

## **ABSTRACT**

MUSTO, CHRISTOPHER JOHN. The Ancient and Medieval Pharmaceutical Treatments for Arthritis, Gout, and Sciatica. (Under the direction of Dr. John M. Riddle).

This paper identifies the remedies used by the ancient and medieval physicians in the treatment of arthritis, sciatica, and gout and explains their theoretical perception of these afflictions. These remedies may be a single ingredient drug or a balanced compound pharmaceutical. Through the works of Dioscorides and Pliny the Elder, all ingredients used in the single drug treatments of the diseases are identified by taxonomic name, common name and ancient names that were attributed to the item. For the compound drugs, all the ingredients are identified the same as the single ingredients with the addition of the active properties and which ingredients are used to counterbalance each other. In order to understand which disease the physician was treating, the ancient or medieval description is given along with what they felt was the cause, and how they prescribed treating the disease.

The Ancient and Medieval Pharmaceutical Treatments for  
Arthritis, Gout, and Sciatica

by  
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## **DEDICATION**

To My Parents and Grandparents

It's finally finished!

To Dr. John Riddle

Thank you for all your help and extensive knowledge on the subject.

## **BIOGRAPHY**

Christopher John Musto was born in Munich Germany on 6 February, 1969 to John and Mary Musto. He is the eldest of the three children, whereas Allison and James are his sister and brother, and Sean is his brother-in-law. Christopher grew up in Brewster New York, where he graduated from Brewster High School in 1987. He received a Bachelors of Art in 2000 in the fields of History, Religion, and Philosophy from the University of North Carolina at Pembroke. In 2002, he received a second Bachelor of Art degree from the University of North Carolina at Greensboro in the fields of Anthropology and Classical Archaeology. During the years of 1999 and 2002, he was inducted into the honor societies of Phi Alpha Theta (National History), Gamma Theta Upsilon (International Geography), Phi Theta Kappa (International Scholastics), and Lambda Alpha (National Anthropology). From the spring of 2002 to the fall of 2008, he interned for the Office of State Archeology Research Center under the direction of Dr. Billy Oliver. His future plans include the excavation of the battlefield of the 1<sup>st</sup> and 2<sup>nd</sup> Crusade at Doryleum in Turkey.

## ACKNOWLEDGMENTS

I want to thank my committee; Dr. John Riddle, one of the top experts on the subject of ancient and medieval medicine, for all of your help in the research and writing of this manuscript, Dr. Thomas Parker who taught me of the ancient trade routes of how the medical ingredients traveled, and Dr. Edith Sylla who led me to new sources of information.

To Noreen Miller, who is the best department secretary that anyone could ask for. I also want to thank Rebecca Buie, Lawana Hartsell, and Rita Buie for your love and support, Dr. Billy Oliver who taught me so much, Thomas Beaman who constantly pushed me to finish, my parents John and Mary Musto, my grandparents John and Muriel Musto and Mildred W. Stackhouse, and to the rest of my family and friends for all the support over many years and many degrees, and to Gimley, who kept me company through the entire process.

In Memory of Dr. James A. Stackhouse, Margaret A. Stackhouse, and Renita Hartsell.

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## LIST OF BOTANICAL ABBREVIATIONS

A. Grey. = Grey, Asa  
Berg. = Berg, Ernst von  
Boiss and Buhse. = Boissier, Pierre Edmond and Buhse, Fedor Aleksandrovich  
Bl. = Blume, Carl Ludwig  
DC. = Candolle, Augustin Pyramus de  
Engl. = Engler, Victor  
Gaertn. = Gaertner, Joseph  
Griseb. = Grisebach, August Heinrich Rudolf  
Jacq. = Jacquin, Nicolaus Joseph von  
L. = Linnaeus, Carl von  
Link. = Link, Johann Hienrich Friedrich  
Moench. = Moench, Conrad  
Retz. = Retzius, Anders Johan  
Rosc. = Roscoe, William  
Rich. = Richard, Louis Claude Marie  
Schott. = Schott, Heinrich Wilhelm  
Willd. = Willdenow, Carl Ludwig von  
Vahl. = Vahl, Martin

## **CHAPTER 1**

### **Introduction**

From the beginning of time, the human species has suffered from pains in the body. It is unknown when the first medicines were employed to relieve pain and treat illness and disease. The knowledge about ancient medicine has been transmitted to us from the ancient Greeks, Romans, Syriacs, and Islamic physicians who worked on remedies to subdue these pains. The medieval scholars and physicians, western Christian, Byzantine, and Muslim preserved these great works and advanced them further in some cases. Some of these Islamic physicians gained knowledge from the Far East and incorporated new ideas and plants with the known traditions. The knowledge from these physicians is still employed in modern medicine and in some cases the actual pharmaceuticals used 2,500 years ago are still used as a cure.

A main part of the doctoring abilities was based on what is wrong with the body and other symptoms that are linked with the disorder. The ancient and medieval physicians used a sophisticated scientific system based on the microcosm because they believed that humans are inherently connected to the natural elements. They believed that it is element imbalance and not germs that influence health. The body contains four different humours which are blood, phlegm, yellow bile and black bile. These four humours are assigned two main traits: blood is hot and moist; phlegm is cold and moist; yellow bile is hot and dry; and black bile is cold and dry. To cure a person, the physician needed to rebalance the elements in the body.

To combat illness and disease and rebalance the elements, the physician used a simple (a simple plant, mineral, or animal part) or combined simples to make a prescription. This prescription could be just one ingredient that was washed down with a liquid, or applied on or into the body by various delivery systems. It is possible that the only medication needed could be as simple as a food such as cabbage or barley. In many cases though it could be a multi-ingredient compound pharmaceutical that needed to be balanced to counteract the negative effects of some of the toxic ingredients called for in the prescription.

One method for combating the imbalance of humours was the method developed by Galen (130-200 C.E.). This was a drug by degree system in which a single ingredient was described with varying degrees of power from 1<sup>st</sup> degree to the 4<sup>th</sup> degree (1<sup>st</sup> degree is mild, 4<sup>th</sup> degree is extreme) as being either hot or cold, and then as either dry or moist with another degree of power. An example of this is *Elettaria cardamomum* which has properties of being both hot and dry in the 4<sup>th</sup> degree.<sup>1</sup> The human body has a natural property according to this system of being hot in the 1<sup>st</sup>, so the use of cardamomum would extremely increase the body temperature and would expel the moisture out. An ingredient of this power would be very beneficial in treating the phlegm type humour, which is cold and wet. This system of drug by degrees is limited due to the identification of only 161 of the 475 single ingredients.<sup>2</sup> For

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<sup>1</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*, 1542. (Palo Alto: Stanford University Press, 1999) 134:361

<sup>2</sup> Lawrence Conrad, *The Western Medical Tradition: 800 B.C.-1800 A.D.* (Cambridge: Cambridge University Press, 1995), p. 57.

the most part, the ingredients that were identified by degrees are the ingredients that are taken internally, and may be the ingredients frequently used by Galen.

The Syriac Book of Medicine is a major work used in finding the ingredients for the compound pharmaceuticals in late antiquity. The author of this treatise is unknown, although some scholars attributed the work to Galen, Theodosius, or other famous physicians of the early Christian era. For the most part, the prescriptions have no name ascribed to them. Earnest Budge, the modern translator of this work, said that it is even unknown from which century during the practice of the Syriac medical tradition that this book was assembled. What we do know is that this treatise is some of the best medical knowledge that came out of Alexandria in the early Christian era.<sup>3</sup>

This paper will discuss the main physicians of the ancient and medieval period, where they practiced, how they described the symptoms, causes, and treatments of arthritis, gout and sciatica. These ancient and medieval methods of treatments that were employed consisted of a 'simple' which is a single plant, mineral or animal substance, compound pharmaceuticals, and as a last resort, cauterization. The simples, being the oldest form of medicine, will be identified by those which help in the treatment of gout, sciatica and arthritis that were used by Dioscorides and Pliny the Elder. These descriptions of simples will include their Latin name, modern common name, and their ancient names from different regions, which disease it is used for, and how it is used in treatment. The recipes for the

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<sup>3</sup> *The Syriac Book of Medicines*, 2 vols. Ernest A. Wallis Budge trans. (St. Helier: Armoriga Book Company, 1976), 1:149

compound pharmaceuticals are from the *Syriac Book of Medicine*, al-Kindi, and al-Samarqandi. The recipes are in table form with the name of ingredient in the first column, the original measurement and amount of the ingredient in the second column, the converted amount in grams in the third column, and the active properties of the ingredients in the fourth column. A separate description of simples is given for the ingredients of the recipes since most are not used as simples for the treatment of arthritis, gout, and sciatica. After the recipe and how the drug is administered, the description of how these pharmaceuticals are balanced into a complete medication is given. At the end, a glossary is provided for medical terms.

It is said that “the highly successful typology thus established all those years ago was based on careful observation and provided a paradigm for scientific investigation that has lasted over two thousand years and may still have something to teach us.”<sup>4</sup>

This thesis will focus on remedies for arthritis, sciatica and gout. Through the examination of the work of the ancient and medieval physicians, the ingredients used as a single drug for treatments will be identified. The ingredients of the recipes for the compound pharmaceuticals will also be identified, along with their active properties. From these active properties, the system of balance and counterbalance will be shown how the pharmaceutical recipes work to treat the patient.

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<sup>4</sup> Graeme Toby, *Culpepper's Medicine: A Practice of Western Holistic Medicine*. (Dorset: Element Publishing, 1997), p. xix

## CHAPTER 2

### **The Ancient and Medieval Physicians**

“Honor physicians for their services for the Lord created them; for their gift of healing comes from the most high, and they are rewarded by the King. The skill of physicians makes them distinguished, and in the presence of the great they are admired. The Lord created medicines out of the Earth, and the sensible will not despise them . . . he gave skill to human beings that he might be glorified in his marvelous works. By them the physician heals and takes away pain; the pharmacist makes a mixture from them. God’s work will never be finished; and from him health spreads over all the Earth.”<sup>5</sup>

Hippocrates, a Greek physician born around 460 B.C.E. on the island of Cos, Greece is known as the founder of medicine and was regarded as the greatest physician of his time. There are over sixty treatises attributed to Hippocrates but modern scholars concluded that each treatise was written by unknown authors living approximately between 460 and 340 B.C.E, and no single treatise can be attributed to Hippocrates himself. All the works are based on observations of the medical practices and on the study of the human body. The Hippocratic writers held the belief that illness had a physical and a rational explanation and rejected the beliefs of the time period that considered illness to be caused by superstitions, by possession of evil spirits, or the disfavor of the gods.<sup>6</sup>

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<sup>5</sup> Sirach. Trans. Bruce M. Metzger. In: *The New Oxford Annotated Bible: with the Apocrypha*. (Oxford: Oxford University Press, 1994), 38:1-8

<sup>6</sup> G.E.R. Lloyd, *Hippocratic Writings*. (London: Penguin Books Ltd, 1983), p. 9-21

Celsus (Aulus Cornelius Celsus ca. 25 B.C.E. - ca. 50 C.E.), was a Roman writer who lived in Gallia Narbonensis, which is now in modern southeastern France. One of his best known works is his medical treatise *De Medicina*.<sup>7</sup>

Pliny the Elder, born 23 C.E. as Gaius Plinius Secundus in Como, is one of the most famous Roman natural philosophers. His main work is the *Natural History*, which covers almost the entire field of ancient knowledge based on the information provided to him from the top authorities of their fields. The medical knowledge that Pliny obtained came from Diocles of Carystus, who he considered “next to Hippocrates in time and reputation,”<sup>8</sup> Herophilus of Chalcedon who Pliny calls *vates medicinae* (high priest of medicine),<sup>9</sup> and Pliny was so impressed by this man's work on drugs that he became convinced that “there is nothing that cannot be accomplished by the power of plants.”<sup>10</sup> Pliny used the work of Andreas, the physician of Ptolemy IV Philopater, for source material in fourteen books of the *Natural History*. Pliny, being a praefect of the Roman navy was ordered into Naples Bay, where he met his demise when Mount Vesuvius erupted on 25 August 79 C.E.<sup>11</sup>

Dioscorides, also known as Pedanius Dioscorides of Anazarbus, was born near Tarsus in Cilicia, which is in modern day Turkey, ca. 50 to 70 C.E. He is best known as being the

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<sup>7</sup> W. G. Spencer, *Celsus. De Medicina*. 3 vols. (Cambridge: Harvard University Press, 1971), Vol. 1 pp. vii-viii.

<sup>8</sup> Pliny. *Natural History*. W.H.S. Jones trans. (Cambridge, Ma.: Harvard University Press, 1989), 26:6

<sup>9</sup> Ibid. 11:139

<sup>10</sup> ibid. W.H.S. Jones trans. 25:5

<sup>11</sup> David E. Eichholz, “Gaius Plinius Secundus,” *Complete Dictionary of Scientific Bibliography*. (New York: Charles Scribner's Sons, 1975), 11:38-40

author of the largest pharmaceutical guide in antiquity. In his guide, *De materia medica*, he described all of the necessary ingredients needed in medicine, and “for each item generally he gave a Greek synonym, and the names themselves were often of foreign origin . . . there follows a deposition on the substance’s origin and physical characteristics. He then gives a discourse on the mode of preparation of the medicine and, finally a list of its medicinal uses with occasional notations of harmful side effects.”<sup>12</sup>

Galen of Pergamon is the most famous and revered of all the physicians of the ancient and medieval world. Galen was born in 130 C.E. to the famous architect Nikon in one of the estates surrounding the city of Pergamon, which is now in modern day Turkey. Galen was taught by the famed teachers Satyros, Pelops, and Numisianos in the art of anatomy. He moved to Alexandria, where he learned to practice medicine. Galen is known for his surgical knowledge, which he obtained by holding the office of surgeon to the gladiators in Pergamon from 158 to 161. In the year 169, Galen was appointed to the position of court physician to the future Emperor Commodus, where he served until 175. Galen returned to Pergamon and died in the year 200 C.E. He is responsible for an abundant amount of manuscripts and *incunabula* (the origins) dealing with anatomy, physiology, medical philosophy, hygiene, dietetics, pathology, therapeutics, pharmacy, Hippocratic commentaries, and the theory of the pulse.<sup>13</sup>

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<sup>12</sup> John M. Riddle, “Dioscorides,” *Complete Dictionary of Scientific Bibliography*. 4: 120-1.

<sup>13</sup> George Sarton, *Galen of Pergamon* (Kansas: University of Kansas Press, 1954), pp. 15-27.

Writing in the fifth century C.E. in the town of Sicca, which is in the Roman frontier province of Numidia, was the Roman physician Caelius Aurelianus. Caelius is most famous for his translation of the works of Soranus into Latin. His works are entitled *On Acute Diseases* and *On Chronic Diseases*.<sup>14</sup> Caelius was a member of the Methodist sect, which was founded in the first century and influenced by the doctrine of Asclepiads. The Rationalists and the Empirics were the other two major sects of doctoring philosophy that developed from Alexandrian medicine. The Rationalists are said to be founded by Hippocrates, and his followers were called Dogmatists, who established the principles (*dogmata*) on which they based their medicine. The Empirics, founded in the third century B.C. by Philinus of Cos, based their teachings on observation, experience and analogy and rejected abstractions and general medical theory.<sup>15</sup>

Paulus Aegineta, also known as Paul of Aegina (ca. 625 C.E. - 690 C.E.), was a Byzantine Greek physician who was famous for writing a medical encyclopedia. His *Medical Compendium in Seven Books*, which was used from the early Medieval period into the nineteenth century, was said to contain the sum of all Western medical knowledge prior to its time.<sup>16</sup>

Known as Al-Kindi in the Western world, Abu Yusuf Ya'qub ibn. Ishaq al-Kindi was most likely born in Basra in 800 C.E. He was of a noble family as his father was the emir of

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<sup>14</sup> I.E. Drabkin, *Caelius Aurelianus. On Acute Diseases and On Chronic Diseases*. (Chicago: University of Chicago Press, 1950), p. xi.

<sup>15</sup> Plinio Priorschi, *A History of Medicine: Greek Medicine*. (Lewiston: Edwin Mellen Press, 1994), pp. 591-93.

<sup>16</sup> Phillip Drennon Thomas, "Paulus Aegineta," *Complete Dictionary of Scientific Bibliography*. 10:417-9.

Kufa and that his family was a direct descendant of al-Ash'ath ibn. Qays, the King of Kinda and companion of the Prophet Muhammad. Although Al-Kindi was educated in Baghdad in philosophy, he is a major figure in the translation of Greek, Persian, and Syriac works into Arabic. Included in these works were the translation of Aristotle and a large collection of medical literature. As for Al-Kindi's works, there are over 300 known treatises from many different subject matters. The *Formulary* is an extensive handbook of the recipes for drugs, whereas the treatise *On Degrees* expands on Galenic pharmacological theory on how to produce compound drugs with quality of hot and cold instead of quantity. Little more is known about his life except that he died sometime after 870 C.E.<sup>17</sup>

Abu Bakr Muhammad bin Zakariya Al-Razi was born at Ray near modern day Tehran in 864 C.E.; he is better known as Al-Rhazes in the Western world. It is said that he is the authority on medicine from his time to the seventeenth century.<sup>18</sup>

Undoubtedly one of the greatest surgeons of the medieval period and considered the father of modern surgery is Albucasis (936 ca.- 1013 C.E.). His full name is Abul Qasim Khalaf ibn al-abbas al-Zahravi, and he was born in Cordova, the capital of Muslim Spain. Albucasis' main work was a medical encyclopedia, *al-Tasrif li-man 'ajiza 'an al-ta'lif*.<sup>19</sup>

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<sup>17</sup> Peter Adamson, *Al-Kindi*. (New York: Oxford University Press, 2007), pp. 1-12.

<sup>18</sup> Shlomo Pines, "Al-Rhazes," *Complete Dictionary of Scientific Bibliography*. 11: 323-6.

<sup>19</sup> Sami Hamareh, "al-Zahravi," *Complete Dictionary of Scientific Bibliography*. 14: 584-5.

Known in the Western world as Avicenna, Abu Ali al-Hussein ibn Abdallah ibn Sina al-Balkhi is regarded as one of the founding fathers of modern medicine. He was born in Kharmaithen, near Bukkara, Persia in what is now modern day Uzbekistan in 980 C.E. His most famous works are the *Book of Healing* and the *Canon of Medicine (al-Qanun)*, which up to the sixteenth century were two of the standards of medical texts at most Islamic and European universities. He developed his medical system with that of ancient Persian and Arabian medicine, Islamic medicine, Aristotelian metaphysics, and the medical system of Galen. Avicenna died in Hamada, Persia in 1037.<sup>20</sup>

The date and place of birth of Najib al-din Abu Hamid Muhammad ibn Ali ibn Umar al-Samarqandi are unknown. He was killed by the Mongols in 1222 during the pillage of Heart, Afghanistan, but nothing more is known of his life. The most important of his medical works is *al-Asbab wa'l-alamat (Etiology and Symptoms of Disease)*. One of the most significant facts about Al-Samarqandi is that he did not rely entirely on humoral pathology. In fact he displayed originality in not considering the theory of humours of decisive importance in therapeutics.<sup>21</sup>

Gilbertus Anglicus (Gilbert of England), was born around 1180 C.E. He was trained as a physician at the *Schola Medica Salernitana* in Salerno Italy, most likely by the renowned surgeon, Roger of Parma. He is known chiefly for his encyclopedic work the *Compendium*

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<sup>20</sup> Albert Z. Iskandar, "ibn Sina," *Complete Dictionary of Scientific Bibliography*. 15: 494-501

<sup>21</sup> Martin Levey, "al-Samarqandi," *Complete Dictionary of Scientific Bibliography*. 12: 90-1.

*Medicinae*, which was probably written between 1230 and 1250. He was one of the most famous English physicians of the medieval period.<sup>22</sup>

Bartholomeus Anglicus was born before the year 1203 and died in 1272. Nothing more is known about his life. His famous work is titled *De proprietatibus rerum*.

Lanfranc of Milan (1250- 1306 C.E.), is also known as Lanfranco, Guido Lanfranchi, and Alanfrancus. Trained as a surgeon and the favorite disciple of William of Saliceto, he wrote his main work in 1296, *Practica quae dicitur ars completa totius chirurgiae*, also known as the *Chirurgia Magna*. This work was well thought of due to its being one of the first books printed before 1500.<sup>23</sup>

John of Gaddesden (ca. 1280 - 1361 C.E.), was the first Englishman to be Court Physician to the English Monarchy. Chaucer thought very well of this learned physician; he took John as his model and names him with Dioscorides, Galen, Avicenna and the rest of the best and brightest physicians of the ancient and medieval world. John of Gaddesden's main work is the *Rosa Anglica*, which is also known as the *Rosa Medicinae* which he wrote in 1314. His work was also well regarded and was in print before 1500.<sup>24</sup>

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<sup>22</sup> Henry E. Handerson, *Gilbertus Anglicus: Medicine of the Thirteenth Century*. (Cleveland: The Cleveland Medical Library Association, 1918), pp. 9-15

<sup>23</sup> Leonard D. Roseman, Lanfranco of Milan. *The Surgery of Lanfranchi of Milan: a Modern English Translation*. (Xlibris, 2003), pp. 13-9.

<sup>24</sup> Norman Capener, "John of Gaddesden: and the Crest of the Frederick Coller Surgical Society." *Annals of Surgery*. (December 1961; 154: suppl. 6), pp. 13-17.

Leonard Fuchs (1501-1566), known as a Father of German Botany, wrote *De historia stirpium commntarii insignes*, (1542). To complete his work, Fuchs returned to the original sources of Dioscorides, Pliny, and Galen to provide a correct translation into Latin because centuries of translations from one language to another had changed the meanings of the works. His herbal guide gives the Greek, Latin, and German names of the plants, along with where the plant grows, the medicinal properties of the plants, and provided hand-colored woodcut printed pictures.<sup>25</sup>

Nicolas Culpepper was born October 18<sup>th</sup> 1616 in Surry England and died January 10<sup>th</sup> 1654 in London. Culpepper, known as a herbalist and astrologer, remains the best known advocate of Western holistic medicine. He was educated at the University of Cambridge, but never completed the licensing to distribute or make pharmaceuticals, which in this time was a new concept. On December 17<sup>th</sup> 1642, he was imprisoned and tried for witchcraft, but he was found innocent and was acquitted of all charges. Culpepper was a follower of the classical Greco-Roman tradition, but mainly of Galen and his work on the humoral system. In 1652, he published his own work called *The English Physitian*. Nicholas Culpepper is known for his own writings as well as the translations of works of the leading medical practitioners into English so that more English people could read them.<sup>26</sup>

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<sup>25</sup> Fredrick Meyer, Emily Trueblood, and John Heller, *The Great Herbal of Leonhart Fuchs*. (Stanford, Stanford University Press, 1999), pp. 16-44.

<sup>26</sup> Graeme Tobyn, *Culpepper's Medicine: A Practice of Western Holistic Medicine*. pp. 3-37.

## CHAPTER 3

### The Identification, Cause, and Simple Treatments of the Diseases

#### GOUT

John Riddle wrote that “Gout is an example of the different way in which the ancients and moderns regard a disease . . . Gout to Dioscorides and the ancients referred to a pain and swelling of the feet and other joints.”<sup>27</sup> The word *podagra* (meaning gout) is from the Greek derivation from *pous* which means foot and *agra* which means attack.<sup>28</sup> Caelius’ version of the origin of the name is a little different. He says that *podagra* gets its name from the “trapping or seizure of the feet, or else as a ‘wild’ disease, since we metaphorically apply the term ‘wild’ (*agreste*) to everything that is unsubdued.”<sup>29</sup> The word gout is adapted from the Latin word *gutta*, which refers to a drop or spot as a result of a defluxion of the humours.<sup>30</sup> Today, we consider gout to be caused by hyperuricemia. This condition is a result of the formation of crystals and tophi deposited in the joint tissues from an abnormally high production of uric acid. The drug prescribed for acute cases of gout is colchicine, which is harvested from the bulb of the plant known as *Colchicum autumnale* L.<sup>31</sup>

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<sup>27</sup> John Riddle, *Dioscorides on Pharmacy and Medicine*. (Austin: University of Texas Press, 1985), p. 44.

<sup>28</sup> John Talbott, *Gout*. (New York: Grune & Stratton Publishing, 1964), p. 10.

<sup>29</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. I.E. Drabkin trans. (Chicago, University of Chicago Press, 1950), 5.2.27-8

<sup>30</sup> Talbott, *Gout*. p. 10.

<sup>31</sup> Riddle, *Dioscorides*. p. 44.

The first documented case of this disease came from Hieron of Syracuse in the fifth century B.C.E. He remarked on the association of the joint disease and bladder stones, which are believed to refer to urate calculi, also called tophi in patients with gouty arthritis.<sup>32</sup> The Hippocratic writers call gout the ‘Unwalkable Disease’ and that this disease comes mainly in the spring and fall.<sup>33</sup> To them, the disease of gout was the most difficult to cure, as it came back frequently and was the most painful and debilitating of all the diseases of the joints.<sup>34</sup> It is unknown how many were affected by this disease in the Greek world, but it seems that gout did not affect many in Republican Rome. Pliny said that “Gout was a rarer disease within the memory, not only of our fathers and grandfathers, but also of our own generation. It is also itself a foreign complaint; had it existed in Italy in early times it would have received a Latin name.”<sup>35</sup> One possible reason for this is gout has been nicknamed the ‘Disease of Kings,’ because kings and nobility were affected by this disease more frequently than the common man before the Roman Empire. One possible attack of gout on the royalty is seen in the Old Testament book of 2<sup>nd</sup> Chronicles as it says that “In the thirty ninth year of his reign, Asa was diseased in his feet, and his disease became severe; yet even in his disease he did not seek the Lord, but sought help from physicians.”<sup>36</sup>

There are many reasons why the ancients and medieval physicians thought that gout afflicted people. A Hippocratic writer said that the cause of gout comes in the joints, by

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<sup>32</sup> Talbott, *Gout*. p. 1.

<sup>33</sup> Hippocrates. *Aphorisms*. W.H.S.Jones trans. (Cambridge, Ma.: Harvard University Press, 1972), 4.6.65

<sup>34</sup> Hippocrates. *Affections*. Paul Potter trans. (Cambridge, Ma.:Harvard University Press, 1988), 5:31

<sup>35</sup> Pliny. *Natural History*. W.H.S. Jones trans., 26:64

<sup>36</sup> II Chronicles. William F. Stinespring trans. In: *The New Oxford Annotated Bible: with the Apocrypha*. (Oxford, Oxford University Press, 1994), 16:12

blood that is “corrupted by bile and phlegm in the small vessels, in as much as this takes place in vessels that are the finest and by nature the most critical in the body.”<sup>37</sup> Albucasis said that: “When there are pains in the joints from cold humidities flowing into whatever part of the body it may be, and especially when there are pains in the feet, doctors are in the habit of calling that gout.”<sup>38</sup> Alexander of Tralles (late fifth C.E.), preserved by Paulus Aegineta, follows the Galenic humoral system. He says that there are many causes of the disease; for sometimes “a hot blood flows into the cavity of the joint and occasions violent pains.”<sup>39</sup> He also says that a flowing of bile gets between the tendons and ligaments and causes pain by burning and stretching of the parts. Alexander says that phlegm also, by producing cold and compression becomes the cause of vicious pains; and the melancholic humour also produces the coldness and the pressure, but it also creates the sense of heaviness which brings abnormal flare-ups and extreme pain. He says that sometimes a simple identification of the humour, such as heat, cold, dryness, or humidity is discovered by the deficiency.<sup>40</sup> Macrobius in the early fifth century said that if any part of the body falls sick, the waste matter is attracted to these weaker parts because it does not have the strength to reject it. The part where these foreign matters accumulate becomes swollen and painful. To Macrobius, these are the three causes of gout, arthritis and sciatica and they are “the abundance of liquid, the strength of the part of the body that rejects it, and the part of the body that receives it.”<sup>41</sup>

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<sup>37</sup> Hippocrates. *Affections*. Paul Potter trans. 5:31

<sup>38</sup> Albucasis. *On Surgery and Instruments*. M.S. Spink and G.L. Lewis trans. (Berkeley: University of California Press, 1973), p. 130.

<sup>39</sup> Paulus Aegineta. *The Seven Books of Paulus Aegineta*. Frances Adams trans. (London: The Sydenham Society, 1844), 3:78

<sup>40</sup> *Ibid.* 3:78

<sup>41</sup> Macrobius. *The Saturnalia*. Percival Davies trans. (New York: Columbia University Press, 1969), 7.4.24-5

Paulus Aegineta also used the works of Galen in describing the humours that cause gout. He said that the established humour is sometimes made up of yellow bile, sometimes being made up of blood, but for the most part it is thick phlegm, being produced by excess of food, digestive problems, and the lack of exercise. When the disease is prolonged in the joints, these humours become thick and sticky, where they form what are called *tophi* which are also known as chalk-stones. In some cases, the humour is made up of multiple causes, which causes the disease to be difficult to differentiate, and even more difficult to cure.<sup>42</sup> In the late nineteenth century, Francis Adams, the translator of and writer of the commentaries on Paulus Aegineta, said that the prognosis of the Hippocratic writers is correct. He said that, “Those who are old, or who have chalk-stones formed in their joints, or lead a laborious course of life, or have dried bellies, cannot be cured by any human means.”<sup>43</sup> He also says that a young person who does not have these chalk-stones formed in the joints, whose bowels function properly, and who exercises and eats properly may be cured. Nicholas Culpepper wrote on identifying the disease that there are two types of substances that are formed of phlegm. He said that when phlegm hardens it looks like a crystalline or glass like substance about which the older people are predominantly subject, or the second type which are the chalk-stones seen in the joints.<sup>44</sup>

It seems that the common link in the formation of this disease was the eating of the wrong types of food. Einhard (775-840 C.E.), the great chronicler of the Frankish kingdom,

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<sup>42</sup> Paulus Aegineta. *Seven Books*. 3:78-9

<sup>43</sup> Ibid. Frances Adams trans. 3:78

<sup>44</sup> Graeme Tobyn, *Culpepper's Medicine: A Practice of Western Holistic Medicine*. pp. 67-8.

described the gout condition of Charlemagne. He said that his lord “suffered from frequent attacks of fever during the last years of his life, and towards the end he was lame in one foot.”<sup>45</sup> The advice of his doctors was to stop eating the roast meat and to only eat food that was stewed. The advice of the doctor’s food preference can be found in Paulus Aegineta who recommended that gout free living starts with “restricting the diet, giving only food as is of easy distribution and not excrementitious, with a moderate allowance of wine.”<sup>46</sup> The reason for this belief is that “phlegm is made of meat not perfectly digested.”<sup>47</sup>

Even though the formation of phlegm from the eating of the wrong foods is part of the problem, it may only be the final problem in the formation of gout. When dealing with the cause of gout, the Hippocratic *Aphorisms* says that “A woman does not get gout unless menstruation is suppressed,”<sup>48</sup> and that a “Youth does not get gout before sexual intercourse.”<sup>49</sup> Celsus wrote that “Joint troubles in the hands and feet are very frequent and persistent, such as occur in cases of podagra and cheiragra. These seldom attack eunuchs or boys before coition with a woman, or women except those in whom the menses have become suppressed.”<sup>50</sup> This belief was held throughout the ancient and into the medieval period and was still included in the works of Gilbertus Anglicus in the thirteenth century. Gilbertus said

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<sup>45</sup> Lewis G.M. Thorpe, *The Two Lives of Charlemagne* (New York: Penguin Classics, 1969), p. 77.

<sup>46</sup> Paulus Aegineta. *Seven Books*. Frances Adams trans. 3:78

<sup>47</sup> Graeme Tbyn, *Culpepper’s Medicine: A Practice of Western Holistic Medicine*. p. 67.

<sup>48</sup> Hippocrates. *Aphorisms*. W.H.S. Jones trans. 4.6.29

<sup>49</sup> Ibid. W.H.S. Jones trans. 4.6.30

<sup>50</sup> Celsus. *De Medicina*. W. G. Spencer trans. 4:31

that boys and women could not be affected by gout, because boys are too young to experience sexual relations and women are passive during intercourse.<sup>51</sup>

Although these beliefs may seem to be strange in the modern age, they may have merit in what causes gout and arthritis. Since in most cases neither young men until they reach puberty nor females until they reach menopause get gout or arthritis, perhaps the abnormally high production of uric acid is linked to changes in hormones, specifically in the levels of estrogen and progesterone. We can see in the recipes of the compound pharmaceuticals that cure the diseases the majority of these ingredients listed contain estrogen or progesterone. Some of the known ingredients that contain estrogen or progesterone are cinnamon, wheat, barley, oats, rhubarb,<sup>52</sup> anise, sesame, cabbage, thyme,<sup>53</sup> southernwood, absinthium,<sup>54</sup> caper,<sup>55</sup> saffron,<sup>56</sup> ammoniac,<sup>57</sup> and henna.<sup>58</sup> Not only would this rise in estrogen and progesterone potentially cure the disease, but a balanced diet rich in vegetables, herbs and grains that contain these hormones, and eating less meat along with the limiting the consumption of alcohol would prevent the diseases from coming back as the great physicians of the past had said.

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<sup>51</sup> Stanley Rubin, *Medieval English Medicine* (New York: David and Charles, 1974), p. 202.

<sup>52</sup> R.B. Bradbury & D.E White, "Estrogens and Related Substances in Plants: Vitamins and Hormones." Vol. 12. (New York: Academic Press Inc., 1954), pp. 210-13.

<sup>53</sup> Raquel Martin, *The Estrogen Alternative* (Vermont: Healing Arts Press, 1997), pp. 126-7.

<sup>54</sup> Andrew Chevallier, *The Encyclopedia of Medicinal Plants* (New York: DK Publishing, 1996), p. 170.

<sup>55</sup> *Ibid.* p. 180.

<sup>56</sup> *ibid.* p. 194.

<sup>57</sup> *ibid.* p. 200.

<sup>58</sup> *ibid.* p. 225.

In the treatment of gout, the Hippocratic writer of the *Affections* used the same treatments as in arthritis as these will benefit the patient with healing and pain. He said that the road to recovery is long and painful, but the disease will not lead to death.<sup>59</sup> W.G. Spencer writes that Celsus' usage "of *podagra* and *chiragra* were used of any pain in the feet or hands, that in many cases it is truly gout, but sometimes it is joint pain."<sup>60</sup> Of the remedies that Celsus gives, the disease that is being treated does appear to be gout, as he says that one kind of emollient which can cool, "being suitable for hot *podagra* is a cupful of oak-galls, unripe or otherwise, coriander seed, hemlock, dried poppy-tears, and gum, of each 63 c.cm; of washed cerate 168 grams."<sup>61</sup> Celsus says that the remedy that Numenius used to soften *podagra* and other cases of joint problems was with an emollient that consisted of "southernwood, dried rose-leaves and poppy-tears (consisting of) 12 grams each, turpentine-resin 16 grams, frankincense and soda-scum (consisting of) 32 grams each, iris and aristolochia (consisting of) 48 grams each, wax 1 kilogram, to which is added of cedar oil 42 c.cm, of laurel oil 126 c.cm, and of bitter olive oil 500 c.cm."<sup>62</sup> Pliny's remedies for gout mainly used simples to be taken internally and soft plasters and poultices externally. Of the internal remedies, he recommends the roots of panaces with raisins, the juice of henbane with meal, or scordion in vinegar. Pliny's external remedies which he calls cooling applications are made of xiphion root, psyllion seed, hemlock with axle-grease, but says that "the

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<sup>59</sup> Hippocrates. *Affections*. 5:31

<sup>60</sup> W. G. Spencer, *Celsus. De Medicina*. p. 465.

<sup>61</sup> Celsus. *De Medicina*. W. G. Spencer trans. 2.5.18

<sup>62</sup> Ibid. W. G. Spencer trans. 2.5.35

sovereign remedy, for this complaint is *phycos thalassion*, or seaweed . . . it is sovereign, not only for gout, but for all diseases of the joints, if applied before it becomes dry.”<sup>63</sup>

The Hippocratic writers recommend after treatment and “if pain remains as a sequela in the large toes, cauterize the vessels of the toe a little above the knuckle; burn with raw flax.”<sup>64</sup> The Arab physicians found that combining pharmaceuticals with cauterizing works best in older patients who otherwise would be considered incurable. Albucasis said that “When gout due to chill has been treated with the various treatments mentioned in its section, and the pain remains, the cautery will remove them. That is, you cauterize the patient with multiple burns around the joint of the foot, after he has been purged.”<sup>65</sup> Instead of using cautery as a last resort, Pliny wrote that “In the last years of his life M. Agrippa was afflicted with grievous gout, and could not endure the pain. Guided by the wonderful skill of one of his physicians, and without informing the late Augustus, so strong the urge to be rid of that pain . . . he plunged his legs into hot vinegar when a paroxysm of the disease was at its worst.”<sup>66</sup> Although this is not cauterization, it would cause a chemical-like burn that deadened the nerve endings for a time being, as hot vinegar is a caustic.

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<sup>63</sup> Pliny. *Natural History*. W.H.S. Jones trans. 26:64-6

<sup>64</sup> Hippocrates. *Affections*. Paul Potter trans. 5:31

<sup>65</sup> Albucasis. *On Surgery and Instruments*. M. S. Sink and G.L. Lewis trans. p. 130.

<sup>66</sup> Pliny. *Natural History*. W.H.S. Jones trans. 23:27

## ARTHRITIS

The identification of what the ancients called arthritis is as confusing as what they considered gout in name. The name arthritis, also known as *morbis articularis*, is the general name to aches and griefs of the joints. Caelius says that sometimes arthritis begins in the feet and then moves to other joints but that sometimes this process is reversed where the disease starts in other joints and proceeds to the feet. This is the reason that Caelius says that some physicians call arthritis the general class and *podagra* a species of the class.<sup>67</sup> In many cases, the clear division of what is arthritis and what is gout is not discernable. In the medieval period, John of Gaddesden wrote that the definition of *podagra* is “pain in the lower joints, the feet and the toes, which spreads to the soles, and increases upward to the hips. It causes swelling in the feet, impedes walking and standing, and softens the soles overmuch; and deposes a man to dropsy.”<sup>68</sup> This definition appears to be describing both the symptoms of gout and of arthritis together. John of Gaddesden’s definition of *chiragra* seems more like that of arthritis as he describes it as “pain in the joints of the hands from the fingers to the wrists . . . accompanied by swelling, which causes difficulty in bending the fingers.”<sup>69</sup>

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<sup>67</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. 5.2.27-31

<sup>68</sup> John of Gaddesden. *Rosa Anglica*. Winifred Wulff trans. (London: Simpkin Marshall Ltd., 1929), p. 323.

<sup>69</sup> *Ibid.* p. 323.

Although there seems to be a blending of the names of these two diseases, some of the writers made distinctions based on the symptoms. Caelius said on the verge of an attack of the disease that the victims of arthritis experience numbness and a tingling at the affected joints along with a difficulty in motion of the affected part. He says that as the disease progresses even the slightest movement causes severe agony. Even sleep is disturbed by a sensation of creaking joints and, when the patient awakes from sleep, he experiences aching in the affected parts, along with loss of flexibility.<sup>70</sup> The Hippocratic writers say that those whose urine contains sand or chalk-like deposits “suffer at first from tumours near the thick vein, with suppurations; then, since the tumours do not break quickly, from the pus there grow out pieces of chalk . . . these symptoms result from the kidneys and arthritic complaints.”<sup>71</sup>

The ancient and medieval physicians gave many reasons for the formation of arthritis. Some of these were due to the weather; food related like gout, fornication, or a combination of these reasons with the humours. Avicenna said that “if the autumn after a dry and southerly summer be rainy and northerly, there will be many cases of rheumatism in the winter.”<sup>72</sup> The pain of arthritis was produced by a humour or gas stretching the nerve fibers or muscle fibers asunder. He says that these accumulations of gas may become painful when they cause a part to be extremely swollen. He says that these gases may accumulate in the

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<sup>70</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. 5.2.29-31

<sup>71</sup> Hippocrates. *Nature of Man*. W.H.S. Jones trans. (Cambridge, Ma.: Harvard University Press, 1992), 4:14

<sup>72</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. Cameron O. Gruner trans. (New York: Augustus M. Kelly Publishers, 1970), 1.6.300

membranes over the organs or in the nerves.<sup>73</sup> Paulus of Aegineta said that it is not the weakness of the affected part alone that leads to the occurrence of arthritic complaints, and the humour is not the only cause. To him, the disease is the circumstance of a humour and a weakness of a part in conjunction together. He says “for when the nutritive power of parts become debilitated from repletion with food including dyspepsia, the prevailing humour, fixing in some of the joints which are already in a weak state, and stretching the nervous ligaments, produces pain.”<sup>74</sup> John of Gaddesden believes that there are two causes of arthritis, one internal, and the other external. The submissive cause of the disease is the “member takes the sickness to itself by reason of its own weakness, or through the malice of a cold, evil complexion, or through excessive heat, caused by movement or some external cause that heats the member.”<sup>75</sup> He believes that the general causes of arthritis are the consuming of sticky foods, such as eels, and windy foods, such as peas and beans, which he says the “windiness draws the matter to the veins.”<sup>76</sup> He gives many other food causes such as figs, rice, boiled wheat, things that produce gas, such as leeks, onions and garlic, and every fat rich food, such as beef, hard boiled eggs, and the innards of animals, along with every waterfowl possessing web-feet. He also believes that the lack of evacuation, the excess of food, especially at supper, a late drink with food, too much relaxation, the lack of exercise, and intercourse after the eating of much food can lead to the formation of arthritic conditions. He says that there is another cause: “when there are crude humours in the body, and they are

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<sup>73</sup> Ibid. 1.6.434

<sup>74</sup> Paulus Aegineta. *Seven Books*. Frances Adams trans. 3:78

<sup>75</sup> John of Gaddesden. *Rosa Anglica*. Winifred Wulff trans. p. 323.

<sup>76</sup> Ibid. Winifred Wulff trans. p. 323.

not expelled by the urine, the faeces, or other arts whereby a man evacuates his excess matter from the body; and if they be expelled to the joints and remain therein, they putrefy.”<sup>77</sup>

Pliny gave this remedy for pains in the joints as “an application of cinquefoil leaves of mandrake with pearl barley, or its root pounded fresh with wild cucumber or boiled down in water.”<sup>78</sup> Most of the remedies for arthritis are in chapter 4 for the single ingredient variety, and in chapter 6 for the compounded medicines.

## SCIATICA

Paulus Aegineta described sciatica as being in the class of arthritic complaints, which is also known as ischiatic disease, and it can be recognized by its location in the hip joint. He says that the pain of the disease extends from the buttocks and groins to the knees, but it can reach all the way down to the feet in some cases.<sup>79</sup> John of Gaddesden says the reason for the name sciatica is from Latin, in which the sinew that is affected is called the *scia*.<sup>80</sup> Caelius Aurelianus says that sciatica can occur in one or both hips. He says that when a person has sciatica, it leaves a “feeling of heaviness and unusual difficulty in moving about: in some cases a slight numbness and a creeping irritation of the skin, sometimes with a severe pricking and burning pain which gives the patient the sensation of an animal’s

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<sup>77</sup> *ibid.* Winifred Wulff trans. p. 323.

<sup>78</sup> Pliny. *Natural History*. W.H.S. Jones trans. 26:66

<sup>79</sup> Paulus Aegineta. *Seven Books*. 3:77

<sup>80</sup> John of Gaddesden. *Rosa Anglica*. p. 321.

tortuous motion.”<sup>81</sup> The Hippocratic writers say that this burning pain lasts the longest in the groins and hip-bone.<sup>82</sup> Caelius also says that if the disease becomes a chronic problem, the whole leg will become thin starting at the haunches. The disease will also weaken the entire leg and possibly shorten it because of contractions of the parts, or it could become abnormally distended if the illness sets in for a long time, making the patient lame.<sup>83</sup>

The Hippocratic writers say sciatica is formed when the bile and phlegm are deposited in the blood vessels, “either in consequence of another disease or in some other way, and some of the blood, being congealed by the phlegm and bile, ails; for this moves through the leg in its blood vessel and wherever it stops the pain becomes most manifest.”<sup>84</sup> They also say that sciatica can arise from the being “exposed to the sun for a long time, and his hip-joints become heated, and the moisture present in them is dried up by the burning heat.”<sup>85</sup> Paulus Aegineta says that the disease is caused by a “thick phlegm type of humour that has attached itself in the articulation of the hip-joint.”<sup>86</sup> Avicenna says that the pains in the joints, sciatica, and the pains in the back and hips are due to the “stagnation and subsequent imprisonment of the insoluble parts of the humours which summer brought into circulation.”<sup>87</sup>

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<sup>81</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. I.E. Drabkin trans. 5.1.2

<sup>82</sup> Hippocrates. *Affections*. 5:51

<sup>83</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. 5.1.3

<sup>84</sup> Hippocrates. *Affections*. Paul Potter trans. 5:29

<sup>85</sup> *Ibid.* Paul Potter trans. 5:51

<sup>86</sup> Paulus Aegineta. *Seven Books*. Francis Adams trans. 3:77

<sup>87</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. Cameron O. Gruner trans. 1:289

There are many treatments of sciatica since it seems that there are many causes. The Hippocratic writers say that if the sciatica is caused by a blood humour, to use a cupping instrument and phlebotomize the patient in the thigh. If the patient is able to walk, have them walk as much as possible. They say if the person is unable to stand, they should stay in bed, but you must turn them so that the cartilage does not grow together. If the cartilage grows together, the joints will become set and the patient will become lame. If sciatica is formed from bile, you should have them drink hellebore or scammony juice to flush the insides. After this give them barley-water with honey and give them a vapor-bath and purge them with boiled ass' milk. In the evening, feed the patient beets boiled in grease and sprinkled with meal and drink diluted sweet white wine. If the disease is caused by phlegm, do the same as if it was caused by bile except use cnidian berries instead of the scammony or hellebore as a purgative.<sup>88</sup> Albucasis says that when the disease is formed in the hip from cold and humidities and has become chronic, to purge out the heavy humours with "foetid pills or pills of tamarind or the like: then cauterize him."<sup>89</sup> He says that the cauterization has two parts. The first part is a chemical burn in which he recommends using goat's dung that is heated until it glows and it is placed on wool that has been soaked in oil and placed on the wrist. This should be done continually until the sensation reaches the hip.<sup>90</sup> The actual cautery is done over the femoral joint in a triangular pattern with an olivary shaped cautery iron.<sup>91</sup> Caelius Aurelianus' treatment for sciatica is for the patient to lie on a soft bed in a warm room for three days without food. During this period cover the affected area with soft

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<sup>88</sup> Hippocrates. *Affections*. 5:51

<sup>89</sup> Albucasis. *On Surgery and Instruments*. M.S. Spink and G.L. Lewis trans. p. 114.

<sup>90</sup> Ibid. p. 124.

<sup>91</sup> Ibid. p. 114.

wool soaked in warm olive oil. He prescribes performing venesections in the arm opposite of the affected side, but if it has occurred in both sides, you should perform the venesection on the more painful side. After the third day, give the patient a light meal. If the pain remains repeat for another three days and then give a clyster consisting of “a decoction of fenugreek seed, flaxseed, or marsh-mallow . . .then add warm olive oil, spelt water, or pearl barley to the above; or inject olive oil alone or with an admixture of goose or chicken fat. On the succeeding days seek to soften the patient’s bowels without delay.”<sup>92</sup> Paulus also prescribes the venesections in the arm when the disease first begins, but if the disease has set in for awhile, he says to abstract the blood from the ankle of the affected side. Paulus also recommends the use of cupping instruments on the hip with heat, or the use of leaches. For purging the disease out, Paulus recommends the use of the hiera and other compound pharmaceuticals that contain colocynth.<sup>93</sup> See recipes for these compound pharmaceuticals in chapter 6.

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<sup>92</sup> Caelius Aurelianus. *On Acute Diseases and On Chronic Diseases*. I.E. Drabkin trans. 5.1.8-11

<sup>93</sup> Paulus Aegineta. *Seven Books*. 3:77

## CHAPTER 4

### **The ‘Simples’ or One Ingredient Treatments for Gout, Arthritis, and Sciatica**

The primary or basic type of treatment used in the ancient world is the simple. A simple medication is generally just one ingredient, but it can include multiple simples in combination to arrive at the desired effect. These simples are the base of all pharmaceuticals not only in the ancient and medieval world, but many in modern medicine as well. Dioscorides and Pliny the Elder shed light into the ancient world to identify the ingredients. Some of these simples are actual foods to us; others we call herbs, spices and other parts of natural grown plants. Before the taxonomic classification of modern times, these ingredients had many names depending on the physician’s native region. Due to this problem, the Latin name along with the Greek name given by Dioscorides and all the other major names attributed to these ingredients are identified. Sometime between 1652 and 1655 an English translation was created by John Goodyer, from uncertain printed Latin sources,<sup>94</sup> which contains ancient common names and more herbs than were in the original work of Dioscorides’ *De materia medica*, and these names are also included. Pliny the Elder’s *Natural History* provides the original region of these simples and in some cases the time of their harvest. Pliny also tells the best parts to use for some medicines in comparison to cosmetics and other products. Of all these simples, only one is listed by Dioscorides as a cure: *Hypericum perforatum* L. (St John’s wort), said to cure sciatica. None of these simples are said to be the cure for arthritis and gout, but they do what modern medicines do, alleviate

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<sup>94</sup> Lily Y. Beck, *Dioscorides. De materia medica* (Hildesheim: Georg Olms Verlag AG, 2005), p. xx.

pain and reduce inflammation of the disease. These simples are arranged by the disease that they treat, whether they are used in internal or external treatments, or if they are used for multiple diseases or both internal and external treatments.

## The Simples

### Internal Treatment for Arthritis

*Ferula galbaniflua* Boiss. and Buhse,<sup>95</sup> is known as galbanum,<sup>96</sup> but in the Arab world it is called *barzad*.<sup>97</sup> The oleo-gum resin is a digestive, stimulant, and an antispasmodic, but it is also used for reducing flatulence and gripping pains.<sup>98</sup> It is an intermediate between ammoniac and sagapenum in power. Pliny says that “the juice is got by means of incisions made at the stalk at harvest time and at the root in autumn.”<sup>99</sup> Al-Kindi used galbanum for the treatment of rheumatism.<sup>100</sup> He also says that it was used throughout ancient Mesopotamia externally to ease affected muscles.<sup>101</sup>

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<sup>95</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. (Paris: Societe d’edition Les Belles Lettres, 1985), p. 108.

<sup>96</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. (Hildesheim: Georg Olms Verlag AG, 2005), 3:83

<sup>97</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 319.

<sup>98</sup> Narayan D. Prajapati, S.S. Purohit, Arun K. Sharma, and Tarun Kumar, *A Handbook of Medicinal Plants*. (Jodhpur: Agrobios Publishing, 2003), p. 236.

<sup>99</sup> Pliny. *Natural History*. W.H.S. Jones trans. 12:56

<sup>100</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 319.

<sup>101</sup> *Ibid.* p. 239.

*Helleborus niger* L.,<sup>102</sup> is called Black hellebore,<sup>103</sup> but it is also known as *Melampodium*, *Protion*, *Polyrrhizon*, the Greeks call it *Elleboros melas*, and the Romans call it *Veratrum nigrum*.<sup>104</sup> Dioscorides says that the best type is grown in Anticyra. He says that the bulb and roots can be used by themselves or with scammony and salt, or “boiled with lentils and with broths that are taken for purging.”<sup>105</sup> Black hellebore contains helleborine, helleborein, hellebrin, and aconitic acid. It is a great hydrogogue, cathartic, emmenagogue, and a stimulant.<sup>106</sup> Paulus says that unfortunately he received the chapter of Aretaeus on the treatment of arthritic complaints in a very bad condition, but it appears that Aretaeus trusted hellebore as a great remedy in such cases.<sup>107</sup> Black hellebore has properties of being both heating and drying in the 3<sup>rd</sup> degree.<sup>108</sup> This ingredient is used in recipes # 2, 7 and 11.

*Meum athamanticum* Jacq.,<sup>109</sup> is known as Spignel and Baldmoney.<sup>110</sup> This plant also has the common names of *meum*, *meon*, and bearwort.<sup>111</sup> This plant grows in abundance in Macedonia and Spain. It is beaten smooth and added to water and drunk for

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<sup>102</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 94.

<sup>103</sup> Dioscorides. *De materia medica*. 4:162

<sup>104</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. edited by Robert Gunther. (New York: Hafner Publishing Company, 1959), pp. 542-43.

<sup>105</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 4:162

<sup>106</sup> Prajapati et al., *A Handbook of Medicinal Plants*. p. 266.

<sup>107</sup> Paulus Aegineta. *Seven Books*. 7.3.78

<sup>108</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes* (Palo Alto: Stanford University Press, 1999), 105:276

<sup>109</sup> Jacques André, *Les Noms De Plantes Dans La Rome Antique*. p. 160.

<sup>110</sup> Dioscorides. *De materia medica*. 1:3

<sup>111</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 7-8.

pain in the joints.<sup>112</sup> *Meum* is used in compound pharmaceuticals as a diuretic, emmenagogue, and a carmative.<sup>113</sup> This ingredient is used in recipes # 3 and 5.

*Raphanus sativus* L.,<sup>114</sup> is known commonly as the radish,<sup>115</sup> but is called *radix* by the Romans.<sup>116</sup> The Hippocratic writers say that the “radish moistens through melting the phlegm by its sharpness, but the leaves do so less. The root is bad for arthritis.”<sup>117</sup> The radish has properties of being hot in the 3<sup>rd</sup> degree and drying in the 2<sup>nd</sup>.<sup>118</sup>

### External Treatments for Arthritis

*Melissa officinalis* L.,<sup>119</sup> is commonly called balm, but also as *Melittaina*,<sup>120</sup> *Meliphyllon*, *Erythra*, *Temele*, and *Apiastrum* to the Romans.<sup>121</sup> Dioscorides says that one should plaster the leaves upon the arthritic part to relieve the pain.<sup>122</sup> This ingredient is used in recipes # 2, 3 and 5.

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<sup>112</sup> Dioscorides. *De materia medica*. 1:3

<sup>113</sup> Paulus Aegineta. *Seven Books*. 7.3.147

<sup>114</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 215.

<sup>115</sup> Dioscorides. *De materia medica*. 2:112

<sup>116</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 324.

<sup>117</sup> Hippocrates. *Regimen II*. W.H.S. Jones trans. 4:54.

<sup>118</sup> Leonhart Fuchs. *De Historia Stirpium Commentarii Insignes*. 255:661

<sup>119</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 158.

<sup>120</sup> Dioscorides. *De materia medica*. 3:104

<sup>121</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 348.

<sup>122</sup> Dioscorides. *De materia medica*. 3:104

*Plantago psyllium* L.,<sup>123</sup> is known commonly as Fleawort, but it is also known as *cynocephalon* and *cynomyia*, the Sicilians call it *crystallion*,<sup>124</sup> and the Greeks call it *Psullion*, and to the Romans as *Silvacium*.<sup>125</sup> Dioscorides says that it has a cooling effect when used in a plaster on the arthritic place with unguent of roses, vinegar and water.<sup>126</sup>

### Internal Treatments for Gout

*Asphodelus sp. L.*,<sup>127</sup> or Asphodel,<sup>128</sup> is also called *Anthericum* or royal spear, but it is known to the Romans as *Albucium* or arrow. Crateuas the Herbalist says that “the roote being dranck with wine one dragme, doth cure the paines of the gowte.”<sup>129</sup> Pliny says that Mago recommends harvesting this plant in late March, when one should dry the plant in the sun for four days.<sup>130</sup> Pliny says that the real time to harvest the plant is in the autumn when it is most potent.<sup>131</sup> He added that “Diocles used the root for gouty conditions in either way, boiled or raw.”<sup>132</sup>

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<sup>123</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 210.

<sup>124</sup> Dioscorides. *De materia medica*. 4:69

<sup>125</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 465.

<sup>126</sup> Dioscorides. *De materia medica*. 4:69

<sup>127</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 28.

<sup>128</sup> Dioscorides. *De materia medica*. 2:169

<sup>129</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 209-10

<sup>130</sup> Pliny. *Natural History*. 21.68.110-11

<sup>131</sup> *Ibid.* 22.32.69

<sup>132</sup> *ibid.* W.H.S. Jones trans. 22.32.71

*Papaver somniferum* L.,<sup>133</sup> is known as the Opium Poppy.<sup>134</sup> This plant is also known as *Mekon Agrios* and *Mekon Emeros* by the Greeks.<sup>135</sup> Dioscorides says that there are three types of opium poppies, two of which are wild, and that the smaller variety of these poppies is the more medicinal type. He says that the juice is mixed with saffron and milk from a woman and drunk to treat the pain of gout, but he also warns not to drink too much because it can put the patient into a deadly coma.<sup>136</sup>

*Salix* sp. L.,<sup>137</sup> which is the tree commonly known as the Willow,<sup>138</sup> and it is known as *Itea* by the Greeks.<sup>139</sup> The fruit, leaves, bark, and juice are used in medications. Dioscorides says that “their decoction is an excellent rinse for gout.”<sup>140</sup>

### External Treatments for Gout

*Acanthus molis* L.,<sup>141</sup> is known commonly as the Acanthus plant. Pliny says there are two types; one for medicines is the smooth leaved variety called *paederos* or *melamphyllum*. The roots of this plant are pounded and heated to treat gouty limbs.<sup>142</sup>

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<sup>133</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 188.

<sup>134</sup> Dioscorides. *De materia medica*. 4:64

<sup>135</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 456-60.

<sup>136</sup> Dioscorides. *De materia medica*. 4:64

<sup>137</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 224.

<sup>138</sup> Dioscorides. *De materia medica*. 1:104

<sup>139</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 355-56.

<sup>140</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 1:104

<sup>141</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 2.

<sup>142</sup> Pliny. *Natural History*. 22.34.76

*Acetabularia mediterranea* L.,<sup>143</sup> known as the Sea navel,<sup>144</sup> to the Greeks it is called *Androsaces*, and is also called *Picras*, *Leuce*, and *Thalassia*.<sup>145</sup> This herb grows mainly on the coastline of Syria. Dioscorides says in the treatment of gout to use the herb by smearing it on the place of discomfort as a plaster.<sup>146</sup>

*Anthinon* is known as the oil or unguent of dill. To make this product, one should mash 11 pounds and 8 ounces of the flowers of dill, in 8 pounds 9 ounces of oil and let sit for the period of one day, and then squeeze the oil out of the flowers by hand. It is said that the oil of dill is “beneficial for pains in the joints.”<sup>147</sup>

*Apopatos* is the dung of various animals. It is said that the dung of mountain goats, “they benefit the gouty when plastered on with lard . . . the intense heat issuing from them is used advantageously also on patients of hip disease this way: having placed as a foundation on the space between the index finger and the thumb, where the hollow approaches the wrist, wool soaked in oil, set upon it one by one very hot throttles until the sensation reaches the hip through the arm and the pain stops.”<sup>148</sup>

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<sup>143</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 17.

<sup>144</sup> Dioscorides. *De materia medica*. 3:133

<sup>145</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 378.

<sup>146</sup> Dioscorides. *De materia medica*. 3:133

<sup>147</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 1:51

<sup>148</sup> Ibid. Lily Y. Beck trans. 2:80

*Brassica oleracea* L.,<sup>149</sup> is known commonly as Cultivate cabbage,<sup>150</sup> but some call it *Crambe cepaea*, the Romans call it *Brassica*, and the Greeks call it *Krambe emeros*.<sup>151</sup> For use in treatments it is applied to the area, “with meal of fenugreek and vinegar, it helps the gouty and the arthritic.”<sup>152</sup> Pliny says that when treating “gout and rheumatic joints a liniment should be made with a dash of rue, coriander and salt, along with barley flower.”<sup>153</sup> He also says that there are multiple types of cabbage but only three are good for medicinal use. One type of cabbage is used for a laxative which he calls *selinas* (the name for celery) is curly, and another type is *crambe*, which has thin plain leaves and bitter is for other treatments.<sup>154</sup> *Cyma*, which he says is the most pleasant tasting, is used for sciatica, where the stalks of dried cabbage are turned to ash and mixed with stale grease. The stalks he says are understood to be caustic.<sup>155</sup>

*Brassica rapa* L., which is known as the turnip, is also known as *Gongule*, *Gongilida*, *Golgosium*, and it is known by the Greeks as *Gongulis*, but to the Romans it is known as *Rapum*.<sup>156</sup> Pliny says that “a hot decoction of it is good even for cold gout, and raw turnip, pounded and mixed with salt, for every ailment of the feet.”<sup>157</sup> He also says that “its effect is greater when it is seasoned with rocket, and that, when roasted and made into an ointment

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<sup>149</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 37.

<sup>150</sup> Dioscorides. *De materia medica*. 2:120

<sup>151</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 159-60

<sup>152</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 2:120

<sup>153</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20.33.81

<sup>154</sup> Ibid. 20.33.79

<sup>155</sup> Ibid. 20.35.90

<sup>156</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 147.

<sup>157</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20.9.18

with grease; it is good for pain in the joints.”<sup>158</sup> The turnip has properties of being hot in the 2<sup>nd</sup> degree and moist in the 1<sup>st</sup>.<sup>159</sup>

*Colocasia antiquorum* Schott.,<sup>160</sup> is known as cuckoopint,<sup>161</sup> but to the Greeks it is called *Bolbos edodimos*.<sup>162</sup> Dioscorides says that its use in medicines is to plaster the bulb on the place of pain and that it works for gout and other pains in the joints.<sup>163</sup>

*Cucumis sativus* L.,<sup>164</sup> is known as the cucumber,<sup>165</sup> but it is known as *kolokuntha* by the Greeks.<sup>166</sup> It is used in the treatments by being scraped and laid upon the affected area to reduce the inflammation of gout. The properties of the cucumber are cooling and diluent in the 2<sup>nd</sup> degree in Galen’s temperature system.<sup>167</sup>

*Ecballium elaterium* Rich.,<sup>168</sup> is known commonly as the Squirting cucumber,<sup>169</sup> but is also known as *Cucumis agrestis*, *Bubalion*, *Syncrisis*, *Sikus Agrios*, and to the Romans it is known as *Agetum*.<sup>170</sup> Pliny says that the root of the cucumber is used in producing the drug

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<sup>158</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20.9.19

<sup>159</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 77:215

<sup>160</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 71.

<sup>161</sup> Dioscorides. *De materia medica*. 2:167

<sup>162</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 211.

<sup>163</sup> Dioscorides. *De materia medica*. 2:167

<sup>164</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 80.

<sup>165</sup> Dioscorides. *De materia medica*. 2:135

<sup>166</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 175.

<sup>167</sup> Paulus Aegineta. *Seven Books*. 7.3.335

<sup>168</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 93.

<sup>169</sup> Dioscorides. *De materia medica*. 4:150

<sup>170</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 546-7.

Elaterium as an ointment in cases of gout when boiled in vinegar.<sup>171</sup> He also says that there is a type known among the Romans as *serpentine* and that a “decoction of it in vinegar applied externally gives immediate relief to gout and to the diseases of the joints.”<sup>172</sup> Al-Kindi uses the oil of the squirting cucumber or *alqam* in Persian for treatment of backache, and all pains of rheumatism and lameness.<sup>173</sup> Dioscorides says that the root, when boiled with vinegar is advantageous for a treatment in a plaster on gout, and that it is used in a glister for sciatica.<sup>174</sup>

*Hordeum sativum* L.,<sup>175</sup> is known commonly as barley,<sup>176</sup> and it is called *Krithe* by the Greeks.<sup>177</sup> It is said that barley mixed with vinegar or quinces is good at relieving the inflammation of gout.<sup>178</sup> Pliny says that the best barley to use is the whitest. He also says that those who eat barley bread never get gout.<sup>179</sup> In pharmaceuticals, barley is known to possess diuretic, detergent, and digestive properties.<sup>180</sup>

*Hyoscyamus* sp. L.,<sup>181</sup> is called Henbane,<sup>182</sup> but is also known as *Rapaponticum*, and *Hypnoticum*, to the Greeks as *Uoskuamos melas*, and to the Romans as *Inanaoetaria*.<sup>183</sup>

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<sup>171</sup> Pliny. *Natural History*. 20.2.4

<sup>172</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20.3.9

<sup>173</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 305.

<sup>174</sup> Dioscorides. *De materia medica*. 4:150

<sup>175</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 126.

<sup>176</sup> Dioscorides. *De materia medica*. 2:86

<sup>177</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 128.

<sup>178</sup> Dioscorides. *De materia medica*. 2:86

<sup>179</sup> Pliny. *Natural History*. 22.65.134-35

<sup>180</sup> Paulus Aegineta. *Seven Books*. 7.3.195

<sup>181</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 127.

<sup>182</sup> Dioscorides. *De materia medica*. 4:68

Dioscorides says the best variety for medicinal use is the type with the white flowers and seeds, then the yellow, but never the black. He says to mix the juice from the seeds with meal or polenta for the inflammation in the feet, and to beat the seeds small with wine and apply it in cases of gout.<sup>184</sup>

*Matthiola incana* L.,<sup>185</sup> is known commonly as Aegean wallflower or stock, but to the Romans as *Opula alba*, and as *Leukoion* to the Greeks. The dried flowers and roots are used in medications. This plant is not in the original work of Dioscorides, but is part of the treatise of Pseudo-Dioscorides in which the plant was added sometime before the sixth century. It says to help with gout by smearing the roots with vinegar on the place of pain.<sup>186</sup>

*Mentha pulegium* L.,<sup>187</sup> is known commonly as Pennyroyal.<sup>188</sup> This plant is also known by *Blechron*, *Glechon*, *Arsenicanthon*, and the Romans call it *Polium*.<sup>189</sup> Dioscorides says to lay this herb on the gouty part until skin surface becomes irritated.<sup>190</sup> Pliny says that “its nature is so heating that it raises a blister on the parts of the body to which it is applied . . . and for gout, it is wonderfully efficacious.”<sup>191</sup>

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<sup>183</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 464-65

<sup>184</sup> Dioscorides. *De materia medica*. 4:68

<sup>185</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 180

<sup>186</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 369.

<sup>187</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 319.

<sup>188</sup> Dioscorides. *De materia medica*. 3:31

<sup>189</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 270-71.

<sup>190</sup> Dioscorides. *De materia medica*. 3:31

<sup>191</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20.55.156-7

*Posidonia oceanica* Del.,<sup>192</sup> is known as seaweed,<sup>193</sup> but is also called *Phukos*, *Thalassion*, and called *Laminaria* by the Greeks.<sup>194</sup> It must be kept moist, says Dioscorides, as a treatment for gout. It is known that this plant has a cooling effect in the plasters that are made from it.<sup>195</sup>

*Pulmo marinus* L., is the purple luminescent jellyfish, known to the Greeks as *Pneumon thalassios*.<sup>196</sup> This jellyfish recommended by Pliny,<sup>197</sup> and Dioscorides, who says that it should be beaten until it is small and plastered on those affected with gout.<sup>198</sup> This ingredient is used in recipe # 9.

*Teucrium scorioides* L.,<sup>199</sup> is commonly called Garlic germander,<sup>200</sup> but it is also known as *Calaminthia sylvestris*, *Mithridanios*, *Scorbiium*, *Scordium*, and by the Romans it is called *Trisago palustris*.<sup>201</sup> Dioscorides says that the herb can be smeared on with either sharp vinegar or plastered on with water for the treatment of gout.<sup>202</sup>

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<sup>192</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 107.

<sup>193</sup> Dioscorides. *De materia medica*. 4:99

<sup>194</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 495.

<sup>195</sup> Dioscorides. *De materia medica*. 4:99

<sup>196</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 102

<sup>197</sup> Pliny. *Natural History*. H. Rackham trans. (Cambridge: Harvard University Press, 1952), 9:68

<sup>198</sup> Dioscorides. *De materia medica*. 2:37

<sup>199</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 44.

<sup>200</sup> Dioscorides. *De materia medica*. 3:111

<sup>201</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 355-56.

<sup>202</sup> Dioscorides. *De materia medica*. 3:111

*Ulva lactuca* L.,<sup>203</sup> is commonly referred to as sea lettuce,<sup>204</sup> but is also known as *Bruon Thalassion*, *Ballaris*, *Irane*, and to the Romans as *Gnomeusilum*.<sup>205</sup> Dioscorides says that it is very good for “inflammation and for gout that needs cooling.”<sup>206</sup>

### Internal Treatments for Sciatica

*Artemisia arborescens* L.,<sup>207</sup> commonly called Southernwood,<sup>208</sup> is also known as *Abutonon*, *Heraclion*, *Cholopoeon*, *Absinthiomenon*, and the Greeks call it *Abrotonon*, and to the Romans it is known as *Absinthium ponticum* L.<sup>209</sup> Dioscorides says that the seed, being soaked and beaten raw, is drunk with water in order to treat sciatica.<sup>210</sup> Walafrid Strabo (808- 849 C.E.) wrote in one of his poems that “Southernwood . . . has the power against fevers, and if your limbs ache with the elusive and mysterious pain of gout, it will bring relief.”<sup>211</sup> In compound pharmaceuticals, southernwood is used as an anthelmintic, emmenagogue, and an antidote of narcotic poisoning.<sup>212</sup> Southern wood has

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<sup>203</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 275.

<sup>204</sup> Dioscorides. *De materia medica*. 4:98

<sup>205</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 495.

<sup>206</sup> Dioscorides. *De materia medica*. 4:98

<sup>207</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 26.

<sup>208</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 3:24

<sup>209</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 262.

<sup>210</sup> Dioscorides. *De materia medica*. 3:24

<sup>211</sup> Walafrid Strabo. *Hortulus*. (Pittsburgh: The Hunt Botanical Library, 1966), p. 33.

<sup>212</sup> Paulus Aegineta. *Seven Books*. 7.3.18

properties of heating in the 2<sup>nd</sup> degree and drying in the 1<sup>st</sup> degree.<sup>213</sup> This ingredient is used in recipe # 2.

*Capparis spinosa* L.,<sup>214</sup> is the caper and is also known as *cynosbaton*, *capria*, *ophioscorodon*, *ophiostaphylen*, *thallia*, *petraia*, *holophyton*,<sup>215</sup> and the Romans call it *Sinapi persicum*, but the Arabs call it *Kabbar*.<sup>216</sup> Dioscorides says that if you drink wine with two *drachmai* of capers for thirty days that it helps with sciatica.<sup>217</sup> Al-Rhazi also recommends capers in the treatment of sciatica but warns against continual usage. He also says that capers were used in Babylonia for the treatment of bad feet.<sup>218</sup> The caper is used in pharmaceuticals as a laxative, diuretic, emmenagogue, and as a stomachic.<sup>219</sup> This ingredient is used in recipes # 8 and 9.

*Elettaria Cardamomum* White and Maton.,<sup>220</sup> is known as cardamon<sup>221</sup> but it is also known as *Cynocardamom*, *Iberis*, *Cardamina*, *Cardamantica*, *Semeth*, and the Romans call it *Nasturtium*, and to the Arabs as *Hil*.<sup>222</sup> The best cardamon grows in Commagene, Armenia, and Bosphorus. Dioscorides says that the seed being drunk with water is good for sciatica.<sup>223</sup>

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<sup>213</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 13:49

<sup>214</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 48

<sup>215</sup> Dioscorides. *De materia medica*. 2:173

<sup>216</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 215-16.

<sup>217</sup> Dioscorides. *De materia medica*. 2:173

<sup>218</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. (Wisconsin: University of Wisconsin Press, 1966), p. 322.

<sup>219</sup> Andrew Chevallier, *The Encyclopedia of Medicinal Plants*. p. 180.

<sup>220</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 49.

<sup>221</sup> Dioscorides. *De materia medica*. 1:6

<sup>222</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 8-9.

<sup>223</sup> Dioscorides. *De materia medica*. 1:6

The seed is used in medicines as a carmative and stomachic. Cardamon has properties of both heating and drying in the 4<sup>th</sup> degree.<sup>224</sup> This ingredient is used in recipe # 10.

*Hypericum coris* L.,<sup>225</sup> is known commonly as Coris. The seed from this shrub is drunk with wine to treat the effects of sciatica.<sup>226</sup>

*Hypericum crispum* L.,<sup>227</sup> is commonly called Hypericum, but it is also known as *Androsemon*, *Corion*, and *Chamepitys*,<sup>228</sup> but to the Greeks as *Uperikon*.<sup>229</sup> Dioscorides says that the seed being drunk for forty days treats sciatica.<sup>230</sup> Hypericum has properties of heating in the 2<sup>nd</sup> and drying in the 3<sup>rd</sup> degree.<sup>231</sup>

*Hypericum perforatum* L.,<sup>232</sup> is known as St. John's Wort, but also as *Androsaimon* to the Greeks, and is also called *Dionysias*<sup>233</sup> and Tutsan.<sup>234</sup> Dioscorides says that "when drunk with two *cotylai* of hydromel, the fruit of this plant, too, is good for hip ailments. But it must be given continuously until the patients are cured."<sup>235</sup>

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<sup>224</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*, 1542. 134:361

<sup>225</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 128.

<sup>226</sup> Dioscorides. *De materia medica*. 3:157

<sup>227</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 128.

<sup>228</sup> Dioscorides. *De materia medica*. 3:154

<sup>229</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 395-96.

<sup>230</sup> Dioscorides. *De materia medica*. 3:154

<sup>231</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*, 1542. 339:884

<sup>232</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 128.

<sup>233</sup> Dioscorides. *De materia medica*. 3:155

<sup>234</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 396.

<sup>235</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 3:155

*Inula candida* L.,<sup>236</sup> is known as Bearwort, but some call it *arctouros*. Dioscorides recommends bearwort in the treatment of sciatica. This treatment is made by mixing the seeds and roots with wine and then drunk.<sup>237</sup>

*Rubia tinctorum* L.,<sup>238</sup> is commonly known as Madder,<sup>239</sup> is also known as *Cinnabaris*, *Dracons*, and is known to the Greeks as *Eruthodanon*, and by the Romans as *Rubia passive*.<sup>240</sup> Dioscorides says that the root, being black when ripe, is drunk with hydromel to help with sciatica.<sup>241</sup>

*Sison amomum* L.,<sup>242</sup> is known commonly as stone parsley<sup>243</sup> and *petroselinum*, but also known as *smyrnum*, and to the Greeks as *Smurnion*. This plant grows mainly in Cilicia. The root is used in treatment of sciatica, where it is drunk with wine.<sup>244</sup> *Petroselinum* has both heating and drying properties in the 3<sup>rd</sup> degree, and in compound pharmaceuticals it is used as an aromatic, diuretic, and an emmenagogue.<sup>245</sup> This ingredient is used in recipes # 2 and 7.

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<sup>236</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 23.

<sup>237</sup> Dioscorides. *De materia medica*. 4:105

<sup>238</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 220.

<sup>239</sup> Dioscorides. *De materia medica*. 3:143

<sup>240</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 384-85.

<sup>241</sup> Dioscorides. *De materia medica*. 3:143

<sup>242</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 241.

<sup>243</sup> Dioscorides. *De materia medica*. 3:55

<sup>244</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 311-12.

<sup>245</sup> Paulus Aegineta. *Seven Books*. 7.3.298

## External treatments for Sciatica

*Calamintha* sp. Link.,<sup>246</sup> is known as catmint. It is known to the Romans as *nepeta*. The part of the plant that is used in medicine is the leaves. Dioscorides says that *calamintha* “is applied on people with hip ailments to alter the state of their pores, by burning the skin’s surface.”<sup>247</sup>

*Capella bursa pastoris* L., is commonly known as Shepherd’s-purse.<sup>248</sup> This plant is known by many names such as *Thlaspidium*, *Sinapi Persicum*, *Sinapi sylvestre*, *Myiten*, *Myopteron*, *Dasmopon*, *Bitrum*, *Suitempsum*, *Capsella*, *Gallinaceum*, and the Romans call it *Scandulaceum*.<sup>249</sup> Dioscorides says that the seed is used in a clyster in treating sciatica.<sup>250</sup> This plant has properties of being both hot and dry in the 4<sup>th</sup> degree.<sup>251</sup>

*Lupinus albus* L.,<sup>252</sup> is known as cultivated Lupin.<sup>253</sup> This plant is known to the Greeks as *Themos emeris*, and to the Egyptians it is called *Brechu*.<sup>254</sup> As medicine, Lupin is turned into a meal and then mixed with vinegar to help with the pains of sciatica.<sup>255</sup>

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<sup>246</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 44.

<sup>247</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 3:35

<sup>248</sup> Dioscorides. *De materia medica*. 2:156

<sup>249</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 197.

<sup>250</sup> Dioscorides. *De materia medica*. 2:156

<sup>251</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 114:305

<sup>252</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 148

<sup>253</sup> Dioscorides. *De materia medica*. 2:109

<sup>254</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 144-45.

<sup>255</sup> Dioscorides. *De materia medica*. 2:109

*Peucedanum* L.,<sup>256</sup> is known as Sulfurwort,<sup>257</sup> but is also known as *Agrion*, *Daemon*, *Pinasgelum*, and the Romans call it *Stataria*.<sup>258</sup> The juice, Dioscorides says is produced in Sardinia and Samothracia. It is used to treat sciatica when mixed with vinegar and unguent of roses and anointed on the place of pain.<sup>259</sup>

*Satureia capitata* L.,<sup>260</sup> is known as Cretan thyme. Dioscorides says that the purplish flowers are used and is a “suitable plaster with wine and barley groats for people with hip ailments.”<sup>261</sup>

### **Both Internal and External Treatments**

*Iris* spp. L.,<sup>262</sup> is known as Gladwyn, but also as *iris agria*, *xuris*, and to the Romans as *gladiolus*. Dioscorides says that the root is drunk with sea water and grape syrup for the treatment of sciatica. He also says that that the root when plastered on with vinegar is good for inflammation and swellings<sup>263</sup> Pliny says that the best types to use in medicines are the Illyria, Macedonian, and the African Iris.<sup>264</sup> The iris has properties of being hot in the 2<sup>nd</sup> and drying in the 3<sup>rd</sup> degree.<sup>265</sup>

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<sup>256</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 195

<sup>257</sup> Dioscorides. *De materia medica*. 3:78

<sup>258</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 324.

<sup>259</sup> Dioscorides. *De materia medica*. 3:78

<sup>260</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 227.

<sup>261</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 3:36

<sup>262</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 133.

<sup>263</sup> Dioscorides. *De materia medica*. 4:22

<sup>264</sup> Pliny. *Natural History*. 21:40-1

<sup>265</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 118:316

*Ruta graveolens* L.,<sup>266</sup> is known commonly as Rue,<sup>267</sup> but is known also as *Churma*, *Harmala*, and to the Persians it is known as *Sadhab*.<sup>268</sup> Rue grows in Iran, southern Europe, North Africa, Arabia, and Syria. Dioscorides says to mix dried rue seeds with dill and drunk with water as a good treatment for both sciatica and arthritis. In treating both of these same diseases, he says that rue can be mixed with honey and applied to the affected area.<sup>269</sup> Al-Kindi says that the seeds are a purifying medicine, and are considered as an emmenagogue, diuretic, and a vomitive. He says that Al-Bitiq “used the seeds to remove moistness and heat from the body.”<sup>270</sup> The part of the plant that is mainly used in medicines is the aerials. It is used in compound pharmaceuticals as a caustic, exulcerative, diuretic, emmenagogue, alexipharmic, stomachic, and is known for its calefacient powers.<sup>271</sup> This ingredient is used in recipe # 1.

*Thymus vulgaris* L.,<sup>272</sup> is known commonly as thyme. The dried leaves and flowers are used as an expectorant, stomachic, carminative, diuretic, and a urinary disinfectant. Pliny says that thyme should be gathered when in bloom and dried in the shade. He says that it should be applied with wine in treating sciatica, and for treating the joints it should be pounded and mixed with oil and applied with wool on the affected part.<sup>273</sup> Al-Rhazi

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<sup>266</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 221.

<sup>267</sup> Dioscorides. *De materia medica*. 3:45

<sup>268</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 286-88.

<sup>269</sup> Dioscorides. *De materia medica*. 3:45

<sup>270</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 258.

<sup>271</sup> Dioscorides. *De materia medica*. 3:45

<sup>272</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 260.

<sup>273</sup> Pliny. *Natural History*. 21:89

approved the use of thyme for purifying the stomach.<sup>274</sup> Thyme needs to be counter-balanced against its negative effects, including vomiting, muscular weakness, a depressing effect on the heart, respiration and body temperature.<sup>275</sup> Thyme has properties of both heating and drying in the 3<sup>rd</sup> degree.<sup>276</sup> This ingredient is used in recipes # 2, 3, 5, 6, 7, 9 and 11.

### Multiple Internal Treatments

*Potentilla reptans* L.,<sup>277</sup> is commonly known as cinquefoil,<sup>278</sup> but it is also known as *Pentadactylon*, *Pseudoselinon*, *Pentaphullon*, *Asphalton*, *Hermodactylon*, and *Quinquefolium* to the Romans.<sup>279</sup> Dioscorides says that a decoction of the root is drunk in the treatment of both arthritis and sciatica.<sup>280</sup> Paulus gives one of the remedies for arthritis saying that “some in the paroxysms of all arthritic diseases, have recourse to purging with hermodactylus; but it is to be remarked that the hermodactylus is bad for the stomach, producing nausea and anorexia, and ought, therefore, to be used only in the case of those who are pressed by urgent business; for it removes rheumatism speedily, and after two days at most, so that they are enabled to resume their accustomed employment.”<sup>281</sup> Lanfranchi of Milan places

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<sup>274</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 298.

<sup>275</sup> Morton, Julia F., *Major Medicinal Plants*. (Springfield: Charles C. Thomas Publishing, 1977), p. 280.

<sup>276</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 319:826

<sup>277</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 213.

<sup>278</sup> Dioscorides. *De materia medica*. 4:42

<sup>279</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 435-36.

<sup>280</sup> Dioscorides. *De materia medica*. 4:42

<sup>281</sup> Paulus Aegineta. *Seven Books*. Francis Adams trans. 7.3.78

hermodactylus also known as digitus hermetis in the category with colchicum and other related tubers.<sup>282</sup>

### Multiple External Treatments

*Amurca* is known to the Greeks as *Amorge*, but it is commonly known as the sediment of the olive oil that is left after pressing. In treatments it is said that, “Amorge that was not boiled and that is fresh helps sufferers from gout and arthritis when embrocated warm.”<sup>283</sup>

*Aristolochia rotunda* L.,<sup>284</sup> is known as round aristolochia.<sup>285</sup> *Aristolochia*, also known as *Chamaemelum* by the Sicilians, called *terrae malum* by the Italians, known as *Zarawand mudahrij* to the Persians, and the Dacians call it *Absinthium rusticum*. Crateuas the Herbalist and Gallus said it is good for treating gout by mixing it with either swines grease or oil.<sup>286</sup> Al-Kindi uses the round aristolochia with the oil of wild cucumber for backache, sciatica and all pains of arthritis and lameness.<sup>287</sup>

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<sup>282</sup> Lanfranco of Milan. *The Surgery of Lanfranchi of Milan*. p. 255.

<sup>283</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 1:102

<sup>284</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 25.

<sup>285</sup> Dioscorides. *De materia medica*. 3:4

<sup>286</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 238.

<sup>287</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans., p. 273.

*Ferula marmarica* L.,<sup>288</sup> is known as gum ammoniac,<sup>289</sup> others call it *ammoniacum*, but is called *Gutta* by the Romans. The shrub grows mainly in Cyrene.<sup>290</sup> Dioscorides says that ammoniac is a good treatment when “plastered on with honey or mixed with pitch, it dissolves chalkstones that are formed around the joints . . . for hip ailments when anointed after being mixed with vinegar, soda, and oil of henna.”<sup>291</sup> The part of the shrub that is used is the oleo-gum resin.<sup>292</sup> It is used as an antispasmodic and to induce sweating.<sup>293</sup> In counterirritant plasters, it is used to treat arthritis and swollen joints.<sup>294</sup> Gum ammoniac is also known for its powers as an emmenagogue and expectorant.<sup>295</sup> This ingredient is used in recipes # 1, 2, 4, 7 and 11.

*Ferula tingitana* L.,<sup>296</sup> is known as Laserwort and *silphium*. It is grown in Syria, Libya, Media, and Armenia. It is used as an antipharmacum of deadly medicines.<sup>297</sup> Dioscorides says that *silphium*, when mixed with a Cerat of Irinum and Cypernum is good for the treatment of sciatica.<sup>298</sup> Laser, which is distilled from *silphium*, Pliny says, is “one of

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<sup>288</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 116.

<sup>289</sup> Dioscorides. *De materia medica*. 3:84

<sup>290</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 331-32.

<sup>291</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 3:84

<sup>292</sup> Van Wyk and Wink, *Medicinal Plants of the World*. (Oregon: Timber Press, 2004), p. 127.

<sup>293</sup> Prajapati *et al.*, *A Handbook of Medicinal Plants*, p. 205.

<sup>294</sup> Van Wyk and Wink, *Medicinal Plants of the World*. p. 127

<sup>295</sup> Hassan Kamal, *Encyclopedia of Islamic Medicine: With a Greco-Roman Background*, (Cairo: General Egyptian Book Organization, 1975), p. 233.

<sup>296</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 103.

<sup>297</sup> Dioscorides. *De materia medica*. 3:80

<sup>298</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 328-29.

the most precious gifts of Nature.”<sup>299</sup> He says that to soothe gouty limbs one should dilute laser with vinegar and water and apply to the affected area with a sponge.<sup>300</sup>

*Ficus carica* L.,<sup>301</sup> is known commonly as a fig and to the Greeks as *Suka*.<sup>302</sup> Dioscorides says that “it is useful with flour of fenugreek and vinegar in poultices for the gouty.”<sup>303</sup> Pliny says that the wild figs work better than the cultivated type. He says that one should mix wild figs with fenugreek meal and apply it to those with gouty limbs.<sup>304</sup> Celsus says that some people apply dried fig mixed with catmint to the joints and for podagra with good results.<sup>305</sup> Figs have the properties of being both heating and drying in the 1<sup>st</sup> degree.<sup>306</sup>

*Lolium temulentum* L.,<sup>307</sup> is known as Darnel,<sup>308</sup> but to the Romans as *Lolium*, to the Greeks as *Aira*, and others call it *Thyaron*.<sup>309</sup> Dioscorides says that when darnel is “boiled with hydromel and applied as a poultice, it benefits those suffering from hip disease.”<sup>310</sup> Pliny says that darnel should be mixed with oxymel for the treatment of gout.<sup>311</sup>

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<sup>299</sup> Pliny. *Natural History*. W.H.S. Jones trans. 22.49.101

<sup>300</sup> Ibid. 22.49.105

<sup>301</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 104.

<sup>302</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 90-91.

<sup>303</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 1:128

<sup>304</sup> Pliny. *Natural History*. 23.64.126

<sup>305</sup> Celsus. *De Medicina*. 5.18.32

<sup>306</sup> Leonhart Fuchs. *De Historia Stirpium Commentarii Insignes*. 288:754

<sup>307</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 147.

<sup>308</sup> Dioscorides. *De materia medica*. 2:100

<sup>309</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 133.

<sup>310</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 2:100

<sup>311</sup> Pliny. *Natural History*. 22.77.160

*Opopanax* L.,<sup>312</sup> is called Hercules' woundwort,<sup>313</sup> and *Herakleion* by the Greeks. The name opopanax comes from the Greek meaning 'all healing juice.'<sup>314</sup> Dioscorides says that the tree grows in Arcadia, Macedonia, and Cyrene. The juice of the stem and leaves is dried and then used in medications. He says that it can be mixed into an ointment for the treatment of sciatica; or it can be mixed into a plaster with raisins as a good treatment for gout.<sup>315</sup> In compound pharmaceuticals, opopanax is also used as an emmenagogue and deobstruent.<sup>316</sup> This ingredient is used in recipes # 1, 7 and 11.

*Sinapis alba* L.,<sup>317</sup> is commonly called mustard, but is known to the Greeks as *Sinepi*. Dioscorides says to "choose mustard that is not dry and brittle, but round and green inside when crushed, as if juicy, and gleaming . . . combined with figs and applied until it begins to irritate the skin, it is suitable for hip diseases . . . and in general, for all chronic pains."<sup>318</sup> Pliny says that mustard, pounded with figs, cummin, seed of hartwort, and vinegar can be applied to any part of the body to remove the pain. He says that the fig is used with the mustard to prevent blistering of the skin.<sup>319</sup> Al-Kindi says that the mustard plant was used by the Babylonians as a stomachic, and for swelling. The mustard plant in India, *Sinapis*

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<sup>312</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 179.

<sup>313</sup> Dioscorides. *De materia medica*. 3:48

<sup>314</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 291-92.

<sup>315</sup> Dioscorides. *De materia medica*. 3:48

<sup>316</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 254.

<sup>317</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 240.

<sup>318</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 2:154

<sup>319</sup> Pliny. *Natural History*. 20.87.238-39

*chinensis* L. has been used as a stimulant and laxative, and in applications in rheumatic and paralytic conditions.<sup>320</sup>

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<sup>320</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 264.

## **CHAPTER 5**

### **The Ingredients used in the Internal Compound Pharmaceuticals Recipes for Arthritis, Gout and Sciatica.**

In this chapter, the ingredients only used in the recipes found in chapter 6 are identified. These identifications include the Latin denomination along with the common names in various languages. To understand what these simples do in the pharmaceuticals, the medicinal properties, both negative and positive are provided along with which ingredients counter the negative effects. Many of these ingredients were identified in Galen's drug system by degrees. Each drug, according to Galen, had two possible qualities, one active and the other passive. Actively a drug could be cooling or warming and passively drying or moistening, each on a four degree scale. A first degree drug was so mild as to be almost imperceptible whereas one of the fourth degree was so strong as to be potentially life-threatening. Galen's theoretical system required balancing of undesirable qualities with other countering drugs. It seems for the most part that the ingredients that Galen did identify are twenty-two drugs to be taken internally and only four for external use. The ingredients are also identified according to the recipes in which they are included.

## The Ingredients

Almond oil is also known as *Elaion amygdalinon* to the Greeks. It has properties that make it an effective anti-inflammatory and painkiller for the intestines and bowels.<sup>321</sup> This ingredient is used in recipe # 9.

*Aloe socotrina* L.,<sup>322</sup> is known as Socotra aloe, which is said to be the main aloe used by the Greeks. This aloe gets its name from the island of Socotra in the Indian Ocean. Aristotle, the mentor of Alexander the Great, suggested to his student in his conquests to capture the island of Socotra and bring back the aloe for cultivation. Unfortunately this conquest was not fulfilled due to the untimely death of Alexander. Tom Reynolds asserts: “A good case has been made out for the view that some of the botanical materials in the Theophrastan writings have been drawn from the experiences of commanders of Alexander’s forces.”<sup>323</sup> The main use of the aloe plant is that of a purgative, laxative, and cathartic in the treatment of sciatica and arthritis.<sup>324</sup> The main effect of aloe is on the colon.<sup>325</sup> *Siburu* as it was known was regarded as an effective treatment of the stomach in Babylon and this aloe is very effective as a documented purgative.<sup>326</sup> Dioscorides says that mixing aloe with other

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<sup>321</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 28.

<sup>322</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 11.

<sup>323</sup> Charles Singer, “The Herbal in Antiquity and its Transmission to Later Ages.” *The Journal of Hellenic Studies*, 47/1 (1927), p. 2.

<sup>324</sup> Tom Reynolds, *Aloes: The Genus Aloe*, (Boca Raton: CRC Press, 2004), p. 211

<sup>325</sup> *Encyclopedia of Islamic Medicine*. p. 46

<sup>326</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 297.

purgatives or a cathartic makes it less hurtful to the stomach.<sup>327</sup> This ingredient is used in recipes # 1, 2, 3, 4, 5, 6, 7, and 11.

*Amomum cardamomum* L.,<sup>328</sup> is also known as *Amomon* by the Greeks.<sup>329</sup> The pale red wood is used in medications. It is used as a resolvent in compound pharmaceuticals.<sup>330</sup> This ingredient is used in recipe # 2.

*Apium graveolens* L.,<sup>331</sup> is commonly known as celery, but as *Selinon kepaion* by the Greeks.<sup>332</sup> The seed is used in compound pharmaceutical as a diuretic, urinary antiseptic, alexipharmic, and a carmative.<sup>333</sup> This ingredient is used in recipe # 9.

*Aristolochia longa* L.,<sup>334</sup> is also known as the great or long Aristolochia. When it is combined in a prescription with myrrh and pepper, it casts out all the remaining purgaments from the body. It is known for its alexipharmic and emmenagogue properties.<sup>335</sup> Aristolochia has properties of being both heating and drying in the second.<sup>336</sup> This ingredient is used in recipes # 2 and 7.

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<sup>327</sup> Dioscorides. *De materia medica*. 3:22

<sup>328</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*, p. 14.

<sup>329</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 16.

<sup>330</sup> Dioscorides. *De materia medica*. 1:15

<sup>331</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 20.

<sup>332</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 308.

<sup>333</sup> Dioscorides. *De materia medica*. 3:65

<sup>334</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 25.

<sup>335</sup> Dioscorides. *De materia medica*. 3:4

<sup>336</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 31:93

*Artemisia absinthium* L.,<sup>337</sup> is also known as of Absinthium, Mugwort, Common Wormwood, and Absinthe. This plant is used for gastric insufficiency, intestinal atonia, gastritis, and stomach-ache. The part of the plant that is used is the aerials.<sup>338</sup> Absinthe evacuates bilious humours in the stomach by the bowels and by the urine. It is categorized as a diuretic, cholagogue, stomachic, febrifuge, deobstruent, and an emmenagogue.<sup>339</sup> It has properties of heating in the 1<sup>st</sup> degree and drying in the 3<sup>rd</sup> degree.<sup>340</sup> Unfortunately, absinthium is known to upset the nervous system and increases the action of the heart, and if too much is taken it can produce disorientation, delirium, and hallucinations.<sup>341</sup> This ingredient is used in recipes # 4 and 11.

*Astragalus gummifer* Labill.,<sup>342</sup> is known as Tragacanth,<sup>343</sup> but as *Kathira* in the Arab world. Tragacanth preserves pills by preventing air from deteriorating the powders.<sup>344</sup> The gum-like exudation from the stem, when dried forms flakes which swell in water and creates a gel.<sup>345</sup>

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<sup>337</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 1.

<sup>338</sup> *Physicians Desk Reference for Herbal Medicines* (Montvale: Medical Economics Company, 1998), p. 664

<sup>339</sup> *Encyclopedia of Islamic Medicine*. p. 27.

<sup>340</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 1:3

<sup>341</sup> Richard le Strange, *A History of Herbal Plants* (New York: Arco Publishing Company, 1977), p. 72.

<sup>342</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 2.

<sup>343</sup> Dioscorides. *De materia medica*. 3:20

<sup>344</sup> Sami Khalaf Hamarneh, *A Pharmaceutical View of Albucaasis Al-Zahrawi in Moorish Spain* (Leiden: EJ. Brill, 1963), p. 72.

<sup>345</sup> *Physicians Desk Reference*. p. 676.

*Ballota nigra* L.,<sup>346</sup> is known as Black Horehound.<sup>347</sup> The flowering tops are used as a spasmolytic and a sedative in compound medicines and it is also used to treat stomach spasms and nausea.<sup>348</sup> It has properties of heating in the 2<sup>nd</sup> and drying in the 3<sup>rd</sup> degree.<sup>349</sup> Pliny says that horehound, when mixed with iris and honey purges the stomach, clears phlegm and promotes urine.<sup>350</sup> This ingredient is used in recipes # 2, 7, and 11.

Bearded grains are wheat and barley, but it is unknown which of these is called for in the recipes. *Triticum turgidum* L.,<sup>351</sup> commonly called wheat, is also known to the Greeks as *Puroi*. Pliny says that wheat “disperses those violent fluxes of phlegm which the Greeks call *rheumatismi*.”<sup>352</sup> Wheat was used in ancient times to counter the negative effects of colocynth as it eliminated the vomiting, bloody diarrhea, and accidental overdosing which colocynth can cause.<sup>353</sup> *Hordeum sativum* L. is known as barley, and the full description of this plant is found above. This ingredient is used in recipes # 2, 3, 5, 6 and 7.

*Boswellia carterii* Birdw.,<sup>354</sup> is known as frankincense.<sup>355</sup> Frankincense is heating in the 2<sup>nd</sup> degree and drying in the 1<sup>st</sup> degree. It is used as a detergent, stomachic,

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<sup>346</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 33.

<sup>347</sup> Dioscorides. *De materia medica*. 3:103

<sup>348</sup> Van Wick and Wink, *Medicinal Plants of the World*. p. 65.

<sup>349</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 56:153

<sup>350</sup> Pliny. *Natural History*. 20:244

<sup>351</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 39.

<sup>352</sup> Pliny. *Natural History*. W.H.S. Jones trans. 22:138-9

<sup>353</sup> David I. Macht, “A Pharmacological Study of Biblical Gourds.” *The Jewish Quarterly Review*, New Series, Vol.10, No.2/3 (Oct., 1919- Jan., 1920), pp. 185-197, at p. 194.

<sup>354</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 22.

<sup>355</sup> Dioscorides. *De materia medica*. 1:68

emmenagogue, and to stop diarrhea. Frankincense along with myrrh are known as the incense plants.<sup>356</sup> This ingredient is used in recipe # 6.

*Canis aureus* L., is the scientific name for the jackal. This species is also known as *cakal* in Turkish and *shaghal* in Persian. The fats are used as a carmative and constipate in compounds.<sup>357</sup> This ingredient is used in recipe # 2.

*Castor fiber* L., is the taxonomic name for the European beaver. This species of beaver provided the product Castoreum or *jundubadastur*<sup>358</sup> as known in the Arab world. Castoreum is the dried musky secretion produced by the animal to render its coat waterproof. This product is used as an emmenagogue, stimulant, resolvant, and antispasmodic.<sup>359</sup> Avicenna says that castoreum is beneficial in relieving the suffocation induced by hellebore.<sup>360</sup> Al-Samarqandi says that the “evil property of a drug may be destroyed by another as by mixing castoreum with opium.”<sup>361</sup> This ingredient is used in recipes # 1 and 11.

*Cinnamomum cassia* Bl.,<sup>362</sup> is known as Cassia.<sup>363</sup> Cassia is used as a stomachic, diuretic, desiccant, alexipharmic, carmative, anti-diarrhea, anti- nausea, and an

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<sup>356</sup> Paulus Aegineta. *Seven Books*. 7.3.217-8

<sup>357</sup> Dioscorides. *De materia medica*. 2:76

<sup>358</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. 2.2.3

<sup>359</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 254.

<sup>360</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. 2.2.3

<sup>361</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. Martin Levey trans. (Philadelphia: University of Pennsylvania Press, 1967), pp.36-7

<sup>362</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 52.

emmenagogue, but also to assist in the flavoring of foul tasting pharmaceuticals, and to relieve flatulence.<sup>364</sup> The bark of this plant is used in medicines. Pliny says that it should be of a purple color, and that its taste is not hot but of moderate warmth with a slight nip.<sup>365</sup> Cassia has properties of heating and drying in the 3<sup>rd</sup> degree.<sup>366</sup> This ingredient is used in recipes # 2, 3, 6 and 11.

*Cinnamomum tamala* L.,<sup>367</sup> known as Malabar<sup>368</sup> is also called *Malobathrum* and *Malabathrum*. The leaf and bark are used in medicines. The use of Malabar in pharmaceuticals is as a stimulant, carmative, anti-diarrhea, and discutient.<sup>369</sup> This ingredient is used in recipe # 2.

*Cinnamomum verum* Bl.,<sup>370</sup> is commonly known as cinnamon. It is used in medicines as a mucilage, stimulant, carmative, diuretic, antispasmodic and antibacterial.<sup>371</sup> It is also used to increase body temperature and to improve blood circulation and digestion. The oil is used as a vascular and nervine stimulant.<sup>372</sup> Cinnamon is also known as a blood purifier, to treat diarrhea, internal hemorrhaging, nausea and vomiting, and to alleviate

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<sup>363</sup> Dioscorides. *De materia medica*. 1:13

<sup>364</sup> P.N. Ravindran, K. Babu, and M. Shylaja, *Cinnamon and Cassia: The Genus Cinnamomum* (Boca Raton, CRC Press, 2004), p. 324.

<sup>365</sup> Pliny. *Natural History*. 12:43

<sup>366</sup> Paulus Aegineta. *Seven Books*. 7.3.161

<sup>367</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 67.

<sup>368</sup> Dioscorides. *De materia medica*. 1:12

<sup>369</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh* (New Delhi: Indus Publishing Company, 1999), pp. 160-2.

<sup>370</sup> A. P. Decandolle, *Index Generalis et Specialis: Prodromum Systematis Naturalis Regni Vegetabilis*. 2 volumes (Amsterdam: A. Asher & Co., 1967), Vol. 2, p. 79.

<sup>371</sup> *Physicians Desk Reference*. p. 752

<sup>372</sup> P. N. Ravindran et al., *Cinnamon and Cassia: The Genus Cinnamomum*. pp.259-60

cramps of the stomach.<sup>373</sup> This wonderful plant is also documented in treating inflammation and rheumatism.<sup>374</sup> Pliny says that the best part is near the top branches, and the worst is near the base because there is less bark.<sup>375</sup> Cinnamon is known to the Arabs as *dar sini*, but they say there is an inferior type known as *qirfah*. Al-Kindi says that cinnamon should be used to strengthen the stomach.<sup>376</sup> This ingredient is used in recipes # 2, 3, 5, 7, 8 and 11.

*Citrollus colocynthis* Schrader,<sup>377</sup> is known as Colocynth,<sup>378</sup> but is also known as Sodom's Apple and Bitter Apple. The pulp and seed of this gourd are used in medications to increase the liquid in the intestines and to irritate the intestinal mucous membrane.<sup>379</sup> Pliny says that the pale type is better than that of the darker variety and when dried it can be used by itself as a drastic purge. As a simple, he says to mix it with oil and rub it on the place of pain.<sup>380</sup> Al-Kindi says that the gourd grows in the sandy desert regions of northern India, Iran, and Syria. It is used as a purgative, astringent, a resolutive in cataplasms, and a drastic hydrogogue cathartic.<sup>381</sup> Colocynth is both heating and drying in the 3<sup>rd</sup> degree.<sup>382</sup> This ingredient is used in recipes # 1, 2, 3, 6, 7 and 11.

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<sup>373</sup> Ibid. p. 318

<sup>374</sup> Van Wyk and Wink, *Medicinal Plants of the World*. p. 105.

<sup>375</sup> Pliny. *Natural History*. 12:42

<sup>376</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 266.

<sup>377</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 71.

<sup>378</sup> Dioscorides. *De materia medica*. 4:176

<sup>379</sup> *Physicians Desk Reference*. p. 753.

<sup>380</sup> Pliny. *Natural History*. 20:8

<sup>381</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 262.

<sup>382</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 138:373

*Colchicum*<sup>383</sup> is known commonly as meadow saffron,<sup>384</sup> but is also known as colchicum, autumn crocus, and to the Romans it is called *Bulbus agrestis*, the Persians call it *Lahlah*, and to the Syrians as *suranjan*. Colchicum is a species in the Lilly family and grows mainly in Messenia and Colchos.<sup>385</sup> The part that is used is the cut and dried corms. The main ingredient is Colchicine (acetyltrimethylcolchicine acid – C<sub>22</sub>H<sub>25</sub>NO<sub>6</sub>)<sup>386</sup> Colchicine binds to tubuline and inhibits the formation of microtubules. It is an extremely effective anti-inflammatory agent and painkiller because it prevents the migration of macrophages to the inflamed joints.<sup>387</sup> Dioscorides does not recommend this bulb for any type of medicines for he says that being “eaten, it kills by choking like mushrooms.”<sup>388</sup> Al-Samarqandi recommends colchicum to be used in treating pains in the joints by mixing a decoction of it with the pulp of colocynth, the grain of indigo, orchis, and cocculus (*Anamirta cocculus* Wight and Arn., which is commonly known as levant berry).<sup>389</sup> Colchicum has properties of both heating and drying in the 2<sup>nd</sup> degree.<sup>390</sup> Unfortunately, colchicum if not counter-balanced will cause a feeling of burning in the throat and mouth along with unquenchable thirst and frequent sickness within the first day, following by agonizing colic and bloody diarrhea, and then the feeling of suffocation and the paralysis of the central nervous system

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<sup>383</sup> Jacques Andre, *Les Noms de Plantes dans la Rome Antique*. p. 71.

<sup>384</sup> Dioscorides. *De materia medica*. 4:83

<sup>385</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 481-82.

<sup>386</sup> Julia Morton, *Major Medicinal Plants*. p. 54.

<sup>387</sup> Van Wyk and Wink, *Medicinal Plants of the World*. p. 110.

<sup>388</sup> Dioscorides. *De materia medica*. Lily Y. Beck trans. 4:83

<sup>389</sup> Najib al-Din Muhammad ibn Ali Samarqandi. *The Medical Formulary of Al-Samarqand*. p. 93.

<sup>390</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 133:358

within two days.<sup>391</sup> In pharmaceuticals, colchicum is used as a purgative and a phlegmagogue.<sup>392</sup> This ingredient is used in recipes # 8, 9 and 10.

*Commiphora myrrha* Engl.,<sup>393</sup> is commonly known as both myrrh<sup>394</sup> and stacte. Its oleo-resin is an effective anti-inflammatory.<sup>395</sup> It is also used as a digestive, carmative, diuretic, stimulant, and thermogenic and is useful in treating rheumatoid arthritis and sciatica.<sup>396</sup> It is also said that myrrh is a blood cleanser, astringent, and an antispasmodic.<sup>397</sup> Pliny says that the best type of myrrh is the cave-dweller type (grown in northeastern Africa), and that they tap the tree once a year in the summer.<sup>398</sup> This ingredient is used in recipes # 2, 4, 7 and 11.

*Commiphora mukul* Engl.,<sup>399</sup> is known as Bdellium.<sup>400</sup> Its resinous gum is used as a thermogenic, digestive, anti-inflammatory, and a stimulant. It is useful in treating gout and sciatica.<sup>401</sup> False bdellium is like Bdellium but it is from India and counterfeited by mixing gums with it, and that it is filthy and black and does not smell sweet like Bdellium.<sup>402</sup> This ingredient is used in recipes # 1, 2, 4, 10 and 11.

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<sup>391</sup> Richard le Strange, *A History of Herbal Plants*. p. 86.

<sup>392</sup> Paulus Aegineta. *Seven Books*. 7.3.114-16

<sup>393</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 167.

<sup>394</sup> Dioscorides. *De materia medica*. 1:64

<sup>395</sup> Van Wyk and Wink, *Medicinal Plants of the World*. p. 111.

<sup>396</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. pp. 164-5

<sup>397</sup> Andrew Chevallier, *The Encyclopedia of Medicinal Plants*. p. 84.

<sup>398</sup> Pliny. *Natural History*. 12:35

<sup>399</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 34.

<sup>400</sup> Dioscorides. *De materia medica*. 1:67

<sup>401</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 164.

<sup>402</sup> Pliny. *Natural History*. 12:36

*Convolvulus scammonia* L.,<sup>403</sup> is commonly called Scammony,<sup>404</sup> but to the Romans as *Colophonium*, and others call it *Scamboniae radix* and *Dactylum*.<sup>405</sup> Scammony was a powerful purgative to evacuate phlegm and bile, but it is injurious to the stomach and liver. This plant is also used as a diuretic.<sup>406</sup> Avicenna says that “Scammony cools by expelling the calefacient humour.”<sup>407</sup> This ingredient is used in recipes # 2, 3, 4, 5, 6, 7, 9, 10 and 11.

*Convolvulus turpethum* L.,<sup>408</sup> is known as Turpeth. It is used as a purgative, phlegmagogue, attenuant, and a cathartic. Scammony and ginger are used in correcting the bad qualities of turpeth, and turpeth is used to diminish the strength of a powerful ingredient.<sup>409</sup> It is said that turpeth cannot be used by itself due to its taste being very unpleasant.<sup>410</sup> This ingredient is used in recipes # 9 and 10.

*Costus spp* L., is called the elegant costus. The parts that are used are the stems and rhizomes. It is used as an anti-inflammatory and very useful in treating rheumatic conditions.<sup>411</sup> This ingredient is used in recipes # 3, 5 and 6.

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<sup>403</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 228.

<sup>404</sup> Dioscorides. *De materia medica*. 4:170

<sup>405</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 571-72.

<sup>406</sup> Paulus Aegineta. *Seven Books*. 7.3.341-2

<sup>407</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. Cameron O. Gruner trans. 1.2.232

<sup>408</sup> A. P. Decandolle, *Index Generalis et Specialis: Prodrum Systematis Naturalis Regni Vegetabilis*. Vol. 2, p. 119.

<sup>409</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. pp. 36-7

<sup>410</sup> Paulus Aegineta. *Seven Books*. 7.3.445-6

<sup>411</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 171.

*Crocus sativus* L.,<sup>412</sup> is known commonly as saffron, but is also known as *Crocus*, *Crocom*, *Castor*, and *Cynomorphos*.<sup>413</sup> It has proven properties that make it an effective nerve sedative, stimulant, stomachic, and emmenagogue.<sup>414</sup> This ingredient is used in recipes # 2, 3, 5, 6, 7 and 11.

*Cuscuta epithimum* L.,<sup>415</sup> is known commonly as Dodder, Hellweed, and Devil's Guts, but it is also known as *Epithumon*, *Epithimum*, and the Romans call it *Involucrum*. Dioscorides says that it grows in abundance in Cappadocia and Pamphylia.<sup>416</sup> *Cuscuta* loosens impediments of the liver, clears up the ailments of the spleen; it frees the veins of rheums and bilious fluids, and is a diuretic. *Cuscuta* is harmful to the stomach, but it is known that anise and absinthe counters this negative effect. The properties of *cuscuta* are heating in the 1<sup>st</sup> and drying in the 2<sup>nd</sup> degree.<sup>417</sup> This ingredient is used in recipes # 4 and 11.

*Delphinium staphisagria* A. Grey., is known as Mizamiraj. The juice is used as an antioedema and a vomitive.<sup>418</sup> This ingredient is used in recipe # 9.

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<sup>412</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 79.

<sup>413</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 22-3

<sup>414</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. p. 172.

<sup>415</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 227.

<sup>416</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 580.

<sup>417</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 130:347

<sup>418</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 193.

*Euphorbia resinifera* Berg.,<sup>419</sup> is known as spurge,<sup>420</sup> although it could refer to any number of species of the *Euphorbia* genus. This plant is used as a drastic purge, and it is actively emetic, cathartic and toxic.<sup>421</sup> The part that is used is the resinous milky juice. It is also known as *euphorbium*, which the variety *Euphorbium antiquorum* L. has been used as an internal purge, and externally for the treatment of rheumatic affections.<sup>422</sup> The other main variant recommended is *Euphorbium lathyris* L. which is commonly called caper spurge. It has properties of heating in the 3<sup>rd</sup> and moist in the 1<sup>st</sup> degree.<sup>423</sup> Dioscorides says spurge can be mixed with a scented potion and drunk as a treatment for sciatica.<sup>424</sup> This ingredient is used in recipes # 1, 2, 3, 4, 5 and 7.

*Ferula Persica* Willd.,<sup>425</sup> is known as sagapenum.<sup>426</sup> The resinous exudates or juice of the root is a carmative, diuretic, laxative, alexipharmic, digestive, emmenagogue, and an antispasmodic.<sup>427</sup> Al-Kindi uses sagapenum in a remedy for sciatica, and as a plaster for rheumatism and lumbago. This plant grows in the mountains of Persia.<sup>428</sup> This ingredient is used in recipes # 1, 2 and 11.

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<sup>419</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 99.

<sup>420</sup> Dioscorides. *De materia medica*. 3:82

<sup>421</sup> *Encyclopedia of Islamic Medicine*. p. 257.

<sup>422</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 311.

<sup>423</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 177:455

<sup>424</sup> Dioscorides. *De materia medica*. 3:82

<sup>425</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 223.

<sup>426</sup> Dioscorides. *De materia medica*. 3:81

<sup>427</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 236.

<sup>428</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 283.

*Foeniculum vulgare* Gaertn.,<sup>429</sup> is known as fennel.<sup>430</sup> The fruit and juice of the plant is an antidote for poisons, deobstruent, diuretic, and an effective carmative that reduces the gripping effect of laxatives.<sup>431</sup> It is also used to eliminate pains in the stomach and lower abdomen.<sup>432</sup> Pliny says that the best fennel comes from Spain, and that the juice is collected when the stem is swelling to bud . . . it is also made from fresh seed and from incisions in the root when germination has first begun.”<sup>433</sup> Al-Kindi said fennel was first used in Babylonia for swellings and for the feet.<sup>434</sup> This ingredient is used in recipes # 7 and 9.

*Gentiana lutea* L.,<sup>435</sup> is known as Gentian.<sup>436</sup> The rhizomes and roots are used for various rheumatic conditions as an effective anti-inflammatory agent. Gentian is used in pharmaceuticals as a detergent, deobstruent, diuretic attenuant, abstergent, and an emmenagogue.<sup>437</sup> This ingredient is used in recipes # 2, 3, 5 and 7.

*Iris florentina* L.,<sup>438</sup> is known as the Iris,<sup>439</sup> but is also known as *Urania*, and *Gladiolus*, by the Romans as *Radix marica*, and the Egyptians call it *Nar*.<sup>440</sup> Iris is used to

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<sup>429</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 154.

<sup>430</sup> Dioscorides. *De materia medica*. 3:70

<sup>431</sup> Van Wyk and Wink, *Medicinal Plants of the World*. p. 145.

<sup>432</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 240.

<sup>433</sup> Pliny. *Natural History*. W.H.S. Jones trans. 20:95

<sup>434</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 242.

<sup>435</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 109.

<sup>436</sup> Dioscorides. *De materia medica*. 3:3

<sup>437</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. pp. 250-1

<sup>438</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 133

<sup>439</sup> Dioscorides. *De materia medica*. 1:1

<sup>440</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 5-6

purge thick humours and choler, as a sleep agent, and as an emollient.<sup>441</sup> This ingredient is used in recipe # 3.

*Iris pseudacorus* L.,<sup>442</sup> is called Yellow flag,<sup>443</sup> but known to the Greeks as *Akoron*. Yellow flag is known to the Romans as *Venerea* and *Acorum*, and others call it *Chorus* and *Aphrodisia*.<sup>444</sup> It is used as a diuretic and an antispasmodic.<sup>445</sup> This ingredient is used in recipe # 5.

*Lawsonia inermis* L.,<sup>446</sup> is known commonly as Henna.<sup>447</sup> It has properties as being an astringent; it stops diarrhea and dysentery, and is also used as an emmenagogue.<sup>448</sup> This ingredient is used in recipes # 8 and 9.

*Lepidium latifolium* L.,<sup>449</sup> is commonly known as Pepperwort,<sup>450</sup> Toothpick fennel, and Indian leadwort, but it is also known as *Gingidium*, and to the Greeks as *Lepidon*.<sup>451</sup> The leaves of this plant are used in medicines. In pharmaceuticals, it is used as a diuretic and an astringent.<sup>452</sup> This ingredient is used in recipe # 9.

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<sup>441</sup> Dioscorides. *De materia medica*. 1:1

<sup>442</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 4.

<sup>443</sup> Dioscorides. *De materia medica*. 1:2

<sup>444</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 6-7

<sup>445</sup> Dioscorides. *De materia medica*. 1:2

<sup>446</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 145.

<sup>447</sup> Dioscorides. *De materia medica*. 1:95

<sup>448</sup> Andrew Chevallier, *The Encyclopedia of Medicinal Plants*. p. 225.

<sup>449</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 200.

<sup>450</sup> Dioscorides. *De materia medica*. 2:174

<sup>451</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 216.

<sup>452</sup> Paulus Aegineta. *Seven Books*. 7.3.86

*Marjorana hortensis* Moench,<sup>453</sup> is commonly known as Marjoram,<sup>454</sup> but it is known by the Greeks as *Sampsuchon*, to the Romans as *Maiorana* and to others it is called *Amaracum* and *Trifolium*.<sup>455</sup> It is used as a stomachic, diuretic, diaphoretic, and an emmenagogue.<sup>456</sup> Marjoram has properties of being both heating and drying in the 3<sup>rd</sup> degree.<sup>457</sup> This ingredient is used in recipe # 7.

*Nardostachys jatamansi* DC.,<sup>458</sup> is known as Spikenard.<sup>459</sup> The root of spikenard is known for effectiveness in all rheumatic conditions. It has anti-inflammatory properties that serve as an analgesic, antioedema, and an antianaphylactic as this plant contains continentalic acid and kaurenoic acid.<sup>460</sup> Spikenard is also known as Indian nard or *sunbul at tib* in Persian. Al-Kindi says that its roots are effective for nausea and the stomach, and as an antidote.<sup>461</sup> Spikenard has heating properties in the 1<sup>st</sup> degree and drying powers of the 2<sup>nd</sup> degree. It is used as a diuretic, stomachic, hepatic, carmative, and deobstruent in compound pharmaceuticals.<sup>462</sup> This ingredient is used in recipes # 3, 4 and 11.

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<sup>453</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 225.

<sup>454</sup> Dioscorides. *De materia medica*. 3:39

<sup>455</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 283.

<sup>456</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. p. 295.

<sup>457</sup> Leonhart Fuchs. *De Historia Stirpium Commntarii Insignes*. 258:666

<sup>458</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 170.

<sup>459</sup> Dioscorides. *De materia medica*. 1:7

<sup>460</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. pp. 56-7

<sup>461</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. p. 287.

<sup>462</sup> Paulus Aegineta. *Seven Books*. 7.3.264

*Orchis papilionacea* L. / *O. morio* L.,<sup>463</sup> is commonly known as the Orchid.<sup>464</sup> The roots of this plant are used in compound pharmaceuticals as a demulcent, nutritive, and an astringent.<sup>465</sup> This ingredient is used in recipes # 9 and 10.

*Pimpinella anisum* L.,<sup>466</sup> is commonly known as Anise,<sup>467</sup> but others call it *Sion*, and the Romans call it *Anisum*, but to the Greeks it is known as *Anison*.<sup>468</sup> Aniseed is used as a diuretic, analgesic, constipate, and is warming and dissolving in nature.<sup>469</sup> This ingredient is used in recipe # 4.

*Piper officinarum* DC.,<sup>470</sup> has the common name of Long pepper.<sup>471</sup> The fruits and roots have properties that make it effective in treating diarrhea, flatulence, indigestion and vomiting.<sup>472</sup> Al-Kindi uses long pepper in his compound medicines for treating arthritis.<sup>473</sup> This ingredient is used in recipes # 2, 3, 4, 5, 7, 8 and 11.

*Piper nigrum* L.,<sup>474</sup> is the common herb known as Black pepper,<sup>475</sup> which is known to the Persians as *filfil*.<sup>476</sup> The fruit is used as a stomachic and in the treatment of diarrhea

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<sup>463</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 180.

<sup>464</sup> Dioscorides. *De materia medica*. 3:126

<sup>465</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. p. 182.

<sup>466</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 17.

<sup>467</sup> Dioscorides. *De materia medica*. 3:56

<sup>468</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 299.

<sup>469</sup> Dioscorides. *De materia medica*. 3:56

<sup>470</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 200.

<sup>471</sup> Dioscorides. *De materia medica*. 2:159

<sup>472</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 403.

<sup>473</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. . p. 266.

<sup>474</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 200.

and vomiting.<sup>477</sup> Al-Ghafiqi says that it is good in the evacuation of bile, and Al-Rhazi deems pepper to have properties of a digestive and carmative nature.<sup>478</sup> This ingredient is used in recipes # 2, 3, 5, 7, 8, 9 and 11.

*Pistacia lentiscus* L.,<sup>479</sup> is known as Mastic,<sup>480</sup> but to the Greeks it is called *Pistakia*. This tree grows mainly in Syria and all parts of the tree are used in medicines. Mastich is known as the bark and leaves.<sup>481</sup> Mastich is known to the Romans as *Laina*.<sup>482</sup> The part that is known as mastick is the resin of the tree.<sup>483</sup> These items are a stomachic, diuretic, and an emmenagogue.<sup>484</sup> This ingredient is used in recipes # 3, 5, 6, 7 and 10.

*Polypodium vulgare* L.,<sup>485</sup> is known as Polypody,<sup>486</sup> but to the Romans it is called *Filicula Lici talis*.<sup>487</sup> Polypodium is used as a purgative and is usually found in combination with honey.<sup>488</sup> This ingredient is used in recipe # 2.

*Polyporus sulphureus* Fries.,<sup>489</sup> is known also Agrikon fungus, *agaricum*, and *agaric*. Agaric is a fungous excrescence that grows on oak, larch, cherry, and plum trees. It is

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<sup>475</sup> Dioscorides. *De materia medica*. 2:159

<sup>476</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. pp. 311-2.

<sup>477</sup> Prajapati, et al., *A Handbook of Medicinal Plants*. p. 404.

<sup>478</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. pp. 311-2.

<sup>479</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 201.

<sup>480</sup> Dioscorides. *De materia medica*. 1:70

<sup>481</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. pp. 48-9

<sup>482</sup> Pliny. *Natural History*. 12:36

<sup>483</sup> Dioscorides. *De materia medica*. 1:70

<sup>484</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 87.

<sup>485</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 204.

<sup>486</sup> Dioscorides. *De materia medica*. 4:186

<sup>487</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 589.

<sup>488</sup> Dioscorides. *De materia medica*. 4:186

discutient in nature, and is known to cut away thick humours and clears away obstructions. The properties that this fungus has are cathartic and emetic.<sup>490</sup> This ingredient is used in recipes # 2, 3, 4, 5, 6 and 11.

*Rhum ribes* L.,<sup>491</sup> is commonly known as Rhubarb<sup>492</sup> or the purgative rhubarb. It has properties of being a hepatic, stomachic, deobstruent, and the strengthener of all the internal viscera. When Rhubarb is mixed in combination with Spikenard, it combats chronic diarrhea.<sup>493</sup> This ingredient is used in recipes # 3 and 5.

*Rosa*, sp.,<sup>494</sup> is known as the Rose.<sup>495</sup> The petals of red roses are used for cooling and as an astringent. In compound pharmaceuticals, rose petals are used for their properties as a stomachic and hepatic.<sup>496</sup> This ingredient is used in recipes # 9 and 10.

*Scilla maritime* L.,<sup>497</sup> is known as Squill, Scilla, and the Sea onion.<sup>498</sup> One of the main recommendations for the use of Squill is to evacuate large quantities of urine and it is one of the drastic purgatives. Squill has properties of both heating and drying in the 2<sup>nd</sup>

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<sup>489</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 7.

<sup>490</sup> Paulus Aegineta. *The Seven Books of Paulus Aegineta*. 7.3.19

<sup>491</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 205.

<sup>492</sup> Dioscorides. *De materia medica*. 3:2

<sup>493</sup> Paulus Aegineta. *Seven Books*. 7.3.478-9

<sup>494</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 219

<sup>495</sup> Dioscorides. *De materia medica*. 1:99

<sup>496</sup> Paulus Aegineta. *Seven Books*. 7.3.318-9

<sup>497</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 229.

<sup>498</sup> Dioscorides. *De materia medica*. 2:171

degree. In compound medicines it is used as a laxative, diuretic and an alexipharmic.<sup>499</sup>

Squill needs to be counter-balanced against its negative effects which are the fall in temperature, poor circulation, and convulsions.<sup>500</sup> This ingredient is used in recipes # 2, 7 and 11.

*Sepia loligo* L., is commonly known as Cuttlefish.<sup>501</sup> In pharmaceuticals it is used as a detergent.<sup>502</sup> This ingredient is used in recipe # 8.

*Sesamum indicum* L.,<sup>503</sup> is commonly known as sesame,<sup>504</sup> but to the Greeks it is called *Sesamon*. This plant grows in abundance in Africa and in lesser amounts in India. Pliny says that one reason to use sesame is that it checks vomiting.<sup>505</sup> Sesame has properties that make it an effective laxative, emollient, demulcent, diuretic, and a styptic.<sup>506</sup> This ingredient is used in recipe # 9.

Sodium chloride (NaCl) is salt, and *sal ammoniac* is known as fossil salt. Pliny says that the best salt for medicine comes from Tarentum and the second best is the salt collected from sea foam. He says that the best fossil salt comes from Cappadocia, where it is a saffron

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<sup>499</sup> Paulus Aegineta. *Seven Books*. 7.3.343

<sup>500</sup> Richard le Strange, *A History of Herbal Plants*. p. 251.

<sup>501</sup> Dioscorides. *De materia medica*. 2:21

<sup>502</sup> Paulus Aegineta. *Seven Books*. 7.3.331

<sup>503</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 237.

<sup>504</sup> Dioscorides. *De materia medica*. 2:99

<sup>505</sup> Pliny. *Natural History*. 22:132

<sup>506</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. p. 376.

color. Salt is used in medicines as a purgative, detergent, stimulant, resolvent, and a carmative.<sup>507</sup> This ingredient is used in recipes # 4, 8, 9 and 10.

*Stachys officinalis* L.,<sup>508</sup> is known as Betony.<sup>509</sup> The Greeks call it *Betonica* and it was known as Bishops' wort in the medieval period. In compounds, betony is used a purgative, emmenagogue, and as an antidote of narcotic poisoning.<sup>510</sup> This ingredient is used in recipe # 2.

*Styrax officinalis* L.,<sup>511</sup> is known as storax.<sup>512</sup> The balsam from the trunk and inner bark has anti-inflammatory and stimulant effects. One of the main reasons to use storax is to create diarrhea.<sup>513</sup> Al-Kindi uses storax, known to the Arabs as *maia*, in the treatment of rheumatism.<sup>514</sup> It is used in compound medicines as a resolvent, calefacient, emollient, and a digestive.<sup>515</sup> This ingredient is used in recipe # 8.

*Solanum nigrum* L.,<sup>516</sup> is known as Strychnus, but to the Greeks it is called *Strychni*, and in the medieval period as *Maurella*. This plant stimulates the gastric juices, increases the appetite, raises the blood pressure, improves the pulse, and is a laxative for the bowels. The

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<sup>507</sup> Pliny. *Natural History*. 4:1-5

<sup>508</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 5.

<sup>509</sup> Dioscorides. *De materia medica*. 4:1

<sup>510</sup> Paulus Aegineta. *Seven Books*. 7.3.71-2

<sup>511</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 252

<sup>512</sup> Dioscorides. *De materia medica*. 1:66

<sup>513</sup> *Physicians Desk Reference*. pp. 941-2.

<sup>514</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 338.

<sup>515</sup> Paulus Aegineta. *Seven Books*. 7.3.362

<sup>516</sup> A. P. Decandolle, *Index Generalis et Specialis: Prodromum Systematis Naturalis Regni Vegetabilis*. Vol. 2, p. 433.

negative side to this plant is to produce violent convulsions and heart attack. It is a powerful narcotic and it contains the alkaloid strychnine. Strychnus has both astringent and cooling properties in the 2<sup>nd</sup> degree.<sup>517</sup> This ingredient is used in recipes # 2 and 7.

*Terminalia chebula* Retz.,<sup>518</sup> is known as Myrobalm, but to the Persians it is called *halila*, and to the Arabs as *ihlilaj*. The bark of this tree is used in medicines. Myrobalm is used in compounds as an anti-diarrhea and dysentery medicine, it prevents vomiting, is an antidote of poisons, and is a stimulant.<sup>519</sup> This ingredient is used in recipe # 9.

*Teucrium chamaedrys* L.,<sup>520</sup> is recognized as wall germander, *Chamadraos*, *Teucrium polium*, and *Chamaedrys*.<sup>521</sup> The whole herb of this plant is used in medicines. It is known as a spasmolytic and a weak cholagogue.<sup>522</sup> The reputation of germander as a remedy for gout is well known. Its use in compound pharmaceuticals is as a stimulant, diaphoretic, and a diuretic. Germander has properties of both heating and drying in the 3<sup>rd</sup> degree.<sup>523</sup> This ingredient is used in recipes # 2, 3, 5, 7 and 11.

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<sup>517</sup> Paulus Aegineta. *Seven Books*. 7.3.358

<sup>518</sup> A. P. Decandolle, *Index Generalis et Specialis: Prodromum Systematis Naturalis Regni Vegetabilis*. Vol. 1, p. 390.

<sup>519</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. pp. 410-12.

<sup>520</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 59.

<sup>521</sup> Dioscorides. *De materia medica*. 3:98

<sup>522</sup> *Physicians Desk Reference*. pp. 1177-8

<sup>523</sup> Paulus Aegineta. *Seven Books*. 7.3.406

*Thymus* Sibth.,<sup>524</sup> is known commonly as Tufted thyme,<sup>525</sup> but it is also known as *Banajwain, Lepto, Lepte, Masho, and Hasha*. Wild thyme is used in pharmaceuticals as an antispasmodic, antiseptic, carminative, and stimulant. It is also used as a flavoring agent of bad tasting medicines.<sup>526</sup> This ingredient is used in recipes # 3 and 11.

*Veratrum album* L.,<sup>527</sup> is known as the White hellebore,<sup>528</sup> but is also known as *Elleboros, Ascis, Atomon, and Herculis*, and to the Arabs as *Kharbaq abyad*.<sup>529</sup> Dioscorides says that the best is Cyrenian, and the whiter varieties are the Galatian and Cappadocian.<sup>530</sup> He has no recommendations about using white hellebore in the treatment of gout, sciatica, or arthritis. Al-Kindi's only use for it is to kill mice. White hellebores' principal alkaloids are protoveratrine A (C<sub>41</sub>H<sub>63</sub>NO<sub>14</sub>) and protoveratrine B (C<sub>41</sub>H<sub>63</sub>NO<sub>15</sub>). These alkaloids are used as a substitute for Colchicum in treating gout and arthritis.<sup>531</sup> White hellebore has properties of being both heating and drying in the 3<sup>rd</sup> degree.<sup>532</sup>

*Zingiber officinalis* Rosc.,<sup>533</sup> is known commonly as ginger. It is recommended in cases to bind the bowels and it is known for its warming powers.<sup>534</sup> In compounds, ginger is

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<sup>524</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 260.

<sup>525</sup> Dioscorides. *De materia medica*. 3:38

<sup>526</sup> Narain Chauhan, *Medicinal and Aromatic Plants of Himachal Pradesh*. pp. 416-18.

<sup>527</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 269.

<sup>528</sup> Dioscorides. *De materia medica*. 4:148

<sup>529</sup> Pseudo-Dioscorides. Notha in: *The Greek Herbal of Dioscorides*. John Goodyer trans. p. 541.

<sup>530</sup> Dioscorides. *De materia medica*. 4:148

<sup>531</sup> Julia Morton, *Major Medicinal Plants*. p. 63.

<sup>532</sup> Leonhart Fuchs. *De Historia Stirpium Commentarii Insignes*. 104:271

<sup>533</sup> Jacques André, *Les Noms de Plantes dans la Rome Antique*. p. 279.

<sup>534</sup> Dioscorides. *De materia medica*. 2:160

used as an aperient, astringent, stomachic, digestive, and as an alexipharmic.<sup>535</sup> One of the other reasons for the use of ginger in medicines is its oleo-resin Ginerol, which binds and holds together mucilaginous herbs intended for the colon.<sup>536</sup> This ingredient is used in recipes # 8 and 9.

From the recipes, there were 4 ingredients that were not identified. It is unknown what *Aprimon*, *Haprikon*, and *Ekron* are, and the fourth unknown ingredient is wood oil. Unfortunately, Theodoretus, in his recipe found in *The Syriac Book of Medicine*, did not identify tree, making a positive identification impossible.

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<sup>535</sup> Paulus Aegineta. *Seven Books*. 7.3.124

<sup>536</sup> John Heinerman, *The Science of Herbal Medicine*. (Utah: Bi-World Publishing, 1984), p. xiii

## CHAPTER 6

### **The Compound Pharmaceutical Recipes**

According to al-Samarqandi, a physician may want to compound simples into one drug, such as the absence of a simple for the desired goal. Compound medicines are created because of the nature of sickness and diseases, the state of the organs, and also of the drug itself.<sup>537</sup> Al-Samarqandi says that the regulations given for using the compounds is to gather the purgative drugs in a complete dose and is assembled with its correctives to reduce ill effects, to help in the easing of the condition, and preparing medicines that are gentle and flowing.<sup>538</sup> He says that “the number of purgatives is counted and it is all divided according to this number. If it has two, it becomes two parts: three, three parts . . . Each part is a complete dose.”<sup>539</sup>

Avicenna says that sometimes the compound to be chosen as purgative must have a quality corresponding to that humour to be evacuated. Because of this, scammony is needed for evacuating bilious humour. A drug which is of a different quality should be mixed with it as an adjuvant for the purgation without preventing proper evacuation.<sup>540</sup> If we want to weaken the strength of a purgative, we mix all of it with bdellium and gum Tragacanth.<sup>541</sup> Avicenna says that “Some purgative medicines are very malignant in character . . . in as

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<sup>537</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. p. 35.

<sup>538</sup> Ibid. p. 80.

<sup>539</sup> ibid. Martin Levey trans. p. 81.

<sup>540</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. 1.4.4.954

<sup>541</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. p. 81.

much as these are harmful, if they are taken and evoke bad symptoms, it is best to get rid of the medicine out of the body as soon as possible, by means of emesis or diaphoresis, and give antidotes.”<sup>542</sup>

The modern drug Celebrex®, which is used for treating the pain and inflammation of arthritis, has the warnings of risks of sometimes fatal heart problems, heart attack, stroke, and other blood vessel problems, and serious to fatal stomach and bowel problems, which include constipation, diarrhea, gas, heartburn, nausea, vomiting, along with possible yellowing of the skin or eyes, and swelling of the hands, feet, ankles, face, lips, eyes, throat, or tongue along with many other possible symptoms. This drug is only for treating the symptoms, not even curing the disease. By following the methods created by the ancient and medieval physicians, all of these side effects including death can be avoided.

The compound pharmaceutical recipe tables have been created in this manner.

The name of the ingredient given in <i>The Syriac Book of Medicine, Aqurbadhin of Al-Kindi, or The Medical Formulary of Al-Samarqand</i>	The amount of the ingredient given in <i>The Syriac Book of Medicine, Aqurbadhin of Al-Kindi, or The Medical Formulary of Al-Samarqand</i>	The amount of the ingredient converted into grams. Column created by Christopher J. Musto	The properties that the ingredients possess. Column created by Christopher J. Musto
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<sup>542</sup> Avicenna. *A Treatise on the Canon of Medicine of Avicenna*. Cameron O. Gruner trans. 1.4.9.993

**Table 1: Recipe for the creation of a purgative that expels thick phlegm and cures gout and sciatica**

Ammoniac	4 drachms	17.48 grams	Antispasmodic, emmenagogue and expectorant
Bdellium	4 drachms	17.48 grams	Thermogenic, digestive, resolvent, and stimulant
Sagapenum	4 drachms	17.48 grams	Carminative, diuretic, laxative, alexipharmic, digestive, emmenagogue, and anti-spasmodic
Aloe	4 drachms	17.48 grams	Purgative, laxative, and cathartic
Opopanax	4 drachms	17.48 grams	Antispasmodic, expectorant, laxative, deobstruent
Castoreum	4 drachms	17.48 grams	Emmenagogue, stimulant, resolvant, and antispasmodic
Seed of rue	4 drachms	17.48 grams	Alexipharmic, calefacient, ulcerative, diuretic, and emmenagogue
Euphorbium	3 drachms	13.11 grams	Emetic and cathartic
Pulp of colocynth	7 drachms	30.59 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue

The directions say to work the ingredients into a paste with the juice of fox grapes or cabbage. This recipe is to be administered as a draught and one dose is a drachm in hot water.<sup>543</sup>

In using this recipe, we can see that the creation of this purgative balances out the negative effects of toxins and other harmful side effects, which makes it a significantly more effective pharmaceutical and does less damage to the patient. In the recipe, the purgative aloe is mixed with colocynth which makes it less hurtful to the stomach. The colocynth irritates the mucus membrane and promotes the flow of bile into the intestines. The

<sup>543</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:145

sagapenum is used to prevent accidental poisoning from the use of colocynth along with castoreum and bdellium, which diminishes the strength of the colocynth. Opopanax breaks up any obstruction and allows the free flowing of secretions and excretions. The bowels move the toxins out with the help of sagapenum, aloe and opopanax. The urine, which also contains toxins, is flushed out with the help of rue and sagapenum. The sagapenum is used to prevent gas and to protect the digestive tract.

**Table 2: The recipe for the Great Hiera or *Leghudhaya*, which cures gout and sciatica.**

Colocynth	5 drachms	21.85 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue
Roasted sea-onion (squill)	2 ½ drachms	10.925 grams	Alexipharmic, laxative, and diuretic
Agarikon fungus	2 ½ drachms	10.925 grams	Cathartic, deobstruent, and emetic
Skamonia (convolvulus)	2 ½ drachms	10.925 grams	Purgative and diuretic
Black Hellebore	2 ½ drachms	10.925 grams	Hydrogogue cathartic, stimulant, emmenagogue
Ammoniac	2 ½ drachms	10.925 grams	Antispasmodic, emmenagogue and expectorant
Flowers of thyme	3 drachms	13.11 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant
Bdellium	3 drachms	13.11 grams	Thermogenic, digestive, anti-inflammatory, and stimulant
Chamadraos (Germander)	3 drachms	13.11 grams	Stimulant, diaphoretic, diuretic, spasmolytic and a weak cholagogue
Aloes	3 drachms	13.11 grams	Purgative, laxative, and cathartic
Thyme	2 drachms	8.74 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant

Table 2 (continued)

Malabathrum	2 drachms	8.74 grams	Stimulant, carmative, anti-diarrhea, and discutient
Haprikon	2 drachms	8.74 grams	Unknown
Parsion (horehound)	2 drachms	8.74 grams	Spasmolytic and sedative
Teucrium polium	2 drachms	8.74 grams	Stimulant, diaphoretic, diuretic, spasmolytic, and a weak cholagogue
Cassia	2 drachms	8.74 grams	Stomachic, diuretic, desiccant, alexipharmic, carminative, and emmenagogue
Pepper (black, long and white)	2 drachms	8.74 grams	Stomachic, digestive and carmative
Crocus (Saffron)	2 drachms	8.74 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Cinnamon	2 drachms	8.74 grams	Carmative, antispasmodic, stimulant, stomachic, and flavoring
Jackal's fat	2 drachms	8.74 grams	Carmative and constipate
Polypodium	2 drachms	8.74 grams	Purgative
Sagapenum	2 drachms	8.74 grams	Carminative, diuretic, laxative, alexipharmic, digestive, emmenagogue, and anti-spasmodic
Betonica (betony)	2 drachms	8.74 grams	Purgative, emmenagogue, and an antidote of narcotic poisoning
Myrrh	2 drachms	8.74 grams	Digestive, carmative, diuretic, stimulant, resolvent, and thermogenic
Petroselinum	2 drachms	8.74 grams	Aromatic, diuretic, and emmenagogue
Aristolochia makra	2 drachms	8.74 grams	Alexipharmical and emmenagogue
Juice of Artemisa pontica (southernwood)	2 drachms	8.74 grams	Anthelmintic, emmenagogue, and antidote of narcotic poisoning
Euphorbium	2 drachms	8.74 grams	Emetic and cathartic
Bearded grain	2 drachms	8.74 grams	Diuretic, detergent, digestive, and antidote for colocynth
Amomum gingiber	2 drachms	8.74 grams	Resolvent

Table 2 (continued)

Khemama balsam	2 drachms	8.74 grams	Diuretic, alexipharmic, and emmenagogue
Strychnus	1 ½ drachms	6.555 grams	Stomachic, laxative, cholagogue, and cathartic
Gentian	1 ½ drachms	6.555 grams	Detergent, deobstruent, diuretic, attenuant, abstergent, and emmenagogue
Honey			Detergent and cathartic

This recipe calls for the ingredients to be taken in a draught of 3 drachms of warm water and honey.<sup>544</sup>

In this recipe the purgative aloe is mixed with colocynth which makes it less hurtful to the stomach. The colocynth irritates the mucus membrane, breaks up the phlegm, and promotes the flow of bile into the intestines. The squill, bearded grain, southernwood, cassia, sagapenum, aristolochia and balsam are used to prevent accidental poisoning. The gentian, malabathrum and Agarikon fungus breaks up any obstructions and allows the free flow of secretions and excretions out of the body. Thyme, balsam, gentian, bearded grain, petroselinum, myrrh, sagapenum, teucrium polium, cassia, squill, germander and scammony are used to flush the toxins out through the urine. The use of squill, aloe, strychnus, and sagapenum flushes the toxins out through the bowels. The jackal fat and malabathrum prevents diarrhea from occurring from the use of laxatives. To counter the negative effect of slowed heart rate brought on by using thyme bdellium, malabathrum, myrrh, strychnus and

<sup>544</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:47-8

cinnamon are used to increase the rate. To counter the negative effects of the drop in temperature by the thyme and squill, the use of myrrh and bdellium increases the body temperature. The combination of aristolochia, myrrh, and the peppers flushes the remaining purgatives from the body. To prevent any type of convulsions brought about by the use of squill and strychnus, the use of sagapenum, cinnamon, teucrium polium, horehound, ammoniac, and germander are used to counter this negative effect. Thyme, cassia, saffron, strychnus, bearded grain, cinnamon and the peppers increase the appetite and the digestion of the ingredients into the body. The ingredients myrrh, sagapenum, jackal fat, cinnamon, malabathrum, thyme, the peppers, and cassia prevents gas from forming, cramping due to the purgatives, and the upsetting of the digestive tract. Bdellium is used to reduce the inflammation of the disease. The use of southernwood and betonica, which are antidotes for narcotics, and the absence of any type of pain killer would lead to the belief that the unidentified ingredient *Haprikon* is a narcotic painkiller.

**Table 3: The recipe for the Hiera Theodoretus, which is a cure for gout.**

Aloes	60 drachms	262.2 grams	Purgative, laxative, and cathartic
Agrikon fungus	24 drachms	104.88 grams	Cathartic, deobstruent, and emetic
Crocus(saffron)	6 drachms	26.22 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Rhubarb	3 drachms	13.11 grams	Hepatic, stomachic, and deobstruent
Wild spikenard	4 drachms	17.48 grams	Resolvent, analgesis, antioedema, antianaphylactic, diuretic, stomachic, hepatic, carmative, and deobstruent

Table 3 (continued)

Iris	4 drachms	17.48 grams	Purgative, emollient, and sleep agent
Colocynth	4 drachms	17.48 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue
Wood oil	4 drachms	17.48 grams	Unknown
Fruit of balsam trees	4 drachms	17.48 grams	Diuretic, alexipharmic, and emmenagogue
Koshta (costus)	8 drachms	34.96 grams	Resolvent
Ekron	6 drachms	26.22 grams	Unknown
Mastic	6 drachms	26.22 grams	Stomachic, diuretic, and emmenagogue
Wild thyme	6 drachms	26.22 grams	Diuretic, alexipharmic, and emmenagogue
Cinnamon	6 drachms	26.22 grams	Carmative, antispasmodic, stimulant, stomachic, and flavoring
Cassia	12 drachms	52.44 grams	Stomachic, diuretic, desiccant, alexipharmic, carminative, and emmenagogue
Flowers of thyme	8 drachms	34.96 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant
Bearded grain	6 drachms	26.22 grams	Diuretic, detergent, digestive, and antidote for colocynth
Chamaedrys (Germander)	8 drachms	34.96 grams	Stimulant, diaphoretic, diuretic, spasmolytic and a weak cholagogue
Meum	2 drachms	8.74 grams	Diuretic, stomachic, and emmenagogue
Pepper (long- white- black)	4 drachms	17.48 grams	Stomachic, digestive and carmative
Euphorbium	4 drachms	17.48 grams	Emetic and cathartic
Flowers of pistacia lenticus	2 drachms	8.74 grams	Stomachic, diuretic, and emmenagogue
Gentian	3 drachms	13.11 grams	Detergent, deobstruent, diuretic, attenuant, abstergent, and emmenagogue
Khemama balsam	2 drachms	8.74 grams	Diuretic, alexipharmic, and emmenagogue
Scammony	14 drachms	61.18 grams	Purgative and diuretic

Table 3 (continued)

Skimmed honey			Detergent and cathartic
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This recipe calls for the taking of 4 drachms in a draught of water in which the flowers of thyme have been infused.<sup>545</sup>

In this recipe the purgative aloe is mixed with colocynth which makes it less hurtful to the stomach. The colocynth irritates the mucus membrane, breaks up the phlegm, and promotes the flow of bile into the intestines. The balsam, cassia, bearded grain, and wild thyme are used to prevent poisoning from the use of colocynth. The gentian, spikenard, and Agarikon fungus breaks up any obstruction and allows the excretion or secretions of toxins. The use of gentian assists in the breaking and dissolving of uric crystals. The gentian, balsam, flowers of the pistacia lenticus, meum, germander, bearded grain, thyme, mastic, cassia, and spikenard are used to flush the toxins out via the urine. The spikenard prevents bloating and forces fluids from the joints. The rhubarb in combination with spikenard prevents diarrhea from the use of the laxative aloe, which flushes the toxins out through the bowels. The unidentified wood oil would most likely be used as a laxative with the aloe. The flowers of pistacia lenticus, the peppers, meum, thyme, cassia, spikenard, mastic, cinnamon, rhubarb and saffron are used to increase the digestion of the ingredients into the body. The peppers, cassia, spikenard, cinnamon and thyme are used to prevent gas and the gripping effects from the purgative, protecting the digestive tract. The honey, gentian, and bearded grain eliminate

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<sup>545</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:50-1

any leftover toxins and purgatives from the system. Germander and saffron are used to counter the negative effect on the heart by the use of thyme. The use of costus and spikenard are to decrease the inflammation caused by the disease. Saffron calms the nerves and the use of iris allows the patient to sleep. The unidentified *ekron* is most likely an ingredient from the *Convolvulus* family. This is due to the absence of a powerful purgative that heats and flushes the humour, and the use of rhubarb and spikenard, which are both hepatics and counter the negative effects produced on the liver by a substance like scammony or turpeth.

**Table 4: The recipe for pills that cure sciatica and gout.**

Euphorbium	2 drachms	8.74 grams	Emetic and cathartic
Stacte	2 drachms	8.74 grams	Digestive, carmative, diuretic, stimulant, resolvent, and thermogenic
Scammony	5 drachms	21.85 grams	Purgative and diuretic
Larch/ Agarikon fungus	5 drachms	21.85 grams	Cathartic, deobstruent and emetic
Aloe	10 drachms	43.70 grams	Purgative, laxative, and cathartic
Epithymum	10 drachms	43.70 grams	Hepatic, and diuretic
Extract or flower of absinthe	5 drachms	21.85 grams	Diuretic, cholagogue, stomachic, febrifuge, deobstruent, and emmenagogue
Bdellium	5 drachms	21.85 grams	Thermogenic, digestive, resolvent, and stimulant
Salt	1 ½ drachms	6.555 grams	Detergent, purgative, stimulant, resolvent, and carmative
Ammoniac	1 ½ drachms	6.555 grams	Antispasmodic, emmenagogue and expectorant

Table 4 (continued)

Long peppercorns	2 drachms	8.74 grams	Stomachic, digestive and carmative
Aniseed	4 drachms	17.48 grams	Diuretic, analgesis, and constipate
Spikenard	10 drachms	43.70 grams	Resolvant, analgesis, antioedema, antianaphylactic, diuretic, stomachic, hepatic, carmative, and deobstruent

This recipe calls for the making of the ingredients into pills the size of peppercorns with the extract of cabbage. One dose is 10 pills with hot water.<sup>546</sup>

The aloe and scammony are the main purgatives in this recipe. The peppercorns, spikenard, bdellium, stacte, and absinthe increase the digestion of the ingredients into the body. The Agarikon fungus and absinthe break up the obstructions and allow flowing of the secretions and excretions. The aniseed, spikenard, stacte, scammony, and absinthe flush the toxins out by the urine. The aloe, euphorbium, and stacte flush the toxin out of the body through the bowels. The aniseed is used to prevent diarrhea from occurring and restores the digestive tract back to normal after treatment. The stacte, salt, the pepper, and spikenard prevent gas and protect the digestive tract from the gripping pains from the use of purgatives. The aniseed and spikenard are used as mild pain relievers. The bdellium, salt, stacte, and spikenard reduce the inflammation from the disease.

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<sup>546</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:424

**Table 5: The recipe for the prescription by Theodoretus that cures gout.**

Agarikon fungus	16 drachms	69.92 grams	Cathartic, deobstruent, and emetic
Crocus (Saffron)	6 drachms	26.22 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Akron	6 drachms	26.22 grams	Diuretic and antispasmodic
Mastic	6 drachms	26.22 grams	Stomach, diuretic, and emmenagogue
Cinnamon	6 drachms	26.22 grams	Carmative, antispasmodic, stimulant, stomachic, and flavoring
Bearded grain	6 drachms	26.22 grams	Diuretic, detergent, digestive, and antidote for colocynth
Rhubarb	4 drachms	17.48 grams	Hepatic, stomachic, and deobstruent
Oil of balsam	4 drachms	17.48 grams	Diuretic, alexipharmic, and emmenagogue
Balsam berries	4 drachms	17.48 grams	Diuretic, alexipharmic, and emmenagogue
Euphorbium	4 drachms	17.48 grams	Emetic and cathartic
Pepper (long, black, and white)	4 drachms	17.48 grams	Stomachic, digestive and carmative
Gentian	4 drachms	17.48 grams	Detergent, deobstruent, diuretic, attenuant, abstergent, and emmenagogue
Chamaedrys	8 drachms	34.96 grams	Stimulant, diaphoretic, diuretic, spasmolytic and a weak cholagogue
Koshta (costus)	12 drachms	52.44 grams	Resolvent
Aprimon	12 drachms	52.44 grams	Unknown
Meum	2 drachms	8.74 grams	Diuretic, stomachic, and emmenagogue
Flowers of the pistacia lenticus	2 drachms	8.74 grams	Stomachic, diuretic, and emmenagogue
Scammony	14 drachms	61.18 grams	Purgative and diuretic
Aloe	60 drachms	262.2 grams	Purgative, laxative, and cathartic

This recipe calls for the taking of 4 drachms in a draught of water where the flowers of thyme have been infused.<sup>547</sup>

In this recipe, the aloe and scammony are the main purgatives. The flowers of the pistacia lenticus, meum, the peppers, rhubarb, cinnamon, mastic, and saffron increase the digestion of the ingredients into the body. Agarikon fungus, rhubarb and gentian break up the obstructions and allow the flowing of secretions and excretions. Akron, mastic, flowers of the pistacia lenticus, meum, chamaedrys, gentian, balsam, and bearded grains are used to flush the toxins out of the body through the urine. The aloe is used to flush toxins out by the bowels. Cinnamon is used to protect the digestive tract and prevents gas. The rhubarb is used to protect the liver from the negative effects of using scammony. Chamaedrys, saffron, and cinnamon are used to raise the heart rate and body temperature, which counters the negative effects of thyme. The unidentified Aprimon is most likely a substance like colocynth or colchicum because of the bearded grain and balsam, which are used to counter the toxic effects of such a substance, and in this recipe no toxic ingredients are found. There are also ingredients that control spasms and convulsions and there are no ingredients that would induce this effect in this recipe, which also leads to the belief that the unidentified ingredient is like colocynth or colchicum.

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<sup>547</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:51-2

**Table 6: The recipe for the pills for gout for which the recipe is attributed to Galen.**

Flowers of thyme	16 drachms	69.92 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant
Colocynth	16 drachms	69.92 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue
Agarikon fungus	10 drachms	43.70 grams	Cathartic, deobstruent, and emetic
Aloe	48 drachms	209.76 grams	Purgative, laxative, and cathartic
Bearded grain	4 drachms	17.48 grams	Diuretic, detergent, digestive, and antidote for colocynth
Koshta/ costus	4 drachms	17.48 grams	Resolvent
Fruit of incense plants	4 drachms	17.48 grams	Stimulant, anti-inflammatory, astringent, antispasmodic, detergent, stomachic, emmenagogue and a carmative.
Flowers of the pistacia lenticus	4 drachms	17.48 grams	Stomachic, diuretic, and emmenagogue
Scammony	4 drachms	17.48 grams	Purgative and diuretic
Crocus (Saffron)	4 drachms	17.48 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Cassia	6 drachms	26.22 grams	Stomachic, diuretic, desiccant, alexipharmic, carminative, and emmenagogue

In order to create these pills, the ingredients need to be pounded together and mixed with the juice of fox grapes, and then made into pills. One should then administer I drachm in hot water.<sup>548</sup>

In this recipe, the colocynth is mixed with aloe to make it less hurtful to the stomach. The colocynth irritates the mucus membrane and promotes the flow of bile into the intestines.

<sup>548</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:53

The bearded grain and cassia is used to prevent any accidental poisoning from the use of colocynth. The Agarikon fungus is used to break up any obstructions and allows the free flowing of the secretions and excretions. The bowels move the toxins out with the help of scammony, costus, and aloe. The urine, which also contains toxins are flushed out with the help of flowers of thyme, flowers of pistacia lenticus, scammony, cassia and the bearded grains. Digestion is improved by the use of the flowers of thyme, cassia, crocus, flowers of pistacia lenticus and the fruit of incense plants. To prevent any seizures, the fruit of incense plants is used, and crocus is used to calm the nerves allowing the patient to rest.

**Table 7: The recipe for the Hiera of Archigenes, which is a cure for sciatica.**

Colocynth	12 drachms	52.44 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue
Horehound	2 ounces	.0706 grams	Spasmolytic and sedative
Strychnus	2 ounces	.0706 grams	Stomachic, laxative, cholagogue, and cathartic
Black hellebore	2 ounces	.0706 grams	Hydrogogue cathartic, stimulant, and emmenagogue
Scammony	2 ounces	.0706 grams	Purgative and diuretic
Pepper- (long and white)	2 ounces	.0706 grams	Stomachic, digestive and carmative
Roasted sea-onions (squill)	1 ounce	.0353 grams	Alexipharmic, laxative, and diuretic
Euphorbium	1 ounce	.0353 grams	Emetic and cathartic
Aloes	1 ounce	.0353 grams	Purgative, laxative, and cathartic
Crocus (Saffron)	1 ounce	.0353 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Gentian	1 ounce	.0353 grams	Detergent, deobstruent, diuretic, attenuant, abstergent, and emmenagogue

Table 7 (continued)

Petroselinum (stone parsley)	1 ounce	.0353 grams	Aromatic, diuretic, and emmenagogue
Ammoniac	1 ounce	.0353 grams	Antispasmodic, emmenagogue and expectorant
Opopanax	1 ounce	.0353 grams	Antispasmodic, expectorant, laxative, deobstruent
Teucrium polium	2 drachms	8.74 grams	Stimulant, diaphoretic, diuretic, spasmolytic, and a weak cholagogue
Cinnamon	4 drachms	17.48 grams	Carminative, antispasmodic, stimulant, stomachic, and flavoring
Fennel	2 drachms	8.74 grams	Carminative
Myrrh	2 drachms	8.74 grams	Digestive, carminative, diuretic, stimulant, thermogenic, and resolvent
Bearded grain	2 drachms	8.74 grams	Diuretic, detergent, digestive, and antidote for colocynth
Flowers of the pistacia lenticus tree	2 drachms	8.74 grams	Stomachic, diuretic, and emmenagogue
Wild marjoram	2 drachms	8.74 grams	Stomachic, diuretic, diaphoretic and emmenagogue
Aristolochia makra	2 drachms	8.74 grams	Alexipharmical and emmenagogue
Honey			Detergent and cathartic

This recipe calls for the taking of 4 drachms in a draught of water in which thyme has been infused.<sup>549</sup>

This recipe is used if the sciatica is derived from phlegm. The colocynth irritates the mucus membrane and promotes the flow of bile into the intestines. The toxicity of the colocynth is countered with the bearded grains. The aristolochia and squill prevent any accidental poisoning. Gentian and opopanax are used to break up any obstructions and allows the secretions and excretions to flow freely. The squill, myrrh, bearded grain,

<sup>549</sup> *The Syriac Book of Medicine*. Earnest A. Wallis Budge trans. 2:49-50

marjoram, teucrium polium, thyme, and gentian are used to help flush the toxins out through the urine, and the opopanax, strychnus and squill are used to flush out the bowels. The use of marjoram, flowers from the pistacia lenticus, cinnamon, crocus, peppers, and strychnus helps the stomach, prevents vomiting brought on by the use of thyme, aids in digesting the ingredients, and counters the negative effects of scammony. The recipe calls for the use of cinnamon, teucrium polium, horehound, ammoniac, and opopanax which are used for preventing spasms and other seizure type reactions brought about by the use of squill and strychnus. The horehound would allow the patient to sleep and the crocus would calm the nerves. The combination of myrrh, aristolochia and pepper flushes the leftover purgatives from the body. The use of strychnus and black hellebore counters the negative effects of thyme by speeding up the heart rate.

**Al-Kindi's weights and measurements- used in 9<sup>th</sup> century Baghdad.<sup>550</sup>**

1 *daniq*- 0.55 grams  
1 *carat*- 0.223 grams  
1 *dirham*- 3.125 grams  
1 *mithqal*- 4.46 grams  
1 *awqiya*- 33.8 grams  
1 *istar*- 19.5 grams  
1 *ratl*- 406.25 grams  
1 *mudd*- 502 grams  
1 *duraq*- 1827 grams

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<sup>550</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 25

**Table 8: The recipe for Al-Kindi's 'drug for the spirits,' and cure for gout and arthritis.**

Colchicum	12 mithqals	53.53 grams	Purgative, anti-inflammatory, and phlegmagogue
Leaf of Meccan henna	1 mithqal	4.46 grams	Astringent, emmenagogue, and anti-diarrhea
Caper leaf	1 mithqal	4.46 grams	Laxative, diuretic, emmenagogue, and stomachic
Pepper	1 mithqal	4.46 grams	Stomachic, digestive and carmative
Long pepper	1 mithqal	4.46 grams	Stomachic, digestive and carmative
Cinnamon	1 mithqal	4.46 grams	Carmative, antispasmodic, stimulant, stomachic, and flavoring
Indian cumin	1 mithqal	4.46 grams	Diuretic and carminative
Ginger	1 mithqal	4.46 grams	Aperient, astringent, stomachic, digestive, and alexipharmic
Dry Storax	¼ mithqal	4.46 grams	Calefacient, emollient, resolvent, and digestive
Cuttlefish bone	¼ mithqal	1.115 grams	Detergent
Sal ammoniac (fossil salt)	¼ mithqal	1.115 grams	Detergent, purgative, stimulant, solvent, and carmative
Salt	¼ mithqal	1.115 grams	Detergent, purgative, stimulant, solvent, and carmative

The ingredients of this recipe are pulverized and kneaded with honey. One dose is 5 dirhams (15.625 grams), which is taken with food.<sup>551</sup>

In this recipe by Al-Kindi, he uses colchicum instead of colocynth. The colchicum is counterbalanced by the use of ginger to prevent accidental poisoning. The salts and dry storax are used to decrease the toxicity. The use of cuttlefish bone and the salts help flush

<sup>551</sup> Al-Kindi. *Medical Formulary or Aqurbadhin of Al-Kindi*. Martin Levey trans. p. 210.

the colchicum out of the body after it has served its purpose. The use of caper leaves, long and black pepper, cinnamon, and ginger helps the digestive system maintain its regularity, with the caper leaf activating the bowels. One of the problems with the use of colchicum is its actions on the bowels allows them to act too freely, so the use of henna leaves are used to prevent diarrhea. Another problem with the use of colchicum is the decrease in the heart rate, so the use of cinnamon is used to regulate the heart, and it is used to prevent spasms and strokes.

Al-Samarqandi has given many reasons for compounding drugs. He says that the offensive taste of an ingredient must be countered with one which can improve the taste. An ingredient must be added to prevent harm by the original drug as in the use of correctives with purgatives. He says to use an ingredient that may have the power of keeping the original strength of an important drug for a long time. It is Al-Samarqandi's view that "usually a drug to dissolve a tumor (or in the case of gout, the uric crystals) and one to ease the symptoms are compounded together in a remedy, and the excessive strength of a drug may be taken care, for example, by mixing it with turpeth."<sup>552</sup>

#### **Al-Samarqandi's weights and measurements.**<sup>553</sup>

1 *tassuj* is 1/24 of a *dirham* or .179 grams

1 *dirham* is 4.296 grams

1 grain is .0895 grams

1 *daniq* is .716 grams

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<sup>552</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. Martin Levey trans. p. 36-7.

<sup>553</sup> Ibid. p. 49

1 *istar* is 6.5 *dirhams* or 28 grams  
 1 *qirat* is 4 grains or .3580 grams  
 1 ounce is 1/12 *ratl* or 34.63 grams

**Table 9: The recipe for Al-Samarqandi's electuary of Colchicum.**

White colchicum	6 dirhams	25.7 grams	Purgative, anti-inflammatory, and phlegmagogue
Orchis (Orchid)	2 dirhams	8.59 grams	Demulcent, nutritive, and astringent
Juice of mizamiraj	2 dirhams	8.59 grams	Antioedema and a vomitive
Caper root rind	2 dirhams	8.59grams	Laxative, diuretic, emmenagogue, and stomachic
Cumin	2 dirhams	8.59 grams	Diuretic and carminative
Indian leadwort	2 dirhams	8.59 grams	Diuretic and astringent
Yellow myrobalm rind	7 dirhams	30.0 grams	Anti-diarrhea, anti-vomiting, alexipharmic, and stimulant
Celery seed	1 ½ dirhams	6.44 grams	Diuretic, alexipharmic, and carminative
Fennel seed	1 ½ dirhams	6.44 grams	Carminative
White pepper	1 ½ dirhams	6.44 grams	Stomachic, digestive and carminative
Thyme	1 ½ dirhams	6.44 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant
Indian salt	1 ½ dirhams	6.44 grams	Detergent, purgative, stimulant, resolvent, and carminative
Henna leaves	1 ½ dirhams	6.44 grams	Astringent, emmenagogue, and anti-diarrhea
Jellyfish ( <i>pulmo marinus</i> )	1 ½ dirhams	6.44 grams	unknown
Red rose	3 dirhams	12.88 grams	Stomachic and hepatic
Sesame	3 dirhams	12.88 grams	Emollient, laxative, demulcent, diuretic, and styptic

Table 9 (continued)

White turpeth	5 dirhams	21.48 grams	Purgative, phlegmagogue, and cathartic
Ginger	3 dirhams	12.88 grams	Aperient, astringent, stomachic, digestive, and alexipharmic
Scammony	3 dirhams	12.6 grams	Purgative and diuretic
Honey	150 dirhams	630.0 grams	Detergent and cathartic
Almond oil	1 istar	28.0 grams	anti-inflammatory and painkiller

This electuary is compounded with purgatives especially for pains in the joints. The dose is 1 istar (28 grams) with hot water.<sup>554</sup>

In this recipe, Al-Samarqandi uses colchicum and counterbalances it with the turpeth to decrease the strength. The use of ginger, yellow myrobalm rind, and celery seed are used to prevent accidental poisoning. The salt and honey help flush the colchicum out of the body after it has served its purpose, and the use of leadwort, sesame, celery seed, scammony, thyme, caper and cumin flush the toxins (excess colchicum and uric crystals) out by the urine. The use of thyme also disinfects the urinary tract of any remaining toxins. The yellow myrobalm rind and henna serve to prevent diarrhea from occurring, the honey and turpeth flush the bowels, and the caper root rind and sesame allow the bowels to return to their normal functions. The salt, cumin, celery seed, fennel seed, and pepper are used to stop pains in the digestive tract, gas, and prevent irritated bowels. The yellow myrobalm rind and salt is used to increase the heart rate. The use of almond oil and salt decreases the

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<sup>554</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. Martin Levey trans. p. 75.

inflammation, and the almond oil eliminates the pain so the patient can rest and heal faster.

Ginger is used to improve the taste of the turpeth.

**Table 10: The Recipe for Al-Samarqandi’s pill for pain in the joints.**

Turpeth	1 dirham	4.2 grams	Purgative, phlegmagogue, and cathartic
Colchicum	1 dirham	4.2 grams	Purgative, anti-inflammatory, and phlegmagogue
Orchis	2 daniqs	1.432 grams	Demulcent, nutritive, astringent
Shiramaraj juice	2 daniqs	1.432 grams	Antioedema and a vomitive
Indian salt	1 ½ daniqs	1.074 grams	Detergent, purgative, stimulant, resolvent, and carmative
Scammony	1 daniq	0.716 grams	Purgative and diuretic
Lesser cardamom	1 daniq	0.716 grams	Carmative and stomachic
Red rose	1 daniq	0.716 grams	Stomachic and hepatic
Mastix (Mastich or Mastick)	1 daniq	0.716 grams	stomachic, diuretic, and an emmenagogue
Bdellium	2 daniqs	1.432 grams	Thermogenic, digestive, resolvent and stimulant

There are no directions on how to take this pill or the dosage.<sup>555</sup>

This recipe also uses colchicum as the main ingredient with turpeth to diminish the strength.

When using colchicum, one of the side effects is a drop in temperature due to decreased heart rate. To counter this effect, Al-Samarqandi uses bdellium to increase the temperature and increase the heart rate. The use of mastich, rose, and cardamon prevents vomiting, protects the stomach and increases absorption of the ingredients. The use of roses is to protect

<sup>555</sup> Najib al-Din Muhammad ibn Ali Samaqandi. *The Medical Formulary of Al-Samarqand*. Martin Levey trans. p. 83.

damage to the liver. The turpeth and colchicum break up the phlegm and with the help from salt; they flush the toxins from the affected part of the body into the urine and bowels.

Scammony and mastich are used to flush the toxins out of the body through the urine. The cardamon and salt are used to prevent gas, and for preventing pain and upset in the digestive tract. Colchicum is also used to diminish the inflammation of the affected part. Bdellium is used to lessen the horrible taste of the turpeth.

**Table 11: The recipe for the Compounded Hiera, which is a cure for gout, arthritis and sciatica.**

Colocynth pulp	5 dirhams	15.625 grams	Purgative, hydragogue cathartic, astringent, phlegmagogue, and cholagogue
Burnt sea-onion (squill)	4 ½ dirhams	14.0625 grams	Alexipharmic, laxative, and diuretic
Agaric (Agarikon fungus)	4 ½ dirhams	14.0625 grams	Cathartic, deobstruent, and emetic
Scammony	4 ½ dirhams	14.0625 grams	Purgative and diuretic
Black hellebore	4 ½ dirhams	14.0625 grams	Hydrogogue cathartic, stimulant, emmenagogue
Gum ammoniac	4 ½ dirhams	14.0625 grams	Antispasmodic, emmenagogue and expectorant
Wild thyme	4 ½ dirhams	14.0625 grams	Diuretic, alexipharmic, and emmenagogue
Cretan cuscuta (epithymum)	3 dirhams	9.375 grams	Purgative, anthelmintic, hepatic, astringent, and carmative
Germander	3 dirhams	9.375 grams	Stimulant, diaphoretic, diuretic, spasmolytic and a weak cholagogue
False bdellium	3 dirhams	9.375 grams	Diuretic, emmenagogue, good for convulsions, and carmative
Socotran aloe	3 dirhams	9.375 grams	Purgative, laxative, and cathartic

Table 11 (continued)

Thyme	3 dirhams	9.375 grams	Expectorant, stomachic, carminative, diuretic and urinary disinfectant
Indian nard (Spikenard)	3 dirhams	9.375 grams	Resolvant, analgesis, antioedema, antianaphylactic, diuretic, stomachic, hepatic, carmative, and deobstruent
Horehound	3 dirhams	9.375 grams	Spasmolytic and sedative
Cassia	3 dirhams	9.375 grams	Stomachic, diuretic, desiccant, alexipharmic, carminative, and emmenagogue
Black, white, and long pepper	3 dirhams of each	9.375 grams of each	Stomachic, digestive and carmative
Saffron	3 dirhams	9.375 grams	Nerve sedative, stimulant, stomachic, and emmenagogue
Chinese cinnamon	3 dirhams	9.375 grams	Carmative, antispasmodic, stimulant, stomachic, and flavoring
Opopanax	3 dirhams	9.375 grams	Antispasmodic, expectorant and laxative
Sagapenum	3 dirhams	9.375 grams	Carminative, diuretic, laxative, alexipharmic, digestive, emmenagogue, and anti-spasmodic
Castoreum	3 dirhams	9.375 grams	Emmenagogue, stimulant, resolvant, and antispasmodic
Myrrh	3 dirhams	9.375 grams	Digestive, carmative, diuretic, stimulant, thermogenic, and resolvent
Extract of Absinthium	3 dirhams	9.375 grams	Diuretic, cholagogue, stomachic, febrifuge, deobstruent, and emmenagogue

The recipe calls for the ingredients to be pulverized, sieved, and then mixed with 3 times its weight of frothy honey. One dose is 4 mithqals (17.84 grams) and used four months after its preparation.<sup>556</sup>

<sup>556</sup> Martin Levey, *Early Arabic Pharmacology*. (Leiden: E.J. Brill, 1973), pp. 85-6

Colocynth is the main ingredient to remove the excessive phlegm from the body. The purgative aloe is mixed with colocynth which makes it less hurtful to the stomach. Thyme, squill, cassia, and sagapenum are used to prevent accidental poisoning. Absinthium, cinnamon, the peppers, saffron, cassia, spikenard and thyme are used to increase the digestion of the ingredients into the body. The Agarikon fungus, absinthium, and spikenard are used to break up any obstruction and allow the free flowing of secretions and excretions. Absinthium, myrrh, sagapenum, cassia, spikenard, germander, thyme, bdellium, squill, and scammony are used to flush the toxins out through the urine. Sagapenum, aloe, opopanax and squill are used to flush the toxins out through the bowels. Myrrh, sagapenum, cassia, cinnamon, the peppers, spikenard, bdellium, thyme and cuscuta are used to prevent gas and protect the digestive tract. The spikenard flushes the excess fluids from the joints and prevents edema from occurring. Castoreum, opopanax, gum ammoniac, cinnamon, and sagapenum are used to prevent spasms, and the bdellium and spikenard are used to prevent major convulsions from the use of squill. Castoreum is used to counter the negative effects of the hellebore. The hellebore, castoreum, saffron and germander raise the blood pressure, and myrrh controls the body temperature, which counters the negative effects from the use of squill and thyme. Spikenard and cuscuta counters the negative effects on the liver from the use of scammony.

## CHAPTER 7

### **Conclusion**

In the modern era the European west discontinued using many of the compound pharmaceuticals and simples. In the eighteenth century, some uses of the simples were put back into practice, but in a different method of delivery.

The *Eau medicinale*, which was called a secret remedy for gout, was founded in 1770 by a French army officer named Nicolas Husson. About this compound, a modern researcher, W.A. Cambell wrote: *Eau medicinale* “has most fortunately been discovered to be a specific remedy for the cure of gout . . . that this medicine is a vinous infusion of the *Colchicum autumnale* . . . that medicines injected directly into the circulating system produce in general the same effects as when taken into the stomach.”<sup>557</sup> By Cambell’s statement, it is obvious that the physicians were still using some of the ancient ingredients such as colchicum for the treatment of gout, but the uses of the compound pharmaceuticals was declining in the Western world but are still used in parts of the Arab world, India, and the Far East.

The symptoms of gout appear to be the same now as then. The patient suffers from pain in the feet. In some cases, besides the pain, a burning sensation may also be present.

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<sup>557</sup> W. A. Cambell, “Some Early Chemical Analyses of Proprietary Medicines.” *Isis* Vol. 69 No.2 June 1978. pp. 226-33, at p. 230.

The ancient and medieval physicians found that a chalk-like substance (*tophi*) is present in the joints of those who suffer from this disease, which is a main symptom of gout. The identification of arthritis is more difficult to determine. As we have seen, the usage of many terms over many centuries to identify the symptom such as *podagra*, which could be either gout or arthritis of the feet; or the term gouty arthritis, which also could be either disease. For the identification of sciatica, the description of the disease from multiple physicians gave an accurate account of how the disease makes the patient suffer. This suffering could include burning pain for a long time period and the possibility of making the patient lame due to extended bed-rest.

The ancient and medieval physicians had many theories on what caused these diseases, but most theories revolve around the imbalance of humours. According to the humoral imbalance, phlegm and bile are the two main culprits and their imbalance is due to excess of food, alcohol, and the lack of exercise. In addition, the initial stage for gout and arthritis starts to attack males at or above puberty, and for females it mainly begins striking around at an age of menopause.

For the treatments of these diseases, the physicians had a complete regimen, which they preferred to start as soon as the disease began because they had a better chance of a total cure than when a disease that had set in for a long time. These treatments could be a simple drug taken internally or it could be an ingredient that is applied as a plaster to relieve the symptoms of the disease. The remedy could be a compound pharmaceutical that would

alleviate the pain and stiffness, put the patient in a better state of mind, and eliminate the disease with speed. If the disease had set in, the physician still had the option of cauterization, which would eliminate the pain and would allow the motion of their limbs to return. As with any treatment, the right types of foods at the appropriate times was necessary along with movement of the affected limb to prevent atrophy was required.

Of all the single ingredients used for gout, sciatica, and arthritis, St. John's Wort is the only one that is said to be a cure by Dioscorides for sciatica. For Pliny's remedies, the immersion of the affected part into sharp vinegar is recommended as a last resort treatment, but he says that *laser*, which is concocted from *silphium* is a great medication option for those who can be cured. One possible reason for so many ingredients that have similar properties and used as the same remedy is the availability of one plant over another due to the region or growing/ harvest season of the ingredient.

We can judge the effectiveness only in a limited number of simples and still fewer compound medicines, but still we find examples of what to us is rational use. As we have seen at least in theory, these compound pharmaceuticals cure with out all of the negative side effects that a single ingredient drug such as colchicum or modern drug variations possess. Our examination of compound pharmaceuticals and the writings of the ancients of what they thought caused the disease; we postulate that the cause of arthritis and gout was identified within their system. Probable hormone imbalance of estrogen and progesterone was the nexus in applying drug therapy. Although the ancient and medieval physicians did not know

what hormones were, through their trial and errors of two thousand years of clinical practice, they perfected in theory the best cures to use and which ingredients work best with others.

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## GLOSSARY

**Abstergent.** A purgative; having cleansing or purging properties.

**Alexipharmical.** An agent that serves as an antidote.

**Analgesis.** An agent that relieves pain by altering perception of nociceptive stimuli without the loss of consciousness.

**Antianaphylactic.** An agent that is used to lessen the sensitivity to foreign protein or materials in order to prevent shock.

**Antioedema.** An agent that prevents the accumulation of excess fluid in the cells, tissues, or serous cavities.

**Antiphlogistic.** An agent that works on the cellular level as an anti-inflammatory.

**Antispasmodic.** An agent that prevents convulsions or the spasms of the muscles.

**Aperient.** A laxative or mild cathartic.

**Astringent.** An agent that causes contraction of the tissues, arrest of the secretion, or the control of bleeding.

**Attenuant.** To dilute; to make thinner; to reduce the virulence of a pathogenic microorganism; to reduce or weaken.

**Calefacient.** An agent causing a sense of warmth to the part to which it is applied.

**Carmative.** An agent that dispels flatulence and eliminates gripping pains of the stomach and bowels.

**Cathartic.** An agent that causes the active movement of the bowels.

**Caustic.** A corrosive; to burn, or an agent that produces this effect.

**Cholagogue.** An agent that promotes the flow of bile into the intestines, especially as a result of contraction of the gallbladder.

**Constipate.** An agent that causes sluggishness in the actions of the bowels.

Deobstruent. An agent that removes an obstruction to secretion or excretion.

Desiccant. An agent that absorbs moisture.

Detergent. A cleansing or purging agent.

Diaphoretic. An agent that increases the secretion of sweat.

Digestive. An agent that aids in digestion.

Diluent. An agent that dilutes the strength of a mixture or solution.

Discutient. An agent that is used in cases of inflammatory swelling, and has the power to draw matter away from the affected part, and is astringent in action.

Diuretic. An agent that increases the amount of urine.

Emollient. An agent that soothes irritation of the mucus membrane.

Emmenagogue. An agent that induces or increases menstruation.

Hepatic. Relating to the liver.

Hydrogogue. A purgative that removes accumulations of water and causes an abundant watery discharge.

Laxative. A remedy that moves the bowels slightly without pain or violent action.

Mucilage. An agent that is used as a soothing application to the mucous membranes and in the preparation of official and extemporaneous mixtures.

Resolvent. An agent that arrests an inflammatory process.

Stimulant. An agent that arouses organic activity, strengthens the actions of the heart, increases vitality, and promotes a sense of well-being.

Stomachic. An agent that improves the appetite and digestion.

Styptic. An astringent hemostatic agent that stops the flow of blood.

Thermogenic. The production of heat, specifically the physiologic process of heat production in the body.

Ulcerative. Relating to, causing, or marked by an ulcer or ulcers.

Vomitiv. An emetic; an agent that causes vomiting.