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.


This plant is identifiable by visual clues in the illustration and by cross-reference with the text. Looking at the flowerbuds, we can see curious looking crescent shapes on their sides. See. Fig. 1. These are depictions of the erstwhile flowers as rising suns on the horizon, to the east. The flowers of this plant are a vivid orange-yellow and circular in bloom (see Fig. 7) and the text of line 3 describes them as ‘læos éola’ which is a phonetically abbreviated form of ‘helæos aréola’ (helios aréola) and means ‘sun flower’. The word helæos derives from the Greek ήλιος (hílios), which means sun, sunrise, sunny, sunshine and, indeed, sunflower. In the form ἥλιος (hilios) it means ‘east’: i.e. where the sunrises. Needless to say, the sun was symbolically associated with mythological gods and goddesses in possession of powers to bring healing and new life. The Greek mythological god Helios was the brother of Éos, goddess of the dawn, as featured in Plant paper, No. 9.
In this instance the plant is associated with the mythology of Demeter (synonymous with Ceres, Hera) and her daughter Persephone (synonymous with Proserpine, Libera, Nestis, Ariadne). Both Demeter and Persephone were goddesses of springtime, harvest, plants, fertility, new life, and death. Each had golden braided hair to symbolise ripe ears of wheat. The name Persephone (per-se-phone) derives from the Latin for ‘the final say’ as she was considered to preside over whether someone lived or died, much like Helios. The name Demeter simply means ‘providing mother’ (dā-mater).

The mythological tale goes like this: Zeus (synonymous with Jove) and Demeter had a beautiful daughter Persephone, who became the obsession of Hades (synonymous with Dis, the Devil, Pluto, Orcus, the Host of Many). One day, when Persephone was picking flowers in a meadow, she was abducted by Hades, with the consent of Zeus, and taken to the underworld. Demeter despairingly searched for her daughter until she found that Zeus had promised her to Hades. Eventually Demeter notices the hair of Persephone protruding from the soil, where she has been taken below ground. Demeter refuses to produce her harvest of food for Zeus by causing a drought, so he relents with hunger and orders Hades to return Persephone. By the time Hades was confronted and had agreed to free Persephone, she had eaten six pomegranate seeds in the underworld, which meant that she was technically unable to leave. Eventually, a compromise was met, so that Persephone was allowed to leave the underworld in springtime for six months of each year, therefore allowing plants to grow and crops to be harvested. In autumn she had to return to the underworld, which is why plants die and the world becomes dormant. See Figures 2 & 3.

Fig. 1. Detail of the four flowerbuds of the manuscript illustration, depicting the open golden flower on the side of the bud as the sun rising on the horizon. This is because the plant was known as ‘helios aréola’ (sun flower) as described in the text of line 3. Helios also referred to the god of the sun, the sunrise and the easterly direction, where the sun rises. The real flower can be seen in Figure XX.
Fig 2. Three Ancient Greek pottery images of Hades (Aidoneus) tempting Persophone (Nestis) with pomegranate fruits, so that she will be trapped in the underworld for eternity. She eats six, so that she has to return for six months of each year.

According to the mythology, Persephone was raised near Henna, on the island of Sicily, which is south of Ischia, in the Tyrrhenian Sea, from where the manuscript originates. On Sicily there was a pagan cult harvest festival in honour of Persephone (as Nestis), known as katagogi (kata’go’gi: taken underground) from Ancient Greek κάτω οδηγός γη (katá odigós gi) “below guided the land”.

It was considered very bad luck to mention Persephone by name, due to her association with death, so various euphemisms were used, such as Despoiner, which means ‘the mistress’ and Kore, which means ‘the maiden’. On Sicily, she was known as Nestis, which means ‘fasting: not eating by choice’ (νῆστις: nístis) in allusion to her time to be spent in the underworld unable to eat for six months of each year, to avoid being trapped forever.

Looking again at the manuscript image, we can see that the root of the plant is represented by four golden hair braids, symbolizing the mythology of Persephone (as Nestis) on Sicily. See. Fig. 4. There are four braids because they each represent the four elements then believed to comprise the world. Thus we have; earth (the soil domain of Hades: Dis, Aidoneus), air (the breath of life from Hera: Demeter), fire (the warmth of sunlight provided by Helios: Apollo, Zeus) and water (the elixir of plant growth from Nestis: Persephone). Although Hades was also associated with the fires of hell, here he represents the land, which he is seen to create with
volcanoes. Also, it was presumed that plants needed air to breath just as animals do, hence the role of Hera. Nestis is associated with water, as her absence causes drought in the mythological story.

So, the four braided roots represent soil, air, sunshine, water (Hades, Hera, Helios, Nestis) in the form of the golden plaetted hair of Nestis (Persphone), where she has descended to the underworld. And the ‘sun flower’ represents spring and summer months when Nestis was able to leave the underworld and bring new life and food to the people of Sicily and the Tyrrhenian islands.

In Tetrasomia (τετράςωμία: four roots: Doctrine of the Four Roots), the Sicilian philosopher Empedocles (c. 450 BC) makes reference to the mythological story: The enlivening fourfold roots of everything, life bringing Hera, Hades, shining Zeus, and Nestis, moistening mortal with springs of tears. In fact, Empedocles invented the very concept of the four elements, and described them as roots, because they formed the foundation of life and existence in his philosophical model. Thus we have the same model for the symbolism in the manuscript illustration, some two millennia after Empedocles.

Fig. 4. Left: A photograph of the real golden root of *Crepis vesicara*. Right: The root of *Crepis vesicaria* as depicted in the manuscript illustration, as four braids of Persophone’s golden hair representing earth, air, fire and water. We can see the corkscrew twist in the real root, which is reflected in illustration, and the distinctive transitional ferrule (hypocotyl) between root and stem is seen in both images.

Demeter and Persophone are often portrayed as a single cult image in statues and reliefs (See Figure 5). As such both Demeter and Persophone were worshipped in the Ancient World due to their association with the provision of plentiful crops, of grain and fruits. Both were seen as essential components in providing the sunshine and water necessary to bring food to tables. In the Mediterranean region diets were primarily vegetarian, with meat and fish as expensive delicacies. The fermented anchovy sauce garum (allec and liquemen) was also used, as it was a way of storing protein and flavouring. The modern Italian equivalent of garum is colatura di alici (strainings of anchovies). Incidentally, the word ‘garum’ derives from the Greek word for anchovy (γάβρος (Γαύρος): gáuros) and the Roman word for sauce ‘condimentum’: thus ‘gauros condimentum’ (anchovy sauce) was abbreviated to gaur-um (garum).

It should be noted that the four flowerbuds of the manuscript illustration are also used to represent earth, air, fire and water. One points upwards to the fire of the sun, one points downwards to the earth, and other two point horizontally to air and water. It’s all there if you look for it and say what you see.
Fig. 5. A stone carving, a relief and a terracotta sculpture of Demeter and Persephone reunited. These effigies were used in ancient cult worship in the belief that the mother and daughter were responsible for good harvests. Their hair is typically braided to represent ears of wheat.

There are many references to the mythology of Demeter and Persophone in historical prose and poetry. Homer’s Hymn No. V. (c. 8th—7th Century BC) tells the tale of Ceres. He writes: “Of venerable Ceres I would sing, Golden-haired and her daughter Proserpine, Light-tripping maiden, seized by Dis, stern King, Seized with consent of Thunderer Jove, not thine Ceres!” When Proserpine (Persephone) becomes a goddess, Homer writes: “She shone – her yellow hair like golden rays, Waved over her shoulders as the lightning’s sheen….”

In 1843 Aubrey de Vere (1814—1902) published the poem ‘The Search After Proserpine’. In 1814 Jacob George Strutt (1784—1867) published a translated version of a poem titled ‘The Rape of Proserpine’ by Claudius Claudianus (AD c.370—c.404). In 1913, Maurice Hewlett (1861—1923) published a historical novel based on the mythical tale, titled ‘The Lore of Proserpine.’

The modern scientific name for this plant species is Crepis vesicaria, subspecies taraxacifolia. The word Crepis comes from the Latin ‘creper’ (uneven, unsmooth, rough) alluding to the roughness of the leaves of some of the species in this genus, as they are covered with slight prickles and bumps to deter herbivores. The word vesicaria come from the Latin ‘vesicarius’ (bladder-like), alluding to the shape of the silicles (seed capsules: receptacles) before they ripen. The word taraxacifolia (taraxacum-folia: Latin) means dandelion-leafed, as this subspecies has deeply-toothed leaf edges. C. v. taraxacifolia is naturally distributed over and around the western Mediterranean basin. As well as having dandelion like leaves, the subspecies taraxacifolia has the red colouring at the tips of the sepals of the flowerbud and on the outer petals of the flower itself, as can be seen in Figures 7 & 8.

More specifically, the aforementioned god Helios was the mythological brother of Éos, the central figure of Plant Series, No. 9. So, Erodium malacoides aragonense was the Éos flower and Crepis vesicaria taraxacifolia was the Helios flower. The former represents the sunrise and the beginning of a new day, the latter represents the continuance of the day, with the healing protection of sunlight. Their sister, Silene, was goddess of moonlight, as protection during the night. Sunlight was believed to heal people as illness seemed to improve by day and worsen by night.

Crepis vesicaria was once known as Chichorium pratense luteum (False Yellow Chicory) due to the similarity between the two plants, although chicory has blue flowers. It was also known as Chicrorium pratense vesicarium (False Bladder Chicory), which is where the uses of the term ‘vesicaria’ originated. Other scientific names have included Lagoseris taraxacoides (Lakeside dandelion-like) and Barkhausia taraxacoides (Barkhaus’ dandelion-like). Gottlieb Barkhaus was a 17th century German botanist. A further scientific name was Crepis hackelii, after the Austrian botanist Eduard Hackel. See Figures 9 -12.

As Crepis vesicaria taraxacifolia has a western Mediterranean distribution it has many vernacular Romance names: Catalan: Cama-roja del capoll (Red-chamber of Flowerbud), Cap-roig (Red-head), Lletsó de pastor (Shephard’s piglet), Xinella (Slipper). French: Barkhausain à feuilles de pissenlit (Barkhausen’s dandelion),
Crédite à feuilles de pisenlit (Dandelion hawksbeard). Italian: Radicchiella con foglie di tarassaco (Chicory with dandelion leaves). Portuguese: Almeiroia (Endives: Nourishing Salad Leaf), Spanish: Achicoria de carnizuelo (Carnivorous (bloody-mouthed) chicory), Almirón (Wild Chicory), Camarora (Red-chamber), Jamargos (Dandelions). The name ‘Carnivorous chicory’ derives from the tops of the flowerbuds looking like mouths with blood covered lips or teeth, as can be seen in the manuscript illustration (See Figure 6) and photographs of the living plant (See Figures 7 & 8).

There is a related plant known as orange or golden hawkweed (*Pilosella aurantiaca, Hieracium aurantiacum*) with similar flowerbuds, but it has lanceolate leaves. There is also the golden hawksbeard (*Crepis aurea*) with similar leaves, but it bears its flowers on solitary stems. So, *Crepis vesicaria* subsp. *taraxacifolia* is identified by a number of specific anatomical and geographical characteristics.

Translations:


2. naus é ele’a (elementa) [the food it’s elemental. VLatin, Portuguese] éo s (sanctum) éo s (summus) [it’s the sacred, it’s the highest. Portuguese, Latin] las [as, the. Portuguese, Spanish] emia (premia).....emio (premio) [reward premium (prime prize). Portuguese] s [sanctum. Latin] é’om (omni mane) [it’s every morning, Latin] ors (orsus) [begin, begun. Latin]


**Note:** The word olé is indicative or triumph, confirmation, success: i.e. ‘I told you so’ or ‘so there’.

**Note:** The Latin word ‘elementa’ (ele’a) refers to the four elements once thought to comprise the world: earth, air, fire, water, as referenced by the Nestis mythological story from the Italian islands.

**Note:** Notice how the word ‘elementa’, ‘premia’ and ‘premio’ are phonetically abbreviated by the author, as they would have been in speech. Whilst, the words ‘sanctum’ and ‘summus’ are reduced to their initial letter ‘s’ because they are standard Latin abbreviations to save space on the page.

**Note:** The English word ‘ostentatious’: i.e. showy, on show, on display.

**Note:** Latin-Greek word ‘léos (helios) means sun, sunshine, from the Greek ήλιος. In the manuscript illustration the ‘sun flowers’ are seen as semicircles on the sides of the flowerbuds, as if suns rising above the horizon.
Note: Notice that the opening syllables of both ‘helios’ and ‘aréola’ are silent in the phonetic spelling of the manuscript, so that we have ‘lios éola’ for ‘sun flower’. This is typical of the Lusophone way of speaking and indicates an informal vernacular literary discipline on the part of the author.

Note: The Occitan and Gascon word èit (hèit, fèit) is relatively obscure and there is no variant in the better known Romance languages. It means to put into effect, to give existence, to manufacture a situation, to perform an action, etc. Occitan wiktionary: https://oc.wiktionary.org/wiki/hèit

Note: The Latin word quo means which, where, wherefore, etc.

Note: The Latin word nas éo testament is one of a number of variants that mean it, this, that, these, they, he, she, etc. The Latin word quo means which, where, wherefore, etc.

Note: Notice that the opening syllables of both ‘helios’ and ‘aréola’ are silent in the phonetic spelling of the manuscript, so that we have ‘lios éola’ for ‘sun flower’. This is typical of the Lusophone way of speaking and indicates an informal vernacular literary discipline on the part of the author.


nas éo testamento i’eo sanctum éo eme’a omni mane’è’asa......a auspex éa -

it is well known it results to acquire holiness and.....auspicial protection from its path every morning

Note: The Latin word æ (i) means ‘so’, ‘thus’.


mos holus æ’èt amar a eme’auspex o’naza

chew mouthfuls of the leaves and their love will provide auspicial protection.....for the birth


os ar naus ele’asa o’loza eme’auspex a’naus

the flowerheads are also food, served on clay dishes to provide auspicial protection.....by eating


naus donatus éo Tribunus éor o’laus terminus

the food will bestow the Lord to sister with praise.

Note: The word ‘naus’ has been an interesting investigation. It was originally thought to derive from cargo ships (naus) as an allusion to food delivered by ship, or in allusion to eating from wooden hull-shaped bowls. The second hypothesis was that ‘naus’ was a phonetic contraction of the Portuguese/Spanish phrase ‘em’nos’ or ‘en’nós’ which means ‘inside us’. Finally, it was realized that ‘naus’ is a phonetic abbreviation of gnàtus (jawbone, mandible) so that we get gna’us, na’us, naus. It is the Greek equivalent to the Latin term ‘mando’ taken from ‘mandibula’, which means ‘to mandible’ or ‘to jawbone’ as slang for eating. Thus ‘naus’ and ‘mando’ mean ‘to eat food’ in Greek and Latin, using the same linguistic model.

a éor eleos pégas æ’eo ille auspex

and by that auspicial protection sister is given mercy from troubles

Note: The Latin word ile (ille) means ‘it’, ‘that’, ‘he’, ‘she’, and survived as elle/ele (he) in Portuguese.


nas préitor Tribunus laudo o’nas o mauz é’Osa

in it is recommended protection from the Lord against the Devil

Note: The word ‘nas’ can mean ‘in’ ‘at’ ‘on’ and ‘them’ in Portuguese. The word ‘nas’ may be an abbreviation of ‘nascimento’ (birth: Portuguese).

Note: The Latin word ‘osa’ (disliked, hated) was synonymous with the devil in Vernacular Latin.

Note: The Sephardi Jews lived on the Iberian Peninsula until the expulsion at the close of the 15th century as part of the Catholic Inquisitions - 1492. So, in reference to ‘mauz’ (protection, shelter, stronghold) the influence of Hebrew would have been a factor as their language, Judaeo-Spanish, was a blend of Iberian Romance, Hebrew and Aramaic.

10. mé’os [ab. métodos, meios: method, technique, means. Portuguese] eme’eon [issue, acquire the Holy Spirit. Latin, Portuguese] é’a [it to. Portuguese] æo s[eye (see) sanctum. Latin] o.n. (omnis noctem) æ’e o.n. (omne noctem) [all the night, and is, every night. Latin]

métados eme’Eon é’a æo sanctum omnis noctem æ’e omne noctem

the method to acquire the Holy Spirit to see holiness all night and every night

11. a’èas [ad ëas: to these. Latin] oré asa [lifted, held with prayer. Spanish, Latin] or ó laus [golden/yellow it’s the praise. Catalan, Latin]

ad ëas oré asa or ó laus

these are lifted with prayer, golden in the praise

Note: The Catalan word ‘or’ (gold) is derived from the Occitan ‘aur’ (gold) and the Latin ‘aurum’ (gold), which was used to describe yellow-orange-red colours, as well as the metal (Au).

12. os æ (i) or [flowerhead thus golden/yellow. Latin, Galician] eme’o [to acquire, to measure out: Latin] as (abb, umas) [some, a bit. Portuguese] éos emea [Éos (goddess of dawn) the midwife. Portuguese, Latin]

os i or eme’o umas Éos emea

the flowerheads is thus golden to measure out some Éos, the midwife -
Note: The word ‘os’ is used in Latin to mean – mouth, face, head, appearance, visage, etc. Here it refers to the flowerhead of the plant. Line 6 also uses the word ‘os’ to mean flowerhead, as the illustration shows a picked leaf stalk to demonstrate that only the foliage is eaten and not the flower.


do emendor ad o’naus emea

offers freedom from problems with the food, the midwife -

14. a æo mauz a lausa [to see protection of stone. Portuguese, Latin from Hebrew maoz:מֹאָץ] a æo mauz a lausa

to see protection of stone

Note: The Vernacular Latin word ‘lausa’ (stone) has a number of modern variants among the Iberian Romance languages: loza (Spanish), llosa (Catalan), lousa (Galician, Portuguese), laja (Portuguese). The Latin for a small pieces of stone is lausiae (s. lausia), whilst lausa more specifically meant a large slab of stone. Thus the Portuguese word ‘mausoléus’ (mausoleums) may derive from the phrase ‘maus-a-leus’ as a variant of ‘mauz a lausa’ – ‘stronghold of stone’.

Note: The phrase ‘maus a lauza’ may mean ‘to free from evils with praise’, taking the Portuguese ‘maus’ (evils) and the Catalan ‘lauza’ (praising). Either way, it amounts to a similar meaning.

Note: Vernacular Latin ‘lausa’ (flat stone, slate, flag) may refer to a heavy weight, a cliff edge (precipice) or a gravestone/tombstone. Lauze (tombstone) survives in French. Loza (tombstone) Spanish. Lousa, Galician. Laje, Portuguese.

Text in summary:
potent dose of prayers from the holy guardian for the evil eye…..it’s requested sister takes this successful path the food it is elemental, it is the sacred and the highest, as holy premium…..reward to begin every morning that which are sun flowers when in bloom and they create…..alliance with holiness for agreeable birth it is well known it results to acquire holiness and…..auspicial protection from its path every morning chew mouthfuls of the leaves and their love will provide auspicial protection…..for the birth the flowerheads are also food, served on clay dishes to provide auspicial protection…..by eating the food will bestow the Lord to sister with praise and by that auspicial protection sister is given mercy from troubles in it is recommended protection from the Lord against the Devil the method to acquire the Holy Spirit to see holiness all night and every night these are lifted with prayer, golden in the praise the flowerheads is thus golden to measure out some Éos, the midwife offers freedom from problems with the food, the midwife to see protection of stone

Discussion:
Clearly the ‘Helios flower’ (sun flower) described in this paper was seen to work in tandem with the ‘Éos flower’ (dawn flower) described in Plant Paper, No. 9., as Éos is goddess of the sunrise and Helios is god of sunlight. The mythological symbolism incorporated in the plant pages of the manuscript tells us that the author and artist had intimate knowledge of Ancient allegory and detailed knowledge of belief systems regarding botanical medicines. In this instance the plant was believed to bring protection of love from Éos, Demeter and Persephone by connecting the patient with holy powers of the Lord in order to combat any evil intentions of the devilish Osa. The associated belief system was thus a hybrid of Ancient Pagan beliefs and Christian Catholic beliefs, as both incorporated ideas of a heaven, earth and underworld. The plant is edible, so it would have provided genuine nutritional benefit and is traditionally eaten in salads to this day. Scientifically it is known to possess potential health benefits, such as antioxidants and phylloquinone\(^2,3,4,5\).
Fig 6. The manuscript illustration of *Crepis vesicaria taraxacifolia*. The four flowers are depicted both as flowerbuds and in bloom on their sides, depicting the rising sun. The flowerbuds also point toward earth, air, sunlight and water. One leaf has been removed for chewing as described in line 5 of the text. The root is depicted as four braids of hair (and ears of wheat) to symbolise the gods and goddesses of earth, air, sunlight and water.
Fig. 7. Various photographs of *Crepis vesicaria taraxacifolia*, for comparison with the manuscript illustration of the plant. We can how the artist combined the images of the closed and open flowerbuds.
Fig. 8. Photograph of a mature specimen of *Crepis versicara taraxacifolia*. We can see the flowerbuds with their characteristic red tipped sepals, and the emergent yellow-red petals. We can also see the dandelion-like leaves beneath the flower stems. The white tipped flowerbuds have gone to seed.
Fig. 9. 1616 print of *Crepis vesicara* by Fabio Colonna, in *Descriptions of Lesser Known Plants* (Ecphrasis minus cognitarum stirpium), then named *Cichorium pratense vesicarium*. 
Fig. 10. 1664 print of *Crepis vesicaria* by Caspar Bauhin in New Complete Herbal Book (New Vollkommenlich Kräuter-Buch), then named *Cichorium luteum*. This specimen is not the subspecies *taraxacifolia*, as it doesn’t have the deeply serrated leaves.
Fig. 11. A detailed illustration of *Crepis vesicaria taraxacifolia* by Ludwig Reichenbach, of 1823, then here named *Lagoseris taraxacoides*, in Iconographia Botanica.
Fig. 12. Another detailed illustration of *Crepis vesicaria taraxacifolia* by Ludwig Reichenbach, of 1823, here named *Barkhausia hiemalis*, in Iconographia Botanica. The word ‘hiemalis’ refers to winter, as the plant leaves survive into autumn and were used in salads. Reichenbach had two versions of the same plant in his book because *Crepis vesicaria* is variable in its form, so he mistakenly thought they were different. In Figure XX it is a rambling plant, competing for light and space, whereas in this image it is a solitary plant able to invest less effort into stem growth. We can though, see that the flowers and leaves are much the same.

References.
1. http://cichorieae.e-taxonomy.net/portal/cdm_dataportal/taxon/9ee86548-1a99-4657-8fcd-79bd1ecbc155f


Further reading:
5. Plant Series, No. 5. *Hesperocodon hederaceus*. [https://ling.auf.net/lingbuzz/004917](https://ling.auf.net/lingbuzz/004917)
11. Linguistic Missing Links. [https://ling.auf.net/lingbuzz/003737](https://ling.auf.net/lingbuzz/003737)
12. Linguistically Dating and Locating Manuscript MS408. [https://ling.auf.net/lingbuzz/003808](https://ling.auf.net/lingbuzz/003808)
13. Consonants & Vowels, Castles and Volcanoes. [https://ling.auf.net/lingbuzz/004381](https://ling.auf.net/lingbuzz/004381)

Symbol-Italic key for MS 408.

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