

Plant Series, No. 8. Manuscript MS408. Portfolio 5, Right (JPEG 011).**Gerard E. Cheshire.****Abstract.**

The plants individually described in Manuscript MS408 have all been identified as species from the environs of the Mediterranean Basin, in accordance with the location of origin for the manuscript. This series of papers presents each plant species separately with a translation of its accompanying text and any relevant cross-reference information. In addition to the linguistic value, there is plenty of historical, cultural and scientific knowledge to be gleaned from each of these manuscript pages, so they will be of interest to scholars from various disciplines.

Manuscript MS408 originates from Castello Aragonese, Ischia. It was written as an *aide-memoire* for Maria of Castile, Queen of the Crown of Aragon, c. 1444, whilst her husband, Alfonso V, was conquering the City of Naples. The manuscript remained in the castle library until 1912 when the citadel was sold into private hands by the Italian government and its contents were removed and traded off. Two years later the document found its way out of Italy and the nation unknowingly lost an important part of its heritage.

Within the manuscript there is a series of illustrations of medicinal herbal plants with accompanying text. This project identifies the plant species and translates the text to reveal the information imparted by the author and artist of each entry. The algorithmic method, of priority array queuing, was used to translate and identify the words in the text, as described in the following paper: <https://ling.auf.net/lingbuzz/004653> The method takes Latin as the principal source, with Old and Modern Romance as the secondary and tertiary sources. We can see that the language is placed somewhere between Latin and Romance in linguistic evolutionary terms: i.e. it is a vestigial form of prototype Romance.

Palaeography from historic languages and writing systems is never an exact science, especially when both are unfamiliar, but the subsequent transliterations into English phrasing provide adequately legible intention of meaning. In addition, many of the words are unambiguous in their Latin root and the text cross-references with botanical and medicinal information about the plants described in the images, so serving to verify the methodology.

The plant images are naïvely and inaccurately drawn and coloured, as the artist was untrained and should be viewed as simplified cartoon representations rather than anatomical illustrations. The images also focus on the relevant medicinal or culinary parts of the plants, so that the specimens are often incomplete, disproportionate, unscaled and shown in varying stages of development from young seedlings to mature plants in seed. A few of the images also contain additional pictorial information or annotations to highlight particular points for identification.

Some of the plants would have been grown in the physic and vegetable gardens of Castello Aragonese or else collected from Ischia island. Others would have been purchased from herbal plant suppliers travelling from mainland Europe, as dead specimens collected in the field and preserved by desiccation. Tinctures and essential oils would also have been available for purchase. It is apparent that the illustrations essentially function in substitution for the plant names, simply because scientific names were not yet conceived, and common names would have varied regionally. So the combination of visual and written information was intended to enable the reader to identify the species and use them for medicine or food accordingly.

Plant Species.**Herb Paris. *Paris quadrifolia*.**

The manuscript image has a revealing detail that immediately surrenders the name of the plant. The berry has been given eyelids, complete with eyelashes, to resemble an eye looking upwards towards heaven (See Fig. 1). This instructs us that the opening phrase *læona* should be punctuated *l'æo'na* (the eye here). The word *æo* is a phonetic variant of *illo* which is an Old Latin word for eye, derived from the Greek *ιλλος* or *ΙΛΛΟΣ* (*illos*: the eye) – *æo* and *illo* are thus pronounced similarly. We have record of *ιλλος* (eye) from Aristophanes (c.446—c.386 BC) as reported in *Lexicon Aristophanicum*, 1754, by James Sanxay (1690—1768).

Other Romance variants from this same linguistic root for eye include olho (Portuguese), ollo (Old Portuguese, Galician), ojo (Spanish), uello (Aragonese), uèlh (Occitan), olh (Old Occitan) œil, oeil (French), uel (Old French), ull (Catalan), uélh (Gallo). The words for eyelet ilhó (Portuguese), illó (Galician) are similar. There is also the word ayo/aio, which is Portuguese and Spanish for someone who watches over, who keeps an eye on, looks over the shoulder, who guides, who tutors, who oversees. This is why the centre of the eye is known as the pupil (pupila in Portuguese and Spanish), as it was viewed as a ward of the ayo/aio/œo (eye) in the Medieval.

The word na (in, at, on, here) is an abbreviation of the Iberian ena (en-a: in-the). The word qué, means that, which, what in Iberian. The phrase élo'a may be a variant of the Spanish 'heló a': to cool, to chill, to frost: originally from the Latin gelō (I freeze). Thus, the sentence l'œo'na qué'oa élo'a means 'the eye here that is to cool'. Thus, in transliteration, the manuscript name for the plant is The Eye to Cool, The Eye to Sooth, or something similar. As we shall see, the plant has long been associated with its cooling effect on the fevered body and its berry has long been zoomorphized as an eyeball.

There is a second and equally feasible translation, with éloa simply deriving from the Hebrew word for god: אלה - Éloah. The word Éloa, for God, existed in Old Portuguese and still exists in Brazilian Portuguese, in which case the phrase l'œo'na qué'oa éloa means 'the eye here that is to god'. Thus, the manuscript name for the plant is The Eye to God, The Eye to Christ, or similar, which has much the same connotation. So, either way, the berry portrayed as an eye symbolized perceived holy medicinal protection from the plant in the Medieval mindset, by looking upwards towards heaven and towards the Christian god for divine assistance.

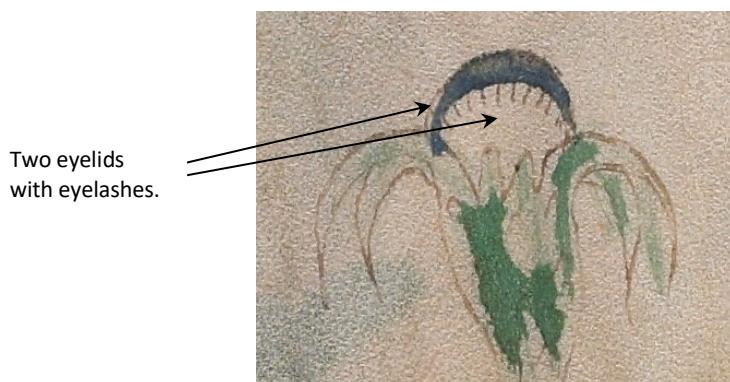


Figure 1. Detail of the manuscript illustration, depicting the berry as an eye (œo, illo), looking upward to heaven, complete with two eyelids, one in front and one behind, and eyelashes.

The believed holiness of the plant was reinforced by its cruciform sepal and leaf whorls, each forming the Cross Vert (Green Cross) which was associated with Lazarus of the Four Days, who was resurrected when Jesus wept over his body and a tear from his eye caused the miracle of returned life after four days of death. Other contemporaneous manuscript images show this symbolism (See Figs. 8 & 11). Here, in the manuscript, the plant is shown realistically with its leaves beginning to curl and turning various shades of yellow-green as the plant is seen in autumn when the berry is ripe (See Fig. 6). It is worth adding that, although the plant usually has four leaves, there is frequent variation in leaf number, from three to eight leaves. The specimen shown in the manuscript may appear to be atypical in this regard, but it probably had the usual four leaves, with each divided into two lobes, only the artist has accidentally drawn nine lobes instead of eight (See Fig. 5)

A second zoomorphism is seen in the manuscript image of the root system. In addition to producing seeds in the berry, the plant propagates below ground by spreading horizontal rhizomes, which send out oblique and tapering new shoots (See. Fig. 3). These were thought to resemble the tails of scorpions, which made sense to the Medieval mind because the rhizomes were the most potent part of the plant, with potentially lethal doses of poison. So, the manuscript image shows the roots depicted as four scorpion tails, with a telson (venom bulb) and sting at each end (See. Fig. 2).

Italian scholar, Pietro Andrea Mattioli (1501—77), described the plant thus, in his *Medici Commentarii* of 1554: "un'erba che produceva tres o quattro fogli simili a quelle del panporcino ovvero del cocomero, ma minori e

pelosette, il fusto alto una spanna, e la radice simile alla coda d'uno scorpione" (a herb that produces three or four leaves similar to those of the cyclamen or the watermelon, but smaller and slightly downy, the stem high in span, and the root similar to the tail of a scorpion).

Mattioli used the name Thora for the plant, which is taken from Greek (Phthora: φθορά) for decay, corruption, death. In *Phytologia*, 1666, by Giacinto Ambrosini (1605—1672), the plant is named variously as Thora venenata (Thora poisonous), Thora Valdensis (Thora from Waldense), Toxicum Valdensium (poison of Waldense), Limeum Pardialanches (Spear-poison Leopard-reed). Waldense is an area in Piedmont, Italy. Most tellingly Ambrosini provides the name Thora dictum, with dictum meaning an apothegm, which is to speak out in judgement: i.e. the plant will determine or dictate life or death. Conrad Gessner (1516—65) gives a similar name Thora mea loquitur (Thora I declare) in his *Historia Plantarum et Vires* (History of Plants and Powers), 1541¹.

The Greek philosopher Theophrastus (c. 371—c. 287 BC) commented “πίζα όμοιος σκορπιός” (root similar to scorpion), and he named the plant Thelyphonum, which is the name now used for whip scorpions, but is derived from the Greek θηλυ-φωνή (Thily-phoné), female screams: i.e. the sound of mothers screaming in reaction to discovering both the scorpion and the plant, in order to protect their children from harm.

Pliny the Elder (AD 23—79) actually called the plant Scorpio due to the resemblance of the root to the scorpion tail. The Roman physician, Antonius Musa (63BC—14BC) used the Greek name Therion (Θεριόν) or Theriophonon (Θεριό-φωνών) ‘Serpent hiss’, because “dicta est, quasi viperarum caedes & pernities” (it is said, it kills and destroys as if a nest of vipers), thus likening its roots to snake fangs instead².

In his *Histoire General des Plantes*, 1615, Jacques Delechamps (1513—88) wrote (p. 589) “Sa racine est faite comme la queue d'un Scorpion, reluisante comme d'Albastre. On dit que si on approche la racine de ceste forte d'Aconit d'un Scorpion qu'il demeurera tout perclus” (Its root is made like the tail of a Scorpion, shiny like alabaster. It is said that if we approach the strong woven root of ‘Aconite of a Scorpion’ we will remain completely trapped). This was evidently an ‘old wives tail’ to warn children away from the plant by saying that they would be tangled in its roots. We can see the ‘alabaster’ root tips, or shoots, in Figure 3.

The species of scorpion used as the model by the artist would have been the Iberian Scorpion (*Buthus ibericus*) or the Amarillo Scorpion (*Buthus occitanus*) as they have the pale colouring and the characteristic rows of dots seen in the manuscript illustration, which are actually tiny corrugation spurs, along the tail segments and on the telson (venom bulb). (See Figs. 2 & 4). Both species are found in the western Mediterranean region.

A sting from one of these scorpions causes immediate severe pain, followed by toxic symptoms, which occasionally proves fatal in humans. As children have smaller body mass, then they are more vulnerable to the effects of the venom, which comprises a number of complex chemicals. The scorpion sting has evolved to quickly subdue prey in terrain where food is scarce, but scorpions will also sting in defence if they feel threatened. They naturally conceal themselves in dark places during the day, which can lead to people being stung through unintentional contact. It becomes clear then, why comparison with the root of *P. quadrifolia* was made.



Figure 2. Above: Detail of the root system from the manuscript illustration, zoomorphized as four scorpion tails. Below: Three photographs of the tail of the Iberian scorpion, showing the venom bulb and sting, with the characteristic rows of corrugation spurs.

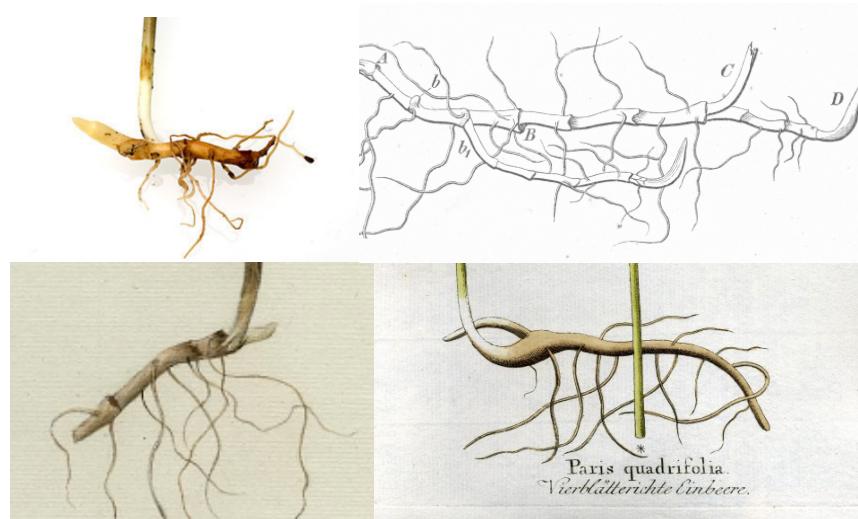


Figure 3. A photograph and three naturalistic drawings of *P. quadrifolia* roots, showing the oblique and tapering rhizome shoots that inspired the Medieval notion of resemblance to scorpion tails. The roots are also segmented in a similar way.

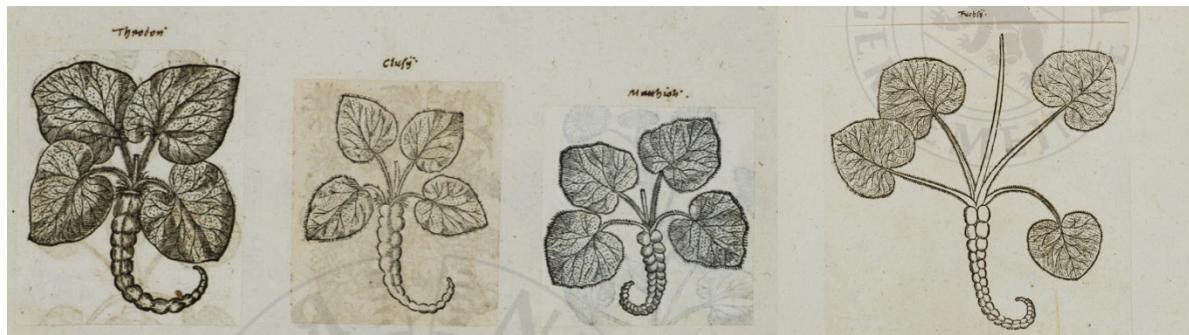


Figure 4. Woodblock prints of *P. quadrifolia* by Jacobus Theodorus, 1588, Carolus Clusius, 1576, Pietro Andrea Mattioli, 1558, and Leonhart Fuchs, 1542, each taking the root:scorpion similarity rather too literally. The first three evidently copied Fuchs, who had apparently not seen the plant in real life.

The modern scientific name for the plant, *Paris quadrifolia*, is a straightforward description of the plant. The Latin word *paris* simply means even, equal, with parity, in reference to the radial symmetry of the leaves. The Latin word *quadrifolia* (*quadri-folia*) simply means four leaves. Thus, the plant is commonly known as Herb Paris (Herb of Parity). Other vernacular English names include Lovers' Knot and Herb True Love, as the form of the leaves has reminded people of the Celtic love knot or cross. The plant is also known as One-berry (One-berrie) as it has a single solitary fruit.

P. quadrifolia naturally grows in the shade of woodland and the flower emits an odour that imitates carrion to attract pollinating insects, which then fades as the flower passes and the berry develops. This association with death would have appealed to the simple logic of the Medieval mind, thereby contributing to its folkloric narrative.

One of its English archaic names is Leopard Bane (*Aconitum pardalianches*). The word *pardalianches* means 'leopard reeds' (*pardali-anches*). The word 'pardali' (*pardalis*) is Latin for leopard, and the word 'anches' means a widened hip-shaped leaf blade or reed. The plant is poisonous to humans but the allusion to leopards has nothing to do with the dangerous nature of the plant. It originates from the appearance of a patch of the plants in autumn, when the spent leaves form a background of yellow and brown, and the berries form the dark spots in imitation of a leopard's pelt (See Fig. 7).

Indeed, the word *pardalis* is actually derived from the Latin *pardus*, meaning 'mottled brown', which is why the Portuguese, Catalan and Galician name for sparrow is *pardal*. Thus, the vernacular Leopard Bane means 'leopard skin', as the word 'bane' was originally 'pane', which is a Middle English word for a 'sheet of hide': Hence, pane of glass, pane of fabric. However, the word *pane* also meant to bite in Middle English, so Leopard Bane was taken to mean 'leopard bite' following the Medieval. Of course, the word *bane* is also closely associated with poisoning, illness and death, hence the etymological 'Venn overlap'. Much of this etymology can be found in *Middle-English Dictionary: Words Used by English Writers from the Twelfth to the Fifteenth Century*, 1891, by Francis Henry Stratmann.

The word *Aconitum* means spear-thrower (*akon-itum*) in Greek. The word 'akon' is Greek for a spear, dart or javelin, and '-itum' is the suffix 'to go', thus 'spear to go' becomes 'spear thrower', in allusion to the deadly nature of the plant's toxins. So we have *Aconitum pardalianches* (Spear-thrower leopard-reeds). We already know from Delechamps that the 'spears' were the poisonous pointed roots, as he described the plant as *Aconit d'un Scorpion* (Spear of a Scorpion). In *The Copious Dictionary*, 1678, Francis Gouldman (1607–1688) uses the name *Aconitum hecateis* (Spear-thrower far-reaching). Note that the Genus *Aconitum* is now used for an unrelated group of plants known as Monkshoods.

Used in small doses, *P. quadrifolia* has long been used traditionally for all manner of opium-like narcotic analgesic applications – headaches, muscle pain, coughs, colic, rheumatism, tumours, plague, ulcers, and so on. It has also been used as an emetic to cleanse the alimentary canal. The juice has also been applied to eye infections and wounds due to its antimicrobial properties. It should be borne in mind, from the ecological point of view, that a plant would not produce a fruit if there were no animals capable of eating it without toxic

effect, to disseminate the seeds. In the case of *P. quadrifolia*, woodland rodents fulfil this role, although the plant more commonly proliferates below ground by sending out rhizomes, so that it colonizes areas of suitable habitat. The berry and rhizomes are the most toxic parts of the plant.

In 1633, John Gerard (1545–1612), recommended the plant as a remedy for poisoning in his *Herbal*. William Coles (1626–62), in 1657 mentions that the plant has a ‘cold’ quality that makes it good for cooling and reducing swellings – especially the ‘privy parts’ (genitals). It was also considered useful for treating bubonic plague, insomnia, cholic, ulcers, mania and pleurisy⁴.

Matthias de L'Obel (1538–1616) named the plant *Solanum tetraphyllum* (four-leaved nightshade) as he likened its toxicity to plants from the nightshade family. He also lists the names *Vua Lupina* (Wolf Grape) & *Pardalianches putata* (Leopard-reed cleanser) for the plant in *Nova Stirpium Adversaria* (New Plant Alternative) 1576. He quotes Discorides, who says that the berry is like that of the Nightshade Mania family (*Solani Maniaci familis*), but otherwise the plant is dissimilar. L'Obel notes that “*Herba Paris refrigerat insigniter, ideo arsenici vim reprimit*” (Herb Paris has a cooling effect, so arsenic is repressed).

Paris quadrifolia contains compounds known as steroidal saponins (saraponins) that have a cytotoxic effect in humans, which means that they affect cellular function. L'Obel and Pierre Pena (1535–1605) reported the recovery of a medicated dog that had been poisoned with arsenic and mercury, whilst a second unmedicated dog had died. They were testing the folkloric belief about *P. quadrifolia* and their experiment served to verify the belief even though it was more anecdotal than scientific, being based on a sample of one.

They used a powdered form of the plant known as Saxon Powder (*Pulvis Saxonius*). This was named by physician Sigismund Kolreuter (1534–1599), after Christian I, Duke of Saxony (1560–91), who had acquired the substance from an Italian monk in Turin, and thoroughly tested the powder as a remedy in case he was poisoned by his enemies in an assassination attempt. Ironically, he would eventually poison himself to death by alcoholism at the age of thirty.

L'Obel's name ‘*Vua Lupina*’ is actually of ‘*Uva Lupina*’ – Wolf grape, in allusion to the poisonous grape-like berry. This is because the letters v and u are essentially the same phoneme in Latin and the v is usually written first, so the two have been switched. In fact, vernacular variants of this name survive in Catalan and Galician: *Uba Llop* and *Uva Loba*. The word *loba* means she-wolf, fox or bitch in Iberian. In Iberian the letters v and b are phonetically alike, so we have *vua*, *uva* and *uba* for ‘grape’.

Curiously, *loba* also means nightshade in Ancient Latin, from Ancient Greek λοβός (*lobós*: lobed fruit), so there is evidently an etymological connection, given that *P. quadrifolia* was once regarded as a nightshade due to its berry. The Aragonese names for the plant *Uba de Raposa* (Grape of the Vixen) & *Ojos de Zorra* (Eyes of the Old Fox), survive in Catalan, Galician, Portuguese, Spanish. The Italian name is *Uva di Volpe* (Grape of Fox) The French name is *Parisette à Quatre Feuilles* (Even-one of the Four-leaves).

The Medieval idea of using plants to treat particular parts of the body due to their physical resemblance is known as the ‘doctrine of signatures’. Thus, as the *P. quadrifolia* berry looked similar to an eye, it was duly used to treat eye infections. An oily tincture was distilled from the berry and known as ‘*anima oculorum*’ (spirit, or life, of the eye)³. In *Phytognomica*, 1588, Giambattista della Porta (1535–1615), describes the plant as “*oculorum medicamentis leuandi doloris gratia adjiciter*” (medicine to uplift eye pain).

Other vernacular Romance terms include the Italian name Aconito or Aconite, taken from *Aconitum*, and the Hispanic name Centelha, which means to scintillate (sparkle), due to the flower looking like a star. Romania has many names for the plant, such as *Buruiană de Bubă* (Weed of Buboises). *Buruiană de Beșică*: (Weed of Blisters) and *Răsfug* (Turn and Run). These names reflect the love-hate relationship with the plant, as it was considered dangerously poisonous, yet it was also used to treat Bubonic Plague. In Russian the plant is known as *Вороний глаз* (Raven eye). In Swedish it is known as *Ormbäret* (Snake-berry). In Medieval northern European countries it was common practice to soak the berries in wine to make a love potion or aphrodisiac, as a mild dose of the toxins had an intoxicating effect in addition to the alcohol.

In *Trento Herbarium*, c. 1485, Frau Giovanni da Verona (1457–1525) lists the plant simply as *Paris* and describes its use for mending fractured bones and reducing fever. In *Liber S Abbas Erbario* (Abbot's Herbal

Book) LJS419: Folio 25r. c. 1450, the plant is named as Erb la Paris. Curiously the stylized illustrations have two flowers and two berries, indicating that the artist was not drawing from an example specimen. These two images and that of Vitus Auslasser (c. 1450—c.1510) are all approximately contemporaneous with the manuscript illustration. (See. Fig 8). Auslasser gives the plant three intriguing names: 1. Middle English: Krux X̄pi (Cross of Christians) – the word ‘Krux’ is a German spelling of ‘Crux’ and the word ‘x̄pi’ is short for ‘X̄pisten’, which was an abbreviation of ‘Christen’ (Christian), with the letter p̄ as a scribal siglum. 2. Latin: Vmblica veneris (Eye of love) – the word ‘vmblica’ (umblica) derives from ‘umbilic’ meaning the navel, centre, heart, hub, axis, nucleus, core or eye, and ‘veneris’ means Venus, the goddess of love. 3. German: Amper chrawt (Amper herb) - the Amper is a river valley in Bavaria, and ‘chrawt’ is an Old German spelling of ‘kraut’. (See Fig. 9)

In his *Theatrum Botanicum*, 1640, John Parkinson (1567—1650) mentions that Valerius Cordus (1515—44), in his *History of Plants*, called the plant ‘Aconitum sive [or] Pardalianches monococcum’ (Spear-thrower or Leopard-reed one-berry); Jacobus Theodorus Tabernaemontanus (1525—90) called it Aconitum salutiferum (Spear-thrower friendly-savage); Hieronymus Bock (Tragus) (1498—1554) called it Aster (Star: Latin) and Sternkraut (Star-herb: German).

Another French name was Raisin de Reinard (Grape of the Fox): Reinard (Renard, Reynard, Reynart) is a deceitful anthropomorphic red fox in European Medieval fables of the oral tradition, featured in Geoffrey Chaucer’s *The Nun’s Priest’s Tale* (c. 1390) and committed to print in William Caxton’s *The Historie of Reynart the Fox*, 1481. The first French compilation was *Fables de la Fontaine*, 1668, by Jean de la Fontaine, in which the eleventh story is *Le Renard et les Raisins* and tells the Aesop story of ‘the fox and the sour grapes’ – hence the association, as the *P. quadrifolia* berry tastes unpleasant like a sour grape. Thus, the Medieval and the Greek narratives and allegories became interwoven.

Yet another French name for the plant is Étrangle-loup (Wolf-choker), as Reynard the fox had a long-standing feud with Isengrin (Ysengrimus) the anthropomorphic wolf, whom he eventually outwitted and killed. Incidentally, the name Reynard derives from the Raginaharduz, which means ‘strong in council’ (good thinker), whilst Isengrin translates as ‘frozen grinner’: i.e. having the fixed grin of an idiot (poor thinker).

A more unusual name is the Middle Dutch name Spinne-coppen (Spinning spiders) – alluding to the berries looking like female orb spiders at the centres of their webs. The abdomen of the female Dark Brown Orb Spider, *Nuctenea umbratica*, looks very similar to the berry, in shape, size and colour, and the eight withered sepals look like spider legs. The spider is also venomous to people. Italian has a wealth of vernacular names for *P. quadrifolia*, including Uva versa (Turn-away grape); Erba crociola (Raven herb), Tosi (Cutter)⁵.

So, *Paris quadrifolia* was clearly perceived with mixed blessings. It was treated with caution due to its potentially fatal toxins, yet it was also regarded as a bringer of new life as its holy power of love was believed to ward off other malevolent agents, such as injury, infection, illness, disease and other poisons. Parkinson also reports that the powdered berry was once used to undo the believed spells of witchcraft (madness) by restoring the wits and senses.

In *Mondo Simbolico* (Symbolic World), 1670, by Filippo Picinelli (1604—79) this contrast is demonstrated very clearly. Picinelli writes “che dia vigoroso rimedio all infermita de gli occhi, e cherchi violenta morte alle feroci fiere” (it vigorously remedies the sickness of the eyes, and violent death by fierce wild animals). He then quotes Pliny: “Est Aconitum oculi agris satis apia medela. Apposiroq: cibis perit omnis bestia; porcos, Panterasq; luposq; necas” (Aconitum is the eyes of the field for healing weapon wounds. Contrarily, as food every beast dies; pigs, leopards, wolves, you kill).

Picinelli continues: “Gli occhi risana e da’la morte a i mostri. Simbolo del travaglio, mandatoci da Dio, opera di cui gli assetti carnali, crudeli, rapaci, vengono abbattuti, ed estinti; e gli occhi inferni, e tenebrosi restano confortati a mirare, e pacersi nella vista dell cielo, e nel godimento della diuina chiaraezza” (The eyes heal and it gives death to monsters. Symbol of suffering, sent to us by God, a work of which the carnal, cruel, rapacious creations are cut-down and extinguished; and the hellish and gloomy eyes remain comforted to look, and to be peaceful in the sight of heaven, and in the enjoyment of ordinary clarity).

Clearly, the contrasting spiritual significance in the polarity between the curing eye (berry) and the killing scorpion (root) was deeply ensconced in medicinal philosophy from Antiquity, to the Medieval, to the Early Modern. The plant was believed to be sent from the Christian god to protect from disease and injury and to protect from predators. The moderate toxins in the berry served as an antibiotic in the eyes and wounds, whilst the potent toxins of the root were effective as a chemotherapy and as a poison for vermin.

It was common practice for Medieval letter seals to be decorated with a stylized design of *P. quadrifolia* (See. Fig. 11). The seal was typically inscribed around the image with the Old Romance phrase ‘je su sél d’amor’ (I am known as the seal of love) which was a popular play on words because the letters could also be read ‘Jésus el d’amor’ (Jesus he of love). It was typically written in abbreviated capitals: IE SV SEL DA.

In the Geoffrey Chaucer (c. 1340–1400) story *The Merchant’s Tale*, the Biblical character Absolon conceals a ‘trewelove’ (herb true-love) under his tongue before courting. This Medieval association between the plant and love was not carnal though, but an allusion to Christian use of the plant as an emblem to represent four kinds of love, which was known as *quadrifolium illud amoris veri* (four leaves of true love). Namely, they were the love of Christ, the love of oneself without sin, the love of neighbours and the love of enemies. Thus, Absolon was being superstitious, as it was all about reward through forgiveness and the pursuit of perfect faith, with acknowledgement that ‘true love’ is exemplified by Christ’s suffering for the good of humanity. Thus, the *P. quadrifolia* plant was seen to symbolize Christ on the cross and offer a remedy for the imperfect human soul, in addition to its physical medicinal qualities. As such its four leaves were also seen to represent the Holy Trinity (Father, Son, Holy Ghost) and Mary, Mother of God⁶.

It should also be noted that the flower of the plant, which is not seen in the manuscript, bears some suggestion of a head surrounded by a radiating golden halo or crown, as it has eight stamens each comprising two parallel lines of golden yellow pollen. Thus, the idea of Christ becomes visually apparent, as this is how Jesus is portrayed in many Medieval depictions of the crucifixion and the resurrection. One might even extend the visual metaphor by observing that the flower could be viewed as the Virgin Mary instead, with golden halo and mantle over her head, coloured purple, which was the colour of royalty. (See Fig. 12)

Indeed, a regal Biblical garment known as a laena, or clamys, for covering the head and shoulders, was died such a colour and stitched with lines of real gold thread. Purple-red pigments were associated with high status because they were very expensive to produce, as they were extracted from the shells of thousands of Mediterranean sea-snails, and varied in colour depending on the species of snail: *Bolinus brandaris*, *Hexaplex trunculus* and *Thais haemostoma*. The dyes were known as *Tyrio tingere* (Tyrian dyes), alluding to the Phoenician port of Tyre in modern Lebanon. Various hues were possible by dyeing and redyeing: *Tyrio purpureo* (Tyrian purple), *Tyrio rubido* (Tyrian red), *Tyrio caeruleo* (Tyrian indigo), *Tyrio coccineo* (Tyrian scarlet), *Tyrio coccoque purpurandus* (Tyrian hysginum). The latter name is taken from the Greek-Latin ‘húsgē-originum’ which means ‘scrub oak-origins’, as it was a dark crimson red colour that could also be obtained from the Vermillion Scale Insect (*Kermes vermilio*), which feeds on the Mediterranean dwarf evergreen oak species *Quercus coccifera*, known as üøyη (húsgē) in Greek.

In conclusion:

Paris quadrifolia has probably had more scientific and vernacular names than any other plant species, due to reputation, symbolism, mythology and folklore. The combination of its evolved toxic defences and physical appearance have caused people from antiquity onwards to imagine all manner of ideas about its chemical and anatomical design from the anthropocentric point of view. In reality, of course, it evolved in prehistory and in the absence of humanity, according to the process of natural selection in an environment where its characteristics were adaptations to optimise its chances of survival and reproduction according to habitat, competition, predation, climate and so on.

Translation.

1. l’æo’na qué’o’ a éloa [the eye here, that is to god: The Eye to God. Portuguese, Latin] o’aus [the auspex. Latin] o as [the at. Portuguese] orta [arisen. Latin] éona [godly spirit. Portuguese] n’l’æa [abb. nobilissimæa, nobilissimia: noble, noblest, most noble. Latin] na [here, to, at. Portuguese].

The Eye to God is the auspex of the noblest godly spirit here that has arisen.

Note: The word ‘aus’ is an abbreviation for ‘auspice’ or ‘auspex’ which is Latin for an officiating priest, spirit, entity or power: an auger, a diviner, soothsayer, foreteller, seer.

Note: The word ‘éona’ is a Portuguese term (éon) meaning a spiritual entity emanating from the Christian godhead, with the terminal ‘a’ now implied by the pronunciation of the ‘n’. It was a gnostic concept common to early Christian sects, which became the ‘holy ghost’.

2. o’éia [the amazing. Latin, Portuguese] olea [oil. Latin, Portuguese] do’laus [do aclamación: of acclaim, approval. Latin, Portuguese, Galician] æo [it is. Portuguese] ele’o a [and he/she to. Latin] eme ea [get what. Latin] éia [come. Latin] o’laços [the bonds: Latin, Portuguese] o’mor [of love. Portuguese]

The amazing oil of acclaim, it is for she to come and get the bonds of love.

Note: The Latin, Portuguese word éia is an abbreviation of the Latin éiaculatus (to ejaculate, exclaim, express), and therefore used as an expression of joy or enthusiasm. Thus, any equivalent superlative can be used – amazing, fantastic, super, great, marvellous, and so on.

3. do’aus [of auspex. Portuguese, Latin] o’mas [the more. Portuguese, Spanish] éa [it. Latin] nauis [eating. Vulgar Latin] o’mèis [o mês: the month. Portuguese, Galician] éo [is the. Portuguese] eme a [to bring. Latin] o’méa [the evenly, gradually. Portuguese] doméo na [taming inside. Latin]

The auspex is the more by food for the month to bring taming of the inside gradually.

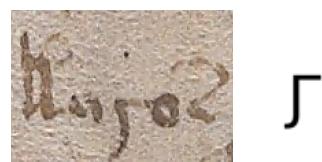
4. o’mais [the most, more. Old Portuguese] æ (ægis, aegis) eo na éas [protection it’s the here and the. Latin, Portuguese] t [testament. will, desire. Latin] é eos [is them. Portuguese, Latin] éo [it is. Portuguese] eme a [I to acquire, procure. Latin]

The most protection it is here, and the desire it is theirs that I procure it.

Note: The Old Portuguese term méa is an abbreviation for méamente (evenly, moderately, gradually, simultaneously, at the same time).

Note: The Latin word eme is a participle variant of emo (I acquire, purchase, buy). It is also an abbreviation of the Latin emensus (having measured out, imparted, provided, bestowed), from ‘e mensus’ which has much the same meaning.

Note: The word laços (Portuguese), lazos (Spanish) introduces a new manuscript symbol and means ties, bonds, fastenings both in a figurative sense and in the literal sense – related to laces, lasso, lash – from laceus/lacio (to ensnare). The manuscript symbol looks similar to a modern j but is closest to the modern ç which is known as c-cedilla (c with small zed). The root Latin word laxos means to hang up, suspend, display. So the phrase o’laços o’mor (line 2) means either ‘the bonds of love’ or ‘the showing of love’, which amounts to much the same thing. The word laços and the ç symbol are shown below.



laços

ç

5. mæa [v. maia: midwife. Latin from Greek: μαία] æona [aeona/aiona: keep on, persist over time. Latin] do’aus [of auspex. Latin] éor [sister, daughter, niece: Latin from Greek ἔωρ] ort [abb.v. hortatus: encouraged, exhorted, urged. Latin] æo [ao: to have. Latin] do’méio [of the centre, middle: Portuguese] nous [mind. Latin from Greek] æo (ao) nauis [to food. Vulgar Latin, Portuguese]

The midwife persists over time with the auspex and the sister is encouraged to focus her mind on the food.

6. æo (aeo) é eos éia do èia [and, is them, exclaim of turn, change, difference. Latin, Portuguese] do a leèa [of it see, notice, detect. Portuguese, Galician] do'e'os [of it's the. Portuguese] emea [emea. midwife. Latin from Greek] æo (aeo) [and. Portuguese] mæa [v. maia: nanny. Latin from Greek: μαία na [in, at. Portuguese]

The midwife and the nursemaid exclaim when they detect a change in it.

7. domoia [to succeed, conquer, dominate. Latin] leia [read, monitor. Portuguese] é'eo [that's it. Galician] léa [apply. Latin] æona [aeona/aiona: keep on, persist over time. Latin]

To succeed, persist in monitoring and applying.

Note: The Latin word ‘nous’ is derived from the Greek νοῦς (mind), and used to describe common sense, belief, faith, presence of mind, mental focus, rationality. In English the word has come to mean natural intelligence or innate ability.

Note: The Latin-Greek word Maïa (Mæa) alludes to a Greek goddess who was famed for her love of Zeus and her nurturing of the baby Arcus after his mother was turned into a bear. She is known as the Goddess of Growth (La Croissance: French) – thus the association with midwifery and motherhood. She was also associated with Vulcan, God of the Underworld, due to the growth of volcanoes being like the growth of a pregnant belly, and the Roman Flamen (priest) Vulcanalis would make a sacrifice to her on the 1st of May. Thus, the month has her name, as the beginning of warmth and growth. The equivalent to mæa in French is nourrice (childminder, nanny, nursemaid)⁷.

The Latin word Emea (emea) also means ‘the midwife’ and originates from the Christian Orthodox story of Salome, where they bathe the infant Jesus in the Gospel of James. Emea is the very first person to see Jesus and testify that Mary was a virgin by her intact hymen. The name Emea derives from ‘e maia’ (the midwife) and is often used on Medieval icons and frescoes. The letter E is typically written as the Greek H (the), so that it reads H MAIA (E MEA) = Emea. Thus, the author provides the Roman Latin ‘emea’ and the aforementioned Greek Latin ‘mæa’, which have the same root but had subtly different definitions: i.e. midwife and nursemaid.

Translation in summary:

The Eye to God is the auspex of the noblest godly spirit here that has arisen.

The amazing oil of acclaim, it is for she to come and get the bonds of love.

The auspex is the more by food for the month to bring taming of the inside gradually.

The most protection it is here, and the desire it is theirs that I procure it.

The midwife persists over time with the auspex, the sister is encouraged to focus her mind on the food.

The midwife and the nursemaid exclaim when they detect a change in it.

To succeed, persist in monitoring and applying.

Conclusion:

Clearly, the Christian symbolism of the plant was important. Oil from the berry (*anima oculorum*) contains toxins with genuine antibiotic and analgesic effect on the body, but belief in the auspex, on the part of both the midwife and patient, was evidently incorporated into the prognosis. Faith was always at the forefront of the Medieval mind in relation to illness, simply because there was no scientific understanding, so superstitious belief that one might influence the outcome by prayer and worship had logic in the psychology of the devout. It is religious tripartite logic (RTL): If an outcome is positive then it is perceived as holy approval; if an outcome is negative then it is perceived as holy disapproval; if an outcome is neutral it is perceived as holy indifference. Whichever outcome, it is always attributed to the holy power, so faith is reinforced and maintained. The plant can be seen to summarize the Medieval Christian belief system, as the benevolent eye (berry) looks to heaven, and the malevolent scorpion stings (roots) point to hell.

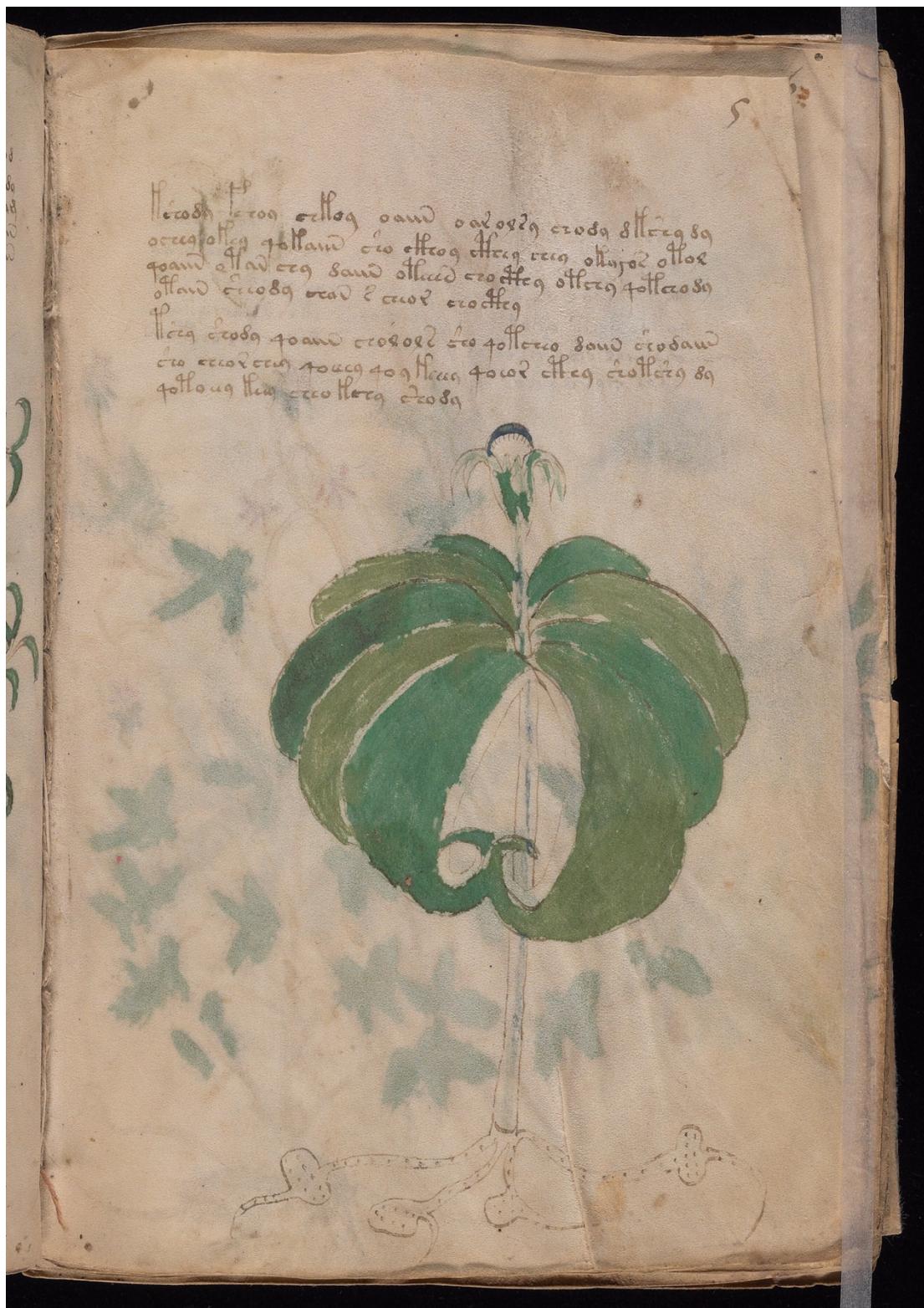


Figure 5. The manuscript illustration of *Paris quadrifolia*, showing the whole plant in fruit. The berry is depicted in the form of an eye and the leaves are turning various autumnal shades of yellow-green. The root system has rhizomes which store food during the winter and propagate new plants from the tapering shoots shown in the image. These have been exaggerated to resemble scorpion stings due to their potency.



Figure 6. Four photographs of *Paris quadrifolia* in late autumn with the spent leaves wilting and turning various shapes of yellow-green as shown in the manuscript image.



Figure 7. A dense patch of *P. quadrifolia* in autumn, turning yellow and brown, with the black berries, demonstrating why the plant was once known as Leopard Bane, as it was thought to resemble the pelt or hide of a leopard in autumn.



Figure 8. Three paintings of *P. quadrifolia*, approximately contemporaneous with the manuscript image, and demonstrating that the manuscript image is relatively realistic by comparison: Trento Erbario. c. 1485; Vitus Auslasser 1479; Abbot's Erbario. c. 1450. All three display the cruciform leaf whorl and the 'scorpion tail' rhizome. The first picture has an imaginary flower, and the third picture has two flowers and berries, which is also imaginary, whilst the second image is naïve but fairly accurate.

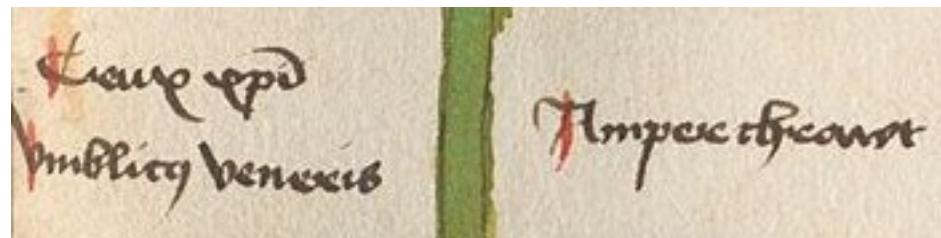


Figure 9. A detail from the Vitus Auslasser illustration, 1479, seen in Fig. 8. The text provides three vernacular names for *P. quadrifolia*, in Middle English, Latin and Old German.



Figure 10. Eight Medieval bronze and lead letter seal matrices displaying the cruciform leaf whorl of *P. quadrifolia* as a motif to symbolise devotion to Christianity and the love of Jesus.

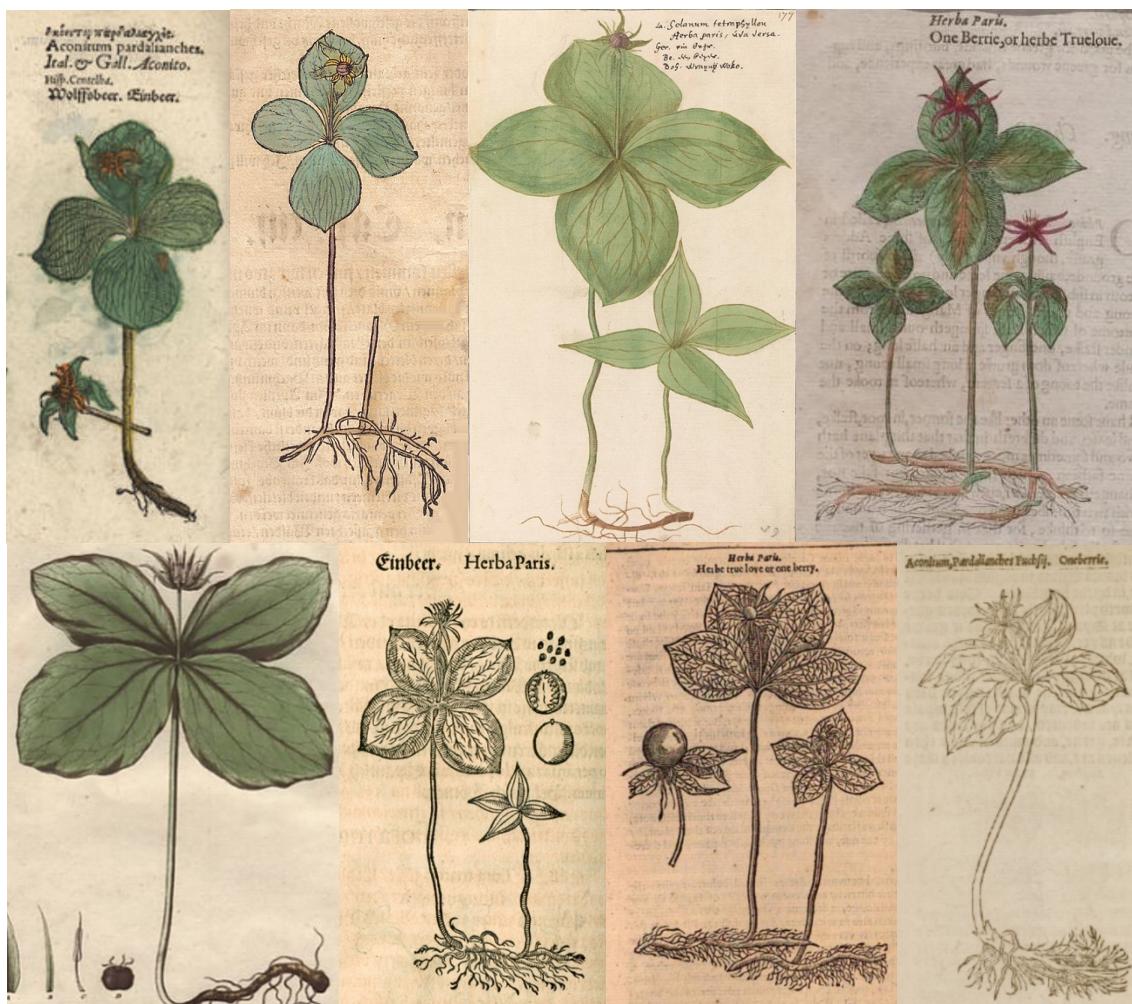


Figure 11. Eight lithograph and copper-plate print illustrations of *P. quadrifolia*: Adam Lonicer, 1557; Hieronymous Bock, 1546; Anselmus de Boodt, 1600; John Gerard, 1597; Jean Baptiste Francois Pierre Bulliard, 1780; Joachim Camerarius, 1586; John Parkinson, 1640; William Turner, 1551.

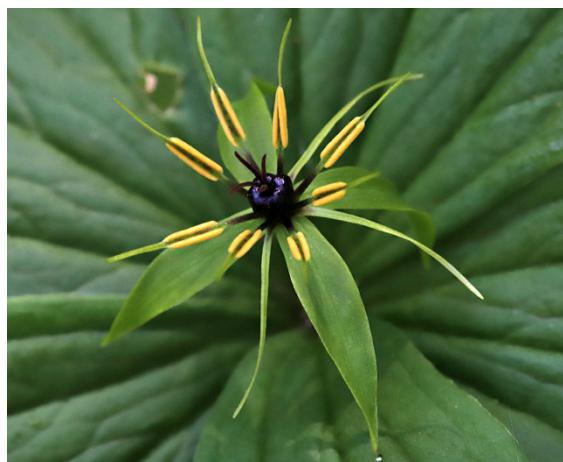


Figure 12. The flower of *P. quadrifolia*, which symbolically resembles a radiating golden halo or crown, surrounding a head adorned in purple, reminiscent of many Medieval images of Christ and the Virgin Mary. The sepals, like the leaves, also form a holy cross.

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Mailing List:

A interactive academic mailing list, named BINOMIAL-NOMENCLATURE@JISCMAIL.AC.UK, has been setup for the purpose of issuing information about new plant series papers and for scholarly discussion about the etymology of their scientific and vernacular names. Please subscribe to the list at this link, if you wish:
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Symbol-Italic key for MS 408.			
Symbol	Italic	Symbol	Italic
ꝑ	a (trapped)	ꝑ	a (free)
ꝑꝑ	ais	ꝑꝑ	aus
ꝑ	æ (ae, a, e, i)	ꝑ	d
ꝑ	e (short)	ꝑꝑ	e'e (intonation)
ꝑ	é (long)	ꝑ	i
ꝑ	l (ll)	ꝑꝑ	ele (elle)
ꝑ	m (mm)	ꝑꝑ	eme (emme)
ꝑ	n (nn)	ꝑ	o
ꝑ	p (pp)	ꝑꝑ	epe (eppe)
ꝑ	qu	ꝑꝑ	eque
ꝑ	r (rr)	ꝑ	s/z (ss, zz)
ꝑ ꝑ	s/z (ss, zz)	ꝑ	sa/za
ꝑ	t (tt)	ꝑ	ta
ꝑ	u	ꝑ ꝑ	v, f, fv, ph, pv