

Ramificação do eixo caulinar e expansão de tecidos fotossintetizantes - A Folha

Gimnospermas



Rhyniophyta –
Plantas
vasculares
primitivas

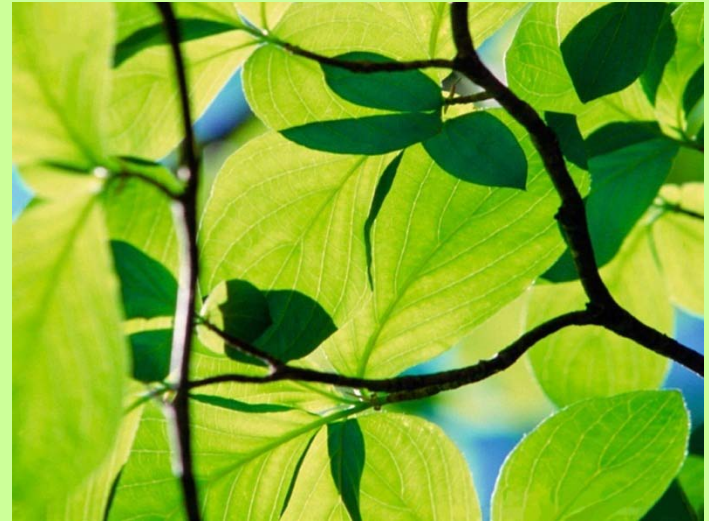


Archaeopteris



Ginkgo

Angiospermas

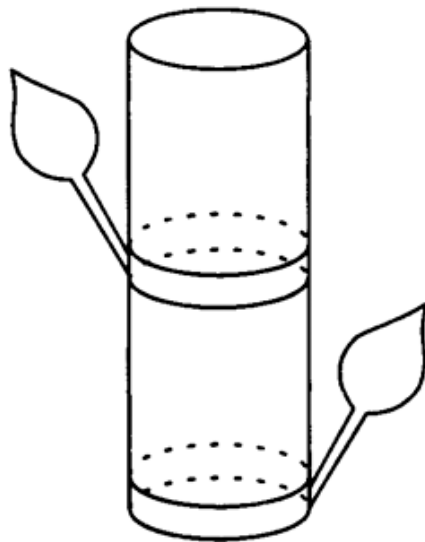


Caule e folhas - filotaxia

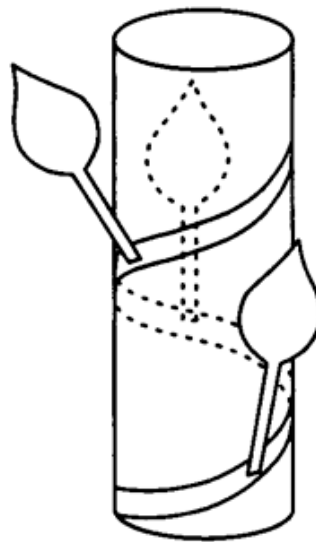


Filotaxia

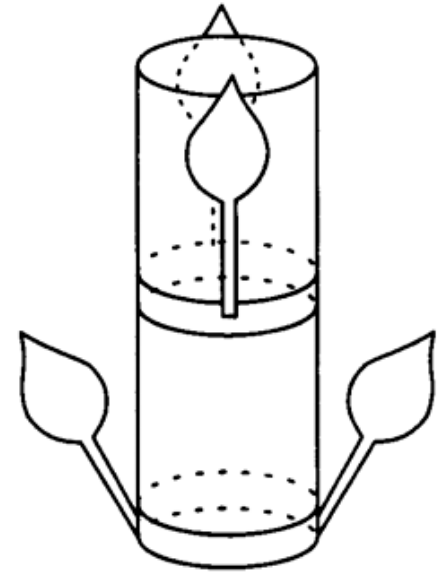
Disposição das folhas no caule



(a)



(b)

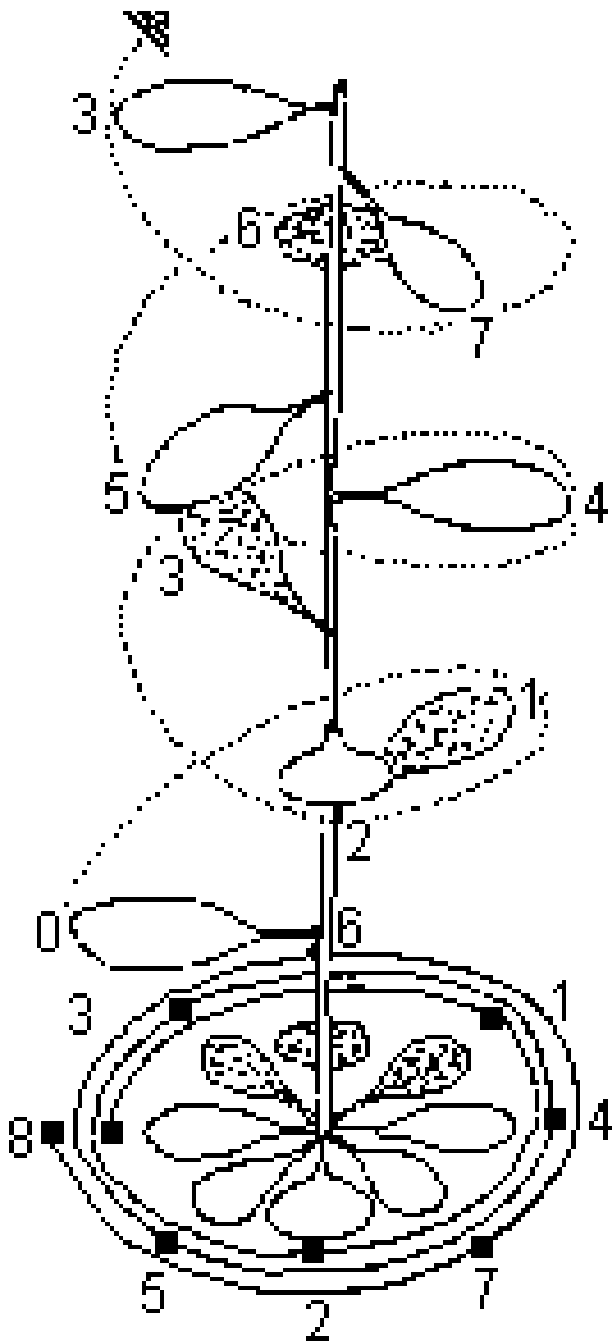


(c)

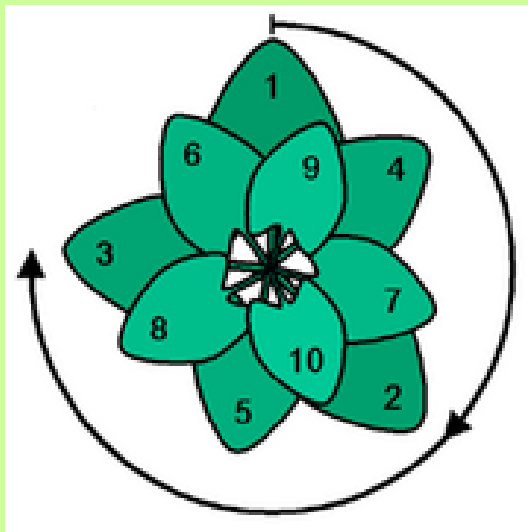
Alterna dística



Alterna polística ou espiralada



Alterna polística ou espiralada



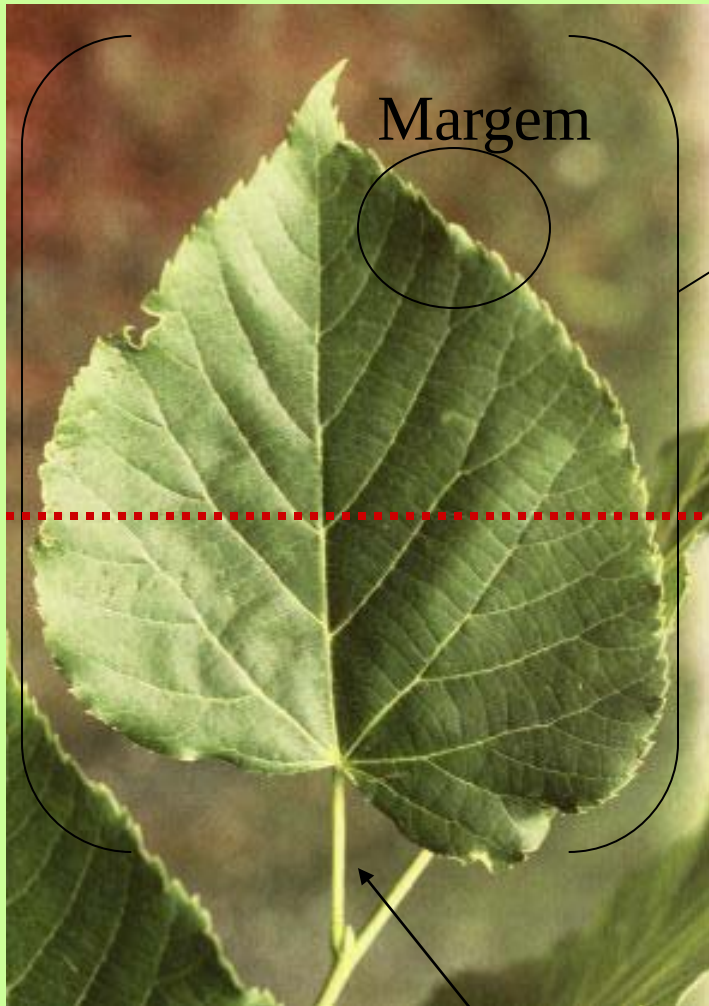
Formando rosetas



Verticilada



Caracteres e variação morfológica



Margem

Lâmina Nervuras

Ápice

Base

Pecíolo

Formato da lâmina foliar

Estreitas, em forma de agulhas,
Em pinheiros



Amplas, em Bananeiras



PLATE 3. LEAF SHAPES

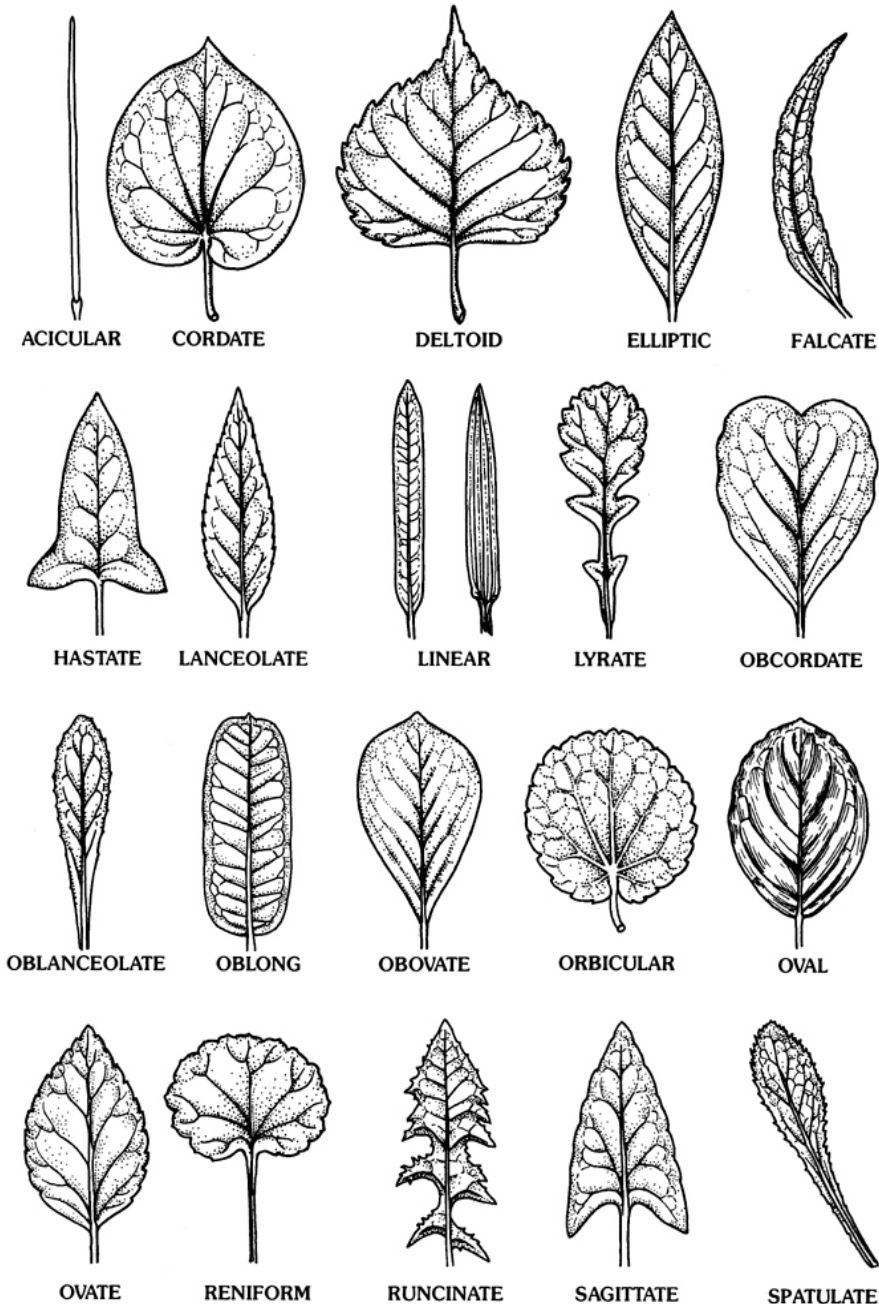
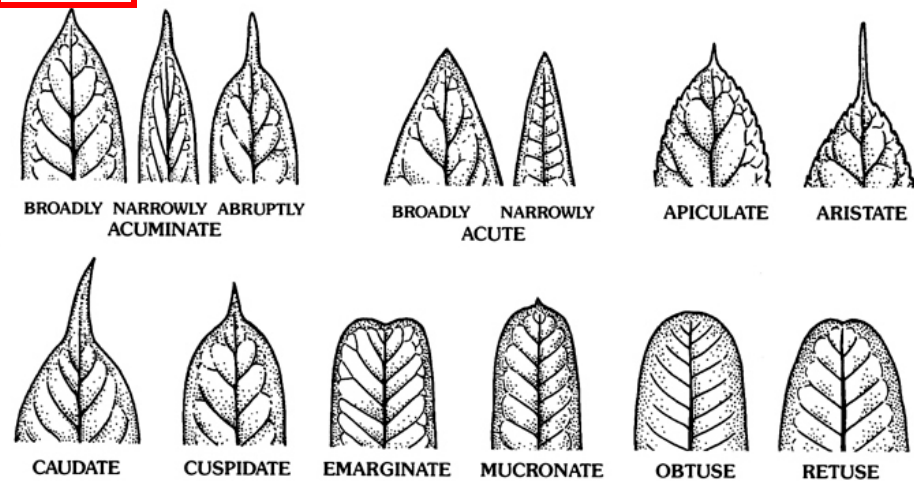
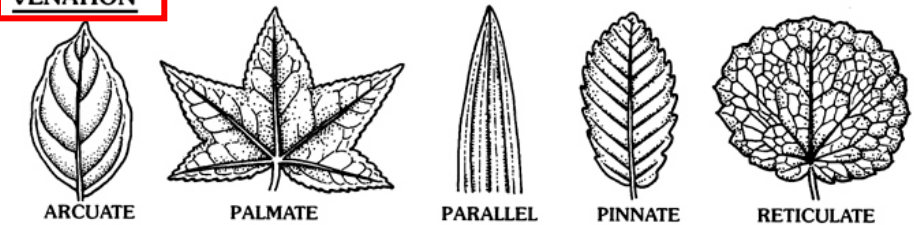


PLATE 5. LEAF APICES, VENATION, AND BASES

APICES



VENATION



BASES

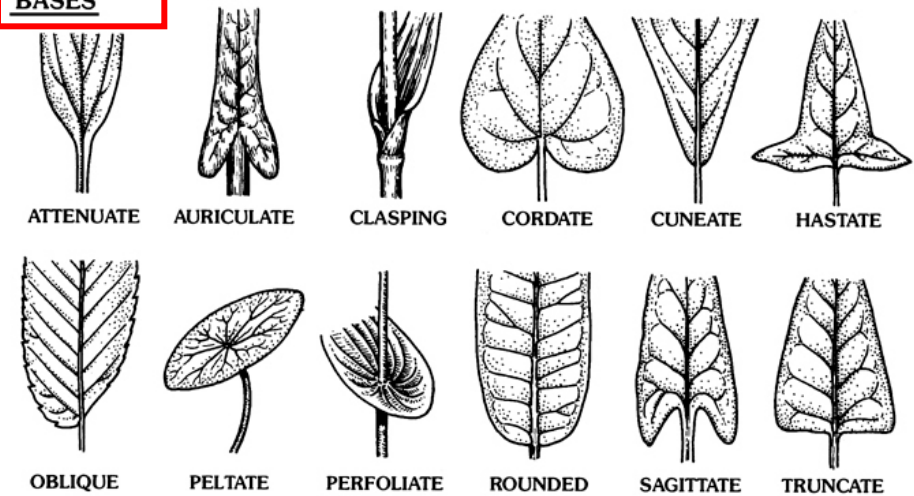
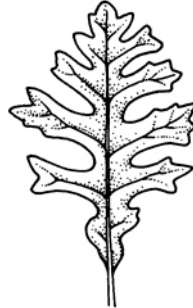


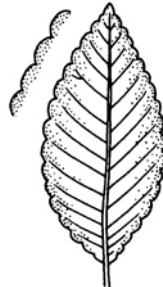
PLATE 4. LEAF MARGINS



CILIATE



CLEFT



CRENATE



CRENULATE



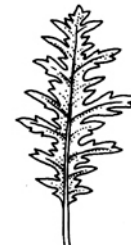
DENTATE



DENTICULATE



ENTIRE



INCISED



INVOLUTE



LACERATE



LACINIATE



LOBED



PINNATIFID



REVOLUTE



SERRATE



DOUBLY SERRATE



SERRULATE

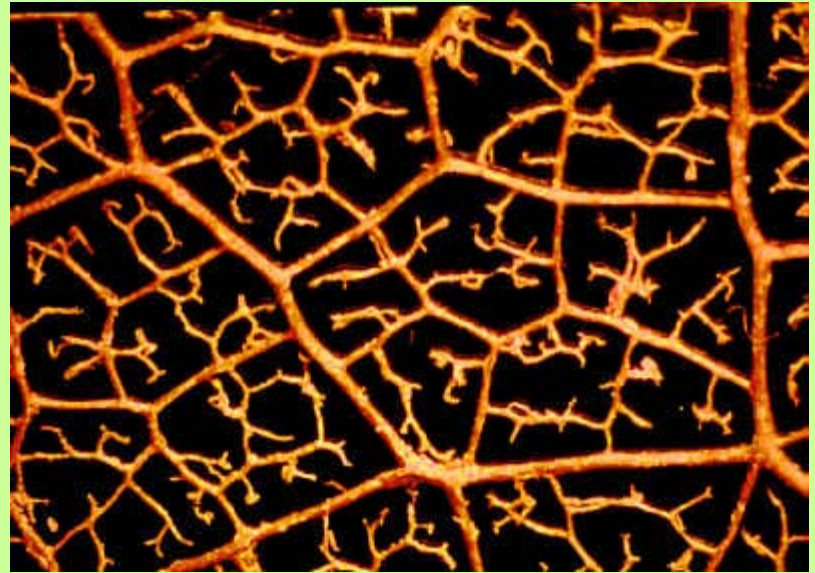


SINUATE



Em forma de agulhas
Folhas aciculares em
pinheiros

Nervação ou venação = vasos condutores imersos no limbo foliar



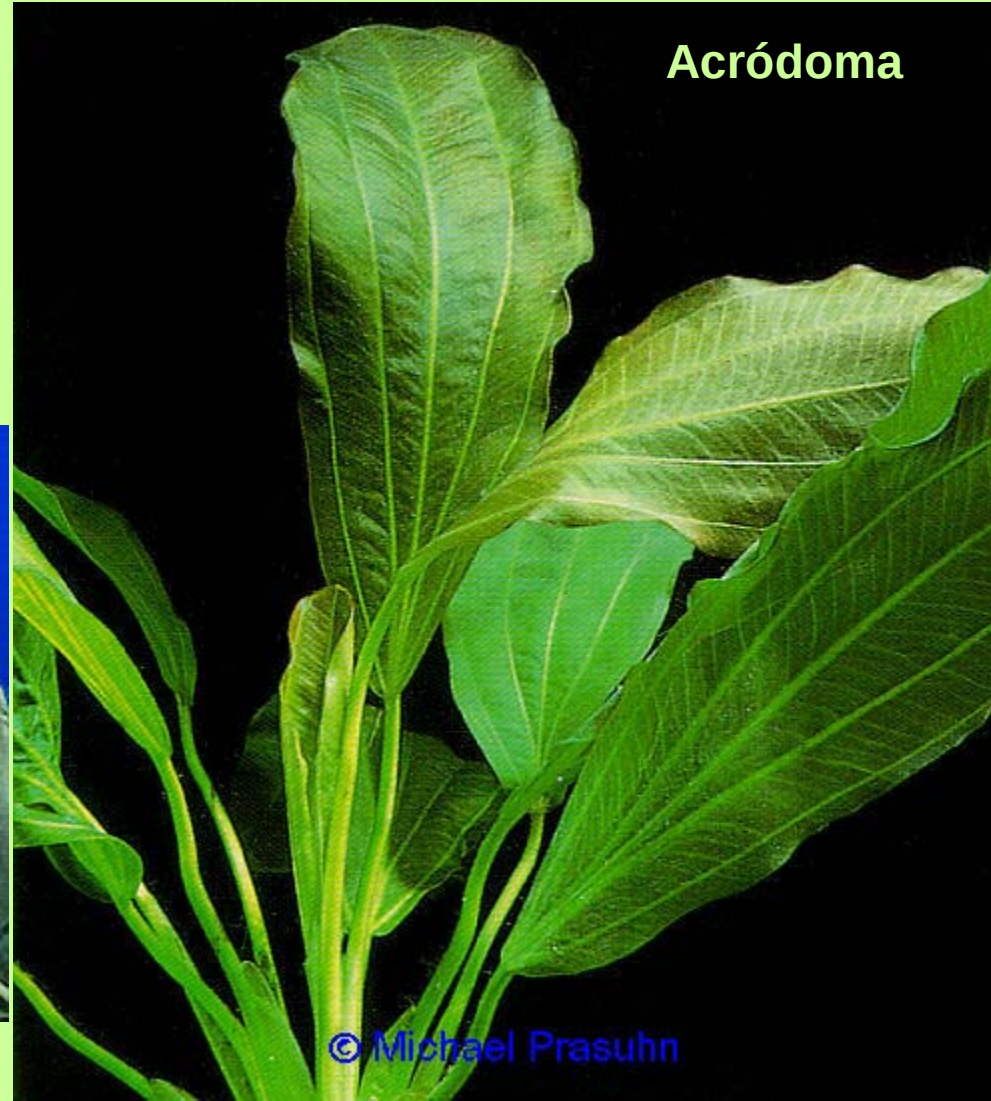
Alguns exemplos de venação

Craspedródoma



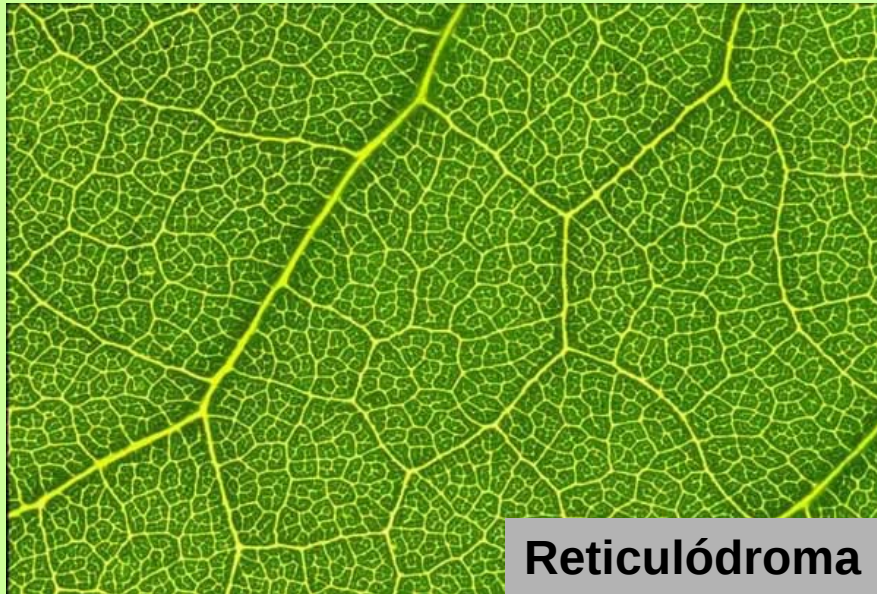
(craspe = borda)

Acródoma



(acro= no extremo, ao superior)

Alguns exemplos de venação
(odromus= percurso)



Reticulódroma

Eucamptódroma



Paralelódroma

(eucampt = arquear sem
tocar a borda)

Broquidódroma



(broqui = arcos entrelaçados)

Cladódroma



(clado = ramificação)

Campilódroma



(campi = curvo)

Venação actinódroma

Actino = radial





Actinódroma marginal suprabasal

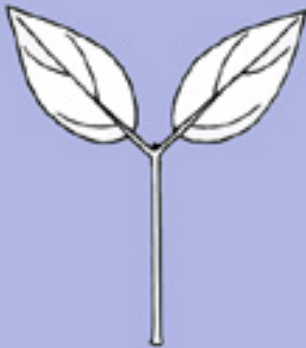


Folhas peltadas

COMPOUND LEAF FORM



unifoliate



bifoliate



ternate, trifoliate



palmate

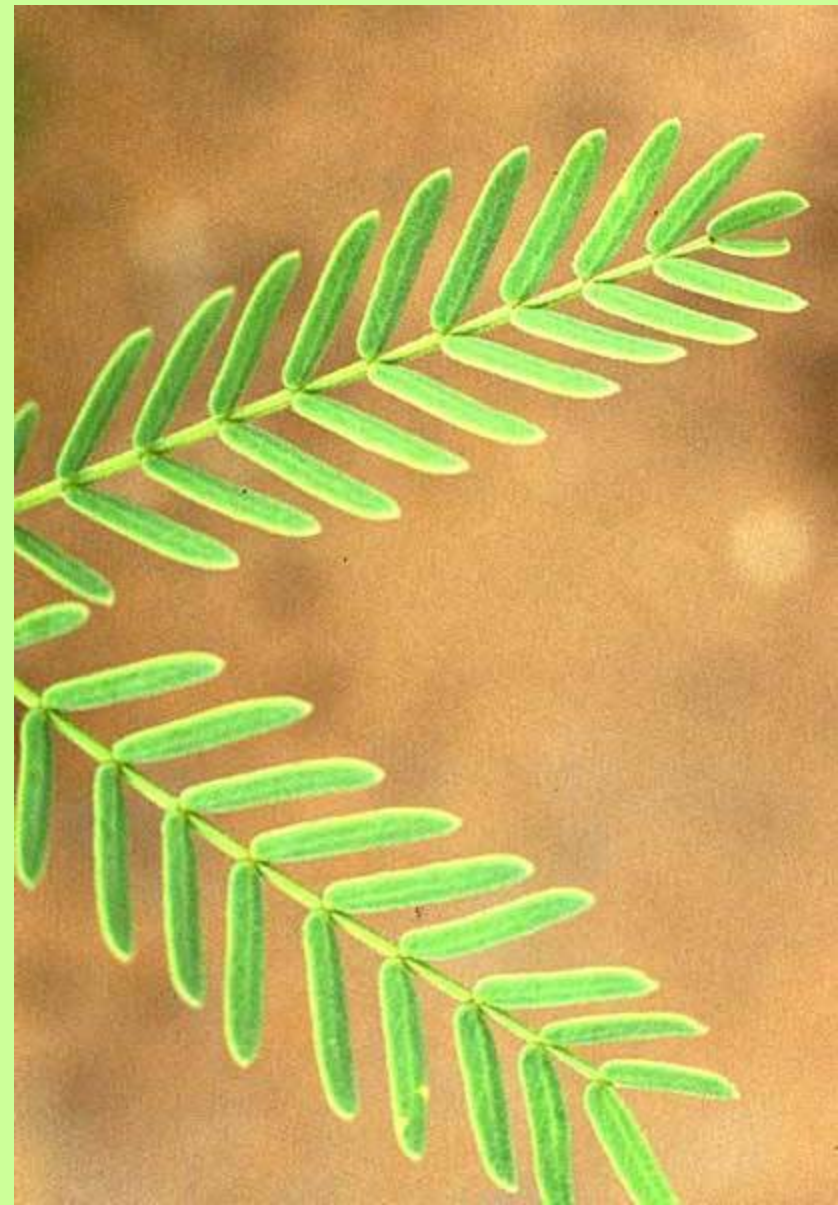


paripinnate



imparipinnate

BRT



Modificações foliares

Gavinhas



Espinhos



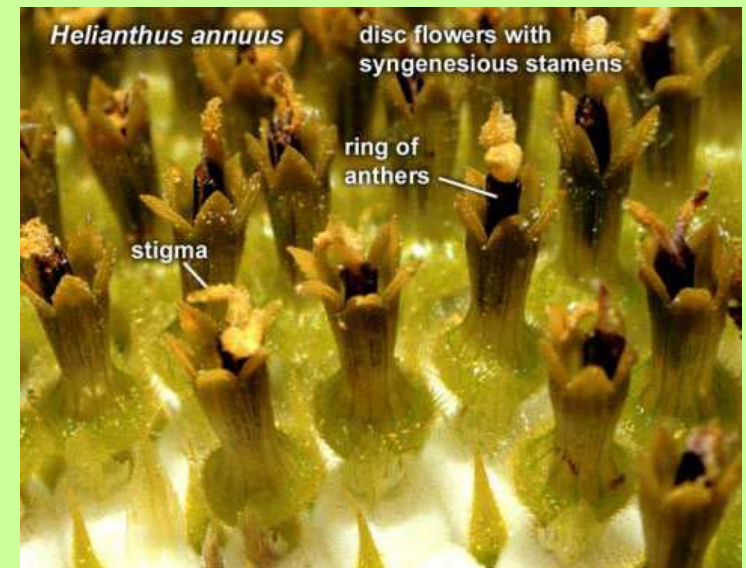
Brácteas



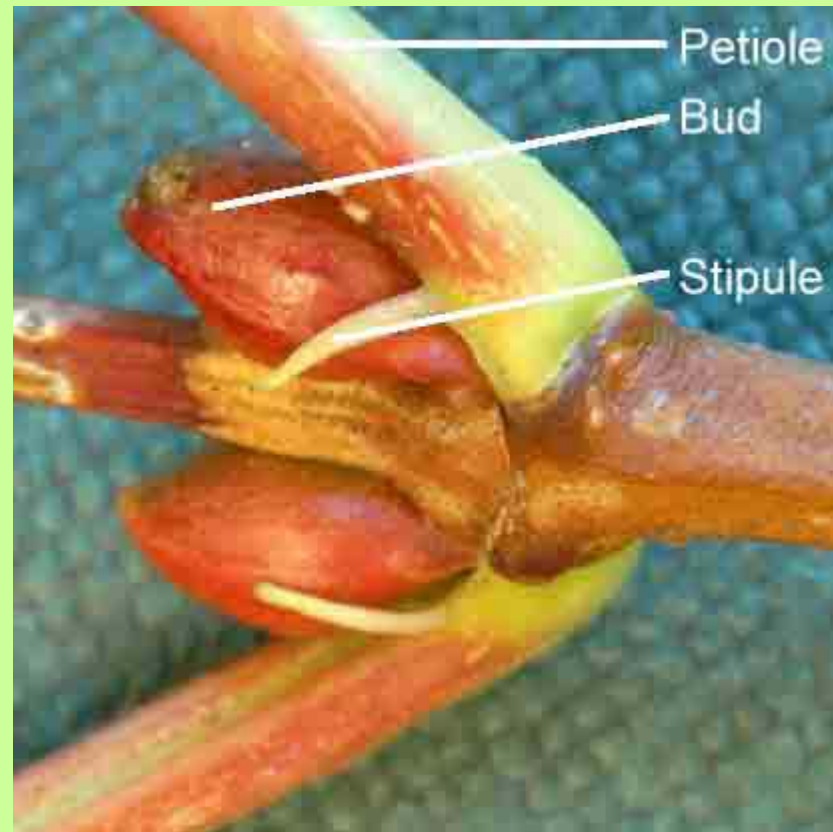
Hipsofilos em ramos que desenvolvem botões florais – inflorescências ou ramificações reprodutivas. Folhas associadas às flores, reduzidas ou não, coloridas ou não)

Hipsofilos = folhas situadas nos ramos apicais

Brácteas e bracteolas



Estímulas – estruturas foliares presentes na base (diferencia-se do segmento do primórdio foliar (gemas))



Estípulas – estruturas foliares presentes na base (diferencia-se de segmento do primórdio foliar (gemas))





Botanical Society of America
(photo by John Curtis/Nels Lersten)



Foliáceas, não conectada ao pecíolo

Estípulas



Conectada ao pecíolo, na região proximal da folha

Estípulas

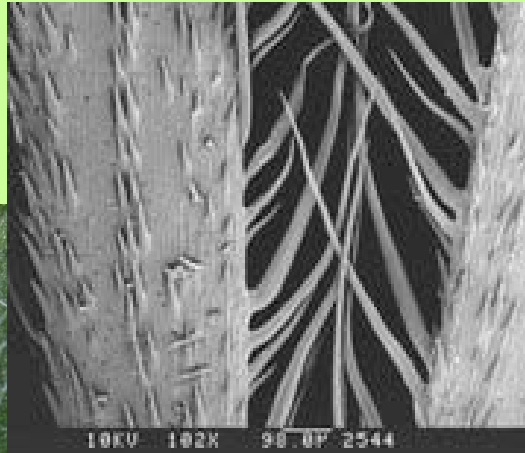
Não conectadas ao pecíolo,
entre os pecíolos = **interpeciolar**



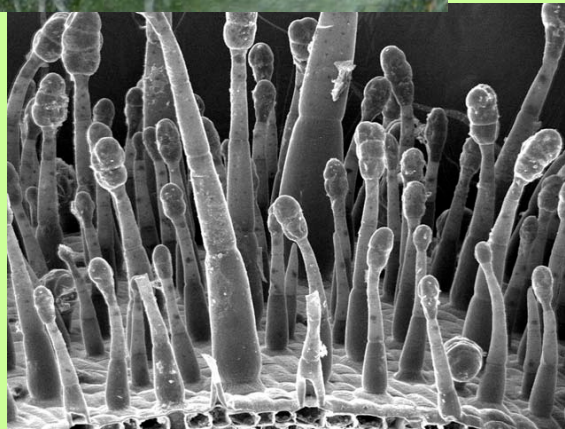
Intrapeciolar – entre o pecíolo
e o caule



Formações epidérmicas

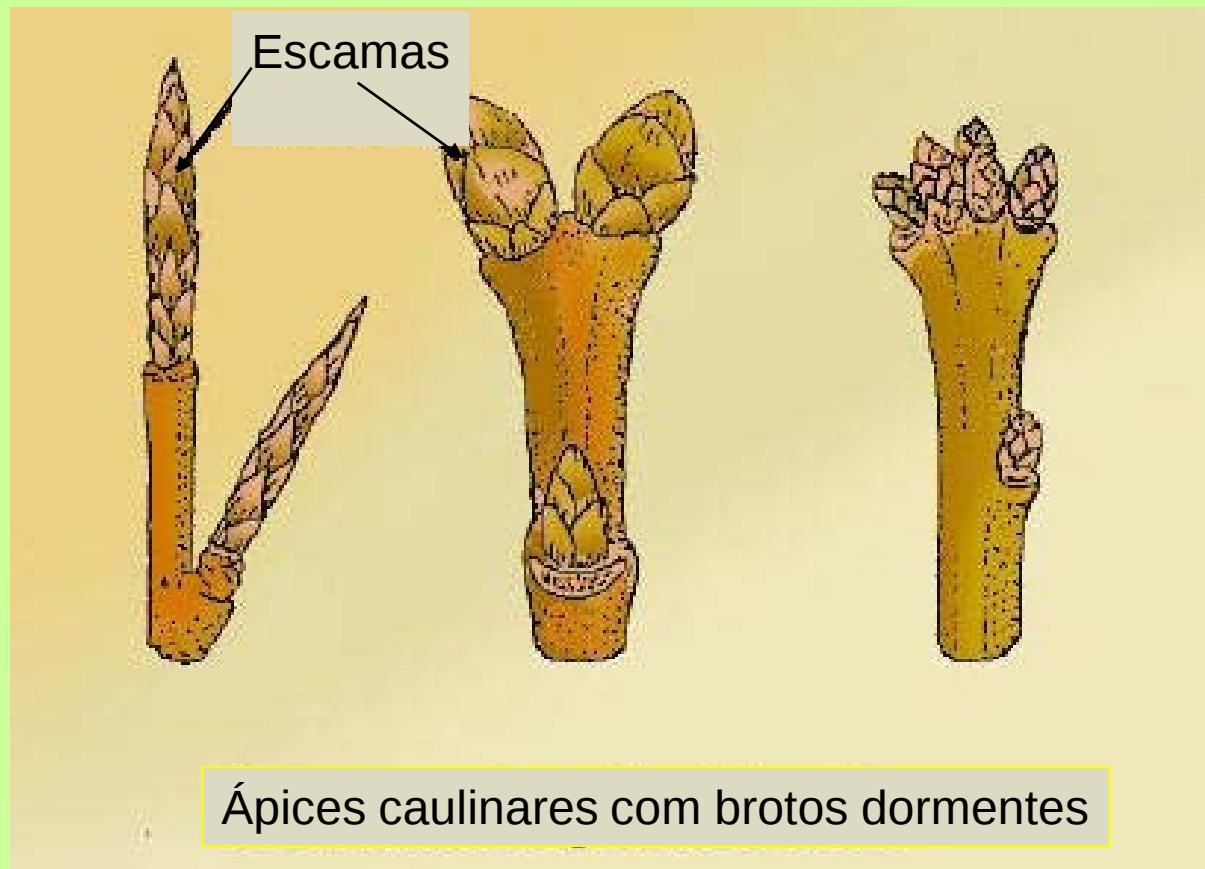


Tricomas



Drosera rotundifolia L.
©Thomas Schoepke
www.plant-pictures.com

**Escamas: folhas reduzidas, rígidas, cartáceas,
com função de proteção de gemas**



Em Cicadáceas



Ou são fotossintetizantes, como nos pinheiros



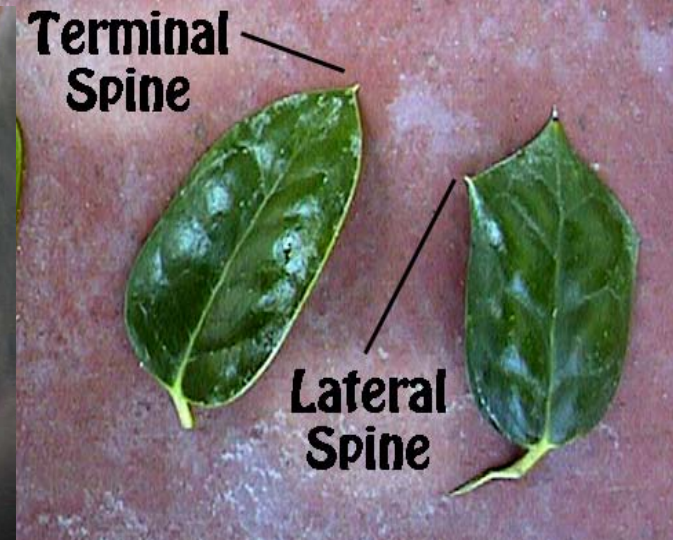
Folhas reduzidas a escamas ou escamiformes

Ou são fotossintetizantes, como nos pinheiros



Folhas reduzidas a escamas ou escamiformes

Descrição morfológica: ESPINHO



Formação epidérmica foliar sobre nervuras, ápice e margem