

Fam: Urticaceae (Nettle Family)

Grows in the tropics and subtropics.

Epiderma cells have cystolith and emergence trichomes, do not contain latex.

Urtica dioica (Nettle, Isirgan)

Food: young leaves (consumed)
**Medicinal: *Urticae herba* diuretic,
leaf (heterosides), antianaemic*,
antidiabetic, antirheumatismal**

(*anaemia: reduction below normal of the
number of erythrocytes, quantity of
hemoglobin, or the volume of packed red cells
in the blood; a symptom of various diseases
and disorders)

**Emergence trichomes
contains a **histaminic**
substance that leads to
itchiness and redness
at the site of entrance.**

Parietaria diffusa
(Pellitory of the wall)

**Does not contain
emergence trichomes.**

**Leaves are diuretic and
are used in diabetes.**

Fam: **Santalaceae**

Origin: India.

Santalum album
(Indian Sandalwood)

Has yellowish wood with
specific odor.

This wood called **Lignum Santali**
(**Santali lignum**) gives a volatile oil
with steam distillation: **Oleum Santali**
(**Santali oleum**) (Sandal esansi).

They are both antiseptic for the
urinary tract.

Oil is also used in
cosmetics.

Fam: Loranthaceae (Mistletoe Family)

Most of them grow in the tropics, some of them grow in temperate climates; they are semi-parasites and grow on trees.

Leaves are green and synthesize their own food; haustorium of the plant that they use in attaching themselves to the trees also obtain water and mineral substances from the tree to be used in photosynthesis.

Viscum album

(Mistletoe, Ökseotu, çekem, burç, gökçe)

A dioic shrub living on many different trees like pine, fir, willow, poplar and fruit trees.

Branches divide into two opposite parts; yellowish-green, complete, sessil and leathery leaves are found on these branches.

Fruits are white globes with diameter of 1 cm; 2-3 are found together.

Herba Visci (Visci albi herba) lowers blood pressure and is diuretic, however the drug is **POISONOUS!**

Recently, anticancer drugs have been prepared from the plant.

Aristolochia hirta
(Lohusa otu, develiotu)

Lamina base deep cordate,
flowers are deep-purple
colored with stiff hairs,
perianth tube is bent like the
letter U and then spreads at
the top, stamens are adjacent
to the style.

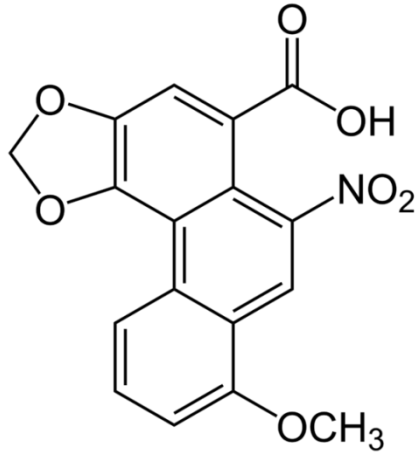
Fam: Aristolochiaceae
(Birthwort Family)

**Roots of this
species are used
against scorpion
stings and snake
bites.**

Aristolochia serpentaria (Virginia snakeroot)

Grows in North America, roots
Radix Serpentariae
(Serpentariae radix) are used
against snake bites.

In 1993 it was found that severe renal damage leading to kidney transplant or dialysis occurred in 105 individuals using a TCM (Traditional Chinese Medicine) drug to lose weight. The drug was analyzed and found to contain aristolohic acid.



Aristolohic Acid

It was determined that *Aristolochia fangchi* was used instead of *Stefania tetrandra* which are both known by the name “**guan fang ji**”.

Aristolohic acid that *Aristolochia fangchi* contains is carcinogenic. International Cancer Research Institute determined medicinal preparations containing this plant as “Type1 carcinogenic”.

Rafflesia arnoldii

(Corpse flower)

Grows in Sumatra, on the roots of Vitaceae plants as parasides. Has flowers with diameters of 50-80 cm, this is the plant with biggest flowers in Spermatophyta.

The odor of the flower is like decaying flesh, that's why the plant is called "corpse flower".

Order: Polygonales

Plants with distinct nodus and internodiums, herbaceous, shrubby, sometimes climbing plants. A single family is present.

Fam: Polygonaceae (Knotweed Family)

Alternately arranged simple leaves have an ochrea in the form of cone at the base of of the leaves; this ochrea grows with the stipula

“ochrea: is a plant structure formed of stipules fused into a sheath surrounding the stem, and is typically found in the Polygonaceae.

Rheum palmatum

(Rhubarb, Turkish rhubarb, Ravent)

A perennial, herbaceous plant with big, 5-7 palmately lobed leaves.

Origin: China.

The bark of the fleshy and thick rhizomes are peeled: **Rhizoma Rhei (Rhei radix) T. K (Ravent rizomu)**.

Contains anthracene derivatives and tannins.

This drug is antidiarrheic in low doses (due to tannins) and purgative in high doses (acts on the large bowels due to anthracene derivatives).

Rheum officinale
(Medicinal rhubarb)

**Rhizomes of this plant also have the
same effect.**

Rheum rhaponticum (English Rhubarb)

Origin: Altay Mountains. Cultivated in Europe (England, France and Austria).

Rhizomes are known commercially as “**English rhubarb**” and considered to be of second quality.

Young shoots are consumed with the name “**rhubarb**” as vegetable.

Rheum ribes

(Syrian rhubarb, Işgın)

Young, fresh shoots with flowers are eaten where it grows (e.g. Elazığ, Kayseri, Van); taste is pleasantly acidic.

Fagopyrum esculentum **(Buckwheat, Karabuğday)**

Used as human food and animal feed.

Petiolated leaves are like arrows; they contain 2-3% rutoside (rutin).

This compound decreases the permeability of the walls of veins, increases the resistance of capillaries.

Acts as vitamin P.

The flour obtained from its fruits is consumed as food.

Order: Centrospermae

Most of them are woody plants. Leaves simple, without stipula. Flowers are actinomorphic, perianth sometimes simple, sometimes developed. Ovarium consists of 2-5 carpels, ovules are at the centre and attached to the axial placenta. **That's why this order is called centrospermae.**

Fam: Caryophyllaceae **(Pink Family, Carnation Family,** **Karanfilgiller)**

The most prominent character of the family is swelled nodi (nodi plural; nodus singular), also has oppositely arranged leaves somewhat joint at the base and hermaphrodite flowers.

***Gypsophila sp.* (Soapwort, Çöven)**

***Gypsophila arrostii*, *G. venusta* (Soapwort, çövenotu) likes soils with gypsum, that's why the genus is named as *Gypsophila* (phila: like; *Gypsophila*: likes gypsum). Perennial, herbaceous plants, up to 30-100 cm and with thick roots.**

Roots are rich in **saponoside** and are used as drug with the names **Radix Saponariae albae (Saponariae albae radix)** or **Radix Gypsophilae (Gypsophilae radix)**.

Produces foam due to the saponosides that it contains, therefore used as cleanser, emulgator and saponoside source.

**Soapwort is also used
in halvah production.**

Gypsophila paniculata

(Baby's breath, Bristol Fairy)

**Grows from South Europe to Middle
Asia.**

**Roots of this species are called **Radix
Saponariae albae (Saponariae albae
radix)**; contains **saponoside** and used
for the same purpose.**

Saponaria officinalis (Soapwort, Sabunotu)

Widespread in Europe and Asia, grows in moist soil, horticultural plant that is planted in gardens; perennial, up to 30-70 cm, herbaceous.

Roots of Soapwort are not thick like the roots of *Gypsophila* species, but are thin and curved, the bark is reddish colored. The roots also contain **saponoside** and yield **Radix**

Saponariae rubrae (Saponariae rubrae radix) which is used as depurative, diuretic and expectorant*.

(*expectorant: promoting the secretion, liquefaction, or expulsion of sputum from the respiratory passages)

Fam: **Phytolaccaceae**
(**Pokeweed Family**)

Phytolacca americana
(**American Pokeweed, Şekerciboyası**)

Origin: America.
Perennial, herbaceous plant.

**Fruits are added to red wine and
candies due to its color and that's
why it is called Şekerciboyası in
Turkish.**

Fam: Portulacaceae

Portulaca oleracea

(Common Purslane, Semizotu)

**A wild plant that is frequently
encountered in gardens and fields.**

Eaten as vegetable.

Fam: **Chenopodiaceae**

(Goosefoot Family)

Most of the species of this family are halophytes, annual/perennials, herbaceous plants or in the form of shrubs.

Fresh aerial parts of *Chenopodium anthelminthicum* and *Chenopodium ambrosioides var. anthelminticum* (containing flowers and fruits) yield volatile oil with steam distillation (1-2%) called

Oleum Chenopodii (Chenopodium Oleum) T.K.,
(Etheroleum Chenopodii T. F., Kenopod esansı). It is rich in **ascaridol** (70% of the volatile oil) and is anthelmintic. However since the drug is toxic, it is only used in veterinary medicine.

Beta vulgaris* var. *rapa* forma *altissima **(Sugar Beet, Şeker pancarı)**

Sugar beet is cultivated for its tubers. It has big, rosette leaves. Tubers contains **20% saccharose**; this **pure saccharose** is called **Saccharum T.F.** and used in the formulation of many pharmaceutical preparations, especially syrups.

Subclass: Dialypetalae

Calyx and corolla are usually well developed and separate, petals are free.

Order: **Ranales**
Fam: **Ranunculaceae**
(Buttercup family, Dügünçiçeğigiller)

Woody or herbaceous plants.

Perianth and stamen have many members, members are free, acyclically arranged; gynaecium with many pistils and is **apocarp.**

General flower formula: **a/z** **K**₅ **C**₅ **A**_∞ **G**_∞.

**A very rich and important family
with 35 genera containing
poisonous plants.**

Aconitum napellus (Wolf's Bane, Kaplanboğan, kurtboğan)

Grows in the mountains of Central Europe.

Perennial, up to 50-200 cm and has two tubers underground; one of them gives this year's plant and the daughter tuber gives the next year's plant.

Perianth consists of blue-purple colored corolla, calyx is not seen; the upper petal is in the form of a helmet, two nectaria with spurs are found inside this helmet shaped petal.
Has numerous stamens.

Tubers of *A. napellus* give the drug called **Tubera Aconiti T.K. (Aconiti tuber)**.

Usually the heavier tuber is selected as the drug, contains 0.5-1.5% alkaloids, the most effective is **aconitine** (others are **neopelline, napelline** etc.).

Used as painkiller especially in nervus trigeminus neuralgia, and is also a cough sedative. However is a very poisonous drug.

Other species are: *A. orientale*, *A. nasutum*, *A. cochleare*.

These species also contain alkaloids, e.g. *A. orientale* has **pontaconitine**, *A. cochleare* has **cochleasine**.

Delphinium staphisagria (Lice-bane, Hezaren, bitotu)

Grows in Mediterranean climate.

Yields **Semen Staphisagriae**
(**Staphisagriae semen**) containing
alkaloids. Used externally in
veterinary medicine to kill the body
parasites of animals.

**The plant is also very poisonous as
the seeds!**

Hydrastis canadensis **(Goldenseal)**

Origin: North America, Canada. Perennial herbaceous plant up to 30-40 cm; has a short rhizome, thin and numerous roots and only 2 leaves.

The plant has a single flower and also
POISONOUS!!!

Roots and rhizomes form the drug called **Rhizoma Hydrastis T.K** (**Hydrastis rhizoma**) (Hidrastis rizomu); contains alkaloids like **hydrastine**, **berberine** and is used as hemostatic* in uterine hemorrhages.
(*hemostatic: acting to arrest bleeding or hemorrhage)

Cimicifuga racemosa

(Syn. *Actaea racemosa*)

(Black cohosh)

Perennial herbaceous plant up to 1-2 m; grows in North America

Roots and rhizomes of the plant are used.

Rhizoma Cimicifugae racemosae (Cimicifugae rhizoma) is 2-15 cm long and has a diameter of 1-2.5 cm, dark brown colored.

Yields **acteine** and **cimicifugoside** (triterpenic saponosides) and **formononetine** (isoflavone).

Has hormonal activity due to **formononetine; dilates the veins and increases the peripheral blood circulation due to **acteine**.**

Is used in the complications of menopause like hot flashes and sweating as hormone regulator and sedative. Also used in sleep disorders and rheumatism.

Coptis chinensis

(Chinese goldthread)

Grows in the Far East,
cultivated in China and
Japan.

Rhizomes have bitter
taste.

Rhizoma Coptidis;

- antibiotic,
- antibacterial

Used in gastrointestinal
disorders.

Also

- protects heart muscle,
- vasodilator
- decreases blood sugar.

Rhizoma Coptidis (Coptidis rhizoma) is also obtained from *C. deltoides* and *C. japonica* species.

Contains **berberine**, **protoberberine** and **palmatine** alkaloids.

Helleborus niger

(Black hellebore, Christmas rose, Siyah çöpleme)

Grows in European forests, roots and rhizomes yield **Rhizoma Hellebori nigri (Hellebori nigri rhizoma).**

Contains **hellebroside** and has cardiotoxic* activity.

(*cardiotoxic: pertaining to a substance that tends to increase the efficiency of contractions of the heart muscle)

Helleborus orientalis

(Lenten rose, Oriental hellebore, çöpleme, bohçaotu, noelgülü, danabağirtan)

Perennial, herbaceous and poisonous plant found in Northern Anatolia.

Flowers actinomorphic, petals 5 and whitish-green, flowers on Christmas. Many nectaria are present inside the corolla ring. Stamens are numerous, 2-8 pistils are present.

Radix Hellebori (Hellebori radix) is a black, cylindrical drug, contains cardiotoxic **heterosides**; used in the chest diseases of cattle in Anatolia.

Adonis sp.

Flowers are actinomorphic, **do not** contain nectaria.

Adonis vernalis

(False hellebore, Yellow pheasant's eye)

Grows in Europe, annual species with yellow flowers.

Aerial parts are known as **Herba Adonidis (Adonidis herba)** and contain a cardiotonic heteroside called **adonitoxoside**; it is also diuretic.

Adonis flammea

(Large Pheasant's Eye, Kanavcıotu, keklikgözü, kan damlası)

Adonis aestivalis

(Summer pheasant's eye, Kandamlası)

Paeonia peregrina (P. decora)

(Peony, Şakayık, yörük gülü, dağ gülü, orman gülü)

Perennial plant, woody at the base, has a single and red flower.

Has importance in Chinese and Japanese history.

Paeonia officinalis **(Common Peony, Şakayık)**

Grows in Hungary, Bulgaria and Europe naturally and also cultivated.

Roots are called **Radix Paeoniae (Paeoniae radix)**; this drug contains a heteroside named **peonol**, has **astrigent and antispasmodic activity**; is traditionally used as sedative in **epilepsy*** and **whooping cough****.

(*epilepsy: Any of various neurological disorders characterized by sudden recurring attacks of motor, sensory, or psychic malfunction with or without loss of consciousness or convulsive seizures; ** whooping cough: An infectious disease caused by the bacterium *Bordetella pertussis*, seen most commonly in children and characterized by coughing spasms often ending in loud gasps. Vaccinations usually given during infancy confer immunity to the disease. Also called *pertussis*).

Nigella sativa (Black sesam, Çörekotu)

Cultivated in Central and West Anatolia. Annual species with persistent styles.

Seeds numerous, black and angled, are called **Semen Nigellae (Nigellae semen)**, contain **volatile oil**, are carminative and diuretic, consumed in pastry and also used as incense.

Ranunculus

(Düğün çiçeği, yağ çanağı)

Annual or perennial herbaceous plants; most of them like moist and wet environment, some of them are aquatic plants.

Ranunculus species are not medically used, however they are poisonous and mostly contain compounds that are irritating to the skin. They are widely seen in fields and meadows.