



ERYNGIUM L.

Order: Apiales (APG IV, Cronquist)

Family: *Apiaceae* Lindl.

With approximately 250 species distributed in Eurasia, North Africa, North and South America, and Australia (with the center of diversity in South America), *Eryngium* L. is the largest and arguably the most taxonomically complex genus of the family *Apiaceae*.

Like many other members of the celery or carrot family, *Eryngium* has been used as ornamental, vegetable, or medicinal plants. Some species, such as *E. foetidum* L., *E. maritimum* L., *E. planum* L., *E. dichotomum* Desf., *E. campestre* L. and *E. creticum* Lam. have been used as food or in traditional medicine locally or worldwide. *E. foetidum* and *E. caucasicum* Trautv. are cultivated as leaf vegetable crops in Asia and Africa. The fruits of *E. foetidum* were taken as food in Nigeria. [Wang]

Several *Eryngium* species have been used in herbalism and folk medicine. Apart from some very specific actions, all these species share some common therapeutic effects.

Main secondary metabolites of the genus: triterpenoid saponins (the most of *Eryngium* saponins belong to polyhydroxylated oleanene triterpenoid saponins), pentacyclic triterpenoids, monoterpenes, flavonoids, coumarins, phenolic compounds, steroids, polyacetylenes. [Wang]

Biological activities of *Eryngium* spp. (in vitro): cytotoxic, anti-mutagenic, anti-inflammatory, antidote to snake and scorpions venom, antibacterial (i.e., *Salmonella*), antifungal, antiparasitic, antimalarial. [Wang]

Recent investigations have confirmed some traditional medicinal uses. Ethanol extracts of *E. billardieri* Delar., *E. campestre*, *E. creticum*, *E. davisii*, *E. foetidum*, *E. isauricum*, *E. kotschyi*, *E. maritimum*, and *E. trisectum* showed apparent anti-inflammatory and antinociceptive activity. The fresh leaf extract of *E. creticum* gave a higher percentage inhibition of the haemolytic activity of the scorpion venom compared with the dried leaf extract, but extracts of both fresh and dried roots of *E. creticum* gave 100% inhibition of the snake and scorpion venoms. [Wang]

E. campestre has been found to significantly decrease cholesterol, triglycerides, low-density lipoprotein (LDL), insulin, and glucose levels when administered to high-fat diet-induced obese rats. [Ghadery]

**OLD WORLD *ERYNGIUM* SPECIES:
E. MARITIMUM L., *E. CAMPESTRE* L. AND *E. AMETHYSTINUM* L.**



Fig. 1: *Eryngium maritimum* L. ([Apel])

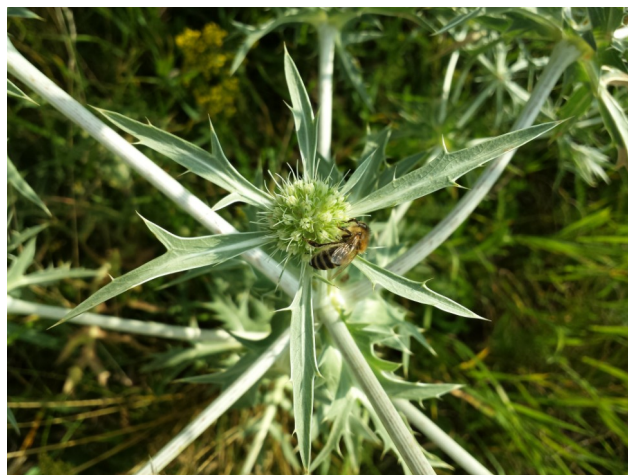


Fig. 2: *Eryngium campestre* L. ([Lefnaer])

<i>Primary functionality:</i>	Venus
<i>Secondary functionality:</i>	
<i>Nature:</i>	hot (slightly more than temperate) and moderately drying; with a subtle essence
<i>Taste:</i>	sweet, slightly aromatic, pungent, mildly astringent
<i>Tropism:</i>	spleen, kidneys, lungs, heart, stomach; mucous membranes
<i>Humoral actions</i> ¹ :	regulate humors, expelling the “corrupted” ones (heat, fluids, melancholy) and supplementing those that are lacking; resolve tension imbalance and supplement tension deficiency
<i>Tissue states:</i>	heat deficiency, corrupted heat (excess heat or damp heat ²), fluid excess (either thin or thickened), corrupted melancholy. Tension excess or deficiency. The root candied with sugar supplements fluids.
<i>Clinical actions:</i>	alexipharmic, antacid, antiepileptic, anti-inflammatory, antiparasitic, antispasmodic, aperitive ³ (diuretic, diaphoretic, expectorant, emmenagogue, lithontriptic, choleric, “opens the obstructions of the liver and the spleen”), aphrodisiac, appetizer, balsamic, carminative, discussive ⁴ , drawing, febrifuge, galactofuge, slightly hypotensive, nervine, stimulant tonic,

1 See the “Notes on humors” paragraph.

2 It corresponds to *putrefaction* of humoral medicine and to *damp-heat* and *toxic heat* of Chinese medicine.

3 Here, with the “old” meaning of “that opens the passages”: in this regards, these plants affects mostly (but not only) the mucous membranes.

4 Drugs that dissipates, resolve humors; discussive poultice, useful to resolve tumors.

vulnery

Used parts: roots, leaves, flowering tops

Description

Among the Old World *Eryngium* species, the most known ones are *E. maritimum* L. and *E. campestre* L. According to several authors, these are the only two species classically known in medicine, the other European *Eryngiums* (called “bastard sea Hollies” by Gerard) being generally regarded as inferior⁵ [Durante, Gerard, Parkinson]. Castore Durante, for instance, writes that the root of *Eryngium planum* L. is less drying and effective than the former two. [Durante]

E. maritimum and *E. campestre* are considered as practically interchangeable in medicine, sharing more or less the same properties, even if there are some little differences. Some repute *E. maritimum* slightly more effective, sweeter and more aromatic than *E. campestre*. Moreover, the roots of the former, longer and more tender than those of the latter, are more suitable for being sugar-candied (see below) [Chomel, Mattioli, Parkinson]. Castore Durante reports that the root of *E. maritimum* is slightly less drying than the root of *E. campestre*, but has the same properties. [Durante]

John Parkinson writes: “Both the Vpland [*E. campestre*] and Sea Holly [*E. maritimum*] are temperate in heate, somewhat drying and cleansing, but our Sea Holly is more effectual than the Vpland kinde in all things whereunto it may serve, yet it is so neare thereunto that it is accepted in the steed thereof, and that to very good purposes, being not much inferiour, what therefore I shall shew you of the Sea kinde, you may transferre to the other, as divers other good Authors doe.” [Parkinson]

Mrs. Grieve reports that, at her times, “The roots of both the Common Sea Holly and of the Field Eryngo [we]re both sold under the name of Eryngo Root.” [Grieve]

Eryngium amethystinum L. is rarely mentioned in literature, but according to some references it has just the same properties of *E. campestre* (see for instance [Acta]). Moreover, it is highly probable that this species has never been considered distinct from *E. campestre* by the classical authors⁶. For all the reasons described so far, *E. maritimum* L., *E. campestre* L. and *E. amethystinum* L. are treated here under the same paragraph as having the same properties, unless otherwise specified.

⁵ Even though Gerard reports that they have an evidently hot taste [Gerard].

⁶ Pietro Andrea Mattioli and Castore Durante describe three different kinds of *Eryngium*: *Eringio marino*, *Eringio montano* and *Eringio piano* or *Eringio liscio*. [Durante, Mattioli] The former one is surely *Eryngium maritimum* L.. The third species is similar in both the name and the morphology to *Eryngium planum* L.; of it, Castore Durante says it is found around Vienna [Durante].

Eringio montano is either *E. amethystinum* or *E. campestre*. Due to the shape of the petiole and of the base of the lamina of the basal leaves in the picture in Mattioli’s herbal, *Eringio montano* seems more similar to *E. amethystinum*, but it is highly probable that the author – and possibly other “classic” authors too – did not distinguish at all between the two species, so similar to each other and also occurring in similar habitats. Indeed, the classical botanical and medical sources deal almost always only with *E. campestre*, without even naming *E. amethystinum*. Moreover, Castore Durante writes that the color of the capitula of *Eringio montano* is “now green, now pale, now white and some times bluish” [Durante]. Also, Chomel writes that “the stems and leaves of all Eryngium species are of an amethyst colour when mature.” [Chomel], clearly mistaking *E. amethystinum* with mature specimens of *E. campestre*.

Mattioli describes the properties of the three plants as a group, without specifying differences among the species, while Durante writes that *Eryngium planum* L. is less effective than the other two. [Durante, Mattioli]

The young leaves, the young shoots and the roots are used for food [Acta, Mattioli, Parkinson, Wang]. The young shoots and leaves can be either eaten raw, cooked or pickled with vinegar [Acta, Mattioli, Parkinson]. They can be blanched by excluding light from the growing plant, and then be used as an asparagus substitute [PFAF]. The roots can be cooked and used as a vegetable (the boiled or roasted roots are said to resemble parsnips or chestnuts in flavour [PFAF]) or candied and used as a sweetmeat. The roots of *E. maritimum* can be also consumed raw⁷ [Acta].

The roots are the part most often used in herbal medicine. Classically, they were administered either as food or as a decoction in water or wine. Usually the decoction in wine was considered more effective than the decoction in water. The leaves, the whole plant and the water distilled from the young aerial parts (hydrosol) were (and are) sometimes employed, too.

The roots are slightly more hot than temperate and moderately drying [Durante, Gerard, Mattioli], “*with a thinness of substance*” [Gerard, Mattioli], even if Culpeper describes them as “hot and moist” [Culpeper]⁸. Mrs. Grieve describes the leaves as “sweetish, with a slight aromatic, warm pungency” [Grieve]. Parkinson tells of *E. campestre* that the leaves are “more prickly and less aromaticall, [...] the roote slenderer and shorter, neither so sweete nor fit to be preserved, nor so aromaticall in taste, in other things it is very like [*E. maritimum*]” [Parkinson].

According to the old European authors, the eryngos are useful for all the diseases that are due to “obstructions” of the viscera: liver, spleen, kidneys and urinary system, and also the uterus [Chomel, Durante, Gerard, Mattioli, Parkinson]. According to Chomel, the root and seed of this plant are used in all the infirmities, in which there are obstruction and embarassments of the viscera, especially in case of urination troubles. Eryngo roots are employed in decoctions and aperitive broths, like the other roots, abt. 1 oz per each pint of water. [Chomel].

These plants have been recognized the ability to break and expel the kidney stones and to resolve the “indurations” (tumors, abscesses, scrofula⁹ nodules, “hardening” behind the ears due to mumps); to promote free expectoration and to stop the cough, the whooping cough and the cough due to tuberculosis; to abate the fever (both malarial and ordinary); to tone the whole system and especially the sexual organs; to act as an antidote for venoms (scorpion and snake bites, animal stings, any venom, included Aconitum) [Adams, Culpeper, Chomel, Durante, Gerard, Mattioli, Parkinson, Wang].

Richard Hool reputes *E. maritimum*¹⁰ “*one of the most useful medicinal plants known*” [Hool2] and writes:

“This plant is valuable in obstructions of the liver and spleen, and is good for jaundice, dropsy, pains in the loins, colic, gravel, and bladder troubles. It is also very useful in coughs and in the debility accompanying advanced stages of consumption, as it promotes free expectoration and tones the system. It is a specific for rheumatism, impotence, paralysis, and chronic nervous complaints.” [Hool1]

And also:

⁷ But presumably this is true for any species, provided they are not too fibrous.

⁸ The roots are more correctly described as dry, since this is their “intrinsic” property. Anyhow, since their degree of dryness is not too high and since they stimulate to the digestive system, enabling the organism to better digest food and fluids, this results in an overall ability to make the body “build” more fluids (in MTC, it would be a Yin tonic). This is even more accentuated when the root is candied with sugar: in this case, it becomes “*exceeding good to be giuen to old and aged people that are consumed and withered with age, and which want natural moisture*” [Gerard].

⁹ Now known as “mycobacterial cervical lymphadenitis”.

¹⁰ But this evidently also applies to *E. campestre* and *E. amethystinum*.

"The complaints for which it may be employed are as follows: coughs, bronchitis, asthma, consumption, liver affections, kidney diseases, yellow jaundice, stone and gravel, dropsy, rheumatism (acute or chronic), sciatica, nervousness, fits, palpitation of the heart, loss of vital force, and as an antacid for correcting bile or a general debilitated state of the tissues." [Hool2]

"The whole plant, including root, is used, and it may be used either in the crude herb or root, or in powder, and made into tincture, infusion, decoction, fluid extract, solid extract, syrup, pills." [Hool2]

"In cases where the liver shows symptoms of sluggishness and allows large quantities of uric acid to accumulate, it has been proved to be an excellent remedy, when combined with Wild Carrot and made into a strong decoction" "as follows:

"Sea Holly 1 oz.

Wild Carrot [seeds] 1 oz.

Boil in 1½ pints of water down to one pint; strain, and take a wine-glassful [abt. 2 oz.] four times a day."[Hool1, Hool2]

"In all cases of jaundice gratifying results will follow the use of the following preparation:

Sea Holly, ½ oz.

Barberry Bark, ½ oz.

Boil together in 1 pint of new milk for 10 minutes, and then strain. The dose is 2 wineglassfuls every 3 hours. Relief will be experienced after but a few doses have been taken, and a complete cure may be confidently looked for at the end of from 7 to 14 days' use of the preparation." also for *"most obstinate cases."* [Hool1, Hool2]

"Used singly, the decoction is made by boiling one ounce of the root for 15 minutes in one pint of water. When cool, strain, and take from two to four tablespoonfuls three times a day." [Hool1]

"In all cases of coughs, bronchitis, asthma and consumption I have found Sea Holly exceedingly useful, either alone or combined with Black Horehound, Bur-Marigold, and crushed Ginger, made into a strong decoction and given in 1-oz. to 2-oz. doses 4 or 5 times a day. Excellent results have been secured.

In the cure of both acute and chronic rheumatism I have seen some of the grandest results it is possible to achieve by the use of Sea Holly alone, given in the following manner: Place 1 oz. of Sea Holly in a quart jug, fill up with boiling water, stew well, and then take half a teacupful 3 or 4 times a-day." [Hool2]

"Sea Holly exercises a remarkable influence over the nervous system, giving tone and harmony of action, and awakening its latent energies to healthful activity. This peculiar stimulative property is of very great service in those cold and passive conditions which sometimes attend the development of strumous diseases [scrofulous swellings]; besides which Sea Holly has a special influence on the organs of generation, independent of its general constitutional influence, and for this reason it has proved of value in cases of prolapsus uteri, tendency to miscarriage, atony of the generative organs, sterility, and impotence—all of which have been cured by Sea Holly." [Hool2]

Hool considers the reputation of sea holly as an aphrodisiac that exhausts the sexual instincts to be an unwarranted supposition made by writers who have no experience with the plant but generalize from its uses. [Hool2, Wood]

The aphrodisiac action is well described by Mrs. Grieve, too:

“The roots are supposed to have the same aphrodisiac virtues as those of the Orchis tribe, and are still regarded by the Arabs as an excellent restorative.” [Grieve]

Eryngium species can be cultivated. Sea Holly, in common with the ornamental varieties, *Eryngo*, will grow in a garden, if planted in a warm, well-drained and preferably a gravel soil, but the roots will not grow as large or as fleshy as those which are found upon the seashore within reach of salt water. Plenty of sun is essential for all varieties [Grieve]. The seeds usually require a period of cold stratification, even if this may vary depending on the species and population.

The root should be harvested in the autumn from plants that are at least 2 years old [PFAF].

Properties

Temperature and taste

Hot (slightly more than temperate) and moderately drying; with a subtle essence.

Sweet, slightly aromatic, pungent. Mildly astringent. [Grieve, Hool1, Hool2]

Signature

Primary signature: Venus.

“The plant is venereal, [...] and under the celestial Balance¹¹.” [Culpeper]

All *Eryngiums* are first and foremost Venusine plants. This is clearly evident if we look at their primary action, that is to eliminate what is bad (imbalances, toxic material, infections, parasites, ...), and “nurture” and heal what is good and, so, must be “kept”. Moreover, just like other typical Venusine plants, they are anti-inflammatory and anti-spasmodic, regulate “impulses” and restore vitality, and act decidedly upon the kidneys and on the sexual organs.

Spiny plants are usually linked to the Mars principle, but in fact spines and thorns are rather a sign of Fire, pungent heat. Such features are surely typical of Martial plants, but not exclusively. Spiny Venus plants (*Eryngium*, some *Rubus*, *Dipsacus*, etc.) have the peculiar property of acting in a “hot” (they can be heating, purifying, antiseptic, or similar) manner on the Venusine “plane”. In this sense, they are rather embodiment of the “warlike” aspect of the original Venus/Aphrodite archetype (see also [Campidoglio]).

Tissue phases

E. campestre: 2 (reaction/inflammation), 4 (fibrosis) [Dewit-Leunis]

Actions and indications

Humoral actions

Eryngium plants have a so wide range of effects upon the body that they seem quite difficult to “systematize”, at least at a first glance. At a deeper look, however, these drugs show that they have foremost the ability to regulate humors, expelling the “corrupted” ones (that is, those being in

¹¹ Under the sign of Libra.

excess or of poor quality) and supplementing those that are lacking, in perfect accordance with the Venusine principle and the Libra function that rule these plants (eliminate what is bad and nurture what is good).

For instance, *Eryngium* plants:

- clear corrupted heat (fever, inflammation, cystitis, urethritis, prostatitis, rheumatism, bronchitis, “toxic” heat due to infections or parasites, ...) and supplement correct heat (appetizer, aphrodisiac, stimulating tonic, ...)
- clear corrupted, more or less “thickened” and/or “hardened” fluid humors¹² (edema, dropsy, hydrocephalus, bronchial mucus, mucus from the bowels, hemorrhoids, jaundice, enlarged prostate, calculi, hardened “strumous” masses, depression, ...) and supplement Phlegm and Melancholia¹³ (they provide “natural moisture”¹⁴ to the elderly, generate tissues like “flesh” and bones¹⁵)
- treat some Tension imbalances¹⁶ (colic, spasms, cough, opisthotonus, epilepsy, spasmodic contractions of ducts and sphincters, asthma, paralysis, organ prolapse, ...) and supplement lacking Qi (restorative tonic, appetizer, ...).

Tropism

The eryngos have a particular affinity for spleen, kidneys, heart, lungs, stomach, pelvic floor and low abdomen, mucous membranes.

Clinical actions

Alexipharmic, antacid, antiepileptic, anti-inflammatory, antiparasitic, antispasmodic, aperitive (diuretic, diaphoretic, expectorant, emmenagogue, lithontriptic, choleric, “opens the obstructions of the liver and the spleen”), aphrodisiac, appetizer, balsamic, carminative, discussive¹⁷, drawing, febrifuge, galactofuge, slightly hypotensive, nervine, stimulant tonic, vulnerary. It may have an emetic action when taken in large quantities. [Atzei, Chomel, Culpeper, Dewit-Leunis, Durante, Gerard, Hool1, Hool2, Mattioli, Parkinson, PFAF, Wang, Wood]

Principal actions:

- aperitive [Atzei, Culpeper, Dewit-Leunis, Durante, Gerard, Mattioli, Parkinson]

12 This corresponds to the *corrupted phlegm* of humoral medicine, a condition that can also affect the “correctness” of the humor *blood* and that can lead to the production of corrupted *melancholy*; in Chinese medicine this corresponds to *Dampness* or *Phlegm* (and possibly also to *Blood stagnation*).

13 In Chinese medicine, they supplement Yin, that is the source of both body fluids and body hardened “structures” (e.g., bones, teeth).

14 Correct phlegm (humoral medicine) or Yin (Chinese medicine).

15 Stimulates the healing of wounds and fractures; it is anti-anorexic.

16 Qi imbalances and Wind, according to the Chinese medicine. According to the principles of Chinese medicine, Wind is always linked to (or produces) Qi imbalances (“corruption” of Qi). These conditions are often characterized by excessive tension and/or involuntary movements of both voluntary and involuntary muscles and fibers, pain, spasms, and so on.

17 See note 4.

- “opens the obstructions of liver and spleen”: jaundice, spleen enlargement, “overflow of gall” (cholestasis)¹⁸ [Durante, Gerard, Grieve, Hool1, Hool2, Mattioli, Parkinson, Wood]
 - Liter.:
 - *“for this [...] purpose, a decoction made from the fresh roots is best.”* [Wood]
 - *“The decoction of the roots drunk opens the oppilations of the spleen¹⁹, and the liver²⁰, & is good for the pain of the loins, especially when done with wine, & is also useful in dropsy, & in overflow of gall²¹.”* [Durante; simil., Mattioli]
- “opens the obstructions of the kidneys”: diuretic, antispasmodic diuretic, lithontriptic
 - edemas and dropsy [Culpeper, Dewit-Leunis, Durante, Gerard, Mattioli, Parkinson]
 - strangury [Boericke, Culpeper, Durante, Mattioli, Parkinson]
 - kidney and bladder stones, gravel [Atzei, Culpeper, Gerard, Mattioli, Parkinson]
 - uric acid retention [Hool1, Hool2, Wood]
 - Liter.:
 - *“Taken in large doses, the mother tincture increases the clearance of urea, of chloride ions and lowers the blood pressure. It’s an anti-edematous herb.”* [Dewit-Leunis]
 - *“It acts against kidney stones (whole plant decoction)”* (*E. maritimum*) [Atzei]
 - *“As a diuretic and antilithic [...] The root once used in dropsy and urinary blockage [...]; infusion of the root collected in autumn used frequently for kidney stones [...]; infusion of leaves and roots [...]; infusion of roots [...]. Infusion of against urinary tract inflammation [...]; decoction of roots that are not too wody for kidney and bladder stones and as an anti-edematous remedy”* (*E. campestre*) [Atzei]
 - *“It happened that using this root some people have freed themselves from stones, the leaves juice extracted with wine, helps gleet when drunk.”* [Durante]
 - *“all the infirmities of the kidnies, prouoketh vrine, greatly opening the passages, being drunke fifteen daies together”*[Gerard].
 - *“the continued use of the decoction for fifteene daees taken fasting, and next to bedwards, doth helpe the strangury, the pissing by droppes, the stopping of the urine and the stone, and all defects of the reines and kidneyes, and if the said drinke be continued longer, it is said perfectly to cure them that are troubled with the stone, that the paines shall never returne againe, the experience on them that have beene troubled along time therewith, declaaring it to be true.”* [Parkinson]
 - *“Usually a dram is drunk together with some seed of wild carrot”*. [Mattioli]

18 So, possibly also useful for gallstones.

19 E.g., spleen enlargement.

20 E.g., jaundice.

21 Cholestasis.

- “opens the obstructions of the matrix²²”: emmenagogue [Durante, Mattioli]
 - Liter.:
 - *“It is equally useful in strangury, and the oppilation of the kidneys, and of the matrix.”* [Durante, Mattioli]
- “opens the pores”: diaphoretic [Acta, Frontiersin, Grieve, Hool1, Hool2, PFAF, Vermeulen]
 - febrifuge: for ordinary and periodic fevers [Atzei, Culpeper, Grieve, Mattioli] (decoction of the root or young leaves hydrosol).
 - Liter.:
 - *“The distilled water of the whole herb when the leaves and stalks are young [...] is available in quartan and quotidian agues; as also for them that have their necks drawn awry, and cannot turn them without turning their whole body”* [Culpeper; simil. Grieve, mattioli, Parkinson]
- expectorant [Frontiersin, Grieve, Hool1, PFAF]
- discussive for tumors (hard masses), “strumous diseases” [scrofulous swellings] (scrophula or “King’s evil”, hardened abscesses, mumps) [Culpeper, Durante, Hool1, Hool2, Mattioli, Parkinson, Wood] (internally, as a decoction, and/or externally, either as an ointment or applying directly the bruised root)
 - Liter.:
 - *“[Plastered with honey if heals] the impostumes²³, that come out behind the ears.”* [Durante, Mattioli]
 - *“Drunk, it heals the tumors.”* [Mattioli]
 - *“the juice of the leaves dropped into the eares helpeth impostumes therein”* [Parkinson]
- antitussive [Clarke, Hool1, Hool2, Wood]:
 - cough
 - whooping cough (drunk freely) [Frontiersin, PFAF]
 - coughs of the advanced stages of pulmonary consumption [Hool1, Hool2, Grieve].
Liter.: *“as it promotes free expectoration and tones the system”* [Hool1]
- antispasmodic:
 - colic, cramps [Culpeper, Durante, Gerard, Grieve, Mattioli].
 - Liter.:
 - *“Decoction of the aerial part for gastrointestinal pain and colic”* [Atzei]
 - convulsions, epilepsy, opisthotonus, paralysis [Durante, Gerard, Grieve, Mattioli].

²² Uterus.

²³ Abscesses. In this case, probably the author refers to mumps.

- Liter.:
 - *“The root drunk with acqua melata²⁴, helps the epilepsy, and that spasm that is called opisthotonus”* [Mattioli].
- asthma [Hool1, Hool2]
- nervine:
 - delirium, nervousness [Grieve]. Liter.: *“It is useful in paralysis and chronic nervous diseases, alike in simple nervousness and in delirium produced by diseases.”* [Grieve].
- carminative, stomachic, appetizer [Atzei, Frontiersin, Mattioli, Wang]; also in anorexia [Gille].
 - Liter.:
 - *“As an eupeptic-digestive [...]; decoction of the root [...]; infusion of leaves and roots”* [Atzei]
- antiscorbutic [Chomel, Frontiersin, Grieve]
- antidiarrhoic [Atzei].
 - Liter.:
 - *“Decoction of the dry or fresh plant with flowers [...]; decoction of the root”* [Atzei]
- antidepressant; for heart palpitations (root decoction or young leaves hydrosol) [Culpeper, Durante, Grieve, Mattioli]
 - Liter.:
 - *“The same [decoction of the root] is helpful for all the heart issues together with Borage water, or Lemon Balm water.”* [Durante, Mattioli].
 - *“The distilled water of the whole herb when the leaves and stalks are young [...] helps the melancholy of the heart”* [Culpeper, Grieve]
- anti-inflammatory:
 - cystitis, urethritis, enlargement or inflammation of the prostate gland [Grieve, Güneş, Leporatti, PFAF, Soumia]
 - Liter.:
 - Used for prostatitis in Bulgaria (root infusion) [Leporatti]

²⁴ A kind of honey water prepared by boiling 1 or 8 parts of water together with 1 part of honey at low flame, until the liquid has reduced to 1 part, removing the scum (foam) that comes to the surface.

- pains in the loins, body aches [Durante, Hool1, Mattioli]
- bronchitis [Wood]
- rheumatism, both acute and chronic [Atzei, Frontiersin, Hool1, Hool2, Wood]
- alexipharmic (antidote to poisoning) [Gerard, Mattioli, Parkinson]:
 - bite from any “venomous beast” (scorpions, snakes, insects)
 - “against the poisons drunk”, *Aconitum* poisoning, alcohol (prevents drunkenness).
 - Liter.:
 - “*The powder of the root is worth drunk with the broth of the Frogs, that are eaten, against the poison of the Toads, of the toxic, and of Aconite, or in goose broth, when the Frogs are not available.*” [Durante, Mattioli]
 - “*Taken before meals prevents drunkenness, and diarrhea.*” [Durante, Mattioli]
 - “*It is helpful against the poisons, drinking a dram of the powder of its root together with seeds of wild carrot.*” [Durante]
- anti-parasitic
 - tapeworms, pinworms [Wang]
 - Leishmania, Trypanosoma [Medbouhi, Gill]:
 - malaria
 - gonorrhea [Durante]. Liter.: “*Drunk, it is helpful against gleet*²⁵” [Durante]
 - syphilis, syphilitic ulcers [Mattioli, Parkinson]
 - Liter.:
 - “*The water distilled from the young leaves is administered with manifest advantage by giving it to drink for forty days to those who suffers from French pox; because it strongly benefit the liver*”²⁶ [Mattioli]
- galactofuge [Atzei, PFAF]. Liter.: “*Root infusion*” [Atzei]
- general tonic (stimulating and somewhat relaxing), “restorative”, sexual tonic, aphrodisiac; especially useful for elder people, people debilitated for tuberculosis, and for people without sexual desire [Atzei, Gerard, Grieve, Hool1] (root decoction or, better, in this case, the root candied with sugar)
 - prolapsus uteri, tendency to miscarriage, atony of the generative organs, sterility, and impotence [Hool2].
 - Liter.:

25 Castore Durante is the only Italian classical author that gives this specific indication. Thomas J. Lyle e Finley Ellingwood refer of a similar indication for *E. aquaticum* [Ellingwood, Lyle]).

26 John Parkinson does not refer to the distilled water, but simply to the plant. Given the context, it is more presumable that he refers to the decoction of the root.

- *“exceeding good to be given to old and aged people that are consumed and withered with age, and which want natural moisture : they are also good for other sorts of people that have no delight or appetite to venery, nourishing and restoring the aged, and amending the defects of nature in the younger”*. [Gerard]
- *“It is also very useful [...] in the debility accompanying advanced stages of consumption”* [Hool1]
- *“The herb was administered to their own husbands by the young women belonging to the noble class that were forced to marry elderly or even old men for interest. As a regulator of the sexual sphere.”* [Atzei] *“as a tonic ([...] decoction of the root)”* [Atzei]
- *“The plant is venereal, and breeds seed exceedingly, and strengthens the spirit procreative”* [Culpeper]
- drawing and vulnerary (externally, plastered with honey or as an ointment infused with fats): splinters, bone fractures, kidney ulcers; stimulates tissue regeneration [Culpeper, Chomel, Grieve, Mattioli, Parkinson, PFAF]
 - The dried powdered root aids tissue regeneration [Culpeper, Grieve, PFAF].
 - Liter.:
 - *“Plastered with honey it draws out thorns, spikes, [...] that are stuck in any bord part, and resolves the scrophulae, the inguinal indurations²⁷”*. [Mattioli]
 - *“If the roote be bruised and boiled in old Axungia or salted lard, and applied to broken bones, thornes, &c. remaining in the flesh, doth not onely draw them forth, but healeth up the place againe, gathering new flesh where it was consumed, or almost fallen away”* [Parkinson; simil. Culpeper, Grieve]
- Other:
 - hydrocephalus in children [Wood]
 - tuberculosis [Chomel, Frontiersin, Grieve, Hool1, Hool2, PFAF, Vermeulen, Wood]; also as an antitussive and restorative (see respective entries).
 - hemorrhoids [Frontiersin]

Specific indications

General

- swollen and hardened tissues and lymph gland: tumors (hard masses), scrophula or “King’s evil”, hardened abscesses, mumps
- tonic (stimulating and relaxing), “restorative”, sexual tonic, aphrodisiac; especially useful for elder people, people debilitated for tuberculosis, and for people without sexual desire

²⁷ Ancient. Inguinal tumor or abscess.

- alexipharmic (antidote to poisoning): bite from any “venomous beast” (scorpions, snakes, insects), “contra i veleni bevuti”
- fevers, ordinary and periodic
- anti-rheumatic (for acute and chronic rheumatism)
- pains in the loins, body aches
- anti-parasitic: tapeworms, pinworms, Leishmania, Trypanosoma, syphilis, malaria, gonorrhea

Liver and spleen

- jaundice, spleen enlargement, “overflow of gall” (cholestasis)

Urinary system

- edemas and dropsy
- strangury
- kidney and bladder stones, gravel, uric acid retention
- bladder diseases, cystitis, urethritis

Respiratory system

- cough, whooping cough, coughs of the advanced stages of pulmonary consumption
- asthma
- bronchitis
- tuberculosis
- expectorant

Digestive system

- colic, cramps
- diarrhea (atonic)
- hemorrhoids
- carminative, stomachic, appetizer
- antiscorbutic

Nervous system

- convulsions, epilepsy, opisthotonus, paralysis
- delirium
- nervousness

- depression
- heart palpitations
- hydrocephalus in children

Sex organs

- atony of the generative organs, sterility
 - MALE: enlargement or inflammation of the prostate gland, impotence
 - FEMALE: emmenagogue, galactofuge, prolapsus uteri, tendency to miscarriage

External use

- drawing: splinters
- vulnerary: bone fractures, kidney ulcers; stimulates tissue regeneration.

Preparation and dosage

The roots are the parts most often used in herbalism, even if both the leaves and the flowering tops are sometimes used. As an infusion, decoction, or tincture; infused in oil or fat for external use. Dosage for the tincture: 1-10 drops or more, internally or externally, as needed.

Contraindications and side effects

Large quantities may have an emetic action and may lower blood pressure.

Eryngo candied roots

Especially during the Tudor times, the roots of the European *Eryngium* plants were often candied ('condited') and eaten as sweetmeats and regarded as an aphrodisiac and a general tonic, especially suitable for elder people [Gerard, Grieve, Hool1, Vermeulen] and in the case of "debility accompanying advanced stages of consumption" [Hool1].

Even if the roots of *E. maritimum* are more suitable for being candied than those of *E. campestre*, since longer and more tender, (see for instance [Mattioli, Parkinson]), nonetheless in literature there are also references to candied roots of field eryngo. Samuel Frederick Gray, for instance, reports that the root of the *Eryngium campestre* (*Field Eryngo*) "candied, [is] slightly aromatic, eaten as a stimulant and antipestilential." [Gray]

Different recipes exist for candied eryngo roots, but more or less the main steps are the following [Gerard, Quincy]:

- Boil the eryngo roots in a little water until the rind can be easily peeled off (this may take up to 4 hours, according to John Gerard [Gerard])
- Peel the roots

- Remove the inner pith, either by pulling it from one of the ends of the root or by cutting the roots down the middle
- Rinse with cold water

At this point, the roots have to be candied. The simplest recipe is the following [Quincy]:

- For each pound of the roots take 2 pounds of refined sugar, place it over a low fire to melt; upon the first appearance of boiling, throw in the roots, and boil them till they become tender.
- Remove the roots from the flame and put them on a slightly oiled greaseproof/parchment paper or marble shelf until they cool down.

A more complex recipe is the following [Gerard]:

- (Optional) Mix 1-2 tablespoons of rose water, a tablespoon of cinnamon water and a grain of musk (optional) and let the mix infuse overnight.
- Prepare a syrup with a pound of refined sugar, the white of an egg and a pint of water; boil it over a medium flame, scumming it when needed, and boil until you get a dense syrup.
- (Optional) When the syrup has cooled down (to half cold), add the rose and cinnamon water, filtered to remove the musk
- After having rinsed the peeled roots, put them into the half cold syrup and leave them to infuse for a day or so.
- Set the syrup and the roots on the fire again in a broad pan until hot, but be sure to let them not boil; let the roots remain over the fire for an hour or more, moving them with a wooden spoon every now and then.
- Sprinkle a piece of grease-proof/parchment paper with sugar and put the roots over the paper, rolling them until they are covered well with sugar.
- Let the root dry and harden a little in a warm place, e.g., into a stove or before a fire

In the same manner also other roots (e.g., angelica) may be candied.

Homeopathy (Ery-m)

[Clarke, Vermeulen]

E. maritimum is the only species that has been proven in homeopathy. According to John Henry Clarke, “*the symptoms show considerable resemblance to those of Eryngium aquaticum. Pains in the eyes, groins, larynx, nape of neck, sinking at epigastrium, and weakness of the male sexual organs appear in both. But the Eryngium maritimum has its symptoms more prominently on the right side.*” [Clarke], showing again the strong affinities between the New World and Old World *Eryngium* species.

In homeopathy, the tincture of whole plant, including root, is used.

Clinical: Cough. Debility. Fever. Herpes. Sexual weakness. Skin eruption.

Mind

- Very light and unusually cheerful the first few days; the second morning I awoke and became so merry, that I commenced to sing in bed; as I am usually heavy and drowsy on waking, I attribute this symptom to the medicine probably exciting the liver.¹
- Disinclination to speak.
- Mirth, hilarity, liveliness, foolish.

General

- Great dryness — lips, throat, larynx.
- Desire for coition absent for several days; power of erection seems gone.

Sensations

- Circulation as if stagnated.
- Sinking at pit of stomach.
- All viscera in abdomen as if prostrated and heavy as lead.

Local

- Inclination to close eyes to shut out moving objects.
- Pain at nape of neck, compelling the support of head on hand or against something.
- Legs, in walking, weak at knees and almost unable to bear body; felt I should drop every minute.

**NEW WORLD *ERYNGIUM* SPECIES:
ERYNGIUM AQUATICUM L., *ERYNGIUM YUCCIFOLIUM* MICHX.**

<i>Primary functionality:</i>	Venus
<i>Secondary functionality:</i>	
<i>Nature:</i>	
<i>Taste:</i>	salty [Wood]
<i>Tropism:</i>	
<i>Humoral actions:</i>	regulate humors, expelling the “corrupted” ones (heat, fluids, melancholy) and supplementing those that are lacking; resolve tension imbalance and supplement tension deficiency
<i>Tissue states:</i>	heat deficiency, corrupted heat (excess heat or damp heat), fluid excess (either thin or thickened), corrupted melancholy. Tension excess or deficiency.
<i>Clinical actions:</i>	alexipharmic, antacid, anti-inflammatory, antiparasitic, antispasmodic, aperitive (diuretic, diaphoretic, expectorant, lithontriptic), aphrodisiac, appetizer, discussive, febrifuge, nervine, stimulant tonic
<i>Used parts:</i>	Roots, leaves

Description

Probably the most known *Eryngium* species of New World are *E. aquaticum* L. and *E. yuccifolium* Michx, sometimes mistaken for each other, especially in the older literature (their common names include, for both of them, “rattlesnake master” and “button snake-root”).

Even if some differences exist among the two species, their medicinal action is quite superimposable. For this reason, *Eryngium aquaticum* L. and *Eryngium yuccifolium* Michx. are treated here under the same paragraph as having the same properties, unless otherwise specified.

Rattlesnake master²⁸ is one of the most powerful “snake medicines” known to the Eastern Woodland Indian people. The snake medicines are suited to conditions of depression²⁹. They are almost all used for snake bite, or where tissues have been “killed” by poison. They are also widely used in skin rashes where the outbreak recedes and the poisons inflict themselves on interior organs. [Wood2]

According to Finley Ellingwood:

“In chronic disease of the respiratory organs, with a relaxed condition of the mucous membranes, it acts as a stimulating expectorant.”

²⁸ Even if both *E. aquaticum* and *E. yuccifolium* share the common name of “rattlesnake master”, this appellation refers more properly to *E. yuccifolium*.

²⁹ Here, with the meaning of heat deficiency.

It is especially valuable in chronic irritation and inflammation of the mucous membranes; and on the urinary passages it has been shown to possess specific powers, as in dysuria from stricture, and in gleet³⁰ and chronic gonorrhea.

It also acts as a tonic upon the reproductive function, and is a very positive remedy in nymphomania and satyriasis.

It may be given as a tonic in cases of weak digestion, and to promote the appetite in general debility, and in convalescence from fevers.” [Ellingwood]

Roots of *E. aquaticum* and *E. yuccifolium* are a moderately diffusive stimulant, somewhat relaxing, with a special affinity for the mucous membrane, the circulation and the “secernent” organs [Ellingwood, Lyle].

The roots are diaphoretic, febrifuge, diuretic, and expectorant, and are used as an antidote for poisons (e.g., snakes; for this purpose it should be used internally and applied externally), to expel tapeworms and pinworms, for venereal diseases, irritation of the bladder and urethra, dysuria, atonic dropsy, gravel, chronic nephritis, jaundice, chronic bronchitis with profuse expectoration, chronic gonorrhoea, nymphomania and satyriasis, phthisis with profuse expectoration, chronic laryngitis, mucous diarrhea and summer complaint, epidemic influenza, scrofulous ophthalmia, hemorrhoids and prolapsus ani. They act upon the kidneys, the bladder and the urethra in the relief of chronic congestions and gleet [Ellingwood, Lyle, PFAF, Wang].

A decoction of the roots has been found useful in cases of exhaustion from sexual depletion, with loss of erectile power, seminal emissions and orchitis [PFAF, Wang]. It also lessens erections and prevents seminal emissions. The plant lessens urethral, vaginal or rectal irritation and is valuable for diarrhoea, leucorrhoea, and hemorrhoids. [Lyle]

It is useful in the exanthems to bring out the eruptions, as in cases of small-pox, scarlatina and measles (warm infusion) [Lyle, Wood].

It makes a good addition to some alterative medicines for the elimination of impurities from the circulation, as in scrofula and syphilis. [Lyle]

According to Matthew Wood, it is a profound heating remedy indicated for people that are “so chilled” [Wood3].

For burning of the urethra and penis with irritation of the prostate with an intense sexual urge, David Winston suggests the tincture of *E. aquaticum* (whole fresh plant, 1:2, 30-40 gtt QID³¹) [Winston].

Large doses prove emetic and cathartic [Lyle, Wood].

According to Lyman Watkins, an eclectic physician, “*Eryngium* is another so-called diuretic which has very little diuretic action, but the remedy is one of our best agents for irritation of the neck of the bladder, whether this arises from inflammation, gravel, gonorrhea, or nonspecific urethritis. *Eryngium* is indicated by burning and itching in the urethra, with frequent micturition. It may be given with confidence in this condition, and the size of the dose gradually increased until results follow, which is always a good rule in specific medication” [Watkins, Wood2].

According to Matthew Wood, *Eryngium* is an absolute specific when swellings are hard. He has used this indication in humans and in horses. *Eryngium* has a salty taste, indicating that it is an emollient, or softening agent [Wood2].

30 A watery discharge from the urethra caused by gonorrheal infection.

31 “Quater in die”: 4 times a day.

According to Lyman Watkins, edges of tongue red and tender, possibly with nausea and lack of appetite (anorexia), is an indication for *Eryngium* [Watkins2].

Properties

Taste

Salty [Wood]

Actions and indications

Clinical actions

Alexipharmic, antacid, anti-inflammatory, antiparasitic, antispasmodic, aperitive (diuretic, diaphoretic, expectorant, lithontriptic), aphrodisiac, appetizer, discussive, febrifuge, nervine, stimulant tonic. It may have an emetic action when taken in large quantities. [Boericke, Ellingwood, Hering, Lyle, PFAF, Wang, Wood2]

Specific indications

[Wood]

General

- *Swollen tissues are hard from infiltration of protein into the lymph*; either cold or hot.
- Chronic inflammation of the mucosa, loss of tone, free secretion.

Respiratory system

- Scrofulous ophthalmia.
- Chronic laryngitis.
- Chronic disease of the respiratory organs, with relaxed mucosa and profuse expectoration; bronchitis; tuberculosis.

Digestive system

- Weak appetite and digestion, with general debility, in convalescence from fevers.
- Mucus diarrhea, epidemic influenza.
- Hemorrhoids and anal prolapse from excessive diarrhea.

Sexual and urinary systems

- Atonic dropsy, gravel, chronic nephritis.
- Irritation of the bladder and urethra.

- Urinary tract inflammation, pain.
- Loss of tone of mucosa with free secretion; gonorrheal discharges, stricture; chronic gonorrhea.
- Urinary incontinence.
- Confusion of urinary and sexual impulses.
- Nymphomania and satyriasis.

Other

- *Bee stings, insect bites, snake bites; where the tissue is hard and swollen.*

Preparation and dosage

The roots are the parts most often used in herbalism, even if also the leaves are sometimes used. According to Matthew Wood, the leaves are just as serviceable and are preferable [Wood2]. As an infusion, decoction, or tincture; infused in oil or fat for external use. Dosage for the tincture: 1-10 drops or more, internally or externally, as needed.

Contraindications and side effects

It may have an emetic action when taken in large quantities.

Homeopathy (Ery-a)

[Boericke, Hering]

Of the two *Eryngium* species treated here, only *E. aquaticum* has been proved homeopathically.

A remedy for urinary disorders. Strangury, etc, with nervous erethism. *Thick, yellow mucous discharges*. Influenza. Uridrosis, sweat of urinous odor in evening.

The tincture is prepared from the fresh root.

Clinical: *Incontinence of urine; Spermatorrhoea.*

Mind

- Very sober and depressed in spirits; very dull at night.
- Not able to think steadily on any subject.
- Thoughts confused; cannot concentrate them upon any subject without much exertion; causes heavy full pain in persisted in.

Sensorium

- Vertigo.

Inner head

- Expanding sensation in frontal region above eyes, < stooping.
- Continual dull heavy pain in frontal portion of brain.
- Severe pain in frontal region, causing dimness of sight.
- Frontal headache on rising.
- Reading or writing causes hard, heavy pain in forehead; < stooping.
- Pain in head, < by lowering it or thinking intently upon any subject; pain especially in frontal region and more particularly over left eye, of a sharp and shooting character; when sitting in stooping posture it leaves eye, passes into neck and along muscles of shoulder, and beneath scapula, where it remains for some time.
- Shooting pains in coronary region, and in right side of face, from eyes to teeth, in morning.
- Dull dragging pain in occiput, neck and shoulders.

Outer head

- Scalp sore to touch, combing hair causes pain.

Sight and eyes

- Dull expression of eyes, great inclination to sleep.
- Eyes sensitive to light.
- Burning pain in eyes, they feel heavy and slightly congested.
- Scleritis; smarting burning sensation, with heavy aching pains, produced by strong light; squinting on exposure to strong light; tearing burning pains in eyes; watery or purulent discharge.
- Purulent inflammation of left eye; congested, red, swollen tender to pressure; constant dull aching, > by heat; profuse discharge of purulent, sticky fluid, glueing lids together, and flowing on cheek from all parts of eyelid; conjunctiva granulated and rough.
- Muscles of eye feel stiff, pain on turning them quickly.
- Severe tearing, boring pain over left eye.

Hearing and ears

- Continued ringing, singing with cracking sound in left ear.
- Bruised tearing pain about ears, as if they were being torn from their location.
- Inflammation of Eustachian tube; left ear swollen in and out, tender to pressure, constant aching pain, bleeding readily, thick, white, bloody, foul-smelling pus.

Smell and nose

- Profuse thick, yellow, mucous discharge from nose.

Face

- Shooting pains in right side of face from eye to teeth.

Inner mouth

- Thick, tenacious, disagreeable mucus in mouth.

Palate and throat

- Smarting raw pain along left side of throat; dry tongue.
- Intense redness and congestion of mucous membrane of throat, slight swelling without pain, profuse secretion of thick, whitish mucus.

Appetite, thirst, desires, aversions

- Partial anorexia.

Hiccough, belching, nausea and vomiting

- Nausea followed by acrid eructations.

Scrobiculum³² and stomach

- Hollowness or emptiness in stomach, with heavy, dragging pain.
- *Spitting up of bright arterial blood, mixed with black clots, with burning in epigastrium, after a blow on stomach.*

Abdomen and loins

- Severe colicky or cramping pain in small intestines.
- Severe pain in left groin and testicle.

Stools and rectum

- Bowels constipated.
- *Mucous diarrhoea of children.*
- Tenesmus at stool; feces seem to be cut as they pass through anus.
- *Hemorrhoids and prolapsus ani.*

³² Pit of stomach.

Urinary organs

- A remedy for urinary disorders. Strangury, etc, with nervous erethism.
- Uridrosis, sweat of urinous odor in evening.
- Frequent desire to urinate; stinging burning pain in urethra, behind glans during urination.
- **Must urinate every five minutes; urine dripping away all the time, and burning like fire.**
- Tenesmus of bladder and urethra. Pain behind pubes. Spasmodic stricture.
- Renal colic (Pareira; Calc).
- Congestion of kidneys with dull pain in back, running down the ureters and limbs. Irritable bladder from enlarged prostate gland, or from pressure of uterus.

Male sexual organs

- ***Sexual desire suppressed, then excited, with lewd dreams and pollutions.***
- *Discharge of prostatic fluid from slightest causes.*
- *Involuntary emissions occasioned by onanism or excessive sexual indulgence.*
- *Emissions at night with erections; semen also passed by day with urine; loss of semen (without erections) followed by great lassitude and depression, lasting from twelve to forty-eight hours; partial impotence.*
- *Emissions of semen without erections, day and night, and followed by great lassitude; after injury to testicles.*
- *Gonorrhoea with painful erections.*
- *Gleet.*

Female sexual organs

- *Leucorrhoea.*

Voice and larynx, trachea and bronchia

- *Laryngeal irritations; short, hacking cough.*
- *Chronic laryngitis.*
- Thick, yellow mucous discharges.
- Smarting in throat and larynx.

Cough

- *Cough, with sensation of constriction in throat.*

Inner chest and lungs

- Oppression of chest, feeling of fullness, inability to take a full breath.

Neck and back

- When pain in head is less severe, it is worse in neck and shoulders.
- Weakness and heavy dragging pain in lumbar region.

Lower limbs

- Lower extremities languid and heavy, with profuse perspiration on walking.

Limbs in general

- Transient rheumatic pains in left shoulder and arm, also right wrist and hand.

Rest, position, motion

- Sitting in stooping posture: pain leaves eye and passes to neck and shoulders.
- Stooping: expanding sensation above eyes <; heavy pain in forehead <.
- Lowering head: < pain in head.
- Rising: frontal headache.
- Turning eyes: causes pain in them.
- Walking: causes profuse perspiration.

Nerves

- Slight erethism of nervous system. Loss of energy.

Time

- Morning: shooting pains in right side of face.
- By day: semen passes; emissions without erections.
- Night: very dull in spirits; emissions without erections.

Temperature and weather

- Heat: < dull aching in left eye.

Fever

- Flashes of heat.

- Influenza.

Attacks, periodicity

- Every five minutes: must urinate.
- From twelve to forty-eight hours: great lassitude after loss of semen.

Locality and direction

- Left: pain over eye; inflammation of eye; severe tearing boring pain over eye; constant ringing, singing and cracking sound in ear; ear swollen; ear tender to pressure; pain along side of throat; pain in groin and testicle; rheumatic pains in shoulder.
- Right: pain in face; pain in side of face; rheumatic pain in wrist and hand.

Sensations

- As if ears were being torn from their location.
- Pain: in head; in forehead; over left eye.
- Erratic pains: all over body.
- Tearing pain: in eyes; about ears.
- Severe pain: in frontal region; in left groin; in testicle.
- Severe boring pain: over left eye.
- Hard pain: in forehead.
- Sharp shooting pain: over left eye; extending to neck and shoulders; in coronary region; right side of face from eye to teeth.
- Stinging pain: in urethra.
- Colicky pain: in small intestines.
- Cramping pain: in small intestines.
- Constriction: of throat.
- Burning pain: in eyes; in epigastrium; in urethra.
- Bruised pain: about ears.
- Dull dragging pain in occiput; in neck; in shoulders; in stomach; in lumbar region.
- Rheumatic pains: in left shoulder; in left arm; in wrist; in right hand.
- Aching pain: in left ear.
- Dull, heavy pain: in frontal part of brain.
- Heavy aching: in eye.
- Smarting: in eyes; along left side of throat.
- Soreness: of scalp.

- Oppression: of chest.
- Ringing: in ears.
- Singing: in ears.
- Cracking sound in left ear.
- Expanding sensation in frontal region.

Tissues

- *Dropsy of an asthenic character.*

Touch, passive motion, injuries

- Touch: scalp sore.
- Pressure: left eye tender; left ear tender to pressure.
- After a blow; burning in epigastrium.
- After injury to testicles: emissions without erections, followed by lassitude.

Stage of life, constitution

- Married man, after injury to testicles by jumping upon a horse, for fifteen years; spermatorrhoea.
- Married man, not conscious of having sustained any injury, seminal emissions for eight or ten years.
- Man, at. 82; incontinence of urine.

Relations

Compare in pollutions *Cinchona*, *Gelsem.*, *Phosphor.*

Notes:

Plain text: lowest & designates an occasionally confirmed symptoms.

Italics: more frequently confirmed.

Bold: symptoms verified by cures.

Bold italics: repeatedly verified or an approved characteristic.

NOTES

Notes on humors

According to the Hippocratic-Galenic medicine, four humors rule the human body:

- *Bile* (or *Yellow Bile*), corresponding to the Fire element, responsible for all the caloric activities of the human body, both in a physiological sense (e.g., body heat) and in a pathological sense (fever, inflammation, etc.);
- *Blood*, corresponding to the Air element and to the physical blood;
- *Phlegm* (also called *Pituita* or *Lymph*), corresponding to the Water element, responsible for everything that is fluid in the body (body fluids, lymph, blood plasma, synovial fluid, cerebrospinal fluid, etc.)³³;
- *Melancholia* (also called *Black Bile*), corresponding to the Earth element, responsible for everything that is hard and structured (bones, teeth, but also growths, polyps, stones, tumors, etc.).

Heat and body fluids are governed by Yellow Bile and Phlegm respectively. When there are no further specifications, the terms “heat” and “fluids” can be used, in this text, to indicate the corresponding humor.

The functioning of the whole body is governed by the mixing (*crasia*) of such humors: if the ratio between the humors is proper (we speak of *eucrasia*), the body functions at its best and the health is guaranteed; if they are blended improperly (we speak of *discrasia*), illness results.

A humor is defined *correct* when both its “quantity” and its “quality” are proper; when it prevails over the others, generating dyscrasia, it is said that it is *superabundant*, and when its quality is not appropriate it is said that it is *corrupt*. We say in general that a humor is *perverse* when it is overabundant or corrupt. In this text, in order to facilitate comparisons between different systems of medicine, we resort to an extension with respect to the classical conception and define a humor as “perverse”:

- when its “quantity” is not optimal, that is, it is excessive (superabundant humor) or deficient (deficient humor) with respect to the condition of eucrasia (the classical theory allows only excess; deficiency is due to the prevalence of another humor with opposite qualities), or
- when its “quality” is different from the physiologically appropriate one (corrupt humor)³⁴.

An excess of heat in the body can overheat and “cook” the humors, altering their characteristics. Phlegm thickens and becomes more viscous, giving rise to the so-called *thickened Phlegm*. If the excess heat is important or lasts for a long time, all humors can end up “burning” (in

³³ In this sense, it is conceptually different from the *Phlegm* of Chinese medicine, which corresponds specifically to the *thickened Phlegm* of humoral medicine when it is located in the upper part of the organism.

³⁴ Melancholia, for example, can be in excess with respect to the physiological condition of eucrasia (generating excessive structures) or in deficit (generating deficient constructions), but it can also be generated by the combustion of humors by heat (see below); in the latter case, it is always perverse (therefore it is perverse in quality rather than in quantity). In classical humoral medicine these three conditions are usually not so sharply distinguished from each other.

this case we call them *adust humors*). When burned, humors always produce Melancholia. Unani-Tibb medicine provides four types of perverse melancholia produced by the combustion of humors: *malankholia damvi*, produced by the combustion of Blood; *malankholia safravi*, produced by the combustion of Yellow Bile; *malankholia balghami*, produced by the combustion of Phlegm (generally due to fermentation) and *malankholia saudawi*, produced by the combustion of “correct” Melancholia.

Phlegm is cold in the first degree and damp in the second and is a mobile and flowing humor. When coldness becomes excessive, however, the Phlegm can thicken and become viscous (cold indeed makes viscous), producing once again *thickened Phlegm*.

Phlegm itself, when it accumulates and stagnates for any reason (for example due to a lack of heat or an excess of Tension, see below), generates, by “compression”, secondary heat that can condense the humor and make it viscous.

Furthermore, in nature stagnant dampness favors fermentation and putrefactive processes, especially when there is concomitant heat. Also in the human body an accumulation or stagnation of Phlegm may cause the onset of fermentation or putrefaction (phenomena that today’s medicine generically indicates as *infections*), which are certainly supported by the natural heat of the body and by any secondary heat generated by compression of the Phlegm. Moreover, the fermentation and putrefaction generate further secondary heat³⁵. All these phenomena are characterized by the coexistence of perverse dampness and heat, even if, to be more precise, they should be described as due to the presence of pathological dampness associated with a certain degree of perverse heat (it is therefore more correct to think of them as due to “heated” humidity rather than moist heat). From a clinical point of view, the disorders characterized by this humoral picture include the phenomena known as *putrefaction*³⁶ which are manifested by the emission or collection of purulent material, often even hardened (e.g., abscesses)³⁷.

The conditions described so far (thickened phlegm, adust humors, putrefaction) are perverse not due to an incorrect quantity of the humors, but because of their “bad” quality.

Tension

In this text, for the exclusive purpose of simplifying any comparisons between different systems of medicine (for example, Chinese and humoral), we add the pseudo-humor *Tension*³⁸, which is responsible for the “functionality” of the whole body or its parts (e.g., the organs). In this sense, it corresponds to the *Qi* of Chinese medicine but also to other concepts, such as that of the *Four Virtues* (attractive, retentive, alterative and expulsive) of organs according to Galen (see for example [Giannelli]) and it can also be related to the *vasoconstriction* and *vasorelaxation* conditions of Physiomedicalism and to Matthew Wood’s *Constriction* and *Relaxation* tissue states [Wood].

Tension, defined as a *pseudo*-humor because it is not contemplated by the classical humoral theory, can be thought of as formally derived from Fire to which a sort of “constraint”,

35 The fermentation and putrefaction processes are generally exothermic or generate a “hot” response from the human body..

36 Corresponding to the *toxic heat* of Chinese medicine. This condition also includes diseases characterized by macular or maculopapular eruptions (e.g., exanthematous diseases).

37 The conditions known as *Dampness/Heat* in Chinese medicine (which include, for example, problems often related to the urinary tract or gallbladder, some cases of jaundice, etc.) also fall within this picture.

38 Name borrowed from Matthew Wood’s tissue states model [Wood].

“limitation”, or “obstacle” has been applied. Like Fire, in fact, it is a form of “energy”, mobile in itself and activating; but whereas Fire tends to move only upwards and centrifugally, thus expanding indefinitely, the movement of Tension is more “structured” and so to speak “oriented” towards specific, defined forms and modalities. We can therefore see it as a kind of Fire to which a structuration (element of “terrestrial” nature) has been applied.

We can resort to an image taken from everyday life as an example. If we pour water on the fire, the latter goes out and the water disperses or evaporates. If we place a hard (i.e., cold and dry) element above the fire (for example, a terracotta or metal container) which prevents the water to directly “mix” with the fire, we are able to let the water heat up without dispersing, and to use it warm for specific purposes (for example, to cook food). By applying a cold and dry “obstacle” (the container) to the fire, we “functionalize” the heat that otherwise would disperse or make the water disperse or evaporate.

Tension can therefore be described, in a humoral sense, as derived from a sort of “functionalization” of Fire by a factor (a principle rather than a material cause) of a cold and dry nature. For this reason Tension is hot and dry, with a lower degree of heat than Fire (because of the cooling due to functionalization).

Even Tension can be correct or perverse and, in the latter case, it can be perverse both in quantity (excess or deficit of Tension) and in quality (think for example of the *Qi ni*, or *counterflow Qi*, of Chinese medicine). Given the correspondence, described above, of Tension with Qi, the various manifestations of perverse Tension will typically have a more or less specific correspondence in Chinese medicine (for example, “Tension deficiency” corresponds to “Qi deficiency”). In general, Tension imbalances correspond to Qi imbalances and/or to “Wind” (intended as a pathogenic manifestation).

An imbalance in Tension can also affect other humors, potentially making them perverse. For example, an excess or a stasis (stagnation) of Tension can prevent the body fluids from being moved correctly, generating stagnation of Phlegm and/or Blood; Tension stagnation can generate “compression” which in turn can produce heat (Chinese medicine speaks, for example, of “implosion of stagnant Qi” which generates Fire, understood here not as the element but as a specific manifestation of heat).

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