

FERNS & THE FIRST VASCULAR PLANTS

PHYLUM TRACHEOPHYTA

True Land Plants b/c they've evolved
* VASCULAR TISSUES

IMPORTANT ADAPTATIONS

SPECIALIZED TISSUES

= Vascular Tissues
- Transport H_2O + prod. of photosynthesis

TRUE ROOTS

Vascular tissues in central area
↳ Vascular Cylinder

TRUE LEAVES

- photosynthetic organs
- bundles of vascular tissues
↳ veins
- waxy cuticle prevents water loss by evaporation

XYLEM

Moves H_2O from roots to rest of plant

PHLOEM

transports nutrients + products of photosynth

TRACHEID CELLS

- thick strong walls; support plant
- carry water

THE FIRST VASCULAR PLANTS

PSILOPHYTES

- in fossil record
- primitive xylem + phloem
- no true roots + leaves

TWO THEORIES

they are extinct

VS

still live in form of two fern species

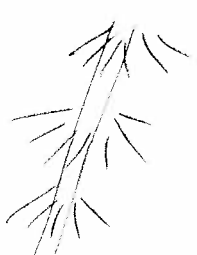
TRACHEOPHYTA

CLUB MOSSES

HORSETAILS

FERNS

LYCOPHYTES
 - 1st 400 MYA
 - huge!
 - pre-historic forest
 ↓
 became Coal
 - tropical

SPHENOPHYTES
 - only one living genus
 "equisetum"


- appeared 400 mya
 - 11,000 species today
 - underground stem = rhizoids
 - leaves = fronds
 - found in wet environments
 ex Rainforests

LIFE CYCLE OF A FERN - Alternation of Generations

