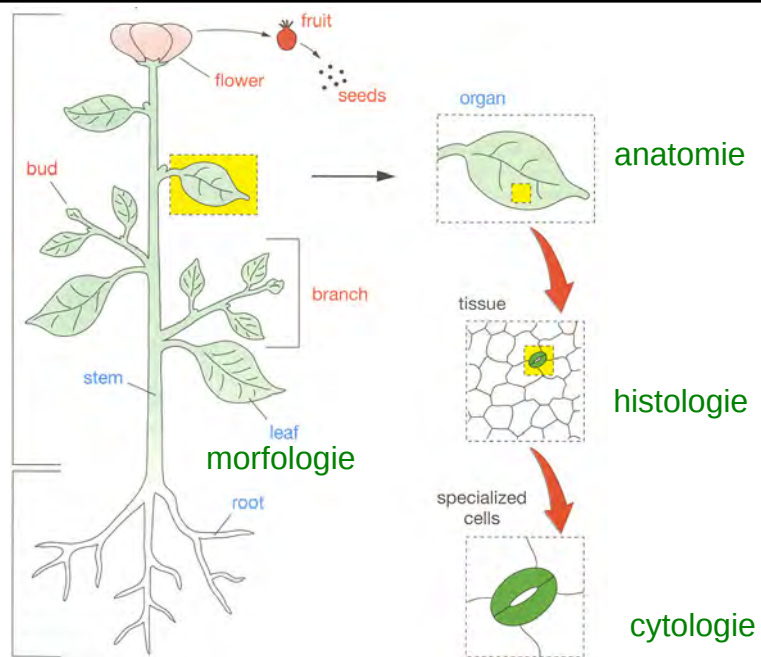


MORFOLOGIE VAN DE BASISORGANEN

Bovengrondse scheut:
stengels en bladeren,
versus ondergronds wortelsysteem





“The hidden half”



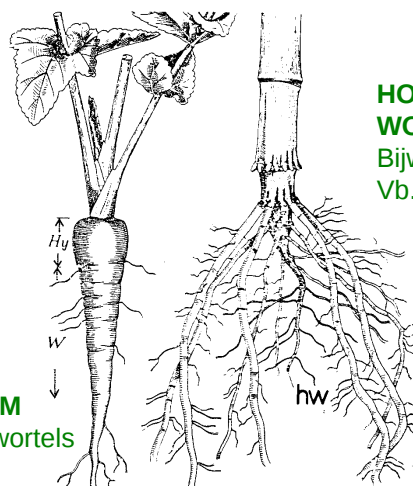
Oppervlakkig deel van het wortelgestel



WORTELSYSTEEM

ALLORHIZISCH WORTELSYSTEEM

Hoofdwortel en zijwortels
Vb. Pastinaak
(Apiaceae)



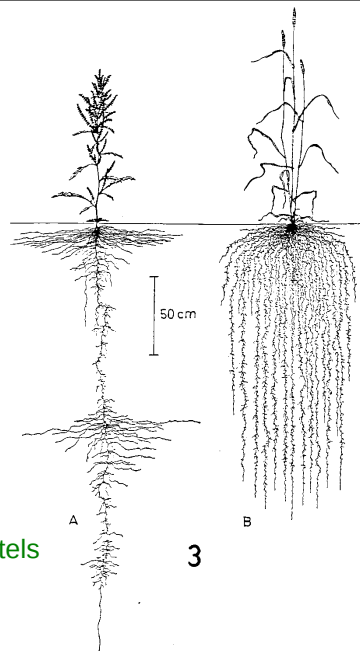
HOMORHIZISCH WORTELSYSTEEM

Bijwortels
Vb. Maïs (Poaceae)

Pastinaak (*Pastinaca sativa*) - Apiaceae

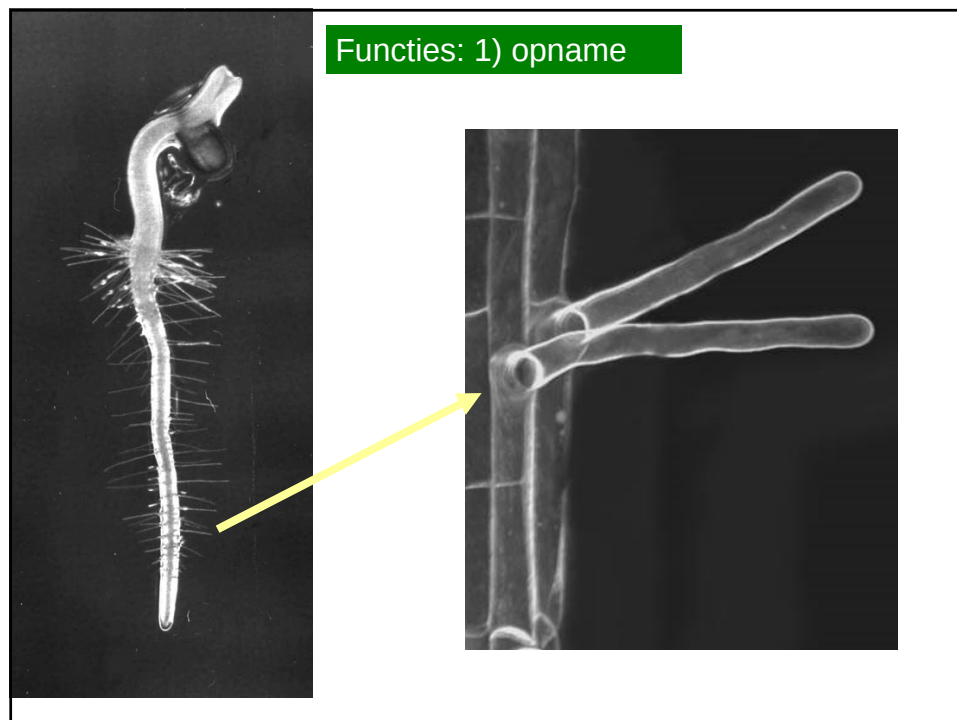
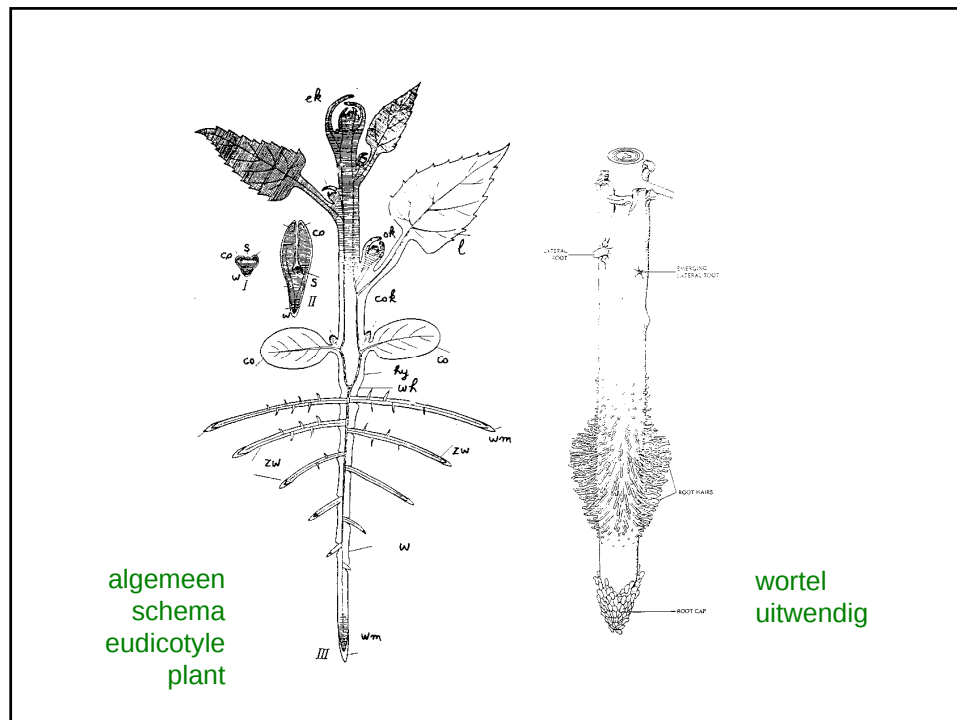


Radicula:
sterk uitgegroeide primaire hoofdwortel



**ALLORHIZISCH
WORTELSYSTEEM**
Hoofdwortel en zijwortels
Vb. Zuring
(Polygonaceae)

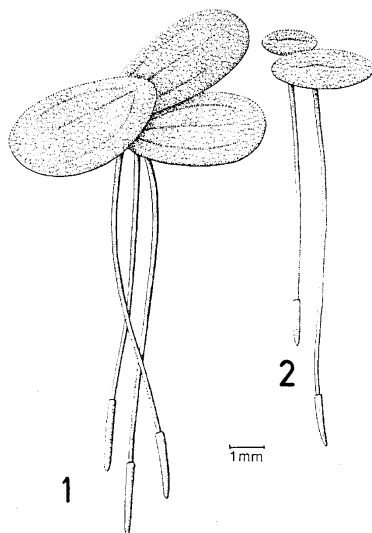
**HOMORHIZISCH
WORTELSYSTEEM**
Bijwortels
Vb. Tarwe (Poaceae),
Hier een **fibreus**
wortelsysteem!



2) verankering en stabilisatie



2) verankering en stabilisatie

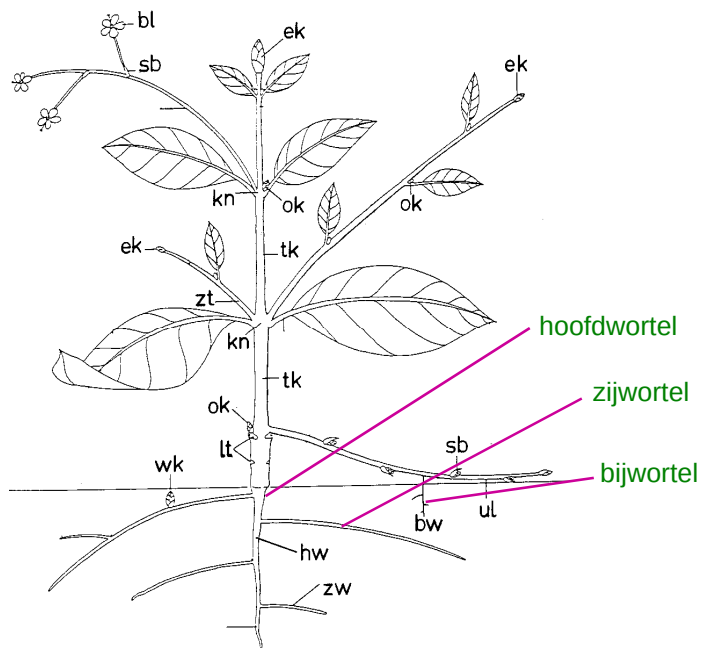


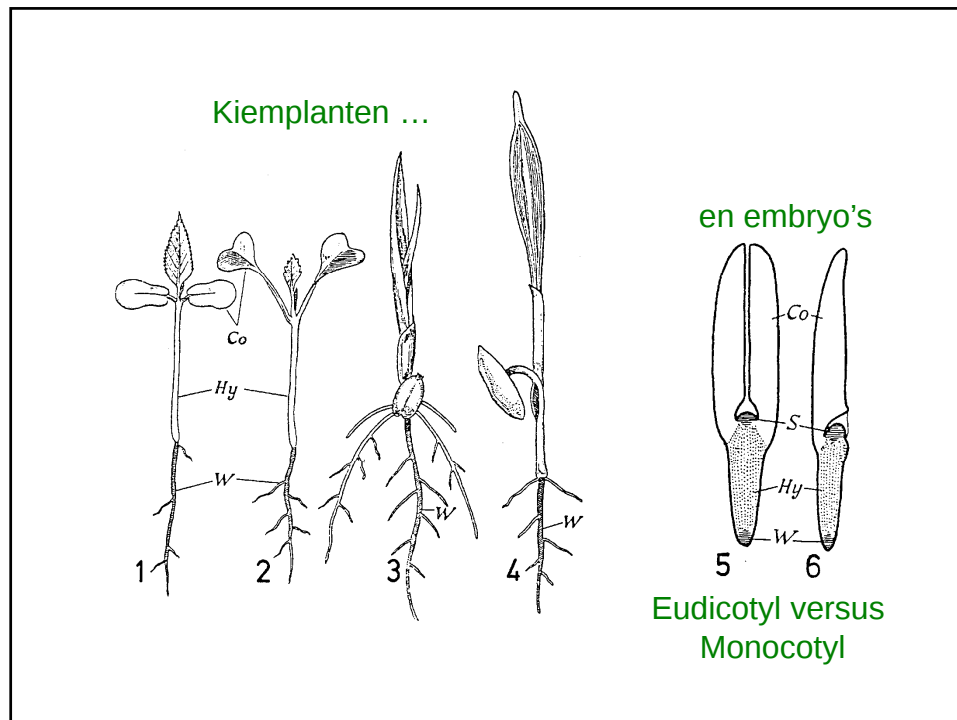
eendenkroos:
wortels dienen voor
stabilisatie – drijven op
het water

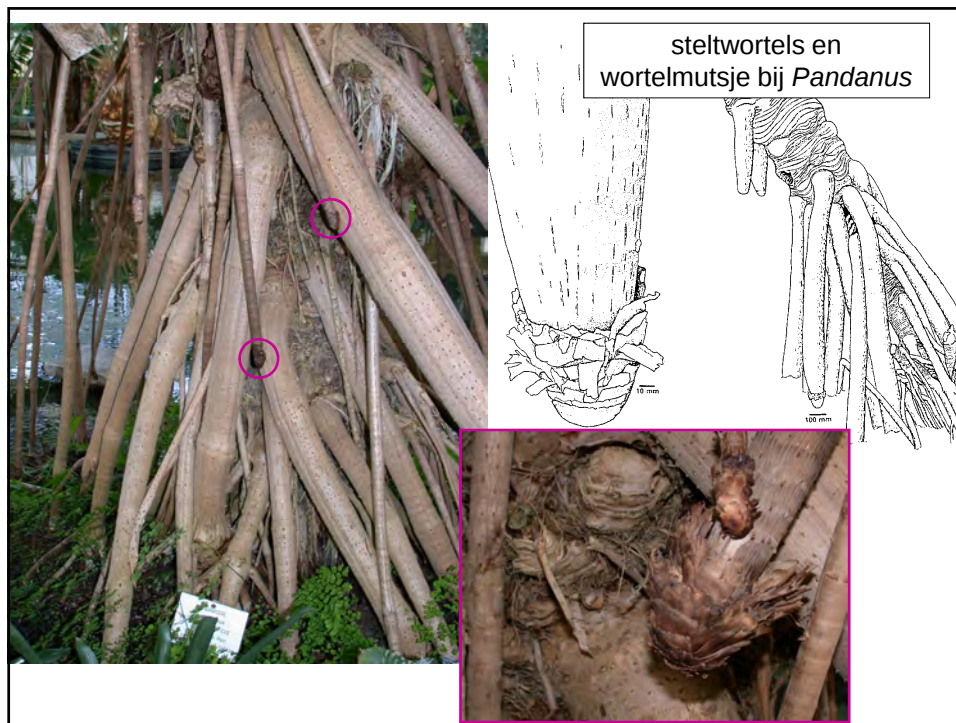
3) opslaan van reservestoffen



Early vegetarians returning from the kill







Schroefpalm (*Pandanus*) op New Caledonia



**Schroefpalm
(*Pandanus
tectorius*)
op Hawaii**



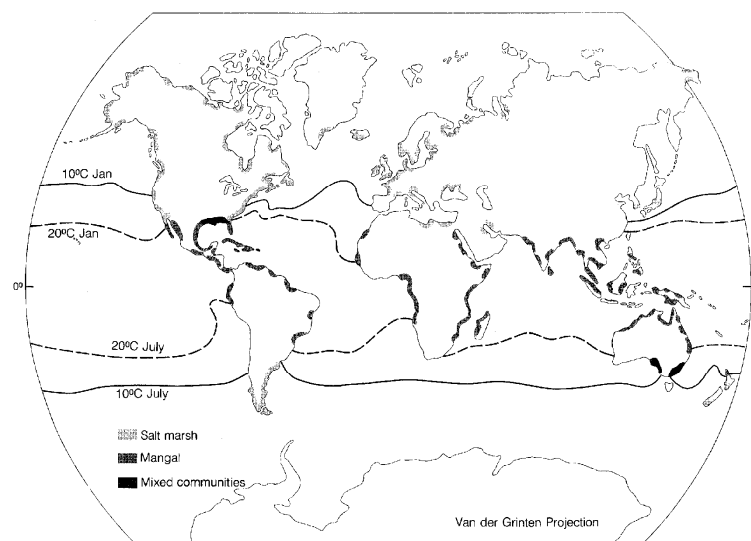
**Schroefpalm
(*Pandanus
aquaticus*)
in Australië**



Steltwortels in de mangrove, Frans Guyana

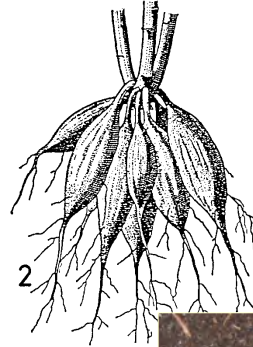
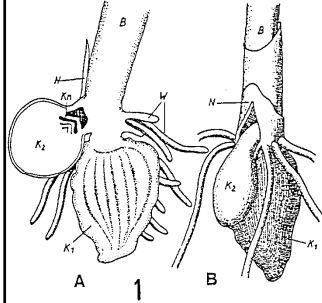


Mangrove areaal



zoute kusthabitats in tropen en subtropen

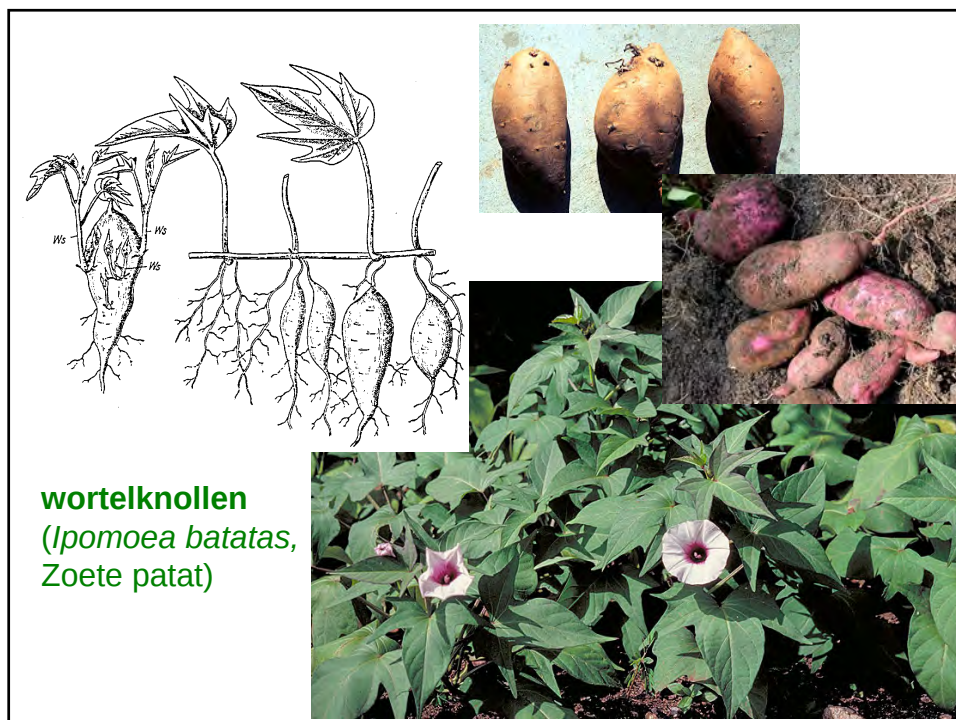
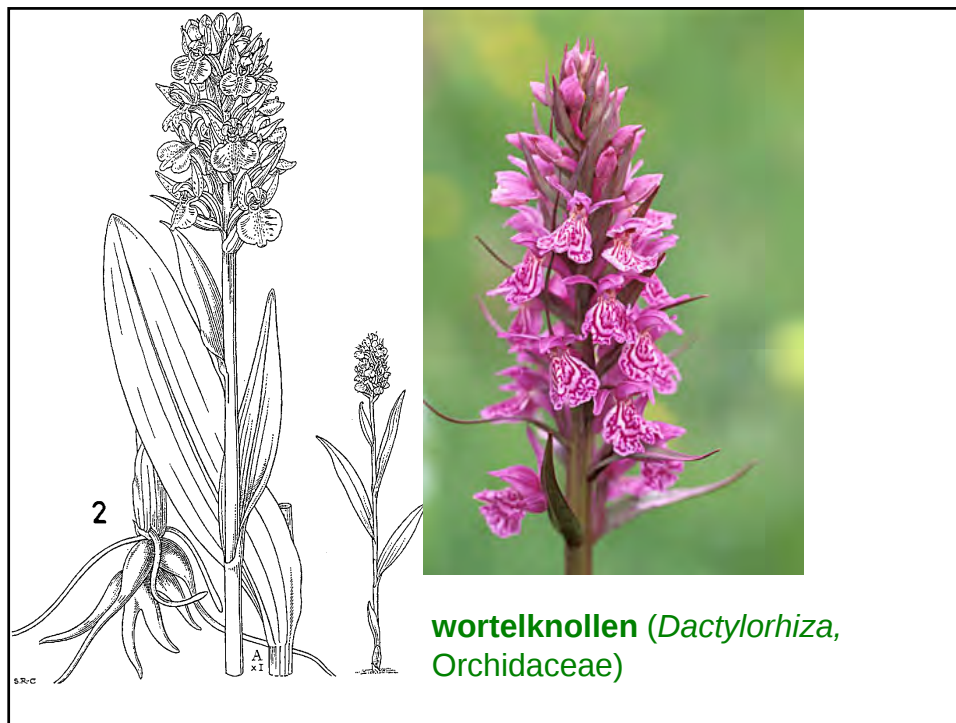
1: wortelknollen
(*Orchis*)

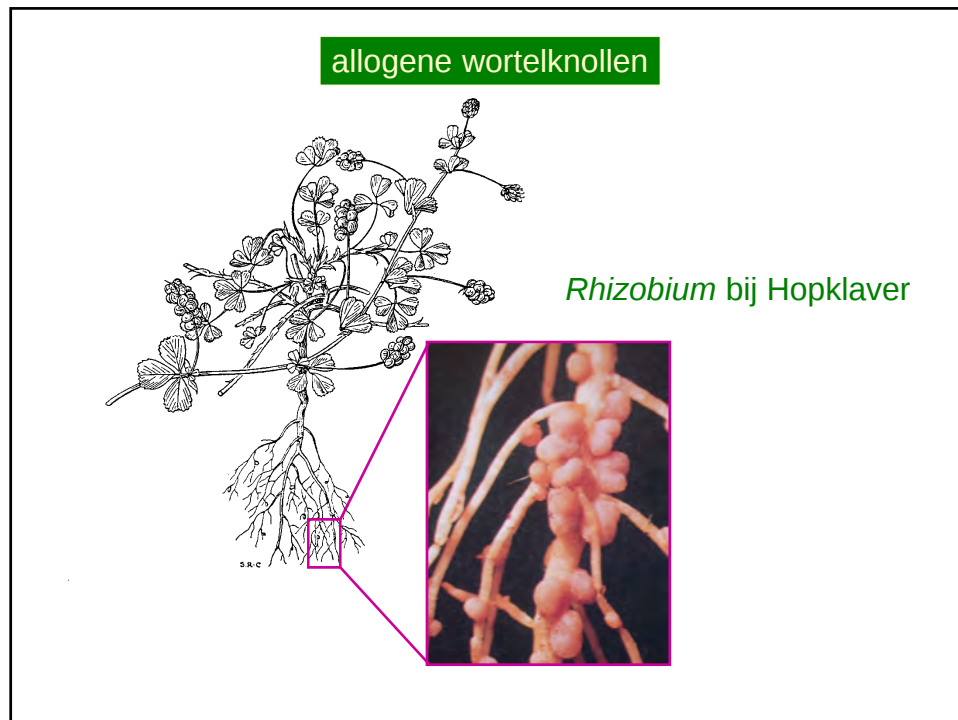


2: wortelknollen
(*Dahlia*)



wortelknollen
(*Speerkruid*)



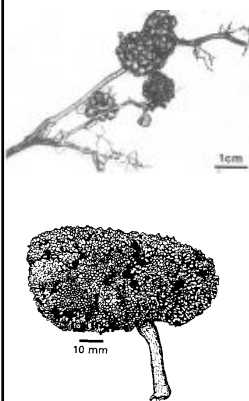


Rhizobium-knolletjes bij Leguminosen

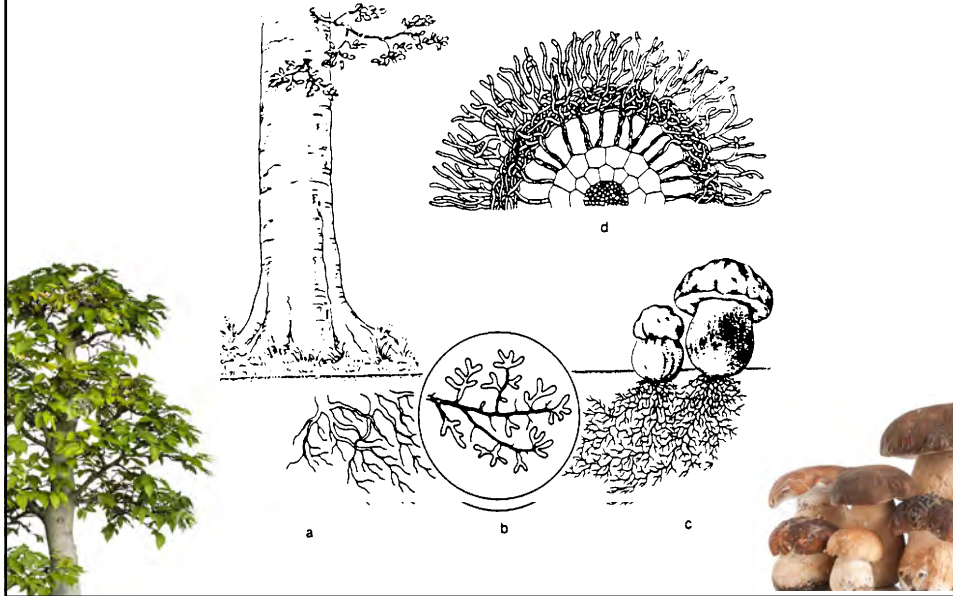


allogene wortelknollen

Frankia bij Els



Bijzonder type allogene wortelknollen: **ectomycorrhiza**



Bijzonder type allogene wortelknollen: **ectomycorrhiza**



Lactarius porninsis –
gemycorrhizeerde worteltjes
van lork



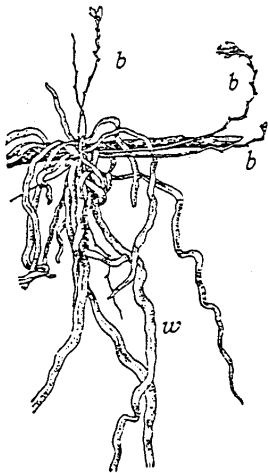
Lactarius quieticolor –
gemycorrhizeerde worteltjes
van den

**Vogelnestje
(*Neottia nidus-avis*) :
mycoheterotrofie**



Neottia nidus-avis
Foto: Dag Fosse

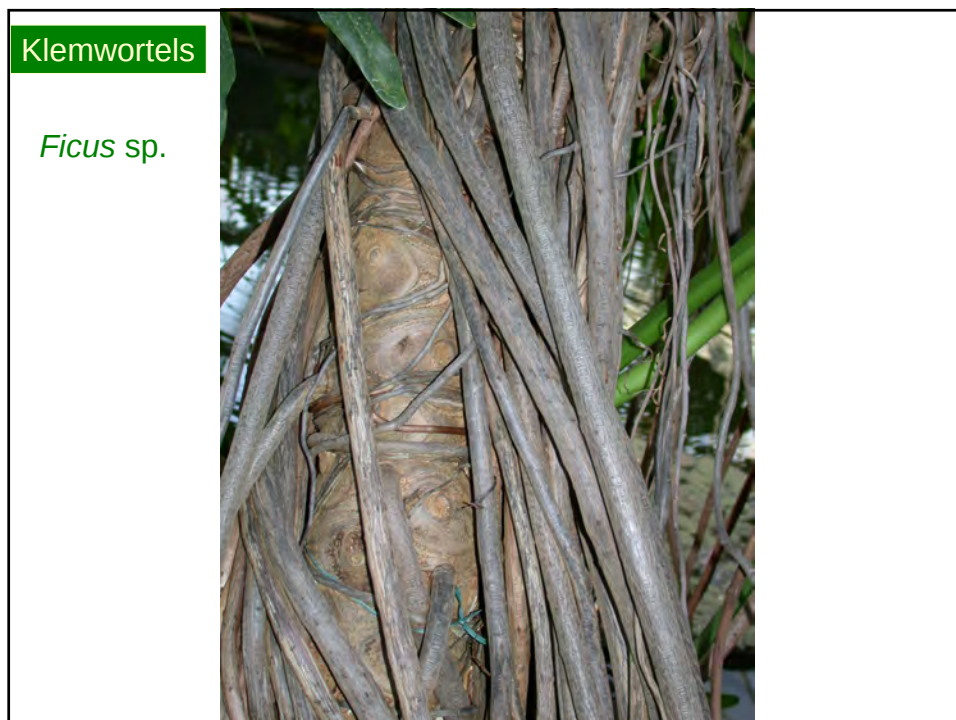
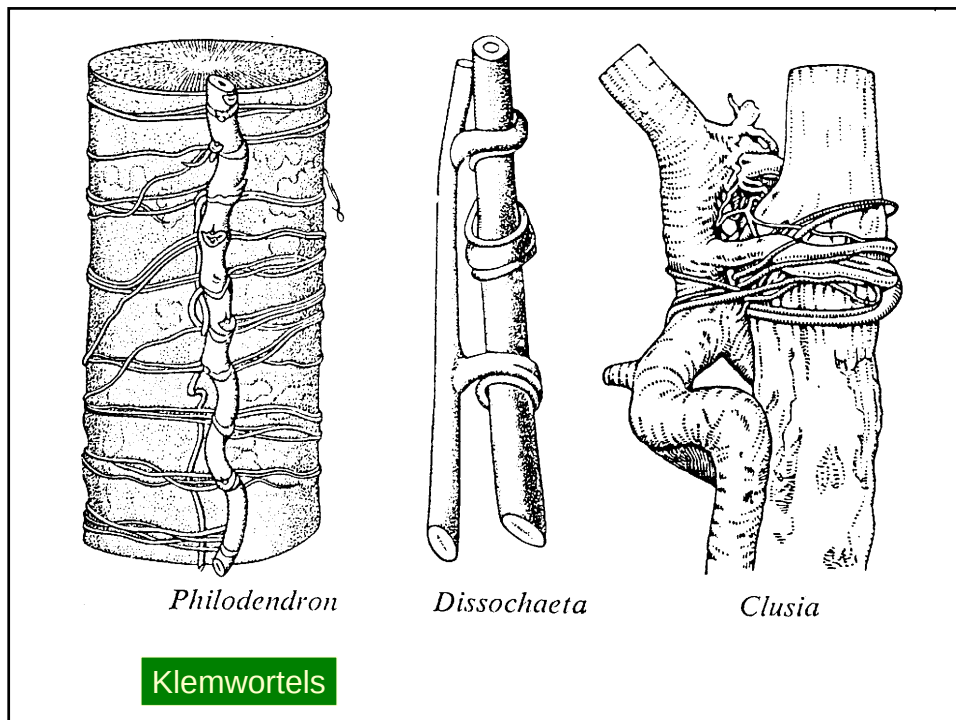
Groene wortels

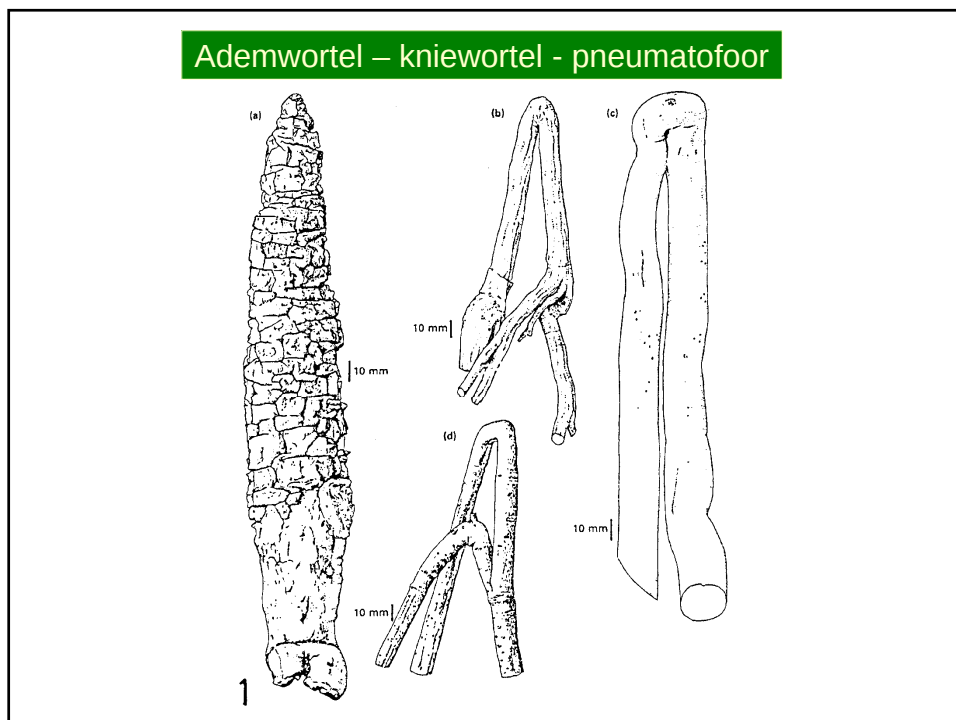
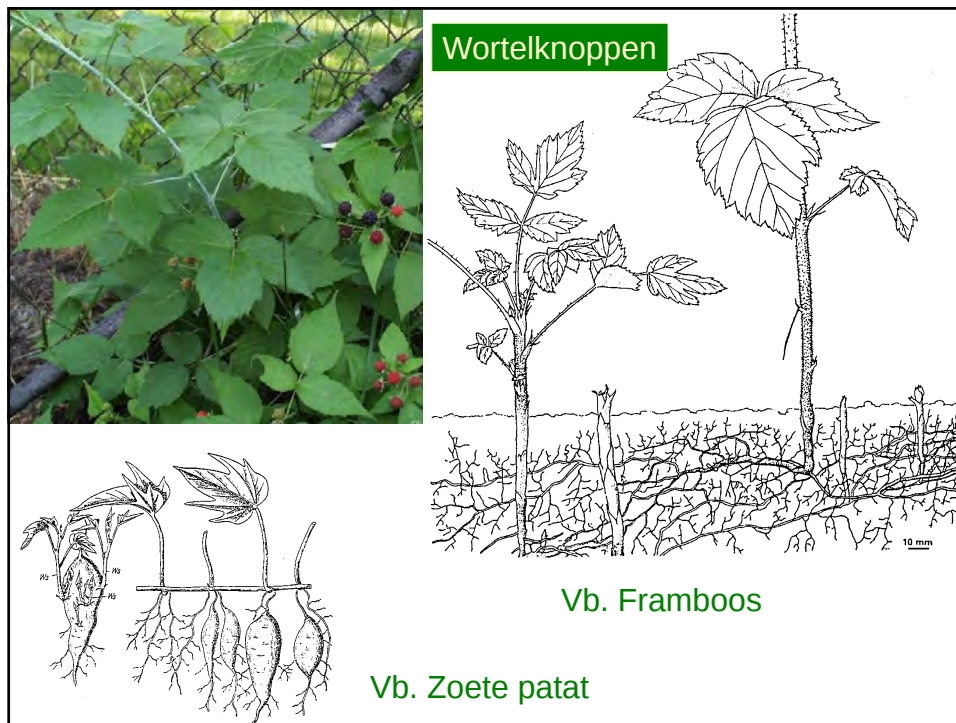


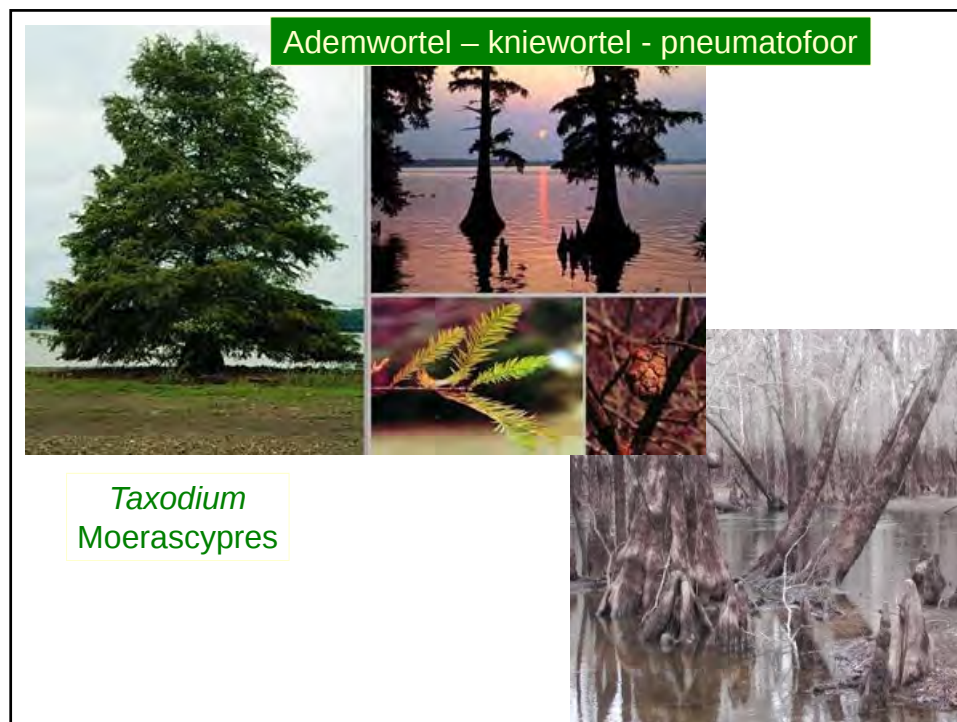
**Fotosynthetiserende
wortels**

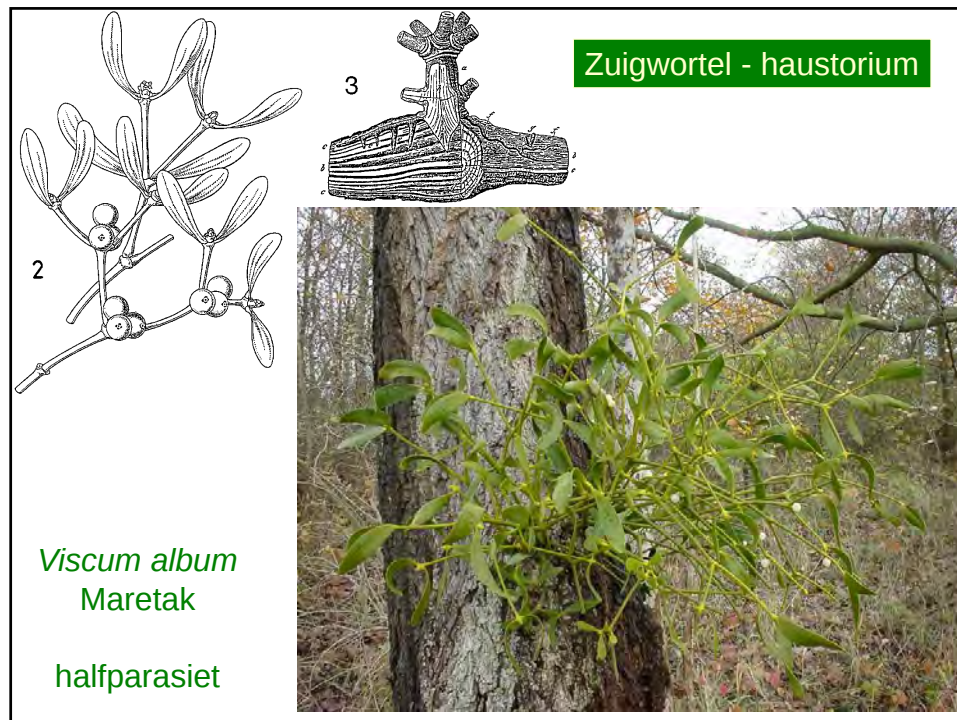


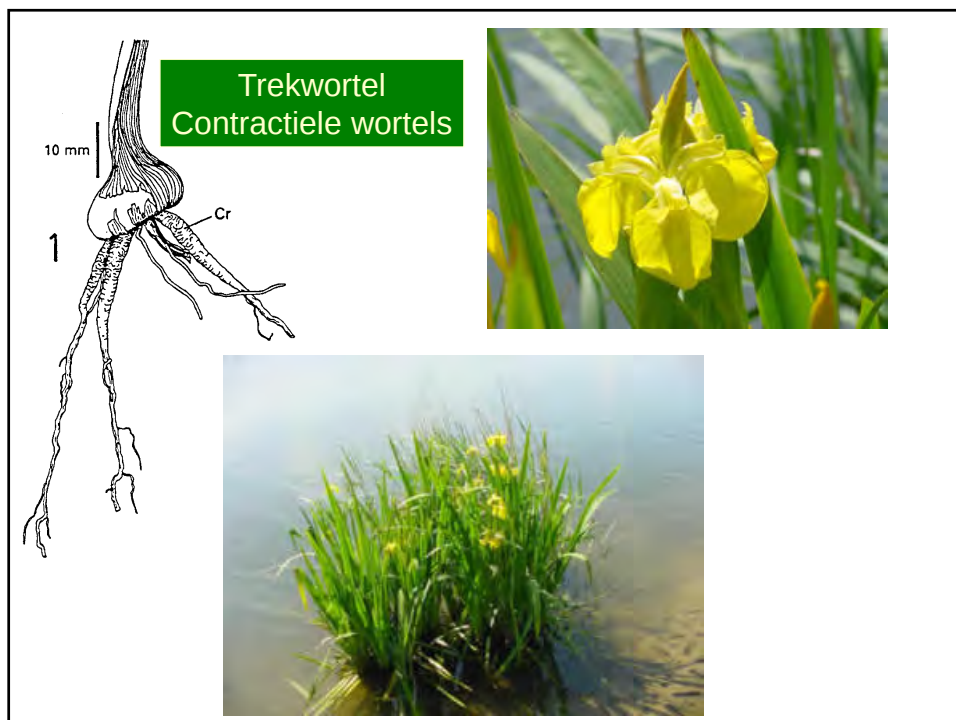
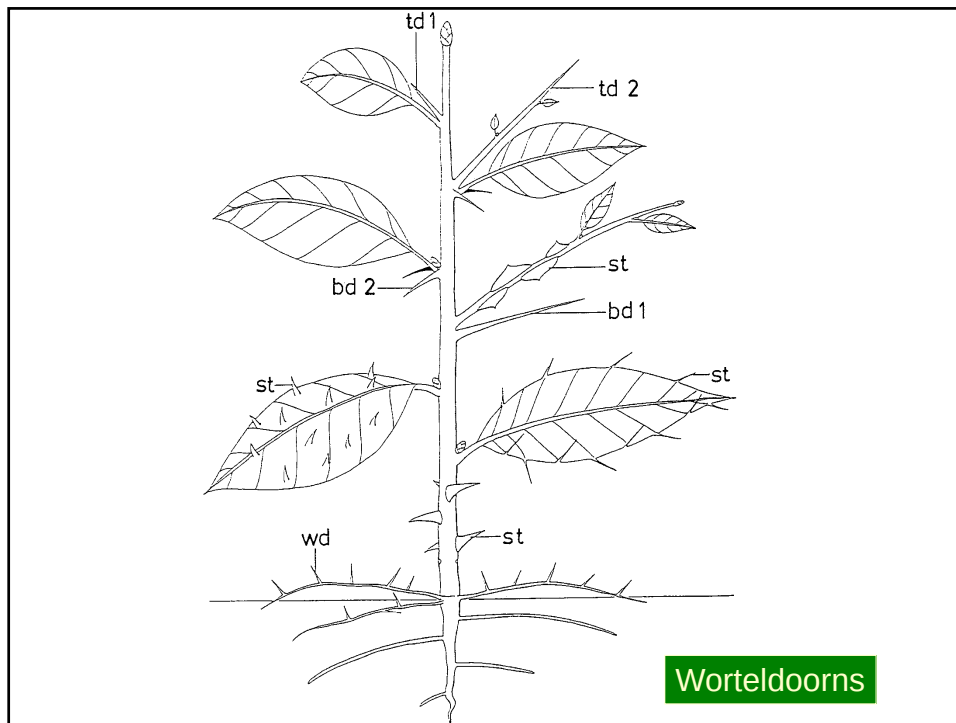
**Vanille
(Orchidaceae)**









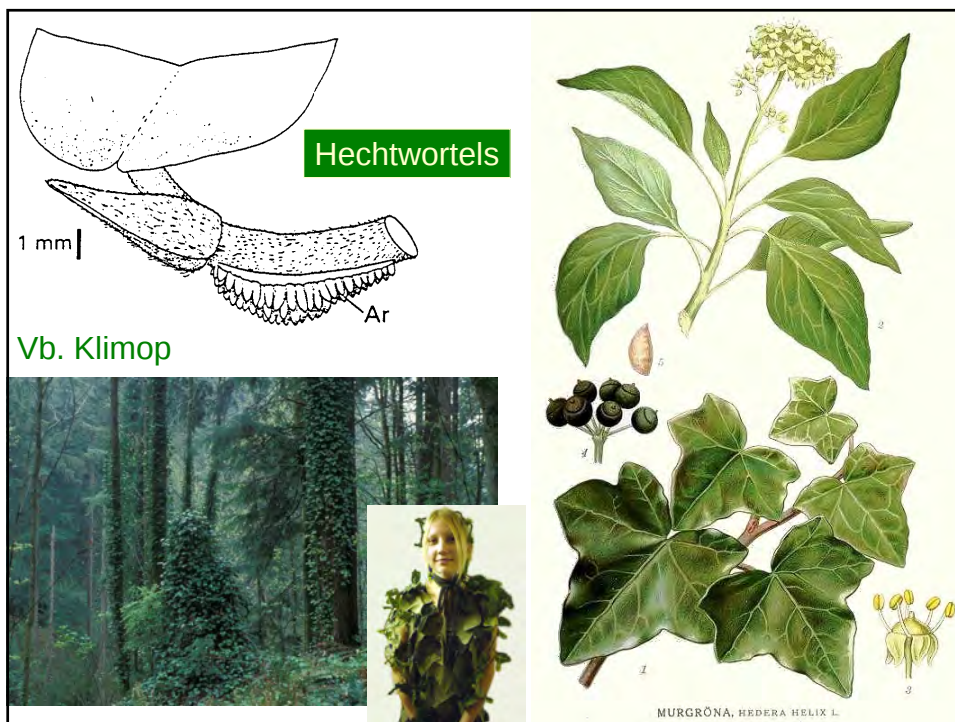


Trekwortel Contractiele wortels

Vb. Krokus



Vb. Aronskelk (hier tussen de kniewortels van *Taxodium*)



Plankwortels kwortels

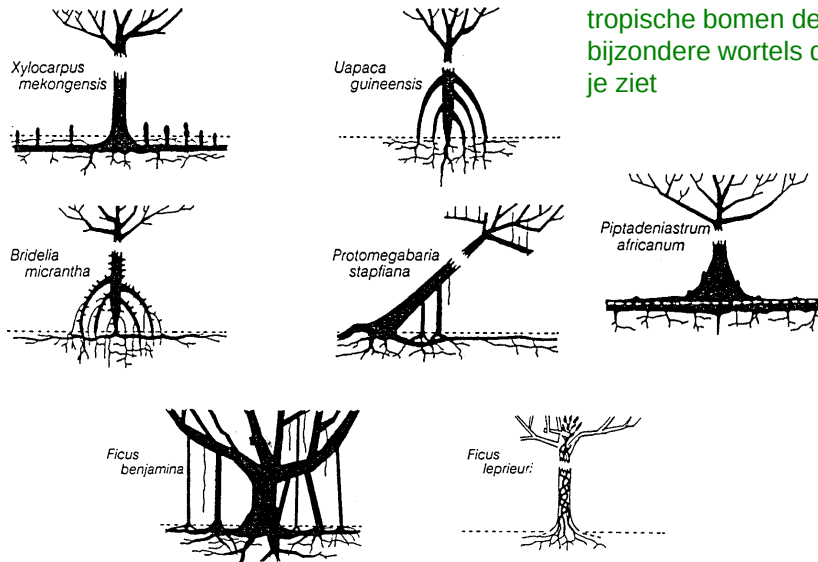


Vb. *Ceiba*



Morfologie wortel: TEST JEZELF!

Benoem bij de
silhouetten van deze
tropische bomen de
bijzondere wortels die
je ziet



Morfologie wortel: TEST JEZELF!

Welk van deze
voorgestelde
wortelachtige
structuren zijn
homoloog met deze
wortel?

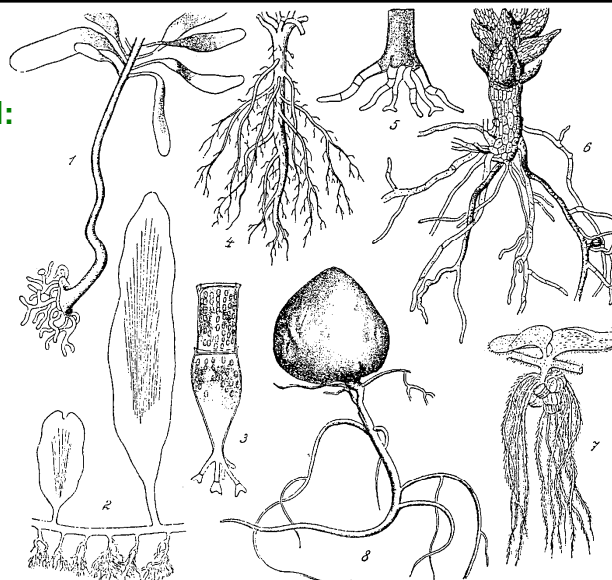


Abb. 2. Analoge Organe verschiedener Pflanzen. — Fig. 1. Basaler Teil von *Alaria esculenta* mit Rhizoid; nat. Gr. — Fig. 2. Stück von *Caulerpa prolifera* mit Rhizoiden; nat. Gr. — Fig. 3. Basaler Teil eines *Oedogonium*-Fadens mit Rhizoid; 250fach vergr. — Fig. 4. Wurzel von *Malva silvestris*; verkl. — Fig. 5. Rhizoid von *Syncephalis cordata*; 250fach vergr. — Fig. 6. Basaler Teil eines Stämmchens von *Bryum argenteum* mit Rhizoiden; schwach vergr. — Fig. 7. Wurzelähnliche Wasserblätter von *Salvinia natans*; nat. Gr. — Fig. 8. Rhizoid von *Phallus impudicus*; nat. Gr. — Original.

Morfologie wortel: TEST JEZELF!

Wat herken
je en kan je
uitleggen
aan de hand
van deze
oude
schoolplaat?

