this. There are two kinds: masculine and feminine. The masculine kind has a white flower, the feminine kind has a red or purple flower. Either are useful and wonderful, and they have a wonderful characteristic about themselves, which is that they blossom in the highest heat, when other herbs wither away.

XCIV. HERBA NEPETA MONTANA

1. Ad serpentium morsus.

Herba nepeta montana ex uino trita, sucum eius expressum cum uino potui datur, cuius etiam folia contrita plagae utiliter inponuntur.

For snakebite.

The herb nepeta montana, crushed with wine, its juice pressed out and given to drink with wine, and also its crushed leaves are useful when placed on wounds.

Nomina herbae.

A Graecis dicitur minte orine, alii diaulos, profetae ema Ammonos, Itali nepeta montana.

Herb names.

It is called minte orine by the Greeks, others call it daulos, Prophets ema Ammonos, Italians nepeta montana.

XCV. HERBA PEVCEDANVM

1. Ad serpentes effugandos.

Herbam peucedanum incendes, arcet enim serpentes odore suo. Peucedanum cum uettonica et adipe ceruina aut medulla, aceto mixto eademque morsui inposita medetur.

For making snakes flee.

You burn the herb peucedanum, for it wards off snakes with its odor. The herb peucedanum with betony and deer grease or marrow, when mixed with vinegar and placed on a bite, will heal it.

2. Ad freneticos.

Herba peucedanum cum aceto capite infusa summe facit.

For madness.

The herb peucidanum poured on the head with vinegar greatly relieves [the ailment].

Nomina herbae.

A Graecis dicitur peucedanon, alii sinona agrion, alii agriofillon, profetae agatos daemon, Itali pinastellum, alii satanaria.

Herb names.

It is called peucedanon by the Greeks, others call it sinona agrion, others agriofillon, Prophets agatos daemon, Italians pinastellum, others satanaria.

XCVI. HERBA INNVLA CAMPANA

1. Ad uesicae dolorem.

Herba innula campana et apii semen et asparagi et foeniculi quoque radices in unum tritae, et in tepida potui data efficaciter prodest.

For bladder pain.

The herb innula campana, parsley seed, and the roots of asparagus and fennel are crushed together, and given in a tepid drink this is an effective remedy.

2. Ad dentium remedia.

Herbam innulam campanam ieiunus conmanducet, dentes confirmat.

For healing the teeth.

The person should chew the herb innula campana on an empty stomach, it strengthens the teeth.

3. Ad lumbricos.

Herbae innulae folia ex uino trita supra uentrem ponantur.

For intestinal worms.

The leaves of the herb innula, crushed with wine, should be placed over the stomach.

Nomina herbae.

A Graecis dicitur panax Cironia, alii centauria panax, alii elenion, Itali innula campana.

Herb names.

It is called panax Cironia by the Greeks, others call it centauria panax, others elenion, Italians innula campana.

XCVII. HERBA LINGVA CANIS

1. Ad morsum serpentis.

Herba lingua canis trita, ex uino sumpta prodest.

For snakebite.

The herb lingua canis, crushed and consumed with wine, is beneficial.

2. Ad quartanas.

Herba lingua canis, quae folia IV habet, pisata et potui data ex aqua liberat.

For quartan fevers.

The herb lingua canis, which has 4 leaves, beaten and given to drink with water, frees the person.

3. Ad aurium inutilitatem et qui minus audiunt.

Herbae linguae canis sucum ex passo et oleo tepefactum in aure stilla, mire sanat.

For deafness or for those who have trouble hearing.

The lukewarm juice of the herb lingua canis, dripped in the ear with raisin wine and oil, wonderfully heals.

Nomina herbae.

A Graecis dicitur cinoglossa, alii Frigia, alii emionion, alii splenion, alii caballation, alii scolimos, alii ptergia, alii Teucrion, Aegyptii caenis, Daci azila, Itali lingua canina, alii sublabium, alii lingua Macedonica.

Herb names.

It is called cinoglossa by the Greeks, others call it Frigia, others emionion, others splenion, others caballation, others scolimos, others ptergia, others Teucrion, Egyptains call it caenis, Dacians call it azila, Italians call it lingua canina, others sublabium, others lingua Macedonica.

XCVIII. HERBA SAXIGRAGA

1. Ad cauculos expellendos.

Herbam saxifragam contritam ex uino bibendum dato, febricitanti autem ex aqua calida; tam praesens effectus ab expertis traditur, ut eodem die perfractis eiectisque cauculis ad sanitatem perducat.

For expelling stones.

Give to drink the herb saxifraga crushed with wine (but in hot water for someone with a fever); for its immediate effect has been told by those who have experienced it, that it leads the person to health by breaking up and expelling the stones on the very day it is taken as a medicine.

Nomina herbae.

A Graecis dicitur adiantos, alii scolopendria, alii scolimos, alii brucos, Aegyptii phepere, Itali saxifraga, alii uitis canina, alii aprogo, alii lampago.

Herb names.

It is called adiantos by the Greeks, others call it scolopendria, others scolimos, others brucos, Egyptains call it phepere, Italains saxifraga, others uitis canina, others aprogo, others lampago.

Nascitur in montibus, locis saxosis.

It grows on mountains and in stony places.

XCIX. HERBA HEDERA NIGRA

1. Ad cauculos expellendos.

Herbae hederae bacas aut VII aut XI contritas, ex aqua potui sumptas mire cauculos in uesica congregatos frangere et here per urinam certum est.

For expelling stones.

Either 7 or 11 crushed berries of the herb hedera are drunk with water; it is certain that they wonderfully break up the stones gathered in the bladder and expel them through the urine.

2. Ad capitis dolorem.

Herba hedera nigra, cum oleo rosacio et cum suco eius mixto uino tempora et frontem perfricabis, sedat dolorem.

For head pain.

Rub your temples and your forehead with rose oil and with the juice of the herb hedera nigra mixed with wine; it stops the pain.

3. Ad splenis dolorem.

Herbae hederae nigrae grana primo III, secundo V, tertio VII, quarto IX, quinto XI, sexto XIII, septimo XV, octauo XVII, nono XIX, decimo XXI in uino bibantur diurnis diebus, si cum febre, in aqua calida, maximo auxilio lienosis auxiliatur.

For spleen pain.

3 grains of the herb hedera nigra should be drunk in wine on the first day (5 on the second day, 7 on the third, 9 on the fourth, 11 on the fifth, 13 on the sixth, 15 on the seventh, 17 on the eighth, 19 on the ninth, and 21 on the tenth); if the person has a fever, use hot water; it provides the greatest help to people with spleen pain.

4. Ad spalangiorum morsus.

Herbae hederae radicis sucus bibitur.

For the bite of the spalangium.
The juice of the root of the herb hedera should be drunk.

5. Ad ulcerum remedia.
Herba hedera ex uino decocta inponitur.
For healing sores.
The herb hedera is boiled in wine and applied.

6. Ad nares male olentes.
Herbae hederae sucus bene colatus in nares infunditur, emendat.
For noses that smell bad.
The juice of the herb hedera, is well-strained and poured in the nostrils, and is healing.

7. Ad aurium inutilitatem et qui minus audiunt.
Herbae hederae sucus mundissimus cum uino stillatus medeter.
For deafness and for those who have difficulty hearing.
The most pure juice of the herb hedera, dripped [in the ear] with wine heals this.

8. Ad caput, ne a sole doleat.
Herbae hederae folia mollissime trita cum aceto et rosacio, aduersus omnem dolorem fronti inlinitur.
So that the head will not be in pain from the heat.
The leaves of the herb hedera, crushed as softly as possible with vinegar and rose oil, are applied to the forehead against every pain.

Nomina herbae.
A Graecis dicitur cissos melas, alii cissaron, alii Nision, Galli bolus serron, Daci arpopria, Itali hedera nigra.
Herb names.
It is called cissos melas by the Greeks, others call it cissaron, others Nision, Gauls bolus serron, Dacians arpopria, Italians hedera nigra.

C. HERBA SERPVLLVM

1. Ad capitis dolorem.
Herbae serpulli sucum cum oleo et sale frictum et in puluere redactum, omnia conmixta, caput perunctum sanat.

Item serpullum decoctum in aceto, tritum inlinitur temporibus et fronti.

For head pain.

The juice of the herb serpullum, rubbed with oil and salt and reduced to a powder and then mixed all together and applied to the head, is healing.

Also the herb serpullum boiled in vinegar and crushed, is applied to the temples and the forehead.

2. Ad combustum.

Herbam serpullum et ancusae surculum unciam, spumam argenti uncias III et rosam, haec in mortario teres, ceram Punicam, adipem ursinam et ceruinam semilibram, simul decoques, colabis et inpones.

For burns.

You crush in a mortar the herb serpulum and 1 uncia of sprigs of ancusa, 3 unciae of spuma argenti and rose, Punic wax, a half pound of bear and deer fat, cook them all together, strain them and apply the mixture.

Nomina herbae.

A Graecis dicitur erpillon, alii zigis, alii polion, Aegyptii meru, Itali serpullum, alii cicer rusticum, alii cicer erraticum.

Herb names.

It is called erpillon by the Greeks, others call it zigis, others polion, Egyptians meru, Italians serpullum, others cicer rusticum, others cicer erraticum.

CI. HERBA ABSINTIUM

1. Ad periculum fungorum.

Herbae absintii sucum ex aceto bibat. Hoc serotinus uir centenarius euasit, eum esset a fungis temptatus.

For poisonous mushrooms.

The person should drink the juice of the herb absintium with vinegar. A man who was one hundred years old survived [using this remedy] when he was sick from mushrooms.

2. Ad liuores tollendos.

Herbam absintium in aqua decoctum et inductum panno inpone; si corpus tenerum fuerit, ex melle inpone.

For removing bruises.

Apply the herb absintium boiled in water and placed in a cloth; if the body is delicate, apply it with honey.

3. Ad lumbricos.

Herbae absintii et marrubii et lupinorum paria pondera in aqua mulsa cocta uel uino austeri, positum in umbilico necat lumbricos.

For intestinal worms.

Equal weights of the herbs absintium, marrubium, and lupinum cooked in honey water or bitter wine and placed on the navel kill intestinal worms.

4. Ad inguinis uel intertriginis molestias.

Herbae absintii surculum sumito et in semicinctio tecum portato.

For vexations of the groin or for sore, chaffed skin.

Take a sprout of the herb absintium and carry it with you in a small apron.

Nascitur locis cultis et montuosis et saxis.

It grows in cultivated places, in mountainous regions, and in stony places.

CII. HERBA SALVIA

1. Ad ueretri pruriginem.

Herba saluia decoquitur et de ea aqua infricas ueretrum.

For itchy genitals.

The herb saluia is boiled and you rub the genitals with the water in which the herb was cooked.

2. Ad pruriginem circa anum.

Herba saluia decoquitur et de ea aqua inferiores partes fomententur, et sedat pruriginem summe.

For itchiness around the anus.

The herb saluia is boiled and the lower parts are washed with the water in which the herb was cooked, and that will greatly stop the itch.

Nomina herbae.

A Graecis dicitur cission, alii becion, alii elelisfacon, alii facos, alii sfagnos, Aegyptii anusi, Itali saluiam uocant, alii tussillaginem.

Herb names.

It is called cission by the Greeks, others call it becion, others elelisfacon, others facos, others sfagnos, Egyptians anusi, Italians call it saluiam, others tussillaginem.

CIII. HERBA CORIANDRVM

1. Ad lumbricos.

Herba coriandrum coquitur ad tertias in oleo et in capite mittitur.

For intestinal worms.

The herb coriandrum is cooked to a third part in oil and placed on the head.

2. Mulier ut cito pariat.

Herbae coriandri semen grana XI aut XIII in linteolo mundo de tela adligato, puer aut puella uirgo ad femur sinistrum prope inguinem teneat, et mox ut omnis partus fuerit peractus, remedium cito tollat, ne intestinae sequantur.

So that a woman gives birth quickly.

Tie with thread 11 or 13 grains of the seed of the herb coriander in a clean linen cloth; a virgin boy or a girl should hold it to the left femur [of the woman] near her groin, and as soon as the whole birth is complete, they should quickly remove this remedy so that the intestines do not follow.

3. Ad frigora, ad quartanas, ad tertianas et cotidianas.

Herbam coriandrum ubi mane uideris ad olitorem propositum, accedis ad eum et proicies denarium et tollis fasciculum de coriandro, sed noli nominare et portas tecum, usque quo hora suspecta ueniat; cum hora transierit et nihil tibi prouenerit, sub sero proicies illum post te; dum ambulas, noli post te respicere, liberabis te.

For chills, quartan, tertian or daily fevers.

When, in the morning, you see a kitchen gardener offering the herb coriander, approach him, throw down a coin, and take a small bunch of the coriander, but do not name it, and carry it with you until the suspected hour [of the onset of fever] approaches; when the hour passes and no fever appears in you, throw the herb behind you in the evening; while you walk, do not look back behind you, you will be free.

4. Ad pulices.

Herbae coriandri aquam in domo spargito.

For fleas.

Sprinkle water of the herb coriander in your house.

CIV. HERBA PORTVLACA

1. Ad semen nimium profluentem.
Herba portulaca sumpta bene facit per se et cum oxigaro.
For excessive flow of semen.
The herb portulaca is helpful by itself and with vinegar-garum sauce.

2. Ad stomachi arsuram.
Herbam portulacam cum aceto comede, mire facit.
For burning pain in the stomach.
Eat the herb portulaca with vinegar; it works wonderfully.

Nomina herbae.
A Graecis dicitur cappara, alii andrachne, profetae ema Areos, Daci lax, Itali portulaca, alii porcastrum, alii amarantos.
Herb names.
It is called cappara by the Greeks, others call it andrachne, Prophets ema Areos, Dacians lax, Italians portulaca, others porcastrum, others amarantos.

CV. HERBA CEREFOLIVM

1. Ad stomachi dolorem.
Herbam cerefolium uiridem cimas III colligis et puleium in ligno teris, mellis coclearium malaxas, bulliat cum papauere uiridi, et inducis in stomachum.
For stomach pain.
You gather 3 sprouts of the newly-sprouted herb cerefolium and crush puleium in a wooden mortar, knead a coclear of honey, the mixture should boil with fresh poppy, and you place it on the stomach.

CVI. HERBA SISIMBRIVM

1. Ad uesicae dolorem et stranguiriam.
Herbam sisimbrium contritum excepto suco scripulos II, febricitanti ex aqua calida, non febricitanti ex uino potui dabis, remediabis mire.
For pain of the bladder or difficulty urinating.

Take 2 scripuli of the juice the crushed herb sisimbrium, give it to drink with hot water for a feverish person, give it to drink in wine for a person without a fever; you will cure the person wonderfully.

CVII. HERBA OLISATRVM

1. Ad uesicae dolorem et stranguiriam.

Herba olisatrum trita, ex passo potui sumpta stranguiriam potenter emendat.

For bladder pain or for difficulty urinating.

The crushed herb olisatrum, consumed in a drink with raisin wine, powerfully heals difficulty urinating.

Nomina herbae.

A Graecis dicitur smirnion, alii ipposelinon, alii selinon agrion, Itali olisatrum, Aegyptii denterobon.

Herb names.

It is called smirnion by the Greeks, others call it ipposelinon, others selinon agrion, Italians olisatrum, Egyptians denterobon.

CVIII. HERBA LILIVM

1. Ad percussum serpentis.

Herbae lilii bulbum conterito et potui dabis, ut ipsum bulbum tritum morsui adponas, sanabitur.

For snakebite.

Crush the bulb of the herb lilium and give it to drink; as you place the crushed herb bulb on the bite, it will be healed.

2. Ad luxum.

Herbae lilii folia tunsa et inposita, efficaciter sanat, et si tumor fuerit, sedat.

For a dislocation.

Pound the leaves of the herb lilium and apply them; this will heal it effectively, and if there is swelling, it will stop it.

Nomina herbae.

A Graecis dicitur erinon.

Herb names.

It is called erinon by the Greeks.

CIX. HERBA TITIMALLVS

1. Ad interaneorum dolorem.

Herbae titimalli fruticem teris et in uino ciatis II ex eadem mittis sucos cochlearia II, dato ieiuno bibere, sanabitur.

For pain of the intestines.

You crush the fruit of the herb titimallus and put 2 coclears of the juice produced from that in 2 cyathi of wine, give that to drink on an empty stomach; the person will be healed.

2. Ad uerrucas tollendas.

Herbae titimalli lactem mixtum cum botracii herbae sucu si in uerruca posueris, tertio die sanabitur.

For removing warts.

If you place the milk of the herb titimallus mixed with the juice of the herb botracion on the wart, it will be healed by the third day.

3. Ad fistulas.

Herbae titimalli sucum cum uino mixtum superexprimito, deinde ceteris fomentis obligato.

For fistulas.

Squeeze out all the juice from the herb titimallus and mix with wine, then apply it to other fomentations.

4. Ad lichenas qui et lepras.[296]

Herbae titimalli flos cum resina decoctus inlinitur.

For skin eruptions and *lepras*.

The flower of the herb titmallus boiled with resin is applied.

Nascitur locis humidis et ripis.

It grows in wet places and on shores.

CX. HERBA CARDVS SILVATICVS

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[296] *Leprae* in Pliny's work "seems to be used of any scaly disease of the skin" (Jones 1956, vol. VII, 555).

1. Ad infirmitatem stomachi.

Herbae cardi siluatici, quod habet in capite in summo, medullam uiridem dato ex oxigaro, edat.

For weakness of the stomach.

Give to eat the fresh pith from the highest part of the herb cardus silvaticus with vinegar-garum sauce.

2. Ad occursus malos, ut non timeas.

Herbam cardum siluaticum, si sole nouo fuerit luna in capricorno, tollis, et quamdiu tecum portaueris, nihil mali tibi occurrit.

So that you don't fear bad happenings.

You take the herb cardus silvaticus, if the sun is new and the moon is in Capricon, and as long as you carry it with you, nothing bad will happen to you.

Alii cameleon dicunt.

Some call this plant cameleon.

Nascitur in pratis et secus uias.

It grows in meadows and next to roads.

CXI. HERBA LVPINVM MONTANVM

1. Ad lumbricos et tineas.

Herbam lupinum montanum tere cum herbo et dato ex aceto ciatum I bibere, sine mora eiciet. Idem infanti cum absintio tritum in umbilico inponitur.

For intestinal worms and [other] worms.

Crush the herb lupinum montanum with bitter vetch and give it to drink with 1 cyathus of vinegar; it expels [the worms] without delay. The same herb is placed with crushed absintium on the navel for an infant.

A Graecis dicitur termos orinos.

It is called termos orinos by the Greeks.

Nascitur secus saepibus aut locis sablosis.

It grows next to hedges or in sandy places.

CXII. HERBA LATIRIDA

1. Ad duritiam uentris.

Herbae latiridae semen, quod est granum, dabis purgatum potui in aqua calida, mox alueum excitat.

For hardness of the stomach.

Give the seed, which is a small kernel, of the herb latirida to drink as a purgative in hot water; soon it will incite the bowels.

Nomina herbae.

A Graecis dicitur coceos Cnidios, alii camelaea, Euboei apolinon, Aegyptii otheitiuium, Itali citocacium, alii Iaitridam.

Herb names.

It is called coceos Cnidios by the Greeks, others call it camelaea, Euboei call it apolinon, Egyptians call it otheitiuium, Italians citocacium, others Iaitridam.

Nascitur locis cultis et sablosis.

It grows in cultivated and sandy places.

CXIII. HERBA LACTVCA LEPORINA

1. Ad febricitantes.

Herba lactuca leporina subponitur sub puluino nescienti, remediabitur.

For those with a fever.

The herb lactuca leporina should be placed under the pillow of the person without their knowledge; they will be healed.

2. Et si pili oculis obstant.

Herba lactuca leporina pilos summe religat.

And if hairs obstruct the eyes.

The herb lactuca leporina greatly removes the hairs.

Nascitur locis cultis et sablosis. Lepus aestate cum animo deficit aestu, haec herba remediat, ideo leporina dicitur.

It grows in cultivated and sandy places. This herb heals the rabbit when it feels weak in the heat of summer, therefore the plant is called ‘leporina’.

CXIV. HERBA CVCVMIS SILVATICVS

1. Ad neruorum dolorem et podagram.

Herbae cucumeris siluatici radices ex oleo cibario pondo III decoques ad tertias et exinde perungues, sanabuntur.

For muscle pain and for *podagra*.

You boil the roots of the herb cucumis silvaticus with 3 pounds of common oil to a third part and then apply that mixture, the pains will be healed.

2. Ad abortum.

Herbae cucumeris siluatici radices eius ad tertias coquat et inde se sublauet. Si quis autem ieiunus fructum eius ederit, periclitabitur, ideoque abstineat, ne manducet.

For an abortion.

One should cook the roots of the herb cucumis silvaticus to a third part and then wash herself with that. If someone eats the fruit of this herb on an empty stomach, she will fall into danger, therefore she should abstain from eating it.

A Graecis dicitur sicis agria, Itali cucumerem siluaticum.

It is called sicis agria by the Greeks, Italians call it cucumerem silvaticum.

Nascitur locis maritimis et calidis.

It grows by the sea and in hot places.

CXV. HERBA CANNABIS SILVATICA

1. Ad mamillarum dolorem.

Herbam cannabem siluaticam tunsam cum axungia inponat, discutit tumorem, et si collectio fuerit, expurgat.

For breast pain.

One should apply the herb cannabis silvatica pounded with grease; it dispells swelling, and if something has formed [in the breast], it expels it.

2. A frigore exustis.

Herbae cannabis siluaticae fructum tritum cum orticae semine subiges aceto et eis inpones.

For frostbite.

Work the crushed fruit of the herb cannabis silvatica with the seed of ortica and vinegar and apply it.

Nascitur locis asperis et secus uias et saepes.

It grows in harsh places and next to roads and hedges.

CXVI. HERBA RVTA SILVATICA

1. Ad caliginem oculorum et qui ulcera habent.

Herbae rutae siluaticae roscidae folia eius decocta in uasculo uitreo mitte, uinum uetus admisce et sic inungues.

For weak eyesight and eye sores.

The dewy leaves of the herb ruta silvatica are cooked, put them in a glass vessel, mix them with old wine and apply them thus.

2. Ad praecordiorum dolorem.

Herbam rutam siluaticam contunde in uaso ligneo, deinde adde tribus digitis, quod prendere potueris, mitte in calicem uini ciatum I et aquae ciatos II, da, ut bibat, et contineat se in lecto modicum, mox sanus erit.

For chest pain.

Crush the herb ruta silvatica in a wooden mortar, then take as much as you can grab of it with three fingers, put in a cup 1 cyathus of wine and 2 cyathi of water, give it to the person to drink, and they should remain for a while in bed; soon they will be healthy.

3. Ad eparis dolorem.

Herbae rutae siluaticae manipulum in ollam nouam et aquae eminas III, mellis eodem adicito exempta ruta, et fac, ut feruescat aqua cum melle, et per triduum facis bibere et plures poteris sanare.

For liver pain.

Put a handful of the herb ruta silvatica in new oil and 3 heminas of water, and the same amount of honey and take out the rue, and cook the mixture until the water boils with the honey; you make it to drink for three days and you will be able to heal more.

4. Ad eos, qui urinam facere non possunt.

Herbae rutae siluaticae caliculos IX conterito, addito aquae ciatos III et aceti eminam, subferueat, et dabis bibere dies IX continuos, sanus fiet.

For those who cannot urinate.

Crush 9 small cups of the herb ruta silvatica, add 3 cyathi of water and a hemina of vinegar, it should be boiled and then give it to drink for 9 days continuously; the person will be healed.

5. Mulier si intrinsecus aliquid mali habuerit.

Herbae rutae siluaticae semen contritum ex uino austeri da, bibat praeter partum.

If a woman has something bad inside her.

Give the seed of the herb ruta silvatica, crushed with old wine; the woman should drink it until the bad thing has been expelled.

6. Ad exterminatos a uino.

Herbae rutae siluaticae semen cum uino bibat.

For expelling something with wine.

The person should drink the seed of the herb ruta silvatica with wine.

7. Si quem scorpio percusserit.

Herbae rutae siluaticae semen contritum ex uino dabis potui, dolorem sedat.

If a scorpion stings someone.

Give the crushed seed of the herb ruta silvatica to drink with wine; it relieves the pain.

Nomina herbae.

A Graecis dicitur piganum agrium, Itali rutam montanam dicunt.

Herb names.

It is called piganum agrium by the Greeks, Italians call it rutam montanam.

Nascitur in montibus, locis asperis.

It grows on mountains and in harsh places.

CXVII. HERBA SEPTEFOLIVM

1. Ad pedum dolorem.

Herba septefolium trita, cum luto mixta, pedes perungues, tertio die dolorem tollit.

For foot pain.

You apply the crushed herb septefolium, mixed with mud, to the feet; it relieves the pain by the third day.

Nomina herbae.

A Graecis dicitur heptafillum, Itali septefolium dicunt. Nascitur locis sablosis et cultis.

Herb names.

It is called heptafillum by the Greeks, Italians call it septefolium.

It grows in sandy and cultivated places.

CXVIII. HERBA OCIMVM

1. Ad capitis dolorem.

Herba ocimum tritum cum oleo roseo aut mirtino uel aceto fronti inponitur, mire facit.

For head pain.

The herb ocimum, crushed with rose oil or myrtle oil or with vinegar is placed on the forehead; it works wonderfully.

2. Ad epiforas oculorum.

Herba ocimum ex uino optimo tritum oculis inlinatur. Item ad renes in mali granati cortice bibito.

For runny eyes.

The herb ocimum, crushed with the best wine, should be applied to the eyes. Also, drink it with the skin of pomegranate for the kidneys.

CXIX. HERBA APIVM

1. Ad epiforas oculorum.

Herba apium tritum bene cum pane, oculi teguntur, mire facit.

For runny eyes.

The eyes are covered with the herb apium crushed well with bread; this works wonderfully.

A Graecis dicitur selinon.

It is called selinon by the Greeks.

CXX. HERBA HEDERA CRISOCANTES

1. Ad idropicos.

Herba hedera crisocantes, ideo quia grana fert coloris aurei, haec grana XX in uini sextario contrita, ex eo uino terni ciati bibantur per dies VII, qui per urinam exinaniuntur.

For dropsy.

20 grains of the herb hedera crisocantes, so-called because it bears grains of a golden color, are crushed in a sextarius of wine, three cyathi from that wine should be drunk for 7 days; the dropsy is expelled through the urine.

A Graecis dicitur cissos crisocantes.

It is called cissos crisocantes by the Greeks.

CXXI. HERBA MENTA

1. Ad ignem sacrum.

Herbae mentae sucus expressus, adiecto sulfure et aceto, et de penna inunctus sine dolore sanat.

For *ignis sacer*.

Combine the expressed juice of the herb menta with sulfur and vinegar; and when it is applied with a feather, it heals without pain.

2. Ad ulcera in capite manantia.

Herba menta contrita et inposita ulcera siccat.

For sores remaining on the head.

The herb menta, crushed and applied, dries up the sores.

A Graecis dicitur ediosmus.

It is called ediosmus by the Greeks.

CXXII. HERBA ANETVM

1. Ad ueretri dolorem.

Herbam anetum conbure et cinerem eius conmisce cum melle, deinde uulnus foues ex aqua, deinde mirtino oleo calido lauas et sic medicamentum inpone.

For genital pain.

Roast the herb anetum and mix its ashes together with honey, then you wash the wound with water, then you wash with warm myrtle oil and thus apply the medicine.

2. Ad loca mulierum, si dolent.

Herbae aneti medicamentum suprascriptum, pessum factum, iniciatur ab obstetrice.

If the places of women are painful.

The above-written medicine of the herb anetum, made into a pessary, should be applied to the womb.

3. Ad capitis dolorem.

Herbae aneti flos cum oleo decoque, temporibus linito et ligato.

For head pain.

Boil the flower of the herb anetum with oil, apply it to the temples and tie it on.

CXXIII. HERBA ORIGANVS

1. Ad tussem.
Herbam origanum conmanducet, miraberis effectum eius.
For cough.
The person should eat the herb origanus; you will marvel at its effect.

2. Item ad tussem.
Herbam origanum in puluere mollissimo et mel ad tertias decoctum misce, et figurabis trociscos et da, bibat in aqua calida.
Also for cough.
Mix a very soft powder of the herb origanus and honey boiled to a third part and shape it into a pill and give it to drink in hot water.

CXXIV. HERBA SEMPERVIVVM

1. Ad apostema.
Herbam semperuiuum cum axungia et pane et coriandrum simul contritum uice malagmae inpone, mire facit.
For an abscess.
Apply the herb sempervivum, crushed all together with grease, bread, and coriander, as a poultice; it works wonderfully.

2. Ad emitriteum.
Herbae semperuiui folia V trita in aqua calida, potui datur.
For a semi-tertian fever.
Give to drink 5 leaves of the herb sempervivum crushed in hot water.

Nomina herbae.
Alii ungulam Martis, alii ungulam Veneris, alii pratum maiorem, alii pratum minorem, alii multifolium, alii inmortale.
Herb names.
Some call this ungulam Martis, others ungulam Veneris, others pratum maiorem, others pratum minorm, others multifolium, others inmortale.

CXXV. HERBA FENICVLVM

1. Ad tussem.

Herbae feniculi radicem tunsam in mero ieiunus bibat per dies IX.

For cough.

The person should drink the root of the herb feniculum, pounded in pure wine, for 9 days on an empty stomach.

2. Ad uesicae dolorem.

Herbae feniculi uiridis fascem et apii uiridis radicem, sparagi agrestis radicem, in pultario nouo mittis et aquae sextarium, ut simul ferueat ad quartas, et ieiunus bibat diebus VII uel pluribus, balneum utatur, in recente non descendat, frigida non bibat, uesicae dolorem sedat sine mora.

For bladder pain.

You put a bundle of the fresh herb feniculum and the root of fresh apium, the root of sparagus agrestis and a sextarius of water in a new porridge dish, cook it together to a fourth part, and the person should drink this on an empty stomach for seven days or more; they should bathe (but not in a fresh bath); they should not drink anything cold; it removes bladder pain without delay.

CXXVI. HERBA ERIFION

1. Ad tisicos.

Herba erifion pistata, malagmae genus inposita sanat; sucum eius potui datum, miraberis uirtutem.

For consumption.

The beaten herb erifion, made into a kind of poultice and applied, is healing; the juice of this plant is given to drink, you will marvel at its power.

Itali rutam agrestem dicunt. Nascitur in Gallia, in monte Soracti. Figuram habet apii, florem habet purpureum similem nastureii, septem radicibus, totidemque ramulis; ipsa autem patula humo <locis> asperis minimeque inriguis omni floret tempore, semen, habet tamquam faba.

Italians call it rutam agrestem. It grows in Gaul, on mount Soractus. It has the shape of apium, it has a purple flower similar to nastureium, with seven roots, and the same number of branches; it grows widely on the ground in harsh places, but not at all in wet places, it flowers throughout the year, it has a seed like a bean.

CXXVII. HERBA SIMFITVM ALBVM

1. Ad profluuium mulieris.

Herba simfitum album siccata, pistata et in puluere mollissimo redacta, in uino potui data mox restringit sanguinem.

For a woman's excessive flux.

The herb simfitum album, roasted, beaten, and reduced to the softest powder, given to drink in wine, soon stops the blood.

CXXVIII. HERBA PETROSELINVM

1. Ad serpentium morsus.

Herbae petroselini puluerem mollissimum dragmam 1, ex uino potui dabis, et ipsa contrita plagae inponitur.

For snakebite.

Give 1 drachma of the softest powder of the herb petroselinum to drink with wine, and the crushed plant is placed on the wound.

2. Ad neruorum dolorem.

Herba petroselinum tunsa et inposita neruorum dolorem sedat.

For muscle pain.

The herb petroselinum, pounded and applied, stops muscle pain.

Itali triannem dicunt.

Italians call it triannem.

CXXIX. HERBA BRASSICA SILVATICA

1. Ad tumores omnes.

Herbae brassicae siluaticae cinus, cum axungia uetere pisata et conmixta quasi malagma, inducis linteolo grosso aut in aluta inponis.

For all swellings.

You put the ash of the herb brassica silvatica, beaten with old grease and mixed together like a poultice, in a big linen cloth or apply it in a leather pouch.

2. Ad lateris dolorem.

Herbam brassicam siluaticam inponis ut supra.

For pain of the sides.

You apply the herb brassica silvatica as above.

3. Ad podagram.

Herba brassica siluatica, idem conficies ut supra, quod si uetustissimum fuerit, eo magis efficacior erit.

For *podagra*.

You prepare the herb brassica silvatica just the same as above; if it is very old, the effect will be even greater.

CXXX. HERBA BASILISCA

Haec herba basilisca illis locis nascitur, ubi fuerit serpens basiliscus; non enim unum genus est eorum, sed genera sunt tria: unus est olocrisus[297], alius est stellatus capite aureo, tertius est sanguineus, ut minium, et ipse capite aureo. Hos omnes haec herba basilisca obtinet facile. Si quis eam secum habuerit, hos omnes obtinet, nec uisu ei malo nocere possunt. Olocrisus autem, qui dicitur criseus, quod uiderit, insufflat et incendit. Stellatus autem, qui est crisocefalus asterites, id, quod uiderit, arescit et occidit. Tertius autem, qui est ematites et crisocefalus, quod uiderit uel percusserit, defluescit et ossa per se remanent. Omnes uiolentias eorum haec herba regula obtinet. Si quis homo eam secum habuerit, ab omne generatione serpentium erit tutus. Est autem herba talis similis salicis foliis oblongioribus et angustis, guttis aspersis nigrioribus, radix eius pedis ursi similis, lactem habens aurosum, similem celidoniae, florem autem crisococcum. Qui eam leget, mundus circumscribat eam auro, argento, corno ceruino, ebure, dente apruno, corno taurino et fruges mellitos in uestigio ponat.

This herb basilisca grows in those places where the basilisk snake lives; there is not just one type of this snake, but there are three: the first is the olocrisus, the second is the stellatus and has a golden head, the third kind is the sanguineus, it is like vermillion and has a golden head. This herb basilisca easily possesses all these kinds of basilisks. If anyone has the plant with them, he will control all of these snakes, and they will not be able to kill him with their evil gaze. Whatever the olocrisus, which is also called criseus, sees, it breathes upon and sets on fire. Whatever the stellatus, which is also called crisocefalus asterites, sees, it withers and kills. Whatever the third type, which is called ematites and crisocefalus, sees or bites disappears and only its bones remain. This herb possesses power against all the violence of those snakes. If someone has it with them, they will be protected from every kind of snake. The herb looks very similar to the leaves of salix (willow), but the leaves of basilisca are more oblong and narrow and

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[297] *f.* holochrysus

are sprinkled with blacker spots. Its root looks like a bear's foot. It has golden milk, like that of celidonia, but it has a flower similar to crisococcum. Whoever picks it should be clean and should encircle it with gold, silver, a deer's horn, ivory, the tooth of a wild boar, the horn of a bull and should place honey-sweetened fruits in its place.

Itali regiam dicunt.
Italians call this regiam.

CXXXI. EFFECTUS HERBAE MANDRAGORAE

Quam sic collegi oportet, quia magna est uisio ac beneficia eius; ad quam cum perueneris, ita eam intellegis: nocte tamquam lucerna sic lucet caput eius; cum uideris, cito circumducis eam ferro, ne tibi fugiat; talis ac tanta est uirtus eius, ut uenientem ad se hominem inmundum, cito ante eum fugit, ideo circumducis eam ferro et ita circa eam effodies, ne eam de ferro tangas, et diligentissime de palo eburneo amoues ante eam terram, et cum uideris pedes eius herbae mandragorae et manus eius, tunc demum et herbam adligabis de fune nouo, et postquam adligasti herbam, tunc et cani adligabis in collo, antequam canem esurientem facis et mitte paulo longius illi escam canis, quo tendens possit herbam euellere. Quod si nolueris canem decipere, quia tantam fertur ipsa herba habere diuinitatem, ut qui eam euellet, eodem momento illum decipiat - ideoque ergo, ut superius dixi, si canem nolueris decipere, facies uice manganum: si uelis perticam figere grandem, cui ligabis in cacumine funem nouum, de quo herba ligata est, ita ut se incurbet; facies quasi muscipuli genus de longe, tunc demum uirtute sua pertica erigens se statim herbam mandragoram euellet. Mox uero cum tibi fuerit data in potestate, hoc est in manibus, integra herba, statim de foliis eius sucum in ampullam uitream reponis, et cum aduenerint necessitates hominibus, sic facies:

It should be collected in the following way, because the sight of it is a great benefit; when you come upon this plant, you will recognize it in the following way: the head of the plant shines like a lantern at night. When you see it, you quickly encircle it with iron so that it does not escape; the virtue of this plant is so great that it quickly flees from any person approaching it who is unclean. You therefore encircle it with iron and you dig around it so that you do not touch it with the iron, and then you very carefully displace the earth around the plant with an ivory stake. And when you see the feet and hands of the mandrake, then finally you tie a new cord to the plant. And after you have tied it to the plant, then you tie it to the neck of a dog you have kept hungry. Place the dog's food a little bit further away from it so that by reaching for the food it is able to pull up the plant. But if you do not wish to entrap the dog (since it is said that this plant has such a power that whoever picks it immediately dies), therefore, as I said above, if you do not wish to trick the dog, you make something like this device: if you wish, insert a tall pole, at

the top of which you will tie a new cord to which the plant is tied such that the pole bends. You make a kind of mouse-trap at a distance, then the pole will straighten on its own and will immediately pull up the mandrake plant. As soon as the entire plant is in your possession (that is, in your hands), you immediately put the juice of its leaves in a glass vessel and when people need it, you do the following:

1. Ad capitis dolorem et cui somnus non uenit. Proanacollima in frontem inducis; sucus eius herbae eodem modo capitis dolorem sedat, etiam somnus ei cito ueniet mira celeritate.

For head pain and when someone cannot fall asleep. You apply a cataplasm to the forehead; the juice of this plant diminishes head pain in the same way, sleep will also come wonderfully quickly to the person.

2. Ad aurium dolorem. Sucus eius cum oleo nardino solutum, mixturas suffundis auribus, statim mire sanat.

For ear pain. The juice of this plant mixed with nard oil and poured in the ears immediately and wonderfully heals.

3. Ad podagram quamuis grauissimam de dextra manu et pede dextro. Mandragorae tollis scripula singula et facies puluerem et dabis potui in mero per dies VII, mira celeritate sanatur. Non solum tumorem, sed et contractionem neruorum utrique ad se reuocat et etiam dolores utrique mire sanantur. Hoc auctores experimentauerunt.

For *podagra*, however terrible, in the right hand and foot. You take a single scruple of mandragora and make it into a powder. Give it to drink in wine for seven days and the person will be healed with wonderful speed. It relieves not only swelling, but also contraction of the muscles of either body part and also pains of either body part are wonderfully healed. Authorities have experienced this.

4. Ad epilempticos, hoc est daemoniosos et qui spasmum patiuntur, sic facies: De corpore ipsius herbae mandragorae tribulas scripulum I et dabis bibere in aqua calida, quantum merus continet, statim mirifice sanantur.

For epilepsy, that is *daemoniosos*, and for someone suffering spasms, you make the following: You squeeze one scruple [of juice ?] from the body of the mandragora plant and you give it to drink in hot water (as much as it can contain without mixing), and the person will be healed with wonderful swiftness.

5. Ad filacteria infantium propter fascinum aut indicium. Infantibus in collo suspendis in linteolo mundo et de tela ligabis, ita ut ad tempus non nomines.

An amulet for infants against bewitchment or signs. You tie [the plant] with threads and hang it on the infant's neck in a clean cloth without naming [them] when you put it on.

6. Ad perfrictionem et neruorum contractionem. Tollis de corpore ipsius herbae unciam I, tribulas puluerem tenuissimum, conmisces cum oleo suaue et perungues eos, qui supradictas curas habent.

For a violent cold and contractions of the muscles. You take one *uncia* from the body of this plant and you press it into the softest powder. You mix it with sweet oil and with it besmear those who have the above-mentioned remedies.

7. Si qua generis cuiusque malitia in domo uisa fuerit. Herbae mandragorae quantumcumque in media domo habeat, omnia mala expellit.

If anything bad is seen in the home. Keep a bit of the mandragora plant in the middle of the home. It expels all bad things.

Cures in the Howald & Sigerist Edition Appendix

HERBA VERBENACA

13. Ad uuam et ad fauces uel scruueas.

Herbae uerminaciae eption radix collo suspensa uuam et fauces siccat et scruueas purgat et tunsa ipsa herba et imposita pariotidas discutit.

For the uvula and the throat or *scruueas*[298].

The [seventh ?][299] root of the herb verbenaca hung on the neck dries out the uvula and the throat and purges the *scruueas*; and this plant diminishes parotid swelling when pounded and applied.

14. Ad tertianas.

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[298] Pradel-Baquerre suggests (n.1178) that *scruuea* is for *struma*, a kind of scrofulous tumor.

[299] I could not determine the meaning of *eption*, but it looks similar to the prefix *hepta-* in some Latin words, deriving from Greek ἑπτά and meaning 'seven'. The other two remedies from verbenaca in this appendix also specify a particular number from the branches or roots of the plant. Conversely, Pradel-Baquerre (497) translated this word as 'un fil' in French, meaning 'a wire'.

Herbae uerminaciae tertium ramum a terra tritum, ex aqua potui dabis sub ipsa accessione, mire succurrit.

For tertian fevers. You give the third twig of the herb verbenaca that has been picked from the soil and crushed to drink in water before the onset of the fever; it helps wonderfully.

15. Ad quartanas.

Herbae uerminaciae quartum ramum a terra tritum, cum aqua calida potui datum mire facit.

For quartan fevers.

The fourth twig of the herb verbenaca that has been picked from the soil and crushed is given to drink with hot water; it works wonderfully.

HERBA SIMFONIACA

8. Medicamen de ipsa fit, quod dicitur

Septatium, optimum ualde et omnia uulnera et cicatrices, satis dolorem compescit.

From this plant, one makes a medicine called Septatium. It is truly the best for all wounds and scars; it sufficiently represses pain.

9. Conficitur autem sic:

Herbae simphoniacae sucum libra I, cera libra I, axungia porcina libra una, colofonia libra una, olei communis libra una. Haec omnia pones super focum in caccabo aereo et tamdiu lento igne coques, quamdiu sucum perconsumpserit, et agitas assidue, postea depones de foco, ut infrigidet, et uteris medicamen.

This medicine is made in the following way:

1 *libra* of the juice of the herb simphoniaca, 1 *libra* of wax, 1 *libra* of pork fat, 1 *libra* of Greek pitch, 1 *libra* of common oil. You put all of these ingredients over a fire in a bronze pot and you cook them with a gentle heat, stirring continuously, until their juice evaporates; afterward you take the mixture off the fire to let it cool, and you use this as a medicine.

HERBA ARTEMISIA TAGANTES

6. Ut infantem hilarem facias.

Herbam artemisiam incende et subfumigabis infantem et omnes incursiones auertet et hilariorem faciet infantem.

To make an infant cheerful.

Burn the herb artemisia and fumigate the infant with it; it averts all attacks and makes the child happier.

HERBA LAPATIUM

2. Ad apostemas.

Herba lapatium tunsa cum axungia et factum quasi medicamentum inducis in linteolo mundo et inponis super apostemam, mirifice autem spargit aut facit collectionem et aperit uulnus.

For abscesses.

You put the herb lapatium pounded with grease and made into something like a medicine in a clean linen cloth and you place the cloth upon the abscess; it wonderfully diminishes [it] or makes it into a *collectio*[300] and opens up the wound.

3. Ad pruritum uel scabiem totius corporis.

Herbae lapatii radicem contritam cum aceto, et modico cantabro conmixtum, in balneo uel ad solem si fricaueris, omnem pruritum et scabiem discutit.

For itching or scurf of the whole body.

If you rub [your body] with the root of the herb lapatium crushed with vinegar and mixed together with a little bran while you are in a bath or in sunlight, it removes every itch and scurf.

4. Ad feras uel canes, ut hominem non mordeant, sed fugiant.

Herbam lapatium contundes et sucum eius exprimes, conmisces cum suco ciclaminis, et eo corpus hominum si fuerit peruunctum, a feris non cintingitur, canis autem cum fugiunt.

So that wild animals or dogs do not bite people, but rather run away from them.

You pound the herb lapatium and you press out its juice, you mix [the juice] together with the juice of the herb cyclaminus; and if someone applies the mixture to their body, the person will not be touched by wild animals and dogs will even flee [from them].

HERBA GENTIANA

2. Ad auras malas.

Si dederis ut supra potui, miraberis gentianae uirtutem.

For bad airs.[301]

If you give it to drink as above, you will marvel at the medicinal virtue of the herb gentiana.

HERBA ORBICULARIS

Ad bissanicas.

Herba orbicularis, puluere factum, impositum mire eas sanat.

For *bissanica*.

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[300] A different kind of abscess.

[301] Conversely, Pradel-Baquerre (499) translates *auras malas* as ‘bad breath’, which certainly fits with the drink form of the remedy.

The herb orbicularis, made into a powder and applied, heals *bissanica* wonderfully.

4. Ad uulnera narium.

Herbae ciclaminis radix siccata, tunsa et cribrata, cum licio aequis ponderibus mixta uulnera narium curat, similiter et oris.

For nose wounds.

The dried root of the herb cyclaminus, pounded and sifted and then mixed with an equal weight of *lycium*[302], heals wounds of the nose; it works similarly for mouth wounds.

5. Ad caput purgandum, ad fleuma et ad omnem morbum.

Herbae ciclaminis sucum et mel aequis ponderibus inice naribus, morbum de capite et fleuma deducit.

For purging the head, for phlegm and for every disease.

Drip the juice of the herb cyclaminus and an equal weight of honey into the nostrils; it draws the disease and phlegm down from the head.

6. Item aliter purgatio capitis.

Herbae ciclaminis sucum ciatum I et acetum optimum in naribus mitte.

Another remedy for purging the head.

Put 1 *cyathus* of the juice of the herb cyclaminus and the best-quality vinegar in the nostrils.

7. Ad dentes confirmandos.

Herbae ciclaminis sucus in ore tentus dentes confirmant, si motus inueniat, etiam et arteriam purgat.

For strengthening the teeth.

The juice of the herb cyclaminus held in the mouth strengthens the teeth; if one happens to swallow the juice[303] it will also purge the windpipe.

HERBA PROSERPINACA

7. Ad quartanas.

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[302] *Lycium* is the juice or sap of a thorn-brush (especially box thorn or buckthorn) used as medicine.

[303] This phrase was puzzling to me, but it could refer to someone who is trying to hold the juice against their teeth and accidentally swallows it instead, noting that this will be beneficial anyway because it cleans out the windpipe (or perhaps, the arteries). Conversely, Pradel-Baquerre (499) has translated *si motus inveniat* as referring to teeth that move, rather than the juice.

Sucum poligoni cum piperis granis VII aut IX sub accessionem dabis bibere. Legis eam die Iouis, luna decrescente.

For quartan fevers.

You give to drink the juice of the herb polygonum[304] with seven or nine grains of pepper before the onset of the fever. You pick this plant on a Thursday while the moon is waning.

8. Ad profluuium mulieris.

Ut supra das potionem incantans: Herbula Proserpinaca, Horci regis filia, quomodo clusisti mulae partum, sic cludas undas sanguinis huic.

For a woman's excessive flux.

You give the drink as above while saying "Little herb Proserpinaca, the daughter of the ruler of the Underworld, just as you stopped the birth of the mule, may you also restrict the wave of this blood".

HERBA NASTURCIUM

[Facis] emplas[tru]m et in lenteolo inducis et inponis, omnem collectionem aperit et ut cludat uulnus argimonem tunsam cum asungia sine sale de linne in linno et uulneri inpositum, miraueris effectum, hoc omnes experimentauerunt.

You make a plaster and you put it in a linen cloth and apply it; it breaks up every *collectio* and to close wounds the plant argimonia pounded with saltless grease in a wooden mortar is applied to the wound; you will marvel at the effect; everyone will see this effect.

Ad dentium dolorem et curatio ut dentes tuos saluum sit omni tempore.

Senape semen tritum in mortario et puluere bonum factum, quantum IV digita leuare pote, mitte, mel medio coclarium et aquam frigidam coclaria tres et diligenter conmisce et in dentes tuos labas et fricas cottidie.

For tooth pain and a remedy so that your teeth are healthy all the time.

Drink as much as you can grab with only the fourth finger the seed of the plant sinapi crushed in a mortar and well-made into a powder; take it and mix it with half a *coclear* of honey and three *coclears* of cold water and you swish it around [in your mouth] and rub it against your teeth daily.

HERBA CAMEMELON

Ad omnia frigo[ra]

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[304] Polygonum is another name for the plant proserpinaca.

Herbae camemilus facit ad quartanas, leuas te mane ante luce uel ante solem et cum tribus digitis cum simbulum hoc est cum pollice et duobus digitis medianis tres summa cimulas et in caricas tue temporesc[unt], in ficu inlinis et das mandu[care], tamen experimentatum u[erum mi]reris

For every coldness.

The herb camemelon works against quartan fevers: you rise in the morning before it is light outside or before the sun rises and with three fingers make the sign (that is, the sign with the thumb and the two middle fingers); [take] the three tallest sprouts [of the plant] and let them rest on dried figs, you coat the figs [with them] and you give them to eat; you will truly marvel at this experience.

Ad cauculum.

Herba camemelon 3 I cum uino potui dato, cauculum expellit.

For stones.

Give to drink 1 *scrupulus*[305] (?) of the herb camemelon with wine; it expels stones.

Alia cura ad dentium dolorem probata.

Accipiens caricam pinguem numerum VI et senapi semen cocliarium medium, separate tritas in mortarium et caricam tamdiu tundens, ut ueniant ad pinguedinem, et senapi semen tantum triturans, ut puluerem bonum sit, et diligenter cum ipsa carica in unum commiscens, et sic iterum in mortarium insimul tere, ut bene mixtum sit. Deinde in lintiolum inducto, si doluerit dentium in dextra parte, in sinistrum gubitum ponet ipsum medicamentum. Et si doluerit dentium in sinistra parte, in dextrum gubitum ponet ipsum medicamentum. Et desuper cum calabrica ligabis et sanabis.

Another remedy for improving the strength of teeth. Taking six fat figs and a half *coclear* of the seed of the plant sinapus; crush in a mortar and pounding the figs separately so that the figs come into their fattyness, and threshing only the seeds of senapus so that they make a good powder, and mixing these together well with the same figs, and then crush all together once again in a mortar so that it is well-mixed; then place the mixture in a little linen cloth. One places the same medicine on the left elbow if you have tooth pain on the right side of your mouth. One places the medicine on the right elbow if you have tooth pain on the left side of your mouth, and tie it on as above with the figs and you will be healed.

HERBA CAMEDRIS

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[305] I am not sure of the proper translation of this abbreviation, although it must be some kind of measurement. Pradel-Baquerre (501) translates this as a *drachma*.

Aliter. Erba uerbena ieiunus mastice: dolor cessat et dentes sanabit.

Another remedy. Chew the herb verbena on an empty stomach: it stops pain and heals the teeth.

Ad nesciam.

Herba trixago feruefacta ac triduo potui data, sciaticum mirifice sanat.

For *nesciam* [*sciaticum* ?].

Give to drink for three days the boiled herb trixago[306]; it wonderfully heals *sciaticum*.

HERBA BRITTANICA

Ad oculorum dolorem.

Herba brittanica, aequo pondere cum uino accipiat, in praesenti dolorem tollet.

For eye pain.

Take the herb brittanica with an equal weight of wine; it immediately relieves the pain.

HERBA CENTAURIA MINOR

6. Ad oculorum uitia uel dolores.

Herba centauria minor, sucus eius, in oculis infundis.

For vexations or pains of the eyes.

You drip the juice of the herb centauria minor in the eyes.

HERPA PERSONACIA

Ad eos, qui sanguinem reiciunt.

Herbae personaciae 3 I cum pineae nucleis et murra, facti pastilli, cum uino potui dato, sanguinem reicientes sanat.

For those who cough up blood.

Give to drink with wine one *scrupulus* of the herba personacia made into a lozenge with pine nut and myrrh; it heals those who cough up blood.

HERBA BOVIS LINGUA

3. Ad suspirium.

Herbae bouis lingua cum melle, sucus eius, dabis bibere, tollit suspirium.

For *suspirium*.[307]

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306 This is another name for *camedris*.

307 This ailment name could mean asthma or any shortness of breath.

Give to drink the juice of the herb bovis lingua with honey; it relieves the *suspirium*.

HERBA COTULEDON

2. Ad perniones.

Herba cotulidon tunsa bene et in oleo decocta, admiscebis ceram uernach, quod erogant quantum sufficit, et facies cerotum et inponis pernionibus, miraberis rem certam.

For chilblains.

You mix the herb cotulidon, pounded well and cooked in oil, with *uernach*[308] wax as seems sufficient, and you make from this a wax plaster and place it on the chilblains; you will marvel at this trusty cure.

HERBA GALLICRUS

2. Ut sanguis de naribus currat et caput leuiorem faciat.

Herbam sanguinariam si in naribus mittas continuo sanguinem mira celeritate emittit et caput leuiorem facit.

So that blood runs from the nose and for alleviating the head.

If you place the herb sanguinaria in the nostrils, [the nose] will continually and with great swiftness emit blood and the head will be alleviated.

HERBA MARRUBIUM

Ad bissolas.

Elixas marrubium et teres, facis quasi medicamenta, spargis auri pigmentum et inponis et curat.

For *bissolas*[309].

You boil the herb marrubium and you crush it; you make this into something like a medicine, you sprinkle on orpiment[310], and apply it; it will heal the *bissolas*.

Ad uulnera.

Marrubium in aliquo folio inuoluis, ut coquat in cinus, et teris cum axungia et inponis, omnia uulnera curat.

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[308] Pradel-Baquerre (n. 1196) preferred the (more comprehensible) reading of Laur. and Ashm. 1431: *ceram cum picula modica*.

[309] The meaning of this term is unclear. Pradel-Baquerre (n. 1199) suggests perhaps ‘fistula’.

[310] *Auripigmentum* is composed of arsenic, sulphur, and earth.

For wounds. You wrap up the herb marrubium in some leaf so that you can cook it to ash, and you crush it with grease and apply it; it heals all wounds.

HERBA OENANTE

3. Ad defectionem stomachi.

Herba ynantes radicem in puluerem redactam in uino ciatis II, ieiunus bibat, mire facit.

For indigestion.

The person should drink the root of the herb oenante reduced to a powder in two *cyathi* of wine on an empty stomach; it works wonderfully.

HERBA NARCISSUS

2. Ad tisicos uel colicos.

Herba narcissus tunsa et potui data colicis uel tussientibus prodesse dicimus. Si autem uolueris oleum facere, herbae narcissi florem in oleo mittis et perunges infirmum, miraberis rem certam.

For consumption or colic.

We say that the herb narcissus, pounded and given to drink to those with colic or cough, is beneficial. If, however, you want to make an oil, you put the flower of the herb narcissus in oil and you smear it on the sick person; you will marvel at this trusty remedy.

3. Ad capitis dolorem.

Herbae narcissi flores si in oleum mundum mittas et ibi madefiant, capiti inducito uel emigraneis, miraberis effectum.

For head pain.

If you put the flowers of the herba narcissus in clean oil and you dampen them with the oil, place the flowers on the head even for a migraine; you will marvel at the effect.

4. Ad plagas a ferro factas.

Herba narcissus tunsa et in plaga, quae a ferro facta est, inposita tumorem et dolorem sedat et cito sanat.

For wounds from a sword.

The herb narcissus, pounded and placed on the wound made by the sword, ceases swelling and pain and quickly heals the wound.

HERBA ASTERION

2. Ad spasmum.

Herba asterion, ut supra diximus, si secum portauerit, nunquam aliquid mali timebit.

For spasm.

If you carry the herb asterion with you, as we described above, you will never fear anything bad.

HERBA LEPORIS PES

Ad profluuium mulieris.

Virgultas modicas in collo suspensas, sistit profluuium.

For the a woman's excessive flux.

The little sprigs of the herb hung on the neck stop the flow.

HERBA DIPTAMNUM

Ad uulnera recentia.

Herba diptamnum et argimonia et ambrosia, sucus earum cum butiro plagae inponis, miraberis in omnibus diptamnum.

For recent wounds.

You apply the juice of the herbs diptamnum, argimonia, and ambrosia with butter to the wound; you will marvel at diptamnum in every case.

HERBA CRISION

2. Ad interaneorum dolorem

Herba crision tunsa et sucus eius expressus, potui datus, interaneorum dolorem mirifice sanat.

For pain of the intestines.

The herb crision pounded and with its juice squeezed out is given to drink; it wonderfully heals pain of the intestines.

HERBA FILIX

4. Ad splenis dolorem.

Herbam filicem cum sua radice decoctam usque ad tertias potui dabis, splenem consumit.

For spleen pain.

You give to drink the herb filix cooked to a third part with its root; it destroys the spleen [pain ?].

HERBA PERDICALIS

2. Ad sanguinis suffusionem.

Herba perdicalis tunsa et inposita sanguinem mire tollet aut spargit.

For a suffusion of blood.

The herb perdicalis, pounded and applied, wonderfully removes or scatters the blood.

HERBA RUBUS

Ad dentes confirmandos cui laxicant.

Herbae ruui cimas in uino austero ad tertias decoques et ex eo in ore tenes et ipsa folia mastices, confirmat dentes.

For strengthening loose teeth.

You cook the sprouts of the herb rubus in strong wine to a third part and you put them in the mouth and chew the leaves; they strengthen the teeth.

HERBA RUTA HORTENSIS

Ut mulier non concipiat.

Scribis in carta pura et mulieri suspendis sicut subbersa est: Sodoma et Gomorra manum…

So that a woman does not conceive.

You write [the following] on unused paper and you hang it on the woman so that it is upside down: Sodom and Gomorra hand…

NEPETA MONTANA

Ad tertianas siue cotidianas.

Herbam nepetam in puluere redactam sub acessionem dabis in aqua calida bibere, sanabitur.

For tertian or daily fevers.

You give to drink in hot water the herb nepeta, reduced to a powder, before the onset of the fever; the person will be healed.

3. Ad combusturas et cicatrices, ut non adpareant, ut capilli restituantur.

Medicamen conficis de nepita, si uiscum et siccum puluerem admisces eius herbae et cerossam et oleum rosacium et sucum herbae suprascriptae aequis ponderibus et coquis, ut mellis crassitudo fiat, superinductum autem combustruas sanat, cicatrices autem parere non patitur et capillos renouat.

For removing burns and scars and for regrowing hair.

You make a medicine from the herb nepeta; if you mix equal weights of the plant viscum, the dried powder of nepeta, wax, rose oil, and the juice of nepeta and you cook it until it is the thickness of honey, when applied topically this mixture will heal burns, removes scars without pain, and regrows hair.

4. Ad ignem sacrum.

Ungento suprascripto adde sucum rosacium et permisce, non solum ipsum curas, sed et febricitantem euadas.

For *ignis sacer*.

Add to the above unguent the rose juice and mix them; you will not only cure this ailment, but you will also avoid fevers.

HERBA PEUCEDANUM

2. Ad morsum serpentis.

Confectio acupae: medullae ceruinae dragmas XX, galbani dragmas IV, cypiri dragmas IV, resinae terebintinae dragmas V, tere et cum suco herbae suprascriptae coque, donec mellis spissitudinem facias. Hoc si unctus fueris, non morderis a serpentibus; si autem quis prius percussus fuerit, mox sanabitur.

For snakebite.

A preparation of *acupa*[311]: 20 *dragma* of deer marrow, 4 *dragma* of *galbanum*[312], 4 *dragma* of cypress, 5 *dragma* of the resin of the turpentine tree; crush the above herbs and cook them with their juice until you have made the mixture as thick as honey. If you smear this mixture on your body, you will not be bitten by snakes; if, however, someone has already been bitten, the bite will soon heal.

3. Item ad morsum serpentis.

Conficis catapodias sic: amomi dragmas IV, murrae dragmas II, cardamomi dragmas X, coriandri seminis dragmas VIII, mellis timini, hoc est sine fumo, aut Attici dragmas XX, cum suco herbae peucidani ita proficit, facit catapodias habentes dragmas singulas, dabis in uini ciatis II et cogis eum currere et liberabitur.

Another remedy for snakebite.

You make a medicinal drink in the following way: 4 *dragma* of *amomum*, 2 *dragma* of myrrh, 10 *dragma* of cardamon, 8 *dragma* of the seed of coriander, 20 *dragma* of thyme (?) honey that has been made without smoke (or 20 *dragma* of Attic honey); this mixture is effective with the juice of the herb peucedanum: one makes medicinal drinks having one *dragma* each; give the drink in 2 *cyathi* of wine and you compel the snake to flee and [the bitten person] will be freed.

HERBA ABSINTIUM

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[311] The meaning of this word is unclear. Pradel-Baquerre (n. 1207) suggested the plant, mentioned by Pliny (XXIII.157) *acopon*.

[312] *Galbanum* is the resinous sap of a plant in Syria.

Ad stomachum purgandum.

Herbam absynthii cum calida aqua potato.

For purging the stomach.

Drink the herb absintium with hot water.

Ad tipum tertianum.

Herbam absintium in aqua ad tertias decoctam ieiunus per triduo bibat, mire sanabitur.

For tertian fevers.

The person should drink the herb absintium cooked to a third part in water on an empty stomach for three days; he will be wonderfully healed.

HERBA SALVIA

Ad sanguinis ruptionem.

Herbae saluiae sucum ciatos III, mellis Attici, commixtum et ieiuno potui dato, mox statuitur sanguis. Hoc et ad matricis cursum facit.

For an effusion of blood.

Give to drink on an empty stomach three *cyathi* of the juice of the herb salvia mixed with Attic honey; the blood will soon be stopped. This remedy even [stops ?] the menses of women.

HERBA LILIUM

Ad cauterisationem.

Lilii radix adusta in cineribus, deinde trita cum oleo rosaceo iuuat cauterisationem.

For cauterization.

The root of the herb lilium, cooked in ashes and then crushed with rose oil, is an aid for cauterization.

HERBA LATIRIDA

Similiter contra omnia maleficia radice ipsius aut de ramo, quantum unus solidus pensat, donetur. Et si necesse fuerit, post septem dies iterum accipiat ipse, herba remediabitur.

A similar remedy against every curse: the root or the twig of the same plant in an amount that is worth one solidus should be given, and if it is necessary, the sick person should take it back after seven days; the person will be healed by the plant.

HERBA CUCUMIS SILVATICUS

1. Ad tumores.

Herbae sicidis agriae radix cum polenta asparsa tumores spargit.

For swellings.

The root of the herb sicida agria sprinkled on with polenta disperses swelling.

2. Ad collectiones.

Herbae sicidis agriae radix trita cum resina terebintina et adposita collectiones rumpit et sanat.

For *collectiones*.

The root of the herb sicida agria, crushed with the resin of the turpentine tree and applied topically, removes and heals *collectiones*.

3. Ad ictericus.

Herbae cucumeris sucus expressus in naribus, contra solem sedeat, omnem humorem aurosem per nares eiciet.

For jaundice.

The juice of the herb cucumis is dripped in the nostrils while the person is sits facing the sun; the juice expells every yellow humor from the nose.

4. Ad podagram.

Herbae cucumeris agrestis radix cum aceto decocta uice cataplasmatis pedibus inponitur et sciaticos et dentium dolorem et podagricos mire sanat.

Herbam sicidem agrian sic legi oportet mense Iulio, cum herbae maturescunt, luna tertia, ita ut ab omnibus mundus sis. Precaberis autem eam, sic dicis: Ygia, summa nutrix draconum, per matrem terram te adiuro, ut curis praecantationibus Asclepii, herbarum doctorem, incantationem meam perferas inlibatam.

For *podagra*.

The root of cucumis agrestis cooked with vinegar is placed on the feet like a cataplasm and it wonderfully heals *sciatica*, tooth pain, and *podagra*.

It is necessary to pick the herb sicida agria in the month of July when the plant is mature, on the third day of the new moon, and you must be clean in every way. Moreover, pray to the plant by saying the following: “Ygia, the greatest nurse of snakes, I pray to you through mother earth that you bear my incantation intact to the remedies and prayers of Aesculapius, the teacher of plant medicine.”

HERBA RUTA SILVATICA

3. Ad caliginem oculorum.

Herbae rutae montanae sucus eius cum suco foeniculi et melle mixtus, caliginem oculorum inunctione detergit.

For weak eyesight.

The juice of the herb ruta montana, mixed with the juice of the plant feniculum and honey, relieves weak eyesight when applied topically.

HERBA SEPTEFOLIUM

Ad putredinem oris.

Herba eptafillos cum radice sua decocta in aqua et in ore detenta mire sanat.

For bad breath.

The herb heptafillos, cooked in water with its root and held in the mouth, wonderfully heals.

2. Ad erpetas et quiriadas et omnes duritias.

Herba eptafillos in aceto decocta et trita et corpori inposita erpetas et quiriadas et omnes duritias mirifice sanat, et si pota fuerit, omnes duritias et aneurismata, hoc est tumores, reprimit.

For *herpetas* and *quiriadas* and every hardness.[313]

The herb heptafillos, cooked in vinegar, crushed, and applied to the body, wonderfully heals *herpetas*, *quiriadas*, and every hardness, and if this medicine is consumed in a drink, it represses every hardness and *aneurismata* (that is, swelling).

HERBA OCIMUM

Herba ocimum, te rogo per summam diuinitatem, quae te iussit nasci, ut cures ea omnia et succurras auxilio maximo, quae de te fida remedia posco, quae sunt infra scripta.

Ocimum, I ask in the name of the highest divinity, who commanded your creation, that you heal and help as much as possible all of those things for which I beg trustworthy remedies from you, which are written below.

HERBA APIUM

Precatio herbae.

Herba apium, te deprecor per inuentorem tuum Aescolapium, ut uenias ad me cum tuis uirtutibus et ea mihi praestes, quae a te fidus peto.

Prayer to an herb.

Apium, I pray to you in the name of your discoverer, Aesculapius, that you come to me with your medicinal virtues and that you offer to me that which I seek from you faithfully.

2. Ad arduram stomachi.

Herba apium decocta in aqua, et ex ea aqua bibatur, sitim sedat.

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[313] I could not determine what *herpetas* and *quiriadas* mean, but presumably they are particular kinds of hardness in the body.

For a burning stomach.

The water in which the herb apium has been cooked immediately ceases the burning when it is consumed in a drink.

3. Ad lacrimas oculorum.

Herba apium uiride tritum cum uino, subigis et rotundulam facies et inponis super oculos.

For teary eyes.

You prepare the fresh herb apium crushed with wine, make it into a little pellet and place it over the eyes.

HERBA HEDERA CRISOCANTES

Herba crisocantis, sic legi oportet: ante merediem, luna III, VI, IX, XIV, cum ueneris ad eam mundus, sic dicis: Sancta herba crisocantus, te deprecor per Aesculapium, herbarum inuentorem, ut uenias huc ad me hilaris cum effectu magno et praestes, quae te fidus rogo.

One should pick the herb crisocantes in the following way: before noon, on the third, sixth, ninth, or fourteenth day of the moon, clean when you approach it; say the following: “Holy herb crisocantes, I pray to you in the name of Aesculapius, the discoverer of medicinal plants, that you come here to me, happy with great medicinal effect, and that you offer that which I ask of you faithfully.

HERBA MENTA

Precatio eiusdem herbae.

Herba ediosmus, per Vulcanum, operis inuentorem, te precor, ut auxilio tuo cures omnia, quae de te sunt infra scripta. Legis eam mane prima caelo sereno.

Prayer to the same herb.

“Hedyosmon, I pray to you in the name of Vulcan, the inventor of craftsmanship, that you heal with your aid all the things that are written below about you.” You pick this plant in the first hour of the morning under a clear sky.

Ad uenam ruptam intrinsecus aut qui per os sanguinem reicit.

Mentam nigram collegis, mittis in mortario, teris diligenter et exprimis sucum ipsius, quantum merum misces aceto cocliarios II aut III et aliud tantum mel, statim restringet sanguinem, probatam rem, et si ille acetus multum fuerit fortis, temperas illum cum uino et bis aut ter, quomodo necessarium fuerit, bibat, et cum sanguis stagnatus fuerit, coquatur porcellus paruus, tener, et cum ipso coquatur malua agrestis et tamdiu coquatur porcellus et malua, usque quo liquefiant, ut hoc pariter absque labore possit sorbere et sanguis infra qui remansit perdigeretur.

For a ruptured interior vein or for those who cough up blood.

You collect black menta, put it in a mortar, crush it and squeeze out its juice, mix it pure with 2 or 3 *coclears* of vinegar or otherwise honey; it immediately stops the blood, this is a proven thing. And if that vinegar is very strong, you temper it with wine two or three times, however much seems necessary, and the person should drink it, and when the blood has stopped, a small, soft pig should be cooked iand with it should be cooked malva agrestis as long as the little pig is cooked, until they liquefy so that the person can drink them together without struggling and so that the blood that remains within is expelled.

HERBA ANETUM

Precatio eiusdem herbae.

Herba bona, sancta anetum, et te, Apollo sancte, quaeso obsecro, ut haec herba mihi in adiutorium sit, ut remediis eius curem ad quamcumque manumisero.

Prayer to the same herb.

Good herb, holy anetum, and you, holy Apollo, I beg, I beseech that this herb may be an aid to me, that I may offer a cure with its remedies to whomever I will have freed.

4. Ad uentris dolorem.

Aneti semen tritum paululum cum aqua calida bibat, continuo sanabitur.

For stomach pain.

The person should drink a little bit of the crushed seed of anetum with water; they will continuously be healed.

5. Ad ossum dolorem.

Anetum in oleo decoque et perungue, et sanabitur.

For bone pain.

Cook anetum in oil and apply it; the person will be healed.

HERBA SEMPERVIVUM

3. Ad calidam et frigidam podagram, quas sic intellegis.

Quia frigida frigidis medicamentis delectetur calida podagra sucum herbae semperuiuum admixto oleo fricabis loca dolentis et frigida uero podagra sucum herbae semperuiuum cum irino siriatico et castoreum teres et ungues loca dolentia.

For hot and cold *podagra*, which you recognize in the following ways:

Because cold *podagra* is attracted by cold medicines and hot *podagra [*is attracted by hot medicines], rub the painful areas of the body with the juice of the herb sempervivum mixed with

oil, but for cold *podagra*, you crush the juice of the herb sempervivum with Syrian iris oil and castoreum and apply it to the painful places.

HERBA FENICULUM

Ad caliginem oculorum.

Herbae feniculi sucum ciatum I, herbae celidoniae sucum ciatum I, mellis Attici semunciam, salis ammoniaci scripulum IS, omnia simul diligenter trita et conmixta in doliolo uitreo repones, et cum opus fuerit, digno facies, malo autem homini uel inimico ne succurras, in die inungues quam plus uis.

For weak eyesight.

1 *cyathus* of the juice of the herb feniculum, 1 *cyathus* of the juice of the herb celidonia, 1 *semiuncia* of Attic honey, IS (?) *scrupulus* of ammoniac salt; you places all of these crushed and mixed together at the same time in a small container; and when there is need of it, you make it for a deserving person but you do not help a bad person or an enemy; you smear [the eye] with it during the daytime according to the person's strength.

HERBA ERIFICION

Precatio eiusdem herbae.

Herba erifion, ut adsis mihi roganti, et cum gaudio uirtus tua praesto sit, et ea omnia persanes, quae Aesculapius aut Ciro centaurus, magister medicinae, de te adinuenit.

Prayer to the same herb.

Erifion, I ask that you come to me and that your medicinal virtue, which Aesculapius and Chiron the centaur, the teacher of medicine, found in you, may be ready and willing and that with it you heal all things.

HERBA PETROSELINUM

Ad dolores interaneorum.

Herba petrosilinon et apium et galenga seruito in uino optimo, da, bibat, summe facit.

For pain of the intestines.

Serve the herbs petroselinum, apium, and galenga in the best wine and give it to drink; it is the best remedy.

HERBA BASILISCA

Sic legi oportet, ut qui eam leget, primo consideret salutem suam, ut eat mundus ab omnibus, uestes habeat intactas, mundas nec, cum uadet, mulier menstruata eum contingat aut uir coinquinatus. Quam herbam cum legere coeperit sic, antequam ad eam ueniat, habeat querci folia in manu sua et aquam fontanam ex tribus nimfis et ex eadem aqua de ramulo querci purificet se

uel aspergat, ita ut sol mergit, manu dextra, sic precetur: Domina sancta tellus, et cetera, quae in capite libri sunt.

It is necessary to pick this plant in the following way, so that he who picks it first considers his own health and is clean in every way: he should have new, clean clothes and should avoid being touched by a menstruating woman or by a polluted man when walking. And so when one begins to pick the plant, before he approaches it, he should hold leaves of the oak tree in his hand and water from three fountains and he should purify or sprinkle himself with the water by using a branch from the oak tree or with his right hand; and as the sun sets, he should say this prayer: Lady, holy land (and the rest of the things that are in the chapter of the book).

Appendix B: The Growth Distribution of the Herbal's Plants

The following table lists the plant names found in the *Herbarium* of Pseudo-Apuleius, together with their modern scientific identifications (according to the work of J. André, 2010), examples of their common names and their native geographical distribution, according to the *Germplasm Resources Information Network* (GRIN) of the USDA, Agricultural Research Service, National Plant Germplasm System, 2019.

Where André offered more than one possible identification for a Latin plant name, all possibilities have been included. Where GRIN did not have complete information for a species or genus (such as common names for a species), the chart is left blank. Occasionally André's work used scientific names that are no longer standard. In such cases, the correct synonym of the plant was found according to *The Plant List*, a database of plant synonyms created by the Royal Botanic Gardens, Kew and the Missouri Botanical Garden in 2010.

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Plantago	*Plantago* L. esp. *Plantago major* L.	Common Plantain Broadleaf Plantain Greater Plantain Large Plantain Plantain	Europe, Asia
Quinquefolium	*Potentilla* L. esp. *Potentilla reptans* L.	Creeping Cinquefoil European Fivefinger	Northern Africa, Asia, Europe
Verbenaca	*Verbena officinalis* L.	Common Verbena Common Vervain Official Vervain Simpler's-Joy Turkey-Grass Vervain Wild Verbena	Africa, Asia, Australia, Europe, North America, Caribbean
Simfoniaca	*Hyoscyamus* L.	Henbane	Africa, Asia, Europe
Viperina	perh. *Polygonum bistorta* L.	Bistort Easter-ledges European bistorta Snakeweed	Morocco, Asia, Europe
Veneria	*Iris pseudacorus* L.	Flag Iris Pale-yellow Iris Water Flag Yellow Flag Yellow Flag Iris Yellow Iris Yellow Water Iris Common Yellow Iris	Macaronesia, Northern Africa, Asia, Europe
Pedeleonis	*Leontice leontopetalum* L.		Northern Africa, Asia, Southeastern Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Scelerata	*Ranunculus sceleratus* L. *Ranunculus sardous* Crantz perh. *Oenanthe crocata* L.	*R. sceleratus* L.: Blister Buttercup Celery Buttercup Celery-Leaf Buttercup Celery-Leaf Crowfoot Cursed Crowfoot Marsh Crowfoot Poison Buttercup Celery-Leaved Buttercup *R. sardous* Crantz: Hairy Buttercup Pale Hairy Buttercup *O. crocata* L.: Hemlock Water-Dropwort Water-Dropwort Water-Hemlock	*R. sceleratus* L.: Northern Africa, Asia, Europe, North America *R. sardous* Crantz: Northern Africa, Georgia, Europe *O. crocata* L.: Northern Africa, Europe
Botracion Statice	*Ranunculus* L.	Buttercup Crowfoot	Africa, Asia, Europe, North America, South America, Australia, New Zealand
Artemisia Monoclonos	*Artemisia arborescens* L. *Artemisia vulgaris* L.	Common Mugwort	Northern Africa, Western Asia, Southern Europe
Artemisia Tagantes	*Tanacetum vulgare* L.	Common Tansy Golden-Buttons Tansy	Asia, Europe
Artemisia Leptofillos	*Artemisia campestris* L.	Field Sagewort Field Wormwood Sagewort Wormwood Sand Wormwood	Northern Africa, Asia, Europe, North America
Lapatium	*Rumex* L.	Dock Sorrel	Africa, Asia, Europe, Australia, North America, South America
Dracontea	*Arum dracunculus* L.	Devil's-Tongue Dragon Arum Dragon-Lily	Algeria, Turkey, Southeastern Europe, France
Priapiscus	*Orchis papilionacea* L. *Orchis longicruris* L. *Orchis morio* L.	*O. longicruris* L.: Naked Man Orchid Italian Orchid *O. morio* L.: Green-Wing Orchid	*O. papilonacea* L.: Northern Africa, Western Asia, Southern Europe *O. longicruris* L.: Northern Africa, Western Asia, Southern Europe *O. morio* L.: Northern Africa, Asia, Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Gentiana	*Gentiana lutea* L. *Gentiana purpurea* L.	*G. lutea* L.: Great Yellow Gentian Yellow Gentian *G. purpurea* L.: Purple Gentian	*G. lutea* L.: Turkey, Europe *G. purpurea* L.: Europe
Orbicularis	*Cyclamen graecum* Link *Cyclamen hederifolium* L. *Cyclamen europaeum* L.	*C. graecum* Link: Greek cyclamen *C. hederifolium* L.: Ivy-Leaf Cyclamen Sowbread	*C. graecum* Link: Western Asia, Greece *C. hederifolium* L.: Turkey, Switzerland, Southern Europe *C. europaeum* L.: Middle Europe, Southeastern Europe, France
Proserpinaca	*Polygonum aviculare* L.	Doorweed English Knotgrass Knotgrass Knotweed Prostrate Knotweed Wirewood	Europe, Asia, North America
Aristolochia	*Aristolochia* L.	Birthwort Pipevine Dutchman's Pipe	Africa, Asia, Europe, Australia, North America, South America
Nasturcium	*Lepidium sativum* L.	Garden Cress Pepperwort Tongue Cress Town Cress	Egypt, Ethiopia, Asia
Hieribulbum	*Muscari comosum* Mill.	Grape-Hyacinth Tassel-Hyacinth	Northern Africa, Western Asia, Europe
Apollinaris	*Withania somnifera* Dun.	Winter-Cherry Ashwagandha	Africa, Asia, Southern Europe
Camemelon	*Matricaria chamomilla* L.	Blue Chamomile Chamomile Common Chamomile German Chamomile Hungarian Chamomile Matricaria Scented Chamomile Scented Mayweed Sweet False Chamomile True Chamomile Wild Chamomile	Northern Africa, Asia, Europe
Camedris	*Teucrium chamaedrys* L. *Teucrium lucidum* L.	*T. chamaedrys* L.: Wall Germander *T. lucidum* L. Germander	*T. chamaedrys* L.: Northern Africa, Asia, Europe *T. lucidum* L.: France, Italy

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Camellea	*Dipsacus fullonum* L. *Dipsacus silvestris* L.	*D. fullonum* L.: Common Teasel Wild Teasel Teasel *D. silvestris* L.: Fuller's Teasel Wild Teasel	*D. fullonum* L.: Northern Africa, Western Asia, Europe *D. silvestris* L.: North Africa, Europe, Asia
Camepitis	*Ajuga champaepitys* Schreb.	Ground-Pine Yellow Bugle Yellow Bugleweed	Northern Africa, Asia, Europe
Camedafne	*Ruscus racemosus* L.	Alexandrian Laurel Poet's Laurel	Asia
Ostriago	*Rubia tinctoria* L. *Rubia peregrina* L.	*R. tinctoria* L.: Dyer's Madder Indian Madder Madder *R. peregrina* L.: Wild Madder	*R. tinctoria* L.: Northern Africa, Asia, Eastern Europe, Croatia *R. peregrina* L.: Northern Africa, Southern Europe
Brittanica	*Rumex aquaticus* L.	Scottish Dock Water Dock	Asia, Europe
Lactuca Silvatica	*Lactuca scariola* L.	Compassplant Milk Thistle Prickly Lettuce Scarole	Macaronesia, Northern Africa, Ethiopia, Asia, Europe
Argimonia	*Agrimonia eupatoria* L.	Agrimony	Macaronesia, Northern Africa, Asia, Europe
Asfodilus	*Asphodelus* L.	Asphodel	Africa, Western Asia, Europe
Lapatium Acutum	*Rumex crispus* L.	Curled Dock Curly Dock Sour Dock Yellow Dock	Spain, Northern Africa, Asia, Europe
Centauria Maior	*Centaurea centaurium* L.	Knapweed	
Centauria Minor	*Erythraea centaurium* L.	Centaury Common Centaury European Centaury	Northern Africa, Asia, Europe
Personacia	*Arctium lappa* L.	Beggar's-Buttons Burdock Edible Burdock Great Burdock Greater Burdock Lappa	Asia, Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Fraga	*Fragaria vesca* L.	Alpine Strawberry European Strawberry Wild Strawberry Woodland Strawberry	Tunisia, Asia, Europe, North America
Ibiscum	*Althaea officinalis* L. *Lavatera arborea* L.	*A. officinalis L.:* Marshmallow White-Mallow *L. arborea* L.: Tree Mallow	*A. officinalis L.:* Northern Africa, Asia, Europe *L. arborea* L.: Macaronesia, Northern Africa, Ireland, United Kingdom, Southern Europe
Equiseta	*Equisetum* L.	Horsetail Snake Grass Puzzle Grass	Africa, Asia, Europe, North America, South America
Malva Erratica	*Malva* L. esp. *Malva cretica* Cav. esp. *Malva parviflora* L. esp. *Malva rotundifolia* L. esp. *Malva silvestris* L.	*M. cretica* Cav.: Mediterranean Mallow *M. parviflora* L.: Cheeseweed Egyptian Mallow Least Mallow Little Mallow Ring-Leaf Mallow Small-Flower Mallow Whorled Mallow Whorl-Flower Mallow *M. rotundifolia* L.: Dwarf Mallow Small Mallow Round-Leaved Mallow *M. silvestris* L.: Blue Mallow Cheeses Common Mallow Forest Mallow High Mallow Tall Mallow High Mallow	*M. cretica* Cav.: Northern Africa, Southern Europe *M. parviflora* L.: Northern Africa, Asia, Southern Europe *M. rotundifolia* L.: Asia, Europe *M. silvestris* L.: Macaronesia, Northern Africa, Asia, Europe
Bovis Lingua	*Anchusa italica Retz* *Anchusa officinalis* L. *Anchusa undulata* L.	*A. italica* Retz: Garden Anchusa Italian Alkanet Italian Bugloss Large Blue Alkanet *A. officinalis* L.: Alkanet Bugloss Common Bugloss *A. undualata* L.: Undulate Alkanet	*A. italica* Retz: Macaronesia, Northern Africa, Eritrea, Asia, Europe *A. officinalis* L.: Turkey, Europe *A. undulata* L.: Northern Africa, Southern Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Scilla	*Urginea maritima* Baker = *Scilla maritima* L.	Red-Squill Sea-Onion Sea-Squill Squill	Macaronesia, Northern Africa, Western Asia, Southern Europe
Cotuledon	*Umbilicus pendulinus* DC.	Navelwort Pennywort	Macaronesia, Northern Africa, Western Asia, Europe
Gallicrus	*Digitaria sanguinalis* Scop.	Crab Finger Grass Hairy Crabgrass Hairy Finger Grass Hairy Summer Grass Large Crabgrass Purple Crabgrass Summer Grass	Macaronesia, Northern Africa, Asia, Europe
Marubium	*Marrubium vulgare* L. *Marrubium creticum* L.	*M. vulgare* L.: Horehound White Horehound *M. creticum* L.: Horehound	*M. vulgare* L.: Macaronesia, Northern Africa, Asia, Europe *M. creticum* L.: Asia, Europe
Xifion	*Gladiolus segetum* Gawler	Common Sword-Lily Field Gladiolus	Morocco, Asia, Eastern Europe, Southern Europe
Callitricum	*Adiantum capillus Veneris* L. *Asplenium adiantum nigrum* L.	*A. capillus Veneris* L.: Maidenhair Fern Southern Maidenhair Venus' Hair Fern Venus' Maidenhair *A. adiantum nigrum* L.: Black Spleenwort	*A. capillus Veneris* L.: Africa, Turkey, Eastern Europe, Southern Europe, North America, Caribbean, Guatemala *A. adiantum nigrum* L.: Africa, Asia, Europe, North America
Molu	perh. *Allium nigrum* L.	Black Garlic Broadleaf Garlic Broadleaf Leek	Macaronesia, Northern Africa, Western Asia, Southern Europe
Heliotropia	*Heliotropium europaeum* L. *Heliotropium villosum* L. *Heliotropium supinum* L.	*H. europaeum* L.: Barooga-Weed Caterpiller-Weed Common Heliotrope European Heliotrope European Turnsole Heliotrope Hemp-Agrimony Wandarrie-Curse Wild Heliotrope *H. supinum* L.: Prostrate Heliotrope Spreading Heliotrope	*H. europaeum* L.: Macaronesia, Northern Africa, Asia, Australia, Europe *H. villosum* L.: Africa, Asia, Australia *H. supinum* L.: Africa, Asia, Hungary, Southern Europe
Grias	unknown		

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Politricum	*Asplenium trichomanes* L.	Maidenhair Spleenwort	Africa, Asia, Australia, New Zealand, Europe, North America
Astula Regia	*Salvia sclarea* L.	Clary Clary Sage	Asia, Germany, Southern Europe
Papaver Silvaticum	*Papaver* L.	Poppy	Africa, Asia, Europe, North America
Oenante	*Spiraea filipendula* L.	Dropwort	Northern Africa, Asia, Europe
Narcissus	*Narcissus* L.	Daffodil Narcissus	North Africa Europe
Splenion	*Ceterach officinarum* Willd.		Macaronesia, Northern Africa, Asia, Europe
Polion	*Teucrium polium* L.	Poley	Northern Africa, Asia, Eastern Europe, Southern Europe
Victoriola	*Ruscus hypophyllum* L.		Northern Africa, Southern Europe
Confirma	*Symphytum officinale* L.	Boneset Comfrey Common Comfrey Consound Healingherb Knitbone Slippery-Root	Asia, Europe
Asterion	*Aster amellus* L.	European Michaelmas-Daisy Italian Aster Italian Starwort	Asia, Europe
Leporis Pes	*Trifolium arvense* L. *Trifolium lagopus* Pourr.	*T. arvense* L.: Hare-foot Clover Hare-foot Trefoil Rabbit-foot Clover Stone Clover *T. lagopus* Pourr.:	*T. arvense* L.: Macaronesia, Northern Africa, Northeast Tropical Africa Asia, Europe *T. lagopus* Pourr.: Western Asia, Belgium, Southern Europe
Diptamnum	*Origanum dictamnus* L.	Cretan Dittany Hop Marjorum Wintersweet	Greece

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Solago Maior	*Heliotropium europaeum* L. *Heliotropium villosum* Desf. *Heliotropium supinum* L.	*H. europaeum* L.: Barooga-Weed Caterpillar-Weed Common Heliotrope European Heliotrope European Turnsole Heliotrope Hemp-Agrimony Wandarrie-curse Wild Heliotrope *H. supinum* L.: Prostrate Heliotrope Spreading Heliotrope	*H. europaeum* L.: Macaronesia, Northern Africa, Asia, Australia, Europe *H. villosum* L.: Africa, Asia, Australia *H. supinum* L. Africa, Asia, Hungary, Southern Europe
Solago Minor	*Chrozophora tinctoria* Juss.	Dyer's-croton Giradol Turnsole	Northern Africa, Yemen, Asia, Ukraine, Southern Europe
Peonia	*Paeonia* L.	Peony	Africa, Asia, Europe, North America
Peristereon	*Lycopus europaeus* L. *Lycopus exaltatus* L.	*L. europaeus* L.: Bugleweed European Bugleweed Gypsywort European Water-horehound *L. exaltatus* L.:	*L. europaeus* L.: Asia, Europe *L. exaltatus* L.: Asia, Europe
Brionia	*Bryonia dioïca* Jacq.	Red Bryony White Bryony Wild Hop	Northern Africa, Europe
Nimfea	*Nymphaea* L.	Water Lily	Africa, Asia, Europe, North America, South America, Australia
Crision	*Carduus tenuiflorus* Curtis *Carduus pycnocephalus* L.	*C. tenuiflorus* Curtis: Sheep Thistle Shore Thistle Slender Thistle Slender-Flower Thistle Winged Slender Thistle Winged Thistle *C. pycnocephalus* L.: Italian Thistle Plymouth Thistle Sheep Thistle Slender Thistle Slender Winged Thistle Slender-flower Thistle Winged Slender Thistle Woolly Thistle	*C. tenuiflorus* Curtis: Northern Africa, Europe *C. pycnocephalus* L.: Northern Africa, Asia, Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Isatis	*Isatis tinctoria* L.	Dyer's Wood Woad Dyer's Woad	Northern Africa, Asia, Europe
Scordeon	*Teucrium scordium* L.	Water Germander	Northern Africa, Ethiopia, Asia, Europe
Verbascum	*Verbascum* L. esp. *Verbascum nigrum* L. esp. *Verbascum lychnitis* L. esp. *Verbascum sinuatum* L. esp. *Verbascum thapsus* L.	*V. nigrum* L.: Dark Mullein *V. lycnitis* L.: White Mullein *V. thapsus* L.: Aaron's-rod Blanketweed Common Mullein Flannelleaf Flannelplant Great Mullein Grey Mullein Hag Taper Mullein Torches Velvet-dock Velvetplant Wild Tobacco Common Mullein	*V. nigrum* L.: Siberia, Europe *V. lycnitis* L.: Morocco, Georgia, Siberia, Europe *V. sinuatum* L.: Northern Africa, Asia, Ukraine, Southern Europe *V. thapsus* L.: Macaronesia, Northern Africa, Asia, Europe
Heraclea	*Sideritis romana* L.		Northern Africa, Western Asia, Southern Europe
Celidonia	*Chelidonium majus* L.	Celandine Great Celandine Greater Celandine Nipplewort Swallowwort	Macaronesia, Northern Africa, Asia, Europe
Solata	*Solanum nigrum* L.	Black Nightshade Blackberry Nightshade Common Nightshade Poisonberry	Northern Africa, Asia, Europe
Senecion	*Senecio vulgaris* L. and other mediterranean species of *Senecio* L.	Common Fireweed Common Groundsel Groundsel Morrar	Macaronesia, Northern Africa, Asia, Europe
Filix	*Polystichum filix mas* Roth.	Male Fern	Morocco, Asia, Europe, North America
Gramen	*Cynodon dactylon* Pers.	Bermuda Grass Common Couch Green Couch Indian Couch Plain Couch	Southern Europe
Gladiolium	*Iris* L.	Iris	Northern Africa, Asia, Europe, North America

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Rosmarinum	*Rosmarinus officinalis* L.	Rosemary	Macaronesia, Northern Africa, Western Asia, Southern Europe
Pastinaca Silvatica	*Daucus carota* L., var. *silvestris*	Carrot Wild Carrot	Macaronesia, North Africa, Asia, Europe
Perdicalis	*Parietaria officinalis* L.	Eastern Pellitory-of-the-wall Pellitory-of-the-wall Wall Pellitory	Asia, Europe
Mercurialis	*Mercurialis annua* L.	Annual Mercury French Mercury Herb mercury	Macaronesia, Northern Africa, Asia, Europe
Radiolum	*Polypodium vulgare* L.	Adder's Fern Common Polypody Golden-maidenhair Polypody Wall Fern	Africa, Asia, Europe, Greenland
Sparagus Agrestis	*Asparagus officinalis* L. *Asparagus acutifolius* L. *Asparagus tenuifolius* L. *Asparagus aphyllus* L.	*A. officinalis* L.: Asparagus Garden Asparagus *A. acutifolius* L.: Wild Asparagus *A. aphyllus* L.: Mediterranean Asparagus	*A. officinalis* L.: Northern Africa, Asia, Europe *A. acutifolius* L.: Northern Africa, Western Asia, Southern Europe *A. tenuifolius* L.: Turkey, Europe *A. aphyllus* L.: Northern Africa, Western Asia, Southern Europe
Sabina	*Juniperus sabina* L.	Sabina Savin Savin Juniper	Algeria, Asia, Europe
Canis Cerebrum	*Antirrhinum orontium* L.	Corn Snapdragon Lesser-snapdragon Small Snapdragon Weasel's-sount	Africa, Western Asia, Europe
Rubus	*Rubus fructicosus* L.	Blackberry	Europe
Millefoium	*Achillea* L. esp. *Achillea millefolium* L.	Milfoil Yarrow Common Yarrow	Asia, Europe, North America, Central America
Ruta Hortensis	*Ruta graveolens* L.	Common Rue Rue	Ukraine, Southeastern Europe
Mentastrum	*Calamintha* Lmk	Calamint	Europe, Asia, North America
Ebulum	*Sambucus ebulus* L.	Danewort Dwarf Elder	Macaronesia, Northern Africa, Asia, Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Puleium	*Mentha pulegium* L.	European Pennyroyal Pennyroyal	Macaronesia, Northern Africa, Ethiopia, Asia, Europe
Nepeta Montana	*Mentha silvestris* L.	Biblical Mint Horse Mint Silver Mint Wild Mint	Africa, Asia, Europe
Peucedanum	*Peucedanum officinale* L. and its local variants	Hog's-fennel Sulphurweed	Morocco, Europe
Innula Campana	*Inula helenium* L.	Elecampane Scabwort Velvet-dock	Asia, Ukraine, Southeastern Europe
Lingua Canis	*Cynoglossum creticum* Miller *Cynoglossum officinale* L.	*C. creticum* Miller: Blue Hound's-tongue *C. officinale* L.: Gypsy-flower Hound's-tongue Rats-and-mice	*C. creticum* Miller: Macaronesia, Northern Africa, Asia, Europe *C. officinale* L.: Asia, Europe
Saxifraga	*Pimpinella saxifraga* L.	Burnet-saxifrage Pimpinella	Asia, Europe
Hedera Nigra	*Hedera helix* L.	Ivy	Northern Africa, Asia, Europe
Serpullum	*Thymus* L. esp. *Thymus serpyllum* L.	Breckland Thyme Breckland-garden Creeping Theym Mother-of-thyme Wild Thyme	Siberia, Europe
Absintium	*Artemisia absinthium* L.	Absinthe Absinthe Wormwood Absinthium Wormwood Absinth	Northern Africa, Asia, Europe
Salvia	*Salvia* L.	Sage	Asia, Southern Europe, Central America, South America
Coriandrum	*Coriandrum sativum* L.	Chinese-parsley Cilantro Coriander	Morocco, India, Pakistan, Eastern Europe, Romania, Mexico, Argentina
Portulaca	*Portulaca oleracea* L.	Common Purslane Little Hogweed Portulaca-Weed Purslane	
Cerefolium	*Anthriscus cerefolium* L.	Chervil Garden Chervil	Asia, Europe

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Sisimbrium	*Mentha silvestris* L. *Mentha viridis* L.	*M. silvestris* L.: Biblical Mint Horse Mint Silver Mint Wild Mint *M. viridis* L.: Spearmint	*M. silvestris* L.: Africa, Asia, Europe *M. viridis* L.: Western Asia, Southern Europe
Olisatrum	*Smyrnium olusatrum* L.	Alexanders Black-lovage Horse-parsley	Macaronesia, Northern Africa, Western Asia, Southern Europe
Lilium	*Lilium candidum* L.	Madonna Lily White Lily	Western Asia, Southeastern Europe
Titimallus	*Euphorbia* L.	Spurge	Africa, Asia, Europe, North America, South America
Cardus Silvaticus	*Cardopatium corymbosum* Pers.		Northern Africa, Southern Europe, Western Asia
Lupinum Montanum	*Lupinus angustifolius* L. *Lupinus termis* Forsk *Lupinus birsutus* L.	*L. angustifolius* L.: Blue Lupine European Blue Lupine *L. termis* Forsk: *L. hirsutus* L.:	*L. angustifolius* L.: *L. termis* Forsk: *L. hirsutus* L.:
Latirida	*Daphne gnidium* L.	Daphne	Macaronesia, Northern Africa, Turkey, Southern Europe
Lactuca Leporina	*Chondrilla juncea* L.	Gum Succory Nakedweed Rush Skeleton-weed Skeleton-weed	Northern Africa, Asia, Europe
Cucumis Silvaticus	*Ecballium elaterium* Rich.	Squirting Cucumber	Northern Africa, Asia, Eastern Europe, Southern Europe
Cannabis Silvatica	*Althaea cannabina* L.	Hemp-leaf-marshmallow Palm-leaf-marshmallow	Algeria, Asia,, Russian Federation, Europe
Ruta Silvatica	*Ruta montana* L. *Ruta chalepensis* L.	*R. montana* L.: Mountain Rue *R. chalepensis* L.: Fringed Rue	*R. montana* L.: *R. chalepensis* L.: Macaronesia, Northern Africa, Western Asia, Southern Europe
Septefolium	*Potentilla L.* *esp. Potentilla reptans L.*	Creeping Cinquefoil European Fivefinger	Northern Africa, Asia, Europe
Ocimum	*Ocimum basilicum* L.	Basil Sweet Basil	Africa, Asia

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Apium	*Apium graveolens* L., var. *sativum*	Celery Wild Celery	Macaronesia, Northern Africa, Asia, Europe
Hedera Crisocantes	*Hedera chrysocarpa* Walsh.	Italian Ivy Poet's Ivy Yellow-berry Ivy	Turkey, Greece
Menta	*Mentha* L. esp. *Mentha viridis* L.	Spearmint	Western Asia, Southern Europe
Anetum	*Anethum graveolens* L.	Dill Garden Dill	Asia
Origanus	*Origanum heracleoticum* Rchb. *Origanum vulgare* L.	*O. heracleoticum* Rchb.: *O. vulgare* L.: Wild Marjoram	*O. heracleoticum* Rchb.: Asia, Southern Europe *O. vulgare* L.: Macaronesia, Northern Africa, Asia, Europe
Sempervivum	*Sempervivum arboreum* L.	Tree Aeonium	Macaronesia, Northern Africa
Feniculum	*Foeniculum vulgare* Gaertn.	Aniseed-weed Fennel	Macaronesia, Northern Africa, Asia, Ukraine, Southern Europe
Erifion	*Ruta montana* L. *Ruta chalepensis* L.	*R. montana* L.: Mountain Rue *R. chalepensis* L.: Fringed Rue	*R. montana* L.: *R. chalepensis* L.: Macaronesia, Northern Africa, Western Asia, Southern Europe
Simfitum Album	*Symphytum officinale* L. *Symphytum bulbosum* Schimp.	*S. officinale* L.: Boneset Comfrey Common Comfrey Consound Healingherb Knitbone Slippery-root *S. bulbosum* Schimp.: Bulbous Comfrey	*S. officinale* L.: Asia, Europe *S. bulbosum* Schimp.: Southern Europe
Petroselinum	*Petroselinum hortense* Hoffm.	Garden Parsley Parsley	North Africa, Southern Europe
Brassica Silvatica	*Cynanchum acutum* L. *Marsdenia erecta* R. Br. = *Cynanchum erectum* L.		*C. acutum* L.: Northern Africa, Asia, Eastern Europe, Southern Europe *C. erectum* L.: Southeastern Europe, Western Asia

Herbal Plant Name	Scientific Plant Name(s)	Modern Common Plant Name(s)	Native Geographical Distribution
Basilisca	*Ocimum basilicum* L. *Gentiana lutea* L. *Gentiana purpurea* L.	*O. basilicum* L.: Basil Sweet Basil *G. lutea* L.: Great Yellow Gentian Yellow Gentian *G. purpurea* L.: Purple Gentian	*O. basilicum* L.: Africa (?) *G. lutea* L.: Turkey, Europe *G. purpurea* L.: Europe
Mandragora	*Mandragora* L.	Mandrake	Northern Africa, Western Asia, Southern Europe

Appendix C: Punic Synonyms in Manuscripts of the Herbal

This table records all of the Punic synonyms for plant names I found when examining manuscripts of the herbal. The manuscripts are organized according to class when their classes are known. A (-) symbol means that no Punic synonyms appear in the manuscript.

Class α Manuscript	**Latin Herb Names + Synonyms**
Montecassino, Archivio della Badia MS V. 97	-
Munich, Bayerische Staatsbibliothek, Cl. 15028 and Clm. 29134 (Fragments)	- (H&S edition says no images or synonyms)
Lucca, Biblioteca Statale, MS 296 *Howald and Sigerist accidentally labeled this manuscript number as 236 in their edition.	-
Leiden, Bibliotheek der Rijksuniversiteit, MS B.P.L. 1283	-
Berlin, Deutsche Staatsbibliothek zu Berlin, Preußischer Kulturbesit Ms Lat. fol. 381 No. 1, Fragment	-
London, British Library, Harley MS 4986 (Interpolated)	Yosciamon: Punici Gingan (4r) Leontopodi: Punici Gudubbal (5r) Saxifrage: Punici Neszoessesade (16v) Heliotrapie: Punici udunnim (17r) Asterion: Punici Derdum (20r) Persterion: Punici zizuinnim, azirguzol (22r) Senecie: Punici Labonsolo (25r) Rosmarinum: Punici Zibbir (27r) Cucumeris: Punici cumsisezar (39r)
St. Gallen, Stiftsbibliothek, Cod. Sang. 751	-
London, British Library, Additional MS 17063	*not accessed, but shown by Hunger to be a copy of the Editio Princeps, which was copied from an early manuscript in Montecassino. The *editio princeps* does not have any Punic synonyms.
London, British Library, Additional MS 21115	*not accessed, but shown by Hunger to be a copy of the Editio Princeps, which was copied from an early manuscript in Montecassino. The *editio princeps* does not have any Punic synonyms.
Class γ Manuscript	**Latin Herb Names + Synonyms**
Leiden, Bibliotheek der Rijksuniversiteit, MS Voss Lat. Q 9	Centauria Maior: Afri Abessussin (44)
Kassel, Landesbibliothek, 2 MS. Phys. et hist. nat. 10	Rosmarinum: Afri zibir (20r)
Vatican, Biblioteca Apostolica Vaticana, Reg. Lat. MS 846	-
Class β Manuscript	**Synonyms + Latin Herb Names**

Hildesheim Beverinsche Bibliothek, MS 658 (fragment)	-
Florence, Biblioteca Medicea Laurentiana, MS Plut 73.41	Vermenaca: Punici sanguinaria (17v) Symphoniaca: Punici caliclare (19r) Lentopodion: Punici guduucol (20v) Boatracion: Libii aczircoris (21r) Lapatium: Punici rumicem (23v) Drachontea: Libii aziricfoali (24v) Proserpinacia uel corigiola: Punici zunzur (26r) Nasairci: Punici cusmin (27v) Lingua Bouis: Libii lasymsaf (29r) bearailisyegia: Afri commuda (34r) Gramen: Punici ibal (45r) Gladiolu: Punice trisafrice (45v) Rosmarinum: Punici zibbir (46r) Pastinaca Siluatica: Punici udonalion (46v)
Paris, Bibliotheque Nationale, MS Lat. 6862	Verminatia: Punice sanguinariam (26v) Simphonacia: Punici caliclarem (28r) Lentopedion: Punici gudubba (29r) Scelerata: Libii atircoris (29v) Gentiana: Punici gentiana (34v) Serpinatia: Punici zunzur (35v) Nasturtium: Punici cusmin (38r) Centauria Maior: Punice abusussi (44v) Ostriago: Punice saramuris (46r) Aspodilos: Punice fifiloi (47r) Bouis Lingua: Libii lasimsaph (51r)
Oxford, Bodleian Library, MS Bodley 130	*Gunther's manuscript
Vienna, Österreichische Nationalbibliothek, MS 93	Columbaris: Punice sanguinariam (23r) Symfoniaca: Punice caliclarem (25r) Leontupodion: Punici gudubbal (27v) Lapatium: Punici rumicem (33r) Dragontea: Libii onnela asimma (34r) Gentiana: Punici gentiana (35v) Proserpinaca: Punici zunzur (37v) Nasturtium: Punici cusmin (40r) Ostriago: Punice saramuris (46r) Aspodilos: Punice fifilon (49v) Centauria Maior: Punice abussussi (50v) Bouis Lingua: Libi lasimsath (56v) Gramen: Punici ibbal (81v) Gladiolum: Punice zubbal (82r) Rosmarinum: Punice zibbir (32v) Pastinaca Silvatica: Punici siccanside (84r) Tytymallos Gallastices: Punice alobamor (105r)

London, British Library, Harley MS 1585	Columbaris: Punice sanguinariam (18v) Simphoniaca: Punice caliclarem (19v) Viperina: Punici gudubbal (20r) Botracion: Libii atucoris (20v) Lapatium: Punici romicera (22v) Dracontea: Lyby: adtirafot (22v) Proserpinatia: Punici zunzur (24r) Nasturcium: Punici cusmin (25r) Ostriago: Punice saramuris (27r) Centauria maior: Punici abussussim (29r) Lingua Bouis: Lybii: Lasimsaph (31v) Leporis Pes: Affricani utimnim (36v) Gramen: Punici ibbal (41v) Gladiolum: Punici zubal (41v) Rosmarinum: Punici Zibbar (41v) Pastinatica siluatica: Punici siccansadan (42v) Titimallos: Punici siguidem alobamor (50v)
London, Briitsh Library, Sloane MS 1975	Columbaris: Punice sanguinariam (14r) Symphoniaca: Punici caliclarem (15r) Uiperina: Punici gudubal (15v) Lapatium: Punici romicem (17v) Dracontea: Lyby adryrafot (18r) Gentiana: Punici gentianam (18v) Proserpinaca: Punici zunzur (19r) Nasturtium: Punice cusmin (19v) Ostriago: Punice saramuris (21v) Affodilos: Punici fifiloi (22v) Centauria Maior: Punici abussusi (23r) Marrubium: Lyby lasunsaph (26v) Leporis Pes: Affrici utimium (30v) Gramen: Punici Ibbal (35v) Gladiolum: Punici uzubal (35v) Rosmarinum: Punici zibbar (35v) Pastinaca Silvatica: Punici siccansadam (36v) Titimallos: Punici alobamor (43r)
Oxford, Bodleian Library, Ashmole MS 1462	Columbaris: Punice sanguinariam (15r) Simphoniaca: Punici ciliclarem (16r) Leontopodion: Punici guddubbal (16v) Botracion: Libii atricoris (16v) Lapatium: Punici romicem (18r) Dracontea: Lybii adzirafot (18v) Gentiana: Punici gentianam (19r) Proserpinca: Punici zunzur (19v) Aspidilos: Punici fifiloy (22v) Centauria Maior: Punici abussusim (23r) Lingua Bouis: Lyby lasimsaph (25r) Gramen: Punici ibbal (33r) Gladiolum: Punici zabal (33r)

Oxford, Bodleian Library, Ashmole MS 1431	Columbaris: Punice sanguinaria (6r) Simphoniace: Punici caliclarem (7r) Lentopodion: Punici gudubal (7v) Lapatium acutum: Punici rumicem (8v) Drachontes: Libii azirafoth (9r) Gentiane: Punici gentiana (9v) Proserpinaca: Punici zunzur (10r) Nasturcium: Punici eusmum (11r) Lingua Bouis: Libii sasimfas (13r) Astula regia: Afrii munda (15r) Leporis pes: Afri utunin (17r) Gramen: Punici ibal (21r) Rosmarinum: Punici zibbir (21r)
Vatican, Biblioteca Apostolica Vaticana, MS Barberini 160	- (only includes Greek, Italian, and Roman synonyms)
Berlin, Germany Staatsbibliothek zu Berlin, Preußischer Kulturbesitz Ms Ham. 307	Lapatium : Punici dicunt Rumicem Dracontea : Libii Acoitafoth (10r) Aspodilos: Punici Anfiloi (15r) Pastinaca Silvatica: Punici udonalion (28r)
Montpellier, Bibliotheque de l'Ecole de Medecine, MS H227	Verbenaca: Punici sanguinariam (pg. 172) Iusquiamo: Punici canicularem (pg. 180) Leontopodion: Punici gudubal (186) Lapatio Acuto: Punici rumicem (200) Draguntea: Libii azirafot (202) Gentiana: Punici gentianam (208) Centumnodia: PUnici zunzur (214) Nasturcio: PUnici cosinin (222) Ostriagine: Punici saramuris (240) Affodillis seu centum capita: Punici fifilon (252) Buglossa: Libii lasmisaech (272) Pede Leporis uel Gariofilara: Afri utunni (312) Gladiolo .i. spatula: Punici zubal (348) Rosmarino: Punici zibbir (350) Pastinaca Saluatica: Punici sicanside (352) Titimalo Galatide: Punici alobomor (412)
London, Wellcome Library, MS 575	Columbaris: Punice sanguinaria (8r) Simphoniaca: Punici clariclarem (9r) Lentopedio: Punici gadubal (10r) Gentiana: Punici oeciana (14r) Proserpinatia: Punici zunzur (15r) Nasturcium: Punici cusmin (16v) Camemelum: Punici camunerium (17v) Ostriago: Punici saramuris (18v) Centauria maior: Punici abulsufis (21r) Astula regia: Afri amirudu (?) (27r) Gramen: Punici ibbal (34v) Gladiolus: Punice iris africe (35r) Rosmarinum: Punici tibbar (35v) Pastinaca silvatica: Punici udalion (36r)
Manuscript of Unknown Class	**Synonyms + Latin Herb Names**

London, British Library, MS Additional 8928	Achorum : Punici Gudubal (30r) Botracion: Libii Atircoris (30r) Lapatium: Punici Rumicem (31r) Dracontea : Libii Azirafoth (31v) Gentiana : Punici Gentiana (32r) Proserpinacia: Punici Zunzur (32r) Nasturcium: Punici Cusmin (33r) Camemelum : Punici Camimerum (33r) Camedafne: Punici Saram urtis (34r) Asfodillus: Punice afifiloi (35r) Centauria Maior: Punici Abussussi (35r) Lingua Bovis: Libii Lasimsaf (36v) Astula Regia: Afri Ammuda (38r) Leporis Pes: Afri Utunni (39r) Gramen: Punici Ibbal (41r) Gladiolum: Punice Iris africe (41v) Rosmarinum: Punici Zibbir (41v) Pastinaca Silvatica: Udonalion (42r)
Uppsala, K. Universitetsbiblioteket, Cod. C. 664 (incomplete)	-
London, British Library, MS Harley 5294	Columbaris: Punice sanguinaria (10v) Simphoniaca: Punici Calicarem (11v) Lentopodion: Punici Gudubal (12v) Botracion: Libii Atircoris (13r) Lapaticum: Punici rumicem (14r) Dracontea: Libii azirafoth (14v) Gentiana: Punici Gentianam (15r) Prosperpinaca: Punici zunzur (17r) Nasturcium: Punici cusmin (18r) Camamelum: Punici camimerum (19r) Ostriago: Punici saramuris (20r) Aspodilos: Punice Afifilor (21v) Centauria Maior: Punici Abussussi (21v) Astula Regia: Afri ammuda (26v) Leporis Pes: Affri utunni (28v) Gladiolum: Punice iris affrice (33r) Rosmarinum: Punici ibbir (33r) Pastinaca Siluatica: Puni udanalion (33v)
Florence, Biblioteca Medicea Laurenziana, MS Plut. 73.16	Columbaris: Punici sanguinariam (33r) Symfoniaca: Punice caliclarem (35v) Leontupodion: Punici gudubbal (39r) Lapatium: Punici rumicem (45r) Dracontea: Libii azirafot (46v) Gentiana: Punici gentiana (48r) Proserpinaca: Punici zunzur (50v) Ostriago: Punice saramuris (61r) Aspodilos: Punice fifilon (65v) Centauria Maior: Punice abussussi (66v) Lingua Bouis: Libii lasimsafh (74r) Gramen: Punici ibbal (103r) Gladiolum: Punice gubbal (103r) Rosmarinum: Punice zibbir (104v) Pastinaca siluatica: Punici siccanside (105r) Tytymallos: Punice alobamo (130v)

Florence, Biblioteca Medicea Laurenziana, MS Plut. 73.01	- (short version of the Herbal, organized by remedies and containing no synonyms)
Leiden, Bibliotheek der Rijksuniversiteit, Vossiannus Latinus Q 13 (Incomplete)	Columbaris: Punici sanguinariam (32) Simphoniaca: Punice caliclarem (34) Lapatium: Punice romicem (38) Dractonea: Libii adzirafot (38) Gentiana: Punici gentiana (39) Proserpinaca: Punici zunzur (41) Nasturcium: Punici cosmin (43)
Leiden, Bibliotheek der Rijksuniversiteit, Vossianus Latinus Q 40	Yosciamon: Punici gingan (36) Leontopodium: Punici gudubal (38) Callitrichon: Punici neszoesade (59) Eliotrophion: Punici unnim (60) Erigeron: Punici labonsolo (74) Cerebrum canis: Punici azirchalbe (81) Cucumer silvaticus: Punici cumsissezar (103) Brassica siluatica: Punici biltutzim (112)
Paris, Bibliotheque Nationale de France, MS Arsenal 1031	Columbaris: Punici sanguinariam (7r) Iusquiamo: Punci canicularem (7v) Leontopodion: Punici gudubal (9r) Botratio: Libi aturcoris (9r) Lapatio: Punici romicem (10v) Dragontea: Libii adyrafot (11v) Gentiana: Punici gentianam (14r) Nasturcio: Punici tusium (17r) Affodillo: Punici fifiloi (20r) Lingua bouis: Liby lasimsaphc (24r) Gramme: Punici ibbal (35v) Gladiolo: Punici zubal (35v) Rosmarino: Punicis zilbar (36r) Pastinaca Silvatica: Punici siccemsadam (36v)
Paris, Bibliotheque Nationale de France, MS Latin 11218 (only contains four herbs on fol. 42r: botracion, aristolochia, dracontea, and priapiscus)	Aristolochia: Punici genciana (42r)
St. Gallen, Stiftsbibliothek, Cod. Sang. 44 (only an excerpt about pentafillos)	-
Vatican, Biblioteca Apostolica Vaticana, MS Vat.Lat. 6337	- (incomplete, organized by remedies and containing no synonyms)
St. Gallen, Stiftsbibliothek, Cod. Sang. 217 (combination of HA with Pliny's NH, with synonyms but not many)	-
Vatican, Biblioteca Apostolica Vaticana, MS Lat. Reg. Christ. 846	- (rearranged according to ailment, very few synonyms, possibly a different text that used the HA as a source)
Vatican, Biblioteca Apostolica Vaticana, MS Lat Pal 1215	- (rearranged according to ailment, no synonyms)

London, British Library, MS Additional 8928	Achorum : Punici Gudubal (30r) Botracion: Libii Atircoris (30r) Lapatium: Punici Rumicem (31r) Dracontea : Libii Azirafoth (31v) Gentiana : Punici Gentiana (32r) Proserpinacia: Punici Zunzur (32r) Nasturcium: Punici Cusmin (33r) Camemelum : Punici Camimerum (33r) Camedafne: Punici Saram urtis (34r) Asfodillus: Punice afifiloi (35r) Centauria Maior: Punici Abussussi (35r) Lingua Bovis: Libii Lasimsaf (36v) Astula Regia: Afri Ammuda (38r) Leporis Pes: Afri Utunni (39r) Gramen: Punici Ibbal (41r) Gladiolum: Punice Iris africe (41v) Rosmarinum: Punici Zibbir (41v) Pastinaca Silvatica: Udonalion (42r)
London, Wellcome Library, MS 574	Gentiana: Punici gentiana (5v) Proserpinaca: Punici gonoshezones (8v) Ostriago: Punice saramuris (10v) Botracion: Libi staticem (11r) Aspodili: Punice asphuit fifiloy (13r) Centauria maior: Punici abbussussi (13v) Nasturci: Punici cusmin (18r) Columbaris: Punice sanguinariam (22r) Sinifoniaca: Punice caliclarem (26v) Lapacium: Punici rumicem (29r) Dragontea: Libii azutifot (29v) Leontupodium: Punici gudubbal (35v) Gladiolum: Punice zubbal (45r) Pastinaca: Punici siccanside (45v)
Epporigiense Fragment (fragment) (information from a small edition of the fragment)	- (only contains tituli moroborum)
Modena, Archivio Capitolare, MS O.I.11	- (incomplete, organized by remedies, some synonyms all together at the end of the text)
Padua, Biblioteca del Orto Botanico, MS Ar. 26	Columbaris: Punice sanguinariam (15v) Simfoniaca: Punice caliclarem (17v) Leontupodion: Punici gudubbal (21r) Botracion: Libi atircozig (22r) Lapatium: Punici rumicem (28r) Gentiana: Punici Gentiana (32v) Proserpinatia: Punici zunzur (34v) Naustrutium: Punici cusmin (36v) Aspodilos: Punice albatrium (48v) Centaurea maior: Punice abussussi (50v) Lingua bouis: Liby lasimsafh (57v) Gramen: Punici ibbal (93v) Gladiolum: Punice zubbal (94v) Rosmarinum: Punice zibbir (95v) Titimali gallastici: Punici alobamor (125v)

Cambridge, Trinity College, MS 1152	Plantofilon: Punici gudubal (7v) Lapatium: Punici rumicem (8v) Dracontea: Libii azirafonth (9r) Gentiana: Punici gentiana (9v) Nasturcium: Punici cosminon (11r) Camomille: Punici camimerum (12r) Ostriago: Punici saramulius (13r)

Appendix D: Comparison of Snake Names in Manuscripts of the Herbal and their Modern Identifications

The following three tables show the snake names that accompany the illustrations of snakes in various manuscripts of the herbal. They are divided by class, and it is easy to see that the snake names are not consistent with the textual tradition of the herbal. When a snake is illustrated but unlabeled or labeled with a general snake term (*serpens*, *anguis*, *coluber*), it is indicated in the tables by a (+) symbol.

Class α

	Montecassino V 97	Lucca 296	Harley 4986	Leiden 1283
Dracontea			+	Aspis
Viperina		Profe		
Gentiana		Acontios	+	+
Aristolochia		Iecis		+
Camedris	Lysis	+		+
Argimonia	Matros			+
Centauria Minor	Egefonidos			Vipera
Diptamnum				+
Lingua Canis	Steripis			
Lilum	+			
Solago Maior	+			
Isatis	+			Mengalet
Erusci	Sipedon			+
Ebulum	Ceresydros			
Nepeta Montana	Draco			+
Peucedanum	Tragerus			
Scordeon	+			

Class β

	Florence 7316	Harley 5294	Harley 1585	Ashmole 1462	Sloane 1975
Plantago	Sipedon				
Quinquefolium	Sipedon	+			
Verminacia	+ (x2)	+	+	+	+
Viperina	+	+			
Dracontea	Aspis & Sipedon	+			
Gentiana	+ (x2)	+			
Aristolochia	Iecir	+			
Camedris	+		+	+	+
Argimonia	+	+			
Centauria Minor		+			
Lingua Canis		Steripes			
Solago Maior	+				
Peristereon	+				
Isatis	+				
Erusci	Sipedon				
Herbulum	+				
Nepeta Montana	+				
Peucedanum	+				
Cynoglossa	Teripes			+	
Lilium	+	Sipedon			
Petroselinum		+			

Class γ

	Leiden Voss Q 9	Kassel 2 Phys. et Nat. Hist. 10
Viperina	+	
Dracontea	Aspis	
Gentiana	Acontius	
Aristolochia	Iecis	
Camedris	Lysis	Lysis
Argimonia		Matros
Centauria Minor		Egefonidos
Erusci		+
Ebulum		Ceresidros
Lingua Canis		Steripes

Unclassed Manuscripts

	Harley 1975	Leiden Voss Q 40	Paris 6862	Vatican 180	Vatican 573
Quinquefolium			+	+	
Verminacia	+			+	
Camedris	+	Lillie	Ignes		Lesis
Viperina					Profe
Dracontea		Aspis	+		Aspis Iecitemon
Gentiana		+	+		
Aristolochia		+			Iecis
Argimonia		+	Miacios		
Centauria Minor		Vipera			
Lilium					Seph
Solago Maior			+		
Isatis		Mengalet			Mencaleat
Erusci		+			
Nepeta Montana		+			
Peucedanum					Tracetos
Diptamnum		+			

Latin Snake Name Identifications

The following table lists the snake names used in the herbal and their proposed modern identifications.

Latin Snake Name	Modern Identification(s)
Sipedon (*f.* Sepedon)	-Viperidae family: (Scarborough) -Bitis sp. Viperinae Viperidae: (Knoefel & Covi) -*Vipera aspis*, *Echis carinata*, or *Vipera mauretanica deserti*: (Kadar) -Unidentifiable: (Gow & Schofield, Gossen-Steier, Brenning)
Profae	Unidentified
Aceres	Unidentified
Aspis	-*Naja haje* (or another *Naja* species, esp. *Naja nigricollis* or *Walterinnesia aegyptia*): (Bodson, Scarborough, Gaillard-Seux, Gow & Schofield, Brenning, Gossen-Steier, Knoefel & Covi) -Elapidae family -*Vipera aspis*
Aconitis (*f.* Akontios)	-*Coluber najadum*: (Bodson)
Iecis (*f.* Echeis / Echidna)	-Viperidae family (possibly V. xanthina, V. lebetina, V. ammodytes): (Scarborough, Bodson, Gossen-Steier, Gow & Schofield, Knoefel & Covi) -*Pelias berus*: (Brenning) -*Vipera aspis*: (Brenning)
Lysis (possibly the Lybian snake described by Nicander)	-*Coluber floruentulus*: (Kadar) -Unidentified: (Bodson, Gow & Schofield)
Matros (*poss. f.* Natrix)	Unidentified
Egefonidos	Unidentified

Latin Snake Name	Modern Identification(s)
Ceresidros	-*Vipera*: (Knoefel & Covi) -Elapidae family: (Scarborough) -General aquatic reptile: (Bodson) -*Laticauda laticaudata*: (Gossen-Steier) -*Laticauda colubrina*: (Gow & Schofield, Gossen-Steier) -*Tropidonotus natrix*: (Gow & Schofield, Lenz, Keller) -*Coluber natrix*: (Sprengel) -*Coluber lutrix*: -*Natrix tessellata* or *Coluber scalaris*: (Kadar)
Draco	-General snake term: (Bodson) -*Python sebae*: (Gow & Schofield, Gossen-Steier) -Fabulous: (Brenning, Knoefel & Covi)
Steripes	Unidentified
Mengalet	Unidentified
Tracetos	Unidentified
Ignes	Unidentified
Axieniza	Unidentified

Appendix E: List of Manuscripts of the Herbal

Class α

Halberstadt, Bibliothek der Domgynasiums, S. N. (fragment), 7th century

Munich, Bayerische Staatsbibliothek, Cl. 15028 (fragment), 7th century

Munich, Bayerische Staatsbibliothek, Cl. 29134 (fragment), 7th century

Berlin Deutsche Staatsbibliothek, MS Lat. F 381 no. 1 (fragment), 8th century

Lucca, Biblioteca Statale, MS 296, 9th century
*(The Howald & Sigerist edition labels this manuscript as 236)

Montecassino, Archivio della Badia, MS 97, 9th century

St. Gall, Stiftsbibliothek, MS Sang. 751, 9th century

The Hague, Museum Meermanno-Westreenianum, MS 10 D 7, 10th century

London, British Library, Cotton MS Vitt. C iii, 11th century

London, British Library, Hatton MS 76, 11th century

Eton, Eton College 204, 12th century (interpolations)

London, British Library, Harley MS 4986, 12th century (interpolations)

Vienna, Österreichische Nationalbibliothek, MS lat. 187, 12th century (interpolations)

London, Wellcome Library, MS 573, 13th century

London, British Library, Additional MS 17063, 15th century

London, British Library, Additional MS 21115, 15th century

Leiden, Bibliothek der Rijksuniversiteit, MS B.P.L. 1283

London, British Library, Harley MS 585

London, British Library, Harley MS 6258 B (Old English; the remedies from the bettony treatise, the herbal and the Pseudo-Dioscorides herbal have been combined and rearranged alphabetically according to the Latin names of the plants)

London, British Library, Junius MS 58 (this is a transcript of Hatton 76)

Class β

Hildesheim Beverinsche Bibliothek, MS 658 (fragment), 8th century

Breslau, State and University Library, MS III. F. 19, 9th century

Florence, Biblioteca Medicea Laurentiana, MS Plut. 73, 41, 9th century

Herten, Bibliothek des Graften Nesselrode-Reicensten, MS 192, 9th century
*(Destroyed, but images of the manuscript were published by K. Sudhoff in 1917.)

The Hague, Museum Meermanno-Westreenianum MS 10 D 7, 10th century

Paris, Bibliothèque Nationale, MS lat. 6862, 10th century

St. Gall, Stiftsbibliothek, MS Sang. 44, 10th century (Howald & Sigerist noted that this manuscript contains only extracts from the herbal)

London, British Library, Additional MS 8928, 10th century

Oxford, Bodleian Library, Ashmole MS 1431, 11th century

Vatican, Biblioteca Apostolica Vaticana MS Barberini 160, 11th century

London, British Library, Sloane MS 1975, 12th century

Oxford, Bodleian Library, Ashmole MS 1462, 12th century

Oxford, Bodleian Library, Bodley MS 130, 12th century

Paris, Bibliothèque Nationale, MS Arsenal 1031, 12th century (several chapters contain interpolations)

Turin, Biblioteca Nazionale, MS K. IV 3, 12th century
(*destroyed)

Bamberg, Stadtbibliothek, MS med. 8, 13th century

Florence, Biblioteca Medicea Laurentiana, MS Plut. 73, 16, 13th century

London, British Library, Harley MS 1585, 13th century

London, British Library, Harley MS 5294, 13th century

Vienna, Österreichische Nationalbibliothek, MS 93, 13th century

Bern, Burgerbibliothek, MS 525, 14th-15th century (I'm not sure if this manuscript should be considered to be an example of the herbal or a different text that used the herbal as a source.)

Berlin, Deutsche Staatsbibliothek, MS Hamilton 307, 15th century

Leiden, Bibliothek der Rijksuniversiteit, MS Voss. E. 13, 15th century

Montpellier, Bibliotheqe de l'Ecole de Medecine, MS 277, 15th century

New Haven, Yale Medical History Library, MS 18, 15th century

Vatican, Biblioteca Apostolica Vaticana, MS Vat. Lat. 6337, 15th century (Howald & Sigerist believed that this manuscript only contains the Sextus Placitus *Medicina de quadrupedibus* text, but it also contains the herbal (rearranged according to malady and without synonyms).

*Howald & Sigerist (1927, xiii) note a ‘codex heluetus’, which they were unable to access. I was not able to determine what manuscript this is.

Class γ

Leiden, Bibliothek der Rijksuniversiteit, MS Voss. Lat. Q. 9, 6th-7th century

Ivrea, Biblioteca Capitolare MS 94 (fragment), 7th century

Kassel, Landesbibliothek 2 MS phys. et hist. nat. 10, 10th century

Vatican, Biblioteca Apostolica Vaticana, MS Reg. Lat. 846, 11th century (I am not sure if this manuscript presents a reworking of the herbal or if it contains a different medical treatise that used the herbal as a source.)

Unclassed Manuscripts (I have noted here any manuscripts that have been found by others or that I found catalogued as containing the herbal during my research and that have not yet been placed within the Howald & Sigerist *stemma codicum* or whose classification I was unable to find.)

Modena, Archivio Capitolare, MS O. I. 11, 8th-9th century (the herbal is reorganized according to ailment, *a capite ad calcem*)

Uppsala, K. Universitetsbiblioteket, MS C. 664, 9th century

Leiden, Bibliothek der Rijksuniversiteit, MS Voss. Lat. Q. 40, 11th century

Bonn, Universitätsbibliothek, MS 218, 11th-13th century (apparently just extracts from the herbal)

Florence, Biblioteca Medicea Laurentiana, MS Gaddi 81, 12th century

Oxford, Bodleian Library, MS Digby 69, 12th-14th century

Vatican, Biblioteca Apostolica Vaticana, MS Vat. Lat. 1215, 13th century (the Sextus Placitus text seems to be mixed into the herbal)

Augsburg, Universitätsbibliothek, MS II. 1.2 109, 15th century

London, Wellcome Library, MS 560, 15th century

London, Wellcome Library, MS 574, 15th century

London, Wellcome Library, MS 575, 15th century

Oxford, Bodleian Library, MS Canon. Misc. 388, 15th century

Padua, Biblioteca del Orto Botanico, MS Ar. 26, 15th century

Salzburg, Universitätsbibliothek, MS M II 20, 15th century

Debrecen, Großbibliothek des Reformierten Kirchendistrikts jenseits der Theiß, MS R 459, 15th century (German translation of the herbal)

Padua, Biblioteca, del Seminario Vescovile, MS 454, 16th century

Cambridge, Trinity College, MS 1152

Florence, Biblioteca Medicea Laurentiana, MS Plut. 73, 01

Munich, Bayerische Statsbibliothek, MS Clm. 17403

Paris, Bibliothèque Nationale, MS lat. 6838

Steinaweg, Stift Göttweig Bibliothek, MS Gottwicensis 380 (449)

Zurich, Zentralbibliothek, MS C. 79b

Paris, Bibliothèque Nationale, MS lat. 11218 (the status of this manuscript as an example of the herbal is debated - the manuscript only transmits a few small sections of the text)

*The Howald and Sigerist edition notes Paris, Bibliothèque Nationale, MS lat. 13955 (10th century) as a manuscript of the herbal; however, this manuscript contains a heavy reworking of the herbal combined with several other sources all mixed ogether (the Pseudo-Antonius Musa *De herba vettonica*, the Pseudo-Dioscorides *De herbis femininis*, the Pseudo-Dioscorides *Curae Herbarum*, Pliny's *Naturalis Historia*, etc.). An edition of this compilation has been published by Arsenio Ferraces-Rodriguez (2012).

*Similarly, St. Gall, Stiftsbibliothek, MS Sang. 217 is a reworking of the herbal combined with unknown sources.

*Paris, Bibliothèque Nationale, MS lat.10318 contains a text entitled *de remediis salutaribus Apulei Platoni*, but this treatise is not the herbal. It consists of extracts from Pliny's *Naturalis Historia.*