Division: **PTERIDOPHYTA** (Vascular Cryptogams, Pteridophytes)

Autotrophic plants with spores.

They developed quiet a deal 300 million years ago during the Carboniferous period. During that time, most of the land cover consisted of pteridophytes.

In geological times thay were in the form of trees and considered to play an important role in the formation of coalbeds.

3 classes are present:

Equisetatae **Lycopodiatae** **Filicatae**

Class: **Equisetatae**
Horse Tails (Atkuyrukları)

Equisetum **is the only genus of the family.**

Has two types of stems:

a) Sterile Stem

b) Fertile Stem

Equus (L.) = horse; seta = hard, short hair

Fertile stem is hollow, does not contain chlorophyll, is reddish in color.

Sterile stems are erect, cylindrical with grooves, branched and green.

Fertile stem

Equisetum arvense
(Field Horsetail, Common Horsetail,Tarla atkuyruğu)

Grows in Thrace and Anatolia

Aerial parts of sterile individuals yield Herba Equiseti (Equiseti herba)

Rich in minerals, Silica, saponins, flavonoids, nicotin

Usage: Diuretic (due to potassium salts).

Other species yielding the drug:

Equisetum ramosissimum (Branched Horsetail)

***Equisetum telmateia* (*E. maximum*) (Great Horsetail)**

Equisetum palustre (Marsh Horsetail)

Class: **Lycopodiatae**
(Lycopods) (Kibritotları)
Order: **Lycopodiales**

They also developed well approximately 300 million years ago, during the Carboniferous period

Fam : **Lycopodiaceae**
(Club Moss Family, Kurtayaklılar, Kibritotları)

lyco = Gr. wolf; pod=Gr. foot

Lycopodium clavatum

(Kibritotu, Kurtayağı)

Herba Lycopodii (Lycopodii herba) consists of the aerial parts of the plant.

Contains lycopodine, clavatin and nicotine alkaloids, therefore is antipyretic and diuretic.

Herba Lycopodii (Lycopodii herba)

Lycopodium clavatum
(Wolf's-foot clubmoss)

Lycopodium T.K.
(**Sporae Lycopodii, Lycopodii sporae**)

Consist of mature spores of the plant (spores with sizes of 25-40 mm).

Drying agent in wound healing

Size indicator in microscopic studies

Class: **Filicatae** (Ferns)
Ordo: **Filicales**

Autotrophic land plants that have developed the most among sporophyte plants.

Were in the form of huge trees during Geological ages (300 million years ago).

They have a rhizome (an underground body). Leaves arise from this rhizome every year.

Leaves are curved like a coil spring when young, resembles the handle of a violin.

Leaves are usually big

Spores form in vesicles called SPORANGiUM.

Clusters of sporangia* (reproductive organs) are called sorus

***plural of sporangium**

Sori* may have different forms (*plural of sorus)

Sometimes sori is covered by a thin membrane called indusium.

Class: Filicatae

Order: Filicales

Fam: Aspidiaceae

***Dryopteris filix-mas* (Male Fern, Erkek Eğreltiotu)**

Sori are found on opposite sides of the middle vein of the pinnula.

Indusium is present, covers the sorus completely and is in the form of a kidney.

Rhizoma Filicis (Filicis rhizoma) (Erkek Eğreltiotu Rizomu)

Consists of a 2% mixture of phloroglucinol derivatives called "crude filicin".

The rhizome and the prepared extracts are used as anthelmintic against tapeworms.

Other species that can be used in obtaining the drug are:

Dryopteris caucasica

***Dryopteris borreri* (Scaly male fern)**

***Dryopteris abbreviata* (Wood fern)**

Polystichum aculeatum

(Stinging fern)

May be confused with Rhizoma Filicis (Filicis rhizoma), however it is ineffective against tapeworms.

Fam: Aspleniaceae

***Phyllitis scolopendrium* (*Scolopendrium officinale*) (geyikdili)**

Dried leaves yield the drug called Herba Scolopendrii (Scolopendrii herba). Used as diuretic, diaphoretic and expectorant.

Asplenium ruta-muraria

Aerial parts yield Herba Rutae-murariae (Ruta murariae herba).

Expectorant

Ceterach officinarum (Rustyback, altınotu)

Leaves are diuretic and used in urinary tract disorders

Fam: Adiantaceae

Adiantum capillus-veneris

(Black maidenhair fern, Venus hair fern, baldırıkara, venüs saçı)

Herba Adianti (**Folia Adianti**) T.K. (the leaves of the plant).

Contains mucilage and bitter compounds. Used especially in children as antitussive and expectorant.

Polypodium vulgare

(Common Polypody, Kaya eğreltisi, Benekli eğreltiotu)

Rhizoma Polypodii (Polypodii rhizoma) contains saccharose and saponosides and used as expectorant, cholagouge and laxative.