

EARLY LAND PLANTS

Cooksonia and *Rhynia*

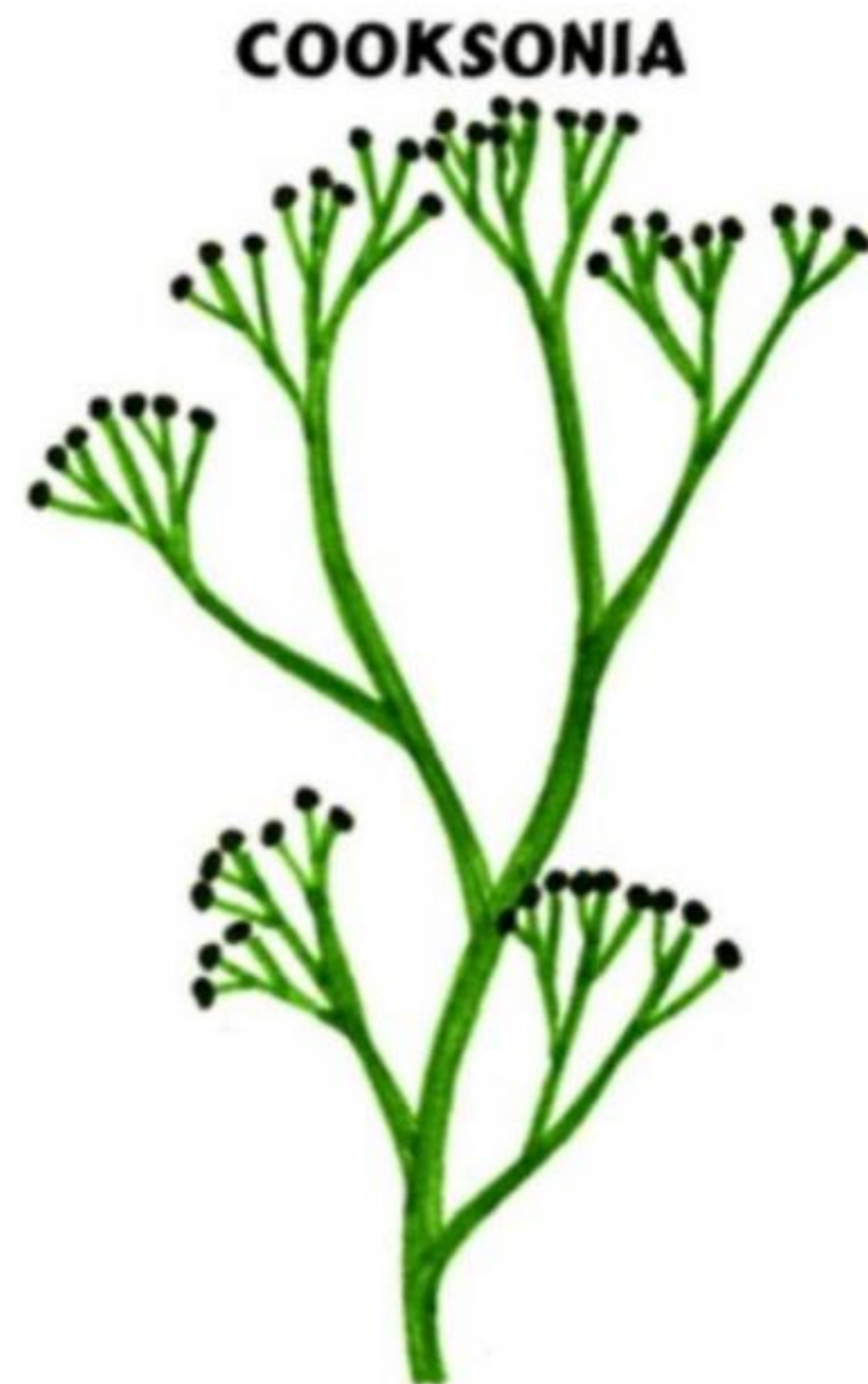
SYSTEMATIC POSITION

DIV	PTERIDOPHYTA
CLASS	Rhyniopsida
ORDER	Rhyniales
FAMILY	Cooksoniaceae

- It is an extinct grouping of primitive land plants, ranging in age from middle-upper Silurian to lower Devonian.

- Cooksonia* fossils are distributed globally and described from places like Ireland, South Wales, Scotland, Germany, Czechoslovakia, Russia, N. Africa and N. America.

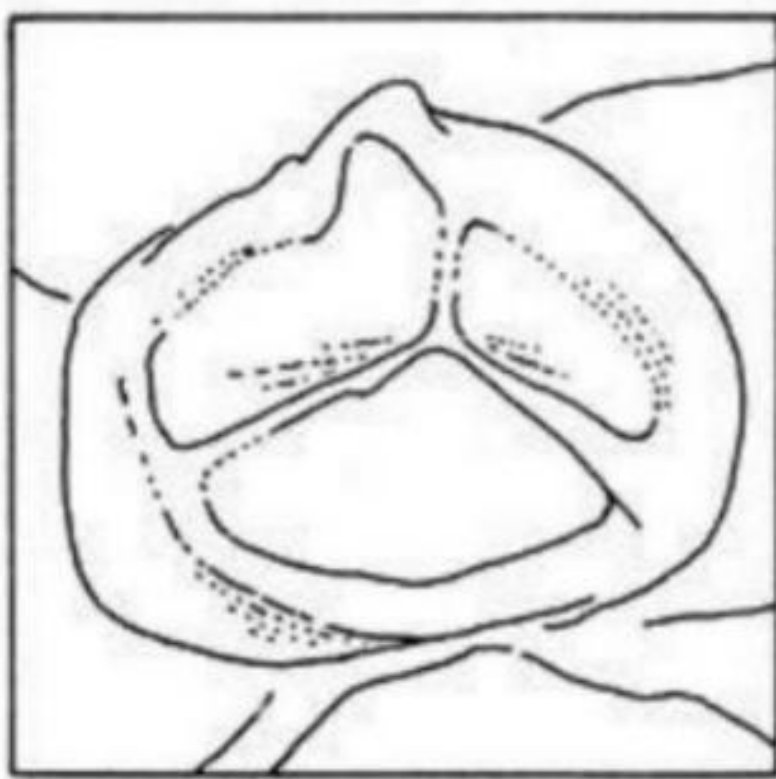
- Cooksonia* includes the oldest known plant to have a stem with vascular tissue.



The oldest known vascular plant is *Cooksonia*. Branches on this plant were about 6.5 cm long. Sporangia were terminal, that is, on the tips of the branches

MORPHOLOGY

- Only the sporophyte phase of *Cooksonia* is currently known.
- Individuals were small, a few centimetres tall, and had a simple structure.
- They lacked leaves, flowers and roots — although it has been speculated that they grew from a rhizome that has not been preserved.
- They had a simple stalk that branched dichotomously a few times. Each branch ended in a sporangium.
- Sporangia were more-or-less trumpet-shaped with a 'lid' or operculum which disintegrates to release the spores.
- The existence of four different types of spores in *C. pertoni* has been proved from smooth to ornamented ones.



SEM-photo of a spore of *C. pertoni* (diameter 30µms; drawing J. Hulst)

Name of few species:

Cooksonia pertoni
Cooksonia paranensis
Cooksonia acuminata
Cooksonia cambrensis