

Antediluvian Phytology

Illustrated by
A Collection of the
Fossil Remains of Plants,
Peculiar to the Coal Formation
of
Mazon Creek.

By JACK M. WITTRY

The Study of Plants from Before the Flood

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ANTEDILUVIAN PHYTOLOGY,

ILLUSTRATED BY

A COLLECTION OF THE

FOSSIL REMAINS OF PLANTS,

PECULIAR TO THE COAL FORMATIONS

OF

GREAT BRITAIN.

By EDMUND TYRELL ARTIS, F.S.A. F.G.S.

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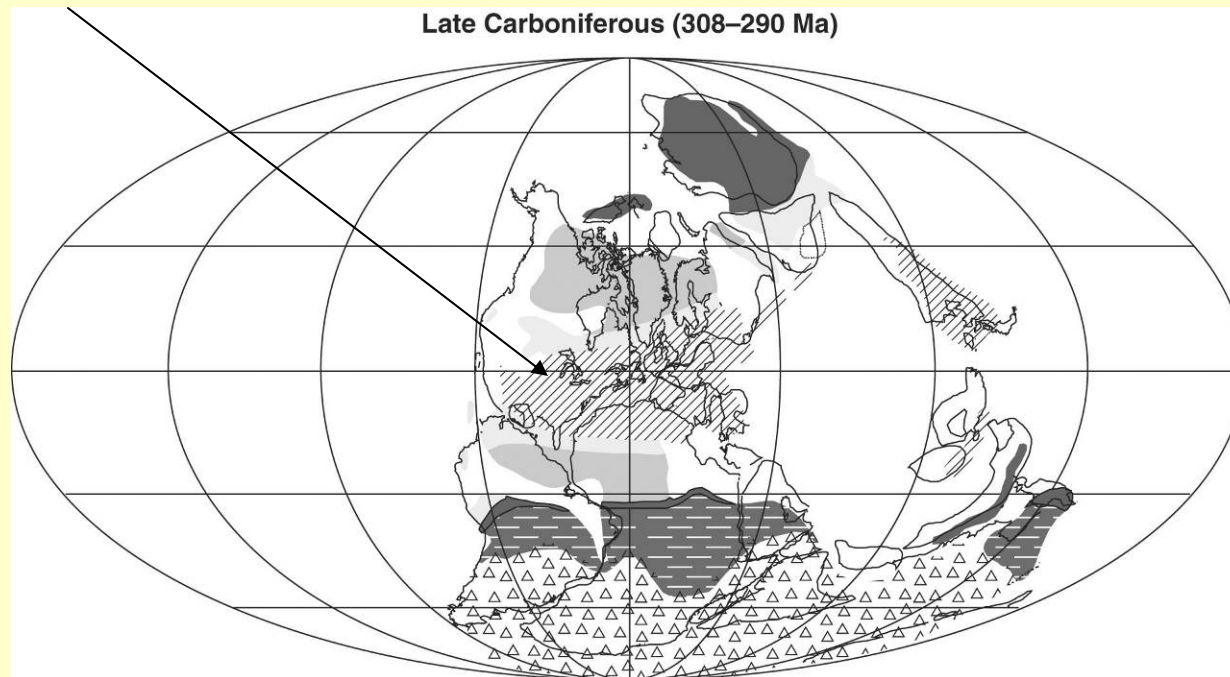
HESSEY, FLEET STREET; AND NICHOLS AND SON, PARLIAMENT STREET.

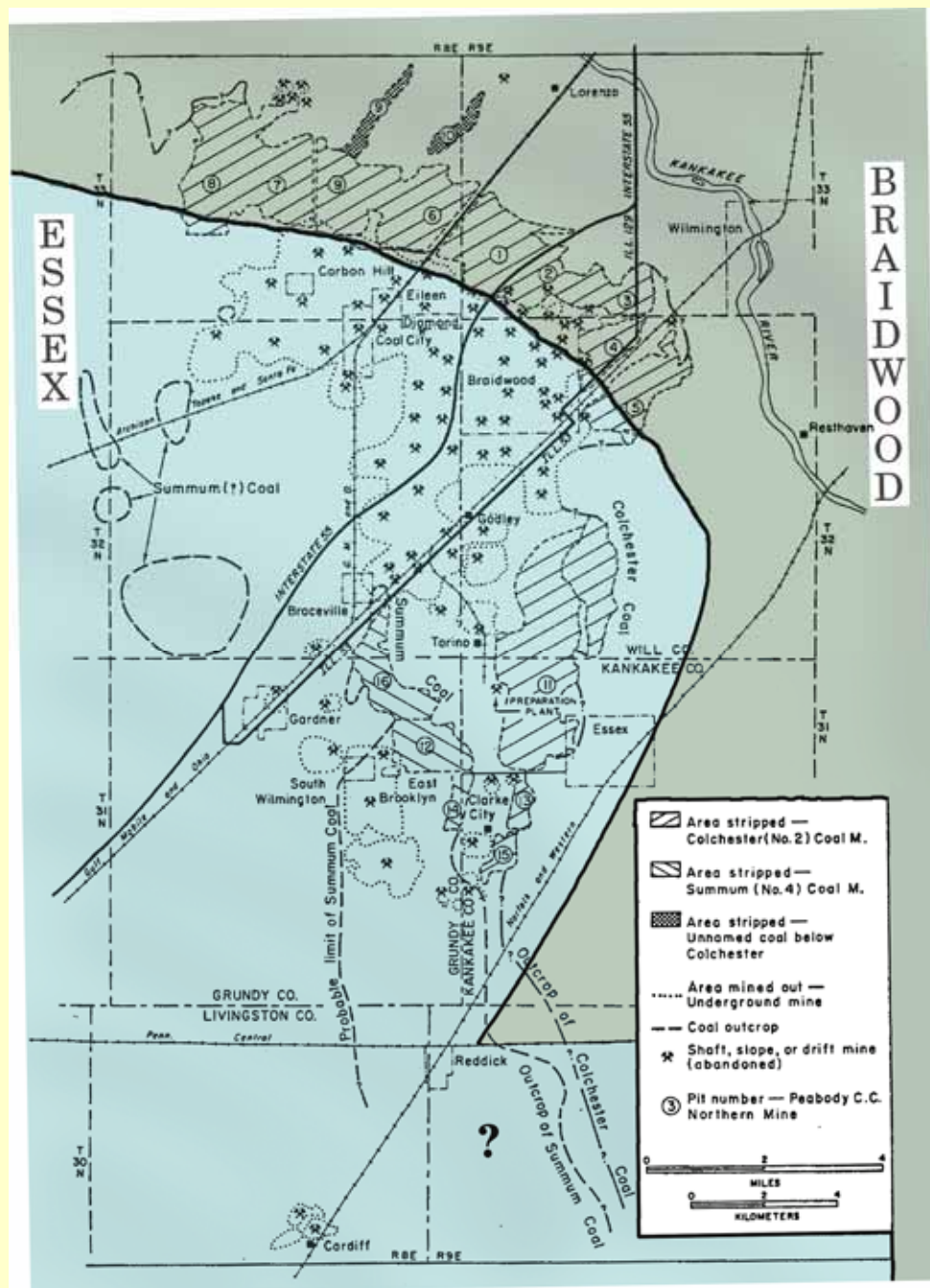
1825.

WHAT CAN BE LEARNED FROM THE MAZON CREEK FLORA ?

- CLIMATE CONDITIONS
- CLUES TO THE FOSSIL FORMING
EVENT
- THE RELATIVE AGE OF THE EVENT

Mazon Creek Area





Mazon Creek Factoids

307 MYA

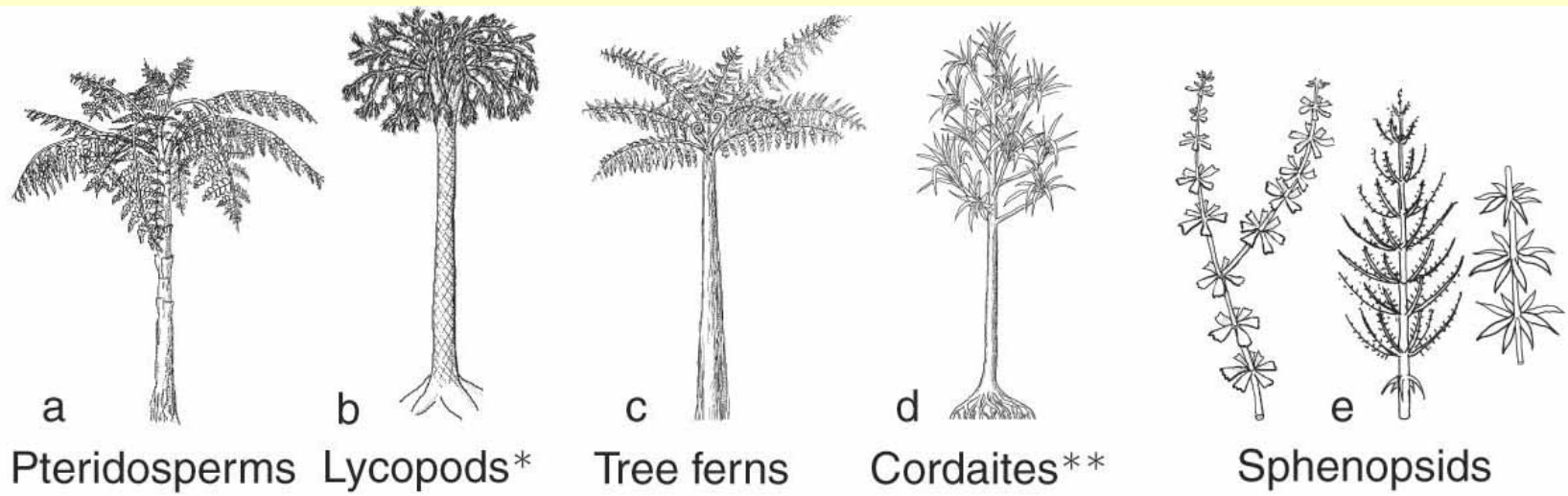
Days— 22 Hours Long

Year—398 Days Long

30% Oxygen vs 21% Today



Charcoal, Fusian or Fusinite



+ **Algae and Progymnosperms**

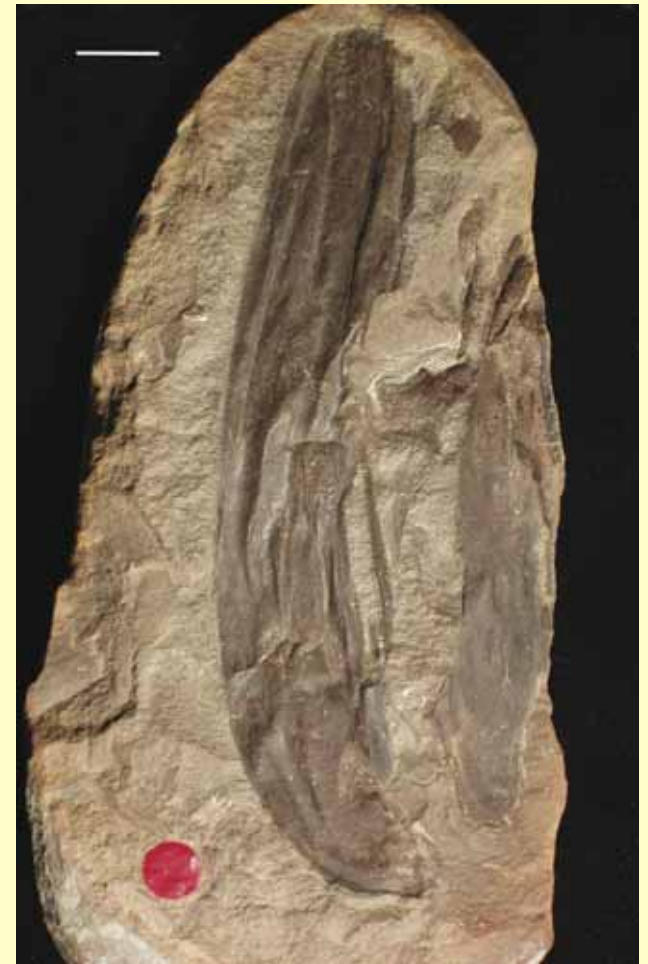
Non-Vascular Plants, Algae



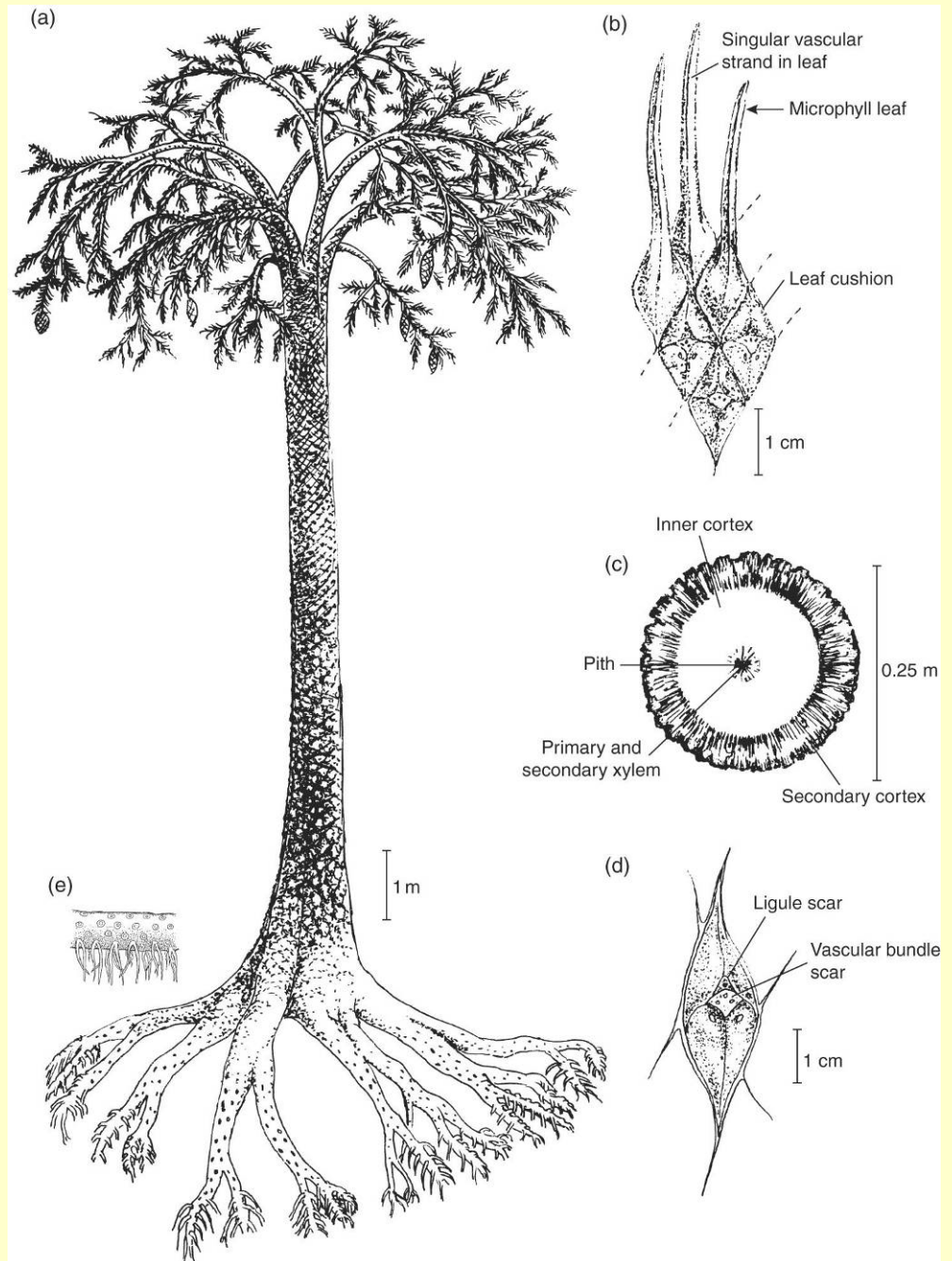
Thallites dichopleurus



*Taeniophyllum
latifolium*



Lycopsids



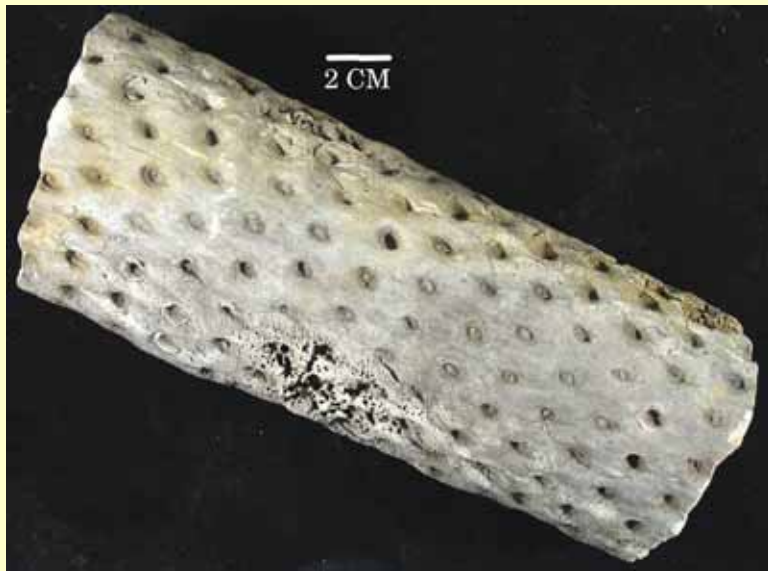
Arboreal Lycopsid Genera

Giant Club Mosses

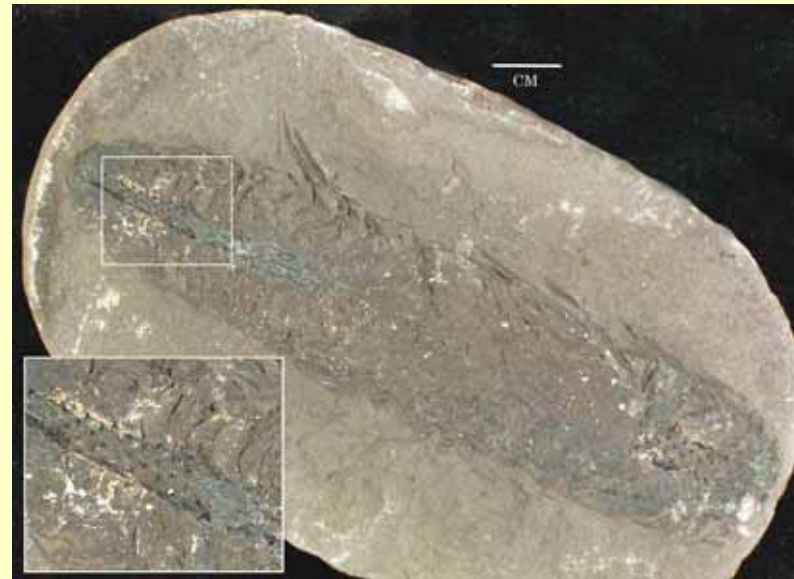
- *Sigillaria*
- *Lepidodendron*
- *Asolanus*
- *Lepidophloios*
- *Omphalophloios*

Arboreal Lycopsid Genera

- Roots—*Stigmaria*
- Cones—*Lepidostrobus*, *Sigillariostrobus*
- Outer Bark—Same as for entire plant
- Inner Barks—*Knorria*, *Aspidiopsis*
- Leaves—*Cyperites* , (Previously called *Lepidophyllum* —a flowering plant—and *Lepidophylloides* which included fertile cone bracts)



Stigmaria

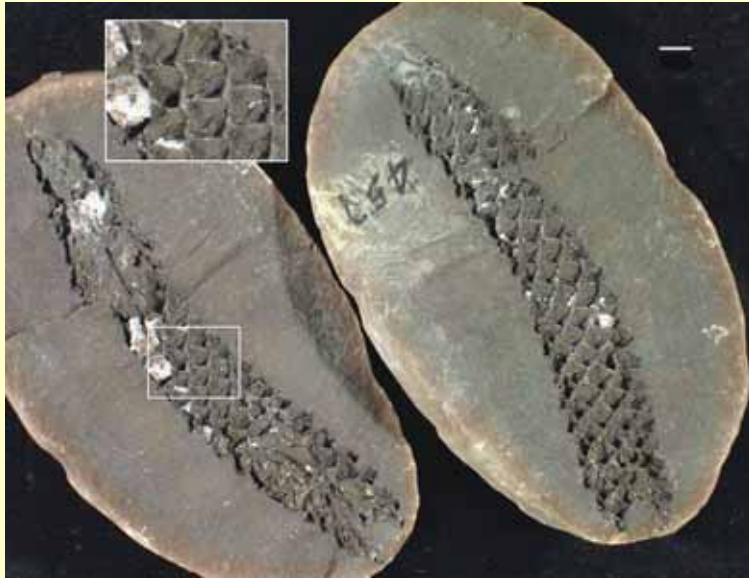


Lepidostrobus



Knorria





Lepidophloios protberans



Asolanus camptotaenia



Lepidodendron

L. rimosum



L. aculeatum



L. worthenii

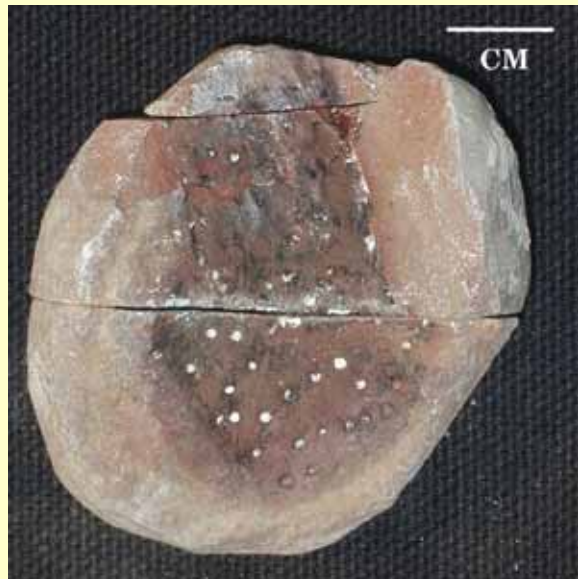


Lycopsid Diminutive and Herbaceous Forms

- Chaloneriaceae
- *Lycopodites*

Chaloneriaceae

Cormophyton mazonensis



Polysporia mirabilis



Lepidocystis sp.

Lycopodites



Lycopodites meeki



Lycopodites pendulus

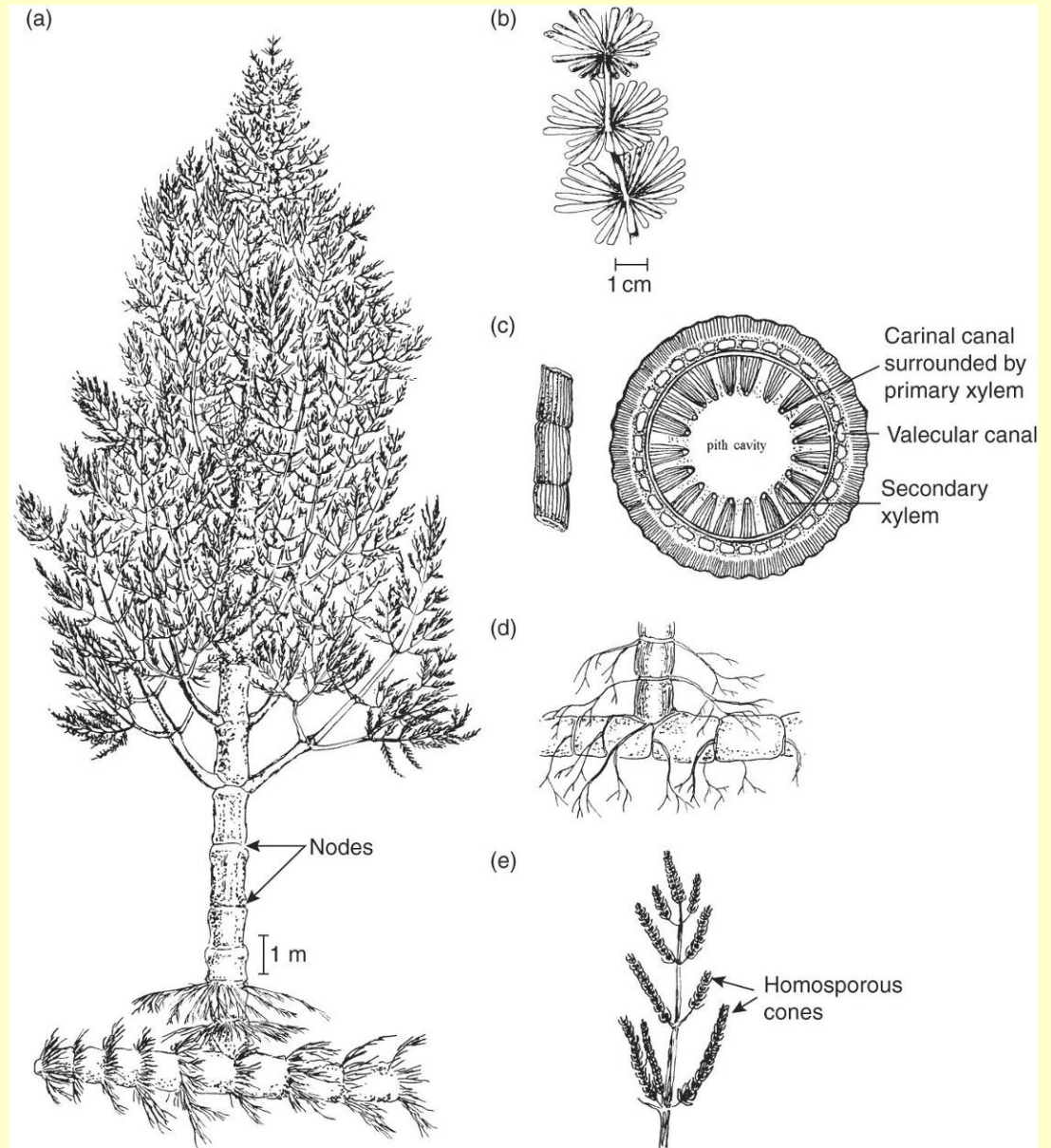
After the Flood...



Lycopodium

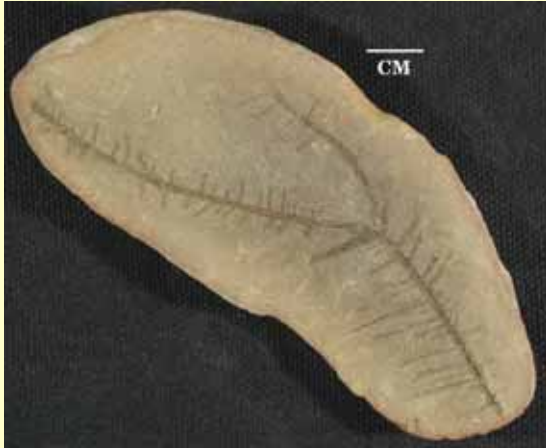
Sphenopsids

Horsetails



Sphenopsid Genera

- Roots—*Pinnularia*, *Myriophyllites*
- Cones—*Calamostachys*, *Palaeostachya*, *Bowmanites*, *Macrostachya*
- Trunks—*Calamites*
- Foliage—*Annularia*, *Asterophyllites*, *Sphenophyllum* and *Equisetites*



Pinnularia



Bowmanites



Palaeostachya

Myriophyllites



Calamostachys

Calamites

C. suckowi



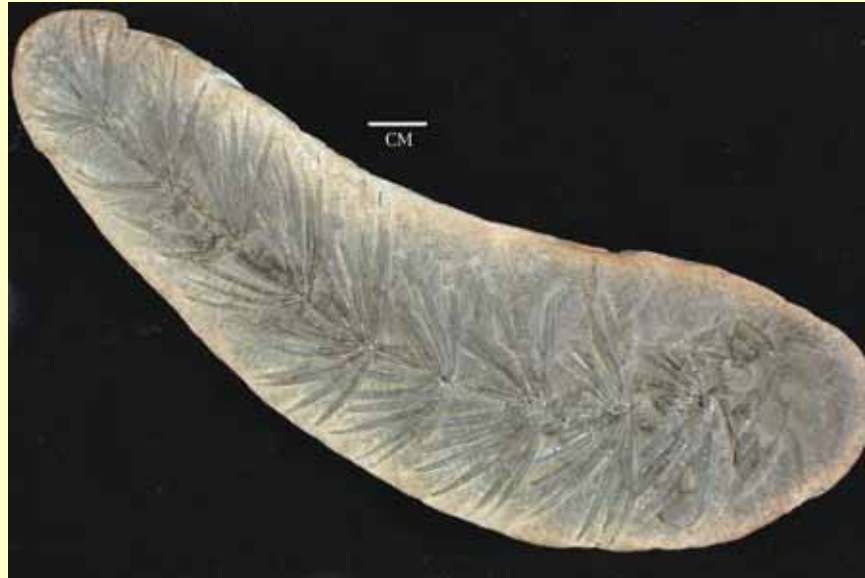
C. cisti



C. goepperti

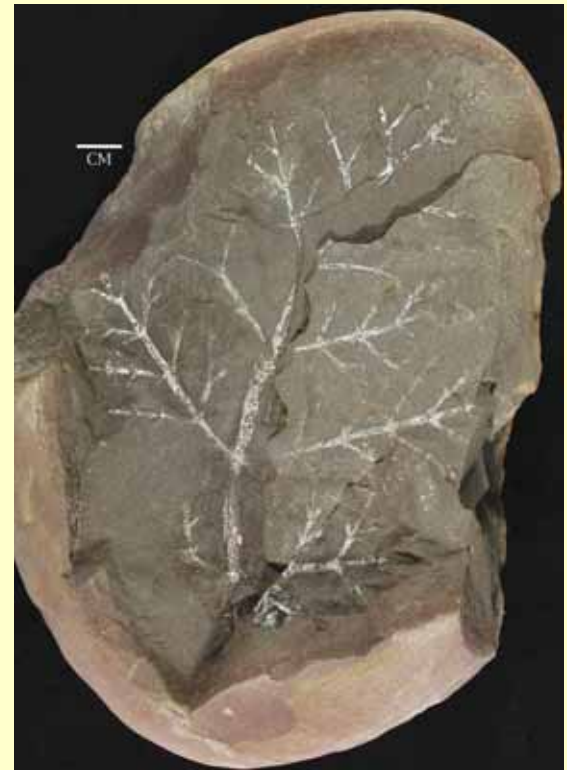
Asterophyllites

A. equisetiformis



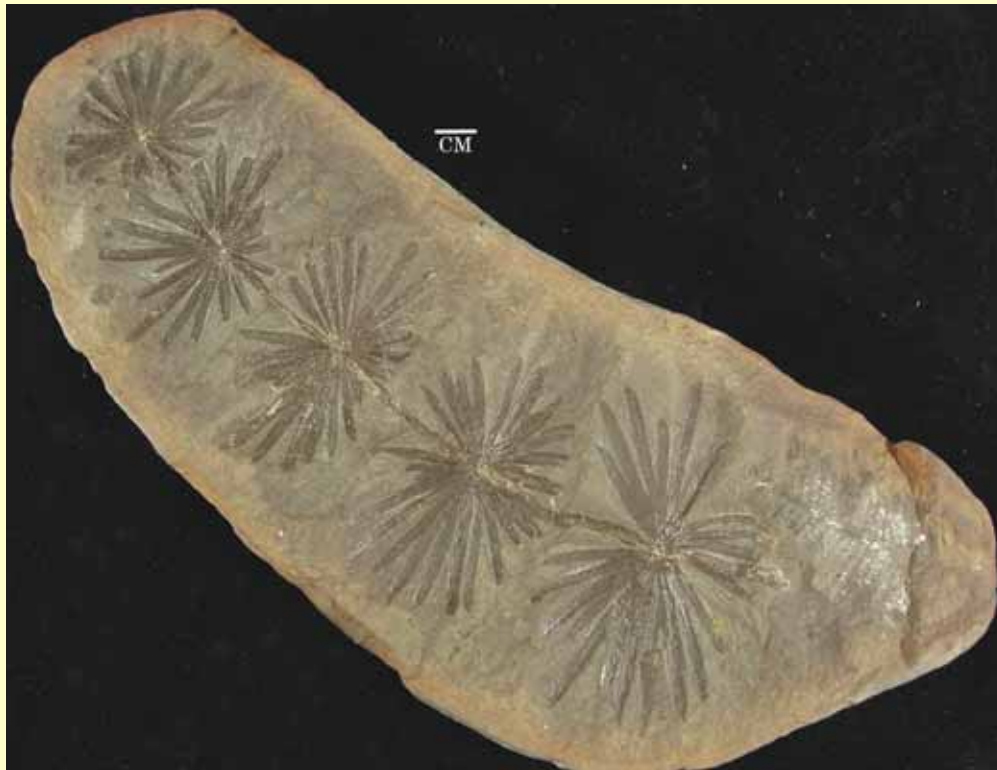
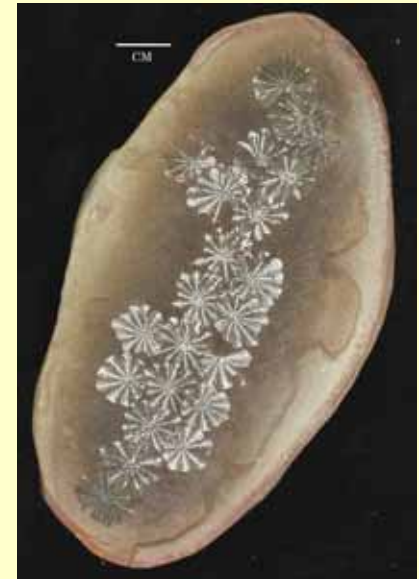
A. longifolius

“dubium”



Annularia

A. sphenophylloides

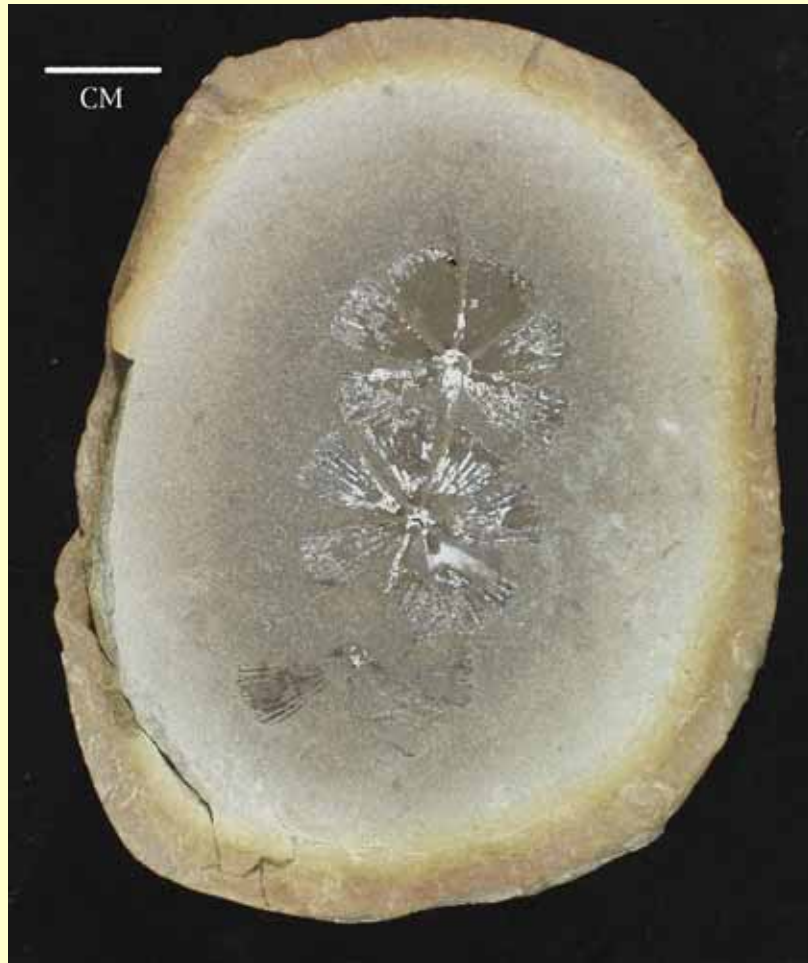


A. stellata



A. radiata

Sphenophyllum and *Equisetites*



S. emarginatum

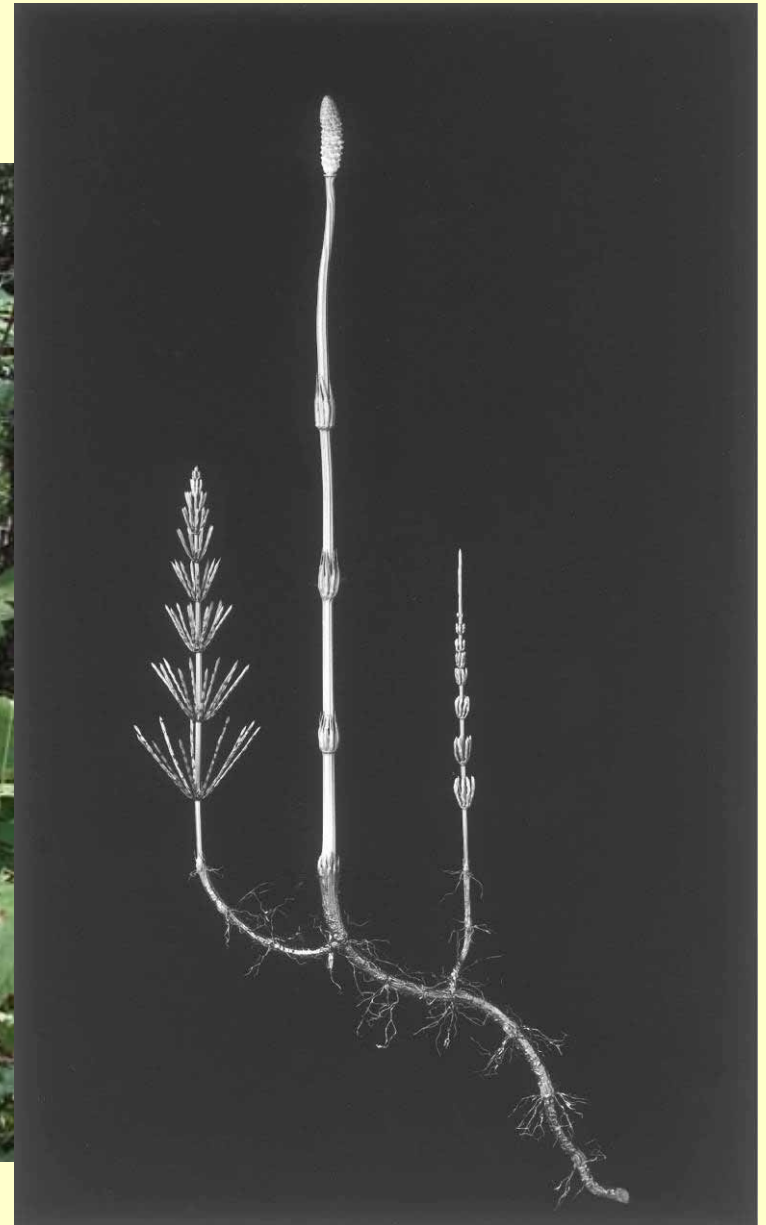


E. zeaeformis

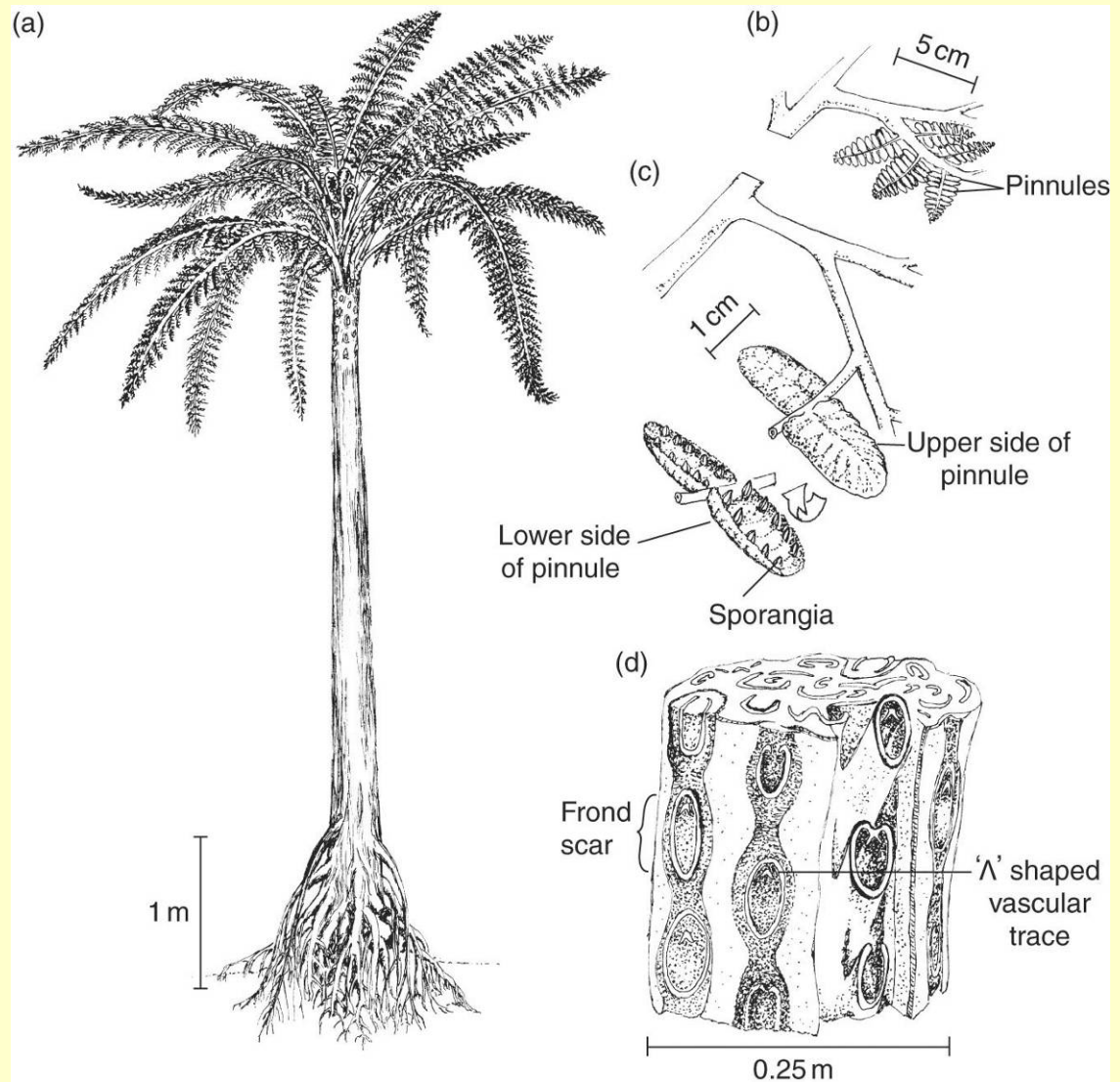
After the Flood...



Equisetum



True Ferns



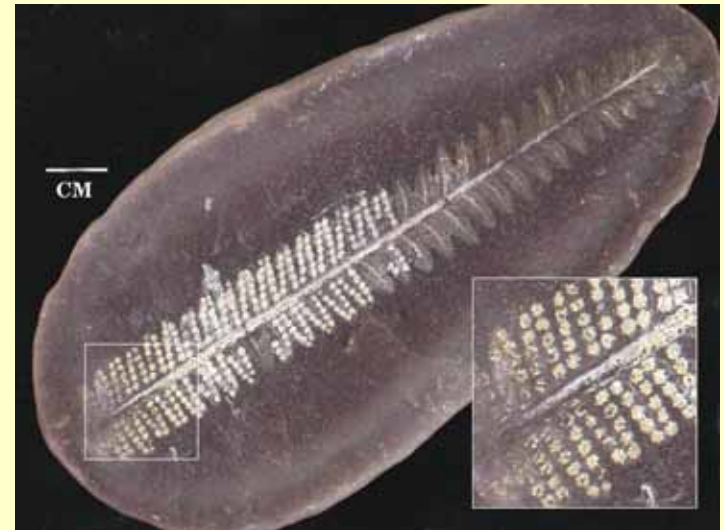
Marattialean Tree Fern Genera

- Foliage—*Lobatopteris*, *Acitheca* and *Pecopteris*
- Trunk—*Psaronius*
- Decorticated trunk—*Stigmariodes*
- Branch scars—*Caulopteris*, *Artisophyton*
Megaphyton
- Fertile structures—*Kankakeea*
- Roots—No name given
- Abortive pinnae—*Aphlebia*
- Immature pinnae—*Spiropteris*

Pecopteris subcrenulata



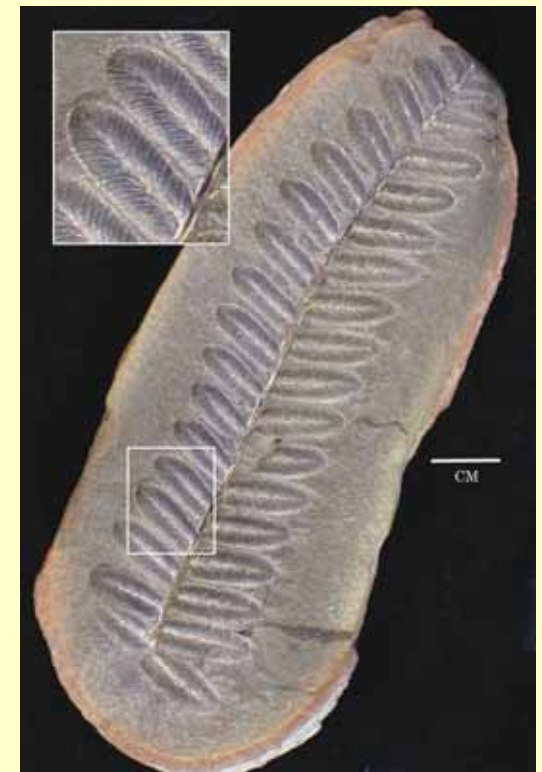
Pecopteris unita



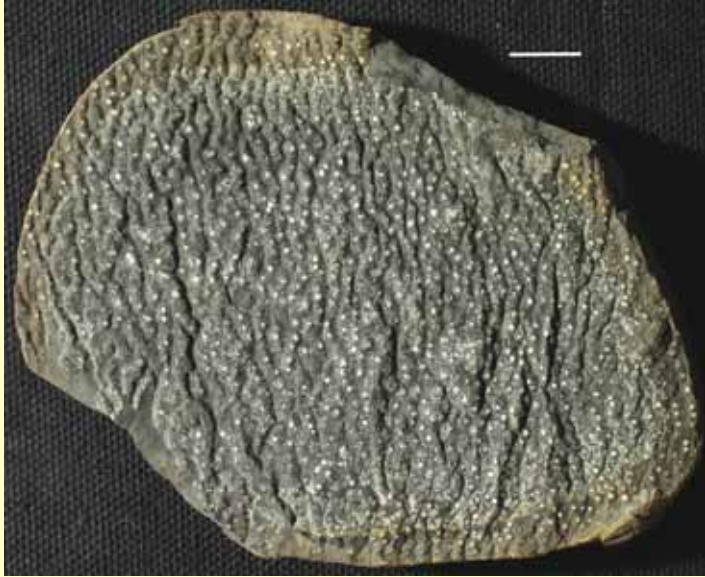
Lobatopteris sp.



Acitheca
polymorpha



Stigmariodes

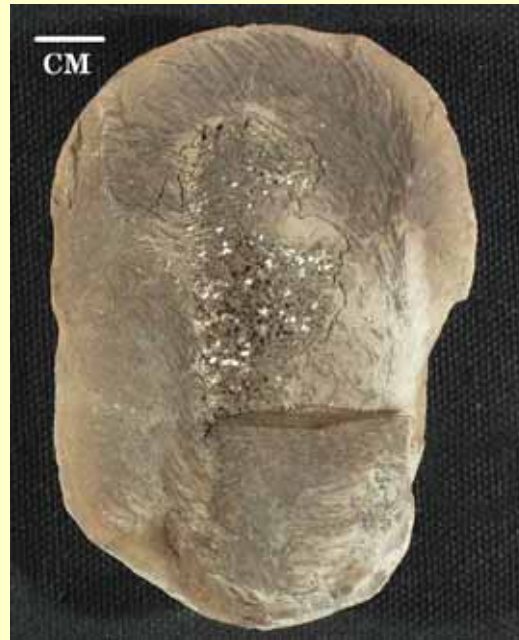


Psaronius and Caulopteris





Aphlebia



Roots



Spiropteris

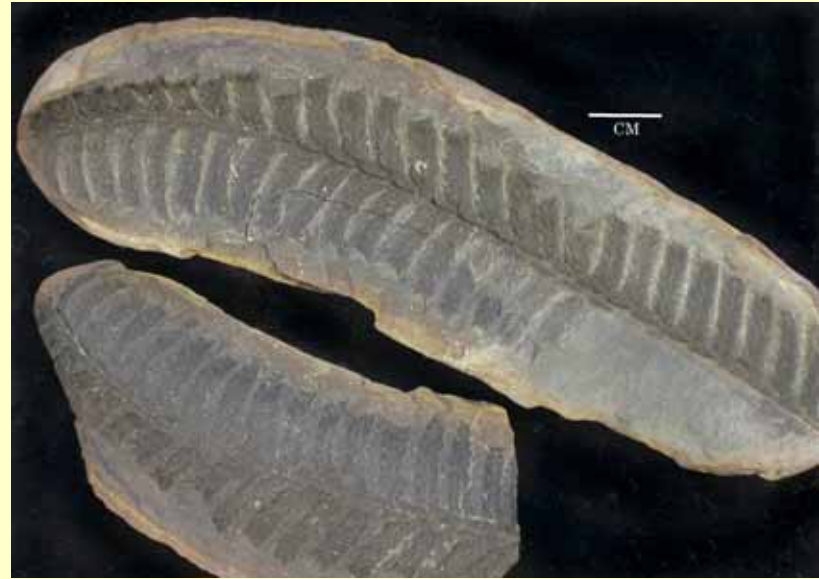
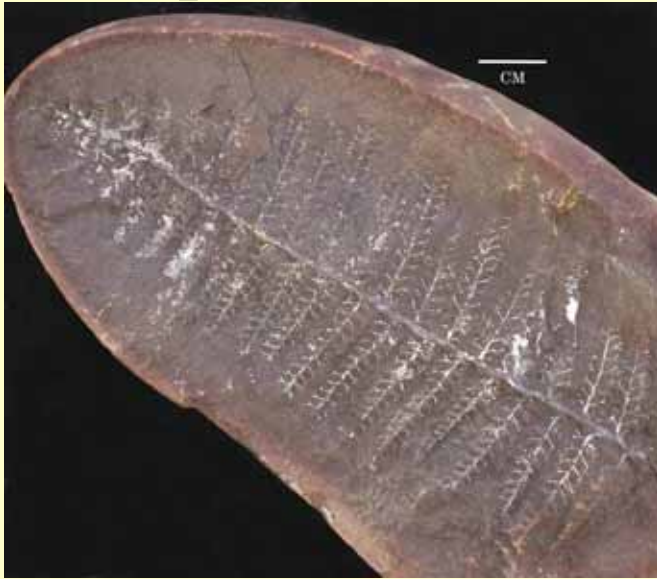
Kankakeea grundyi



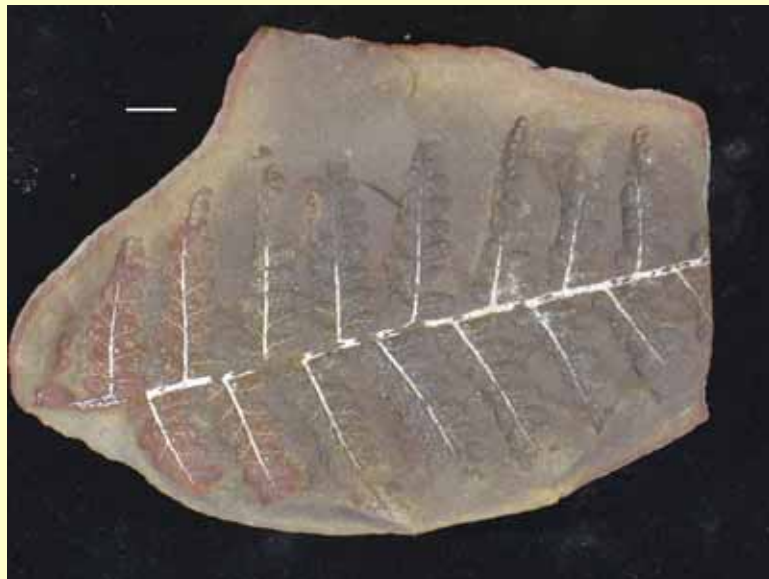
Shrub-like Fern Genera

- Foliage—*Alloiopteris*, *Nemejcopteris*, *Oligocarpia*, *Stellatheca* and *Myriothea*

Alloiopteris winslovii *Nemejcopteris feminaeformis*



Oligocarpia gutbieri



Myriothecca scaberrima



Stellatheca ornata

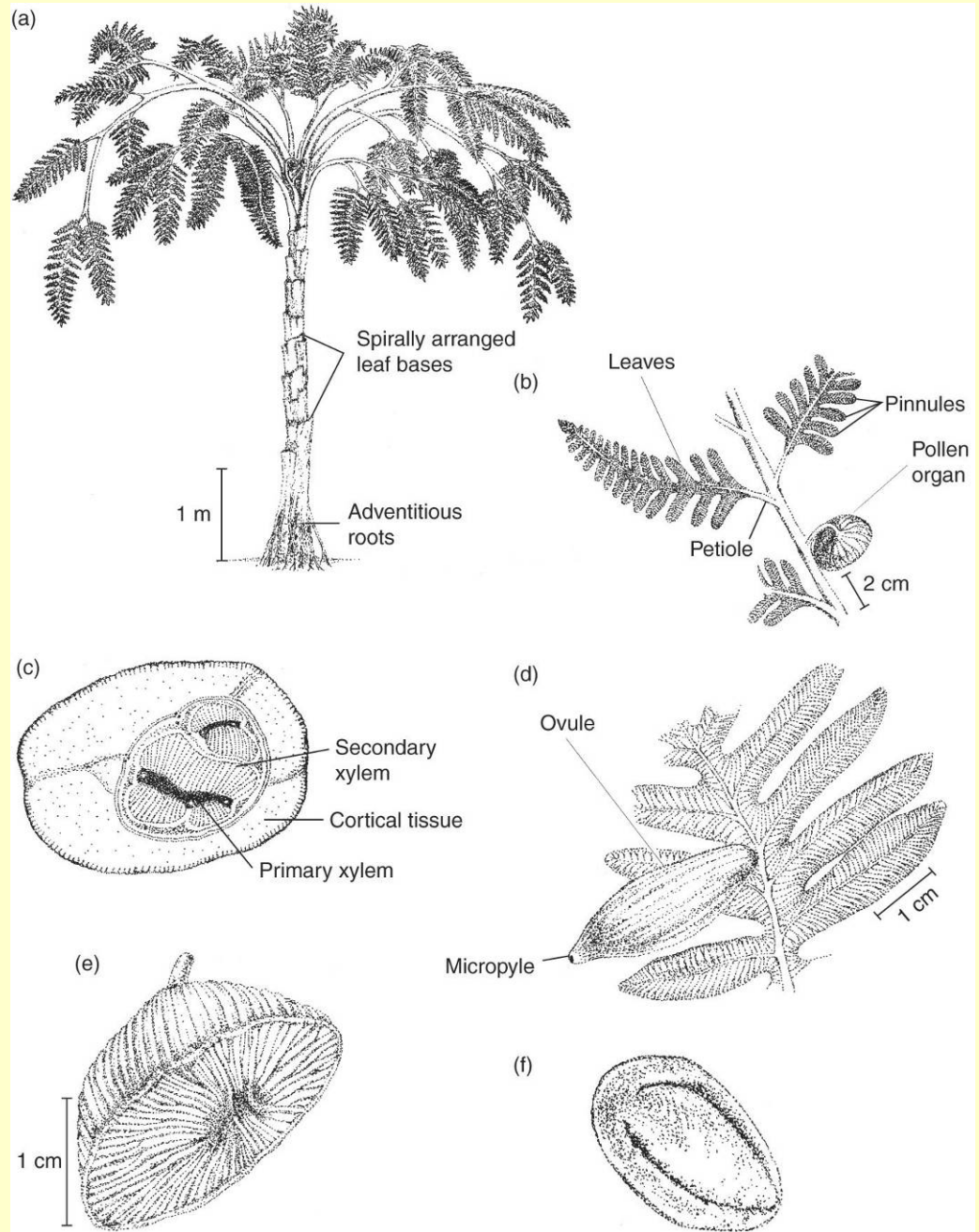


After the Flood...



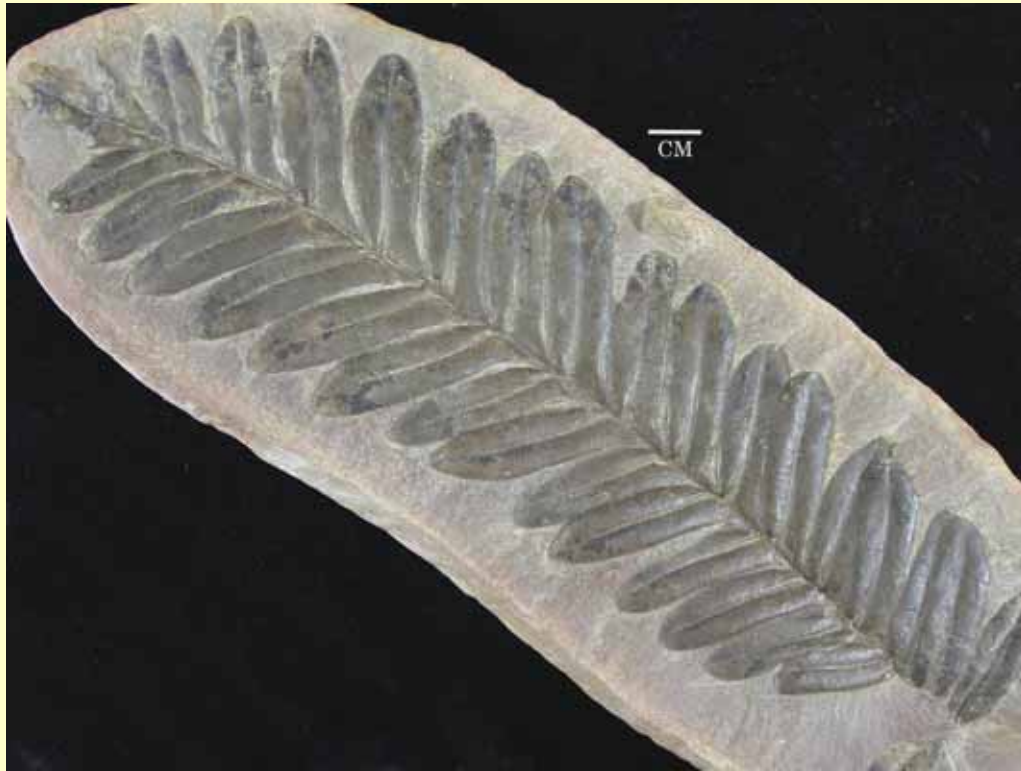
Cyathea intermedia

Seed Ferns Pteridosperms



Medullosan Seed Fern Genera

- Foliage—*Alethopteris* , *Callipteridium*, *Odontopteris*, *Neuropteris*, *Laveineopteris*, *Macroneuropteris*, *Cyclopteris*, *Linopteris* and *Reticulopteris*
- Pollen organs—*Dolerotheca*, *Schopfitheca* and *Codonothea*
- Seeds—*Trigonocarpus*



Alethopteris serli

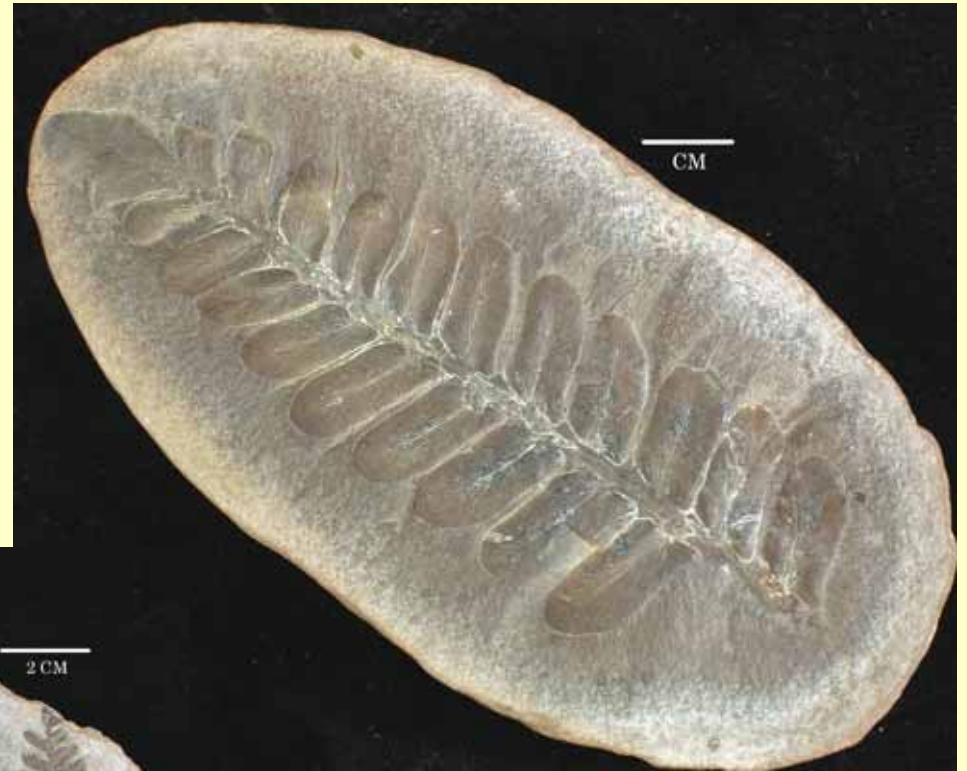


Odontopteris aequalis



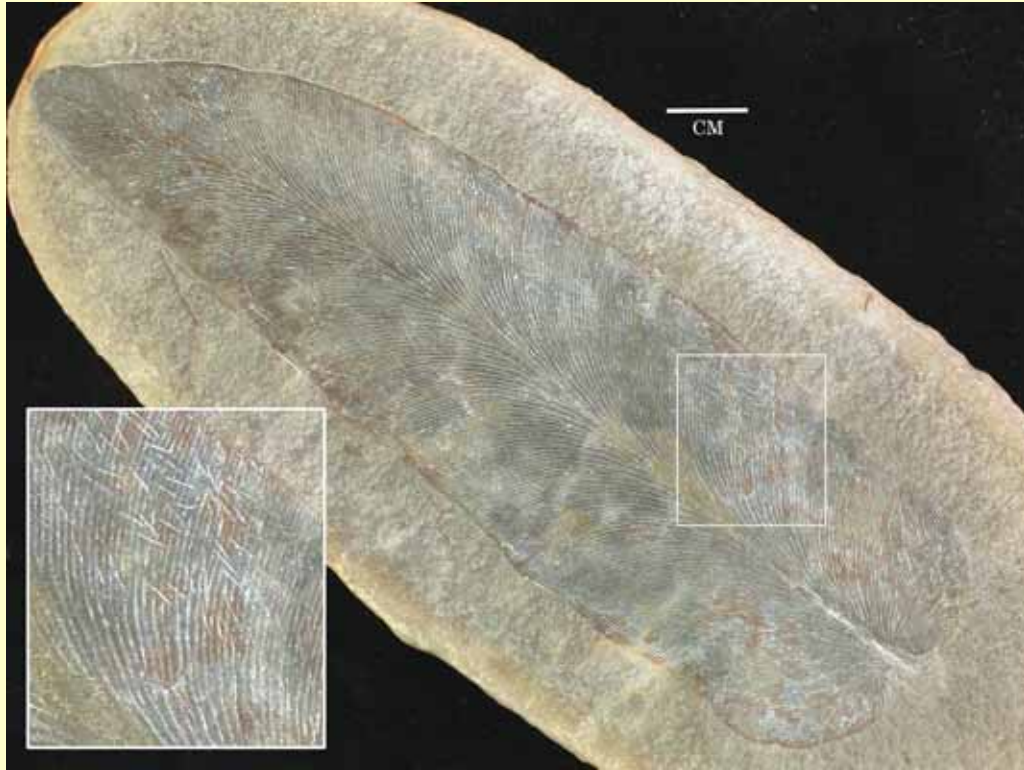
Callipteridium neuropteroides

Neuropteris ovata



*Laveineopteris
rarinervis*

Linopteris neuropteroides



*Macroneuropteris
scheuchzeri*

Cyclopteris Trichomanoides





Reticulopteris munsteri



Dolerotheca sp.



*Schopfitheca
boulayoides*



Trignocarpus

Condonotheca caduca

Shrub-like Seed Fern Genera

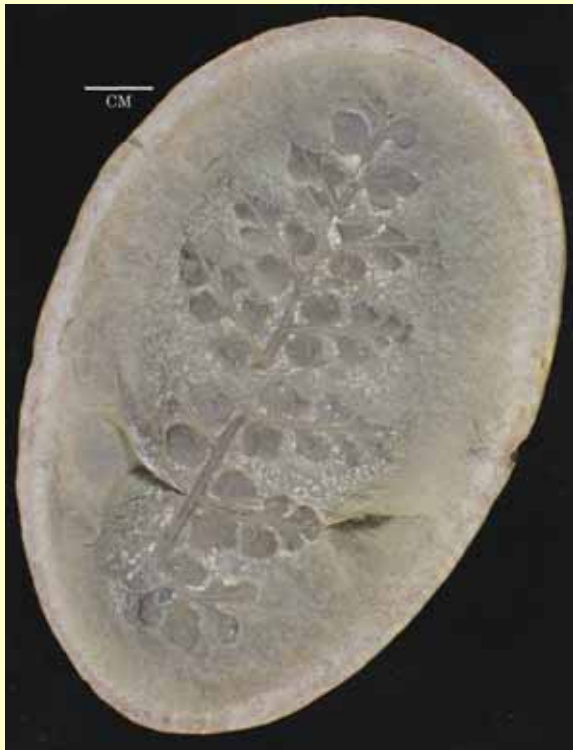
- Foliage—*Eremopteris*, *Eusphenopteris*, *Mariopteris*, *Pseudomariopteris* and ? *Pecopteris fontainei* - *Crossotheca sagittata*



Eremopteris missouriensis



Mariopteris nervosa



Eusphenopteris obtusiloba

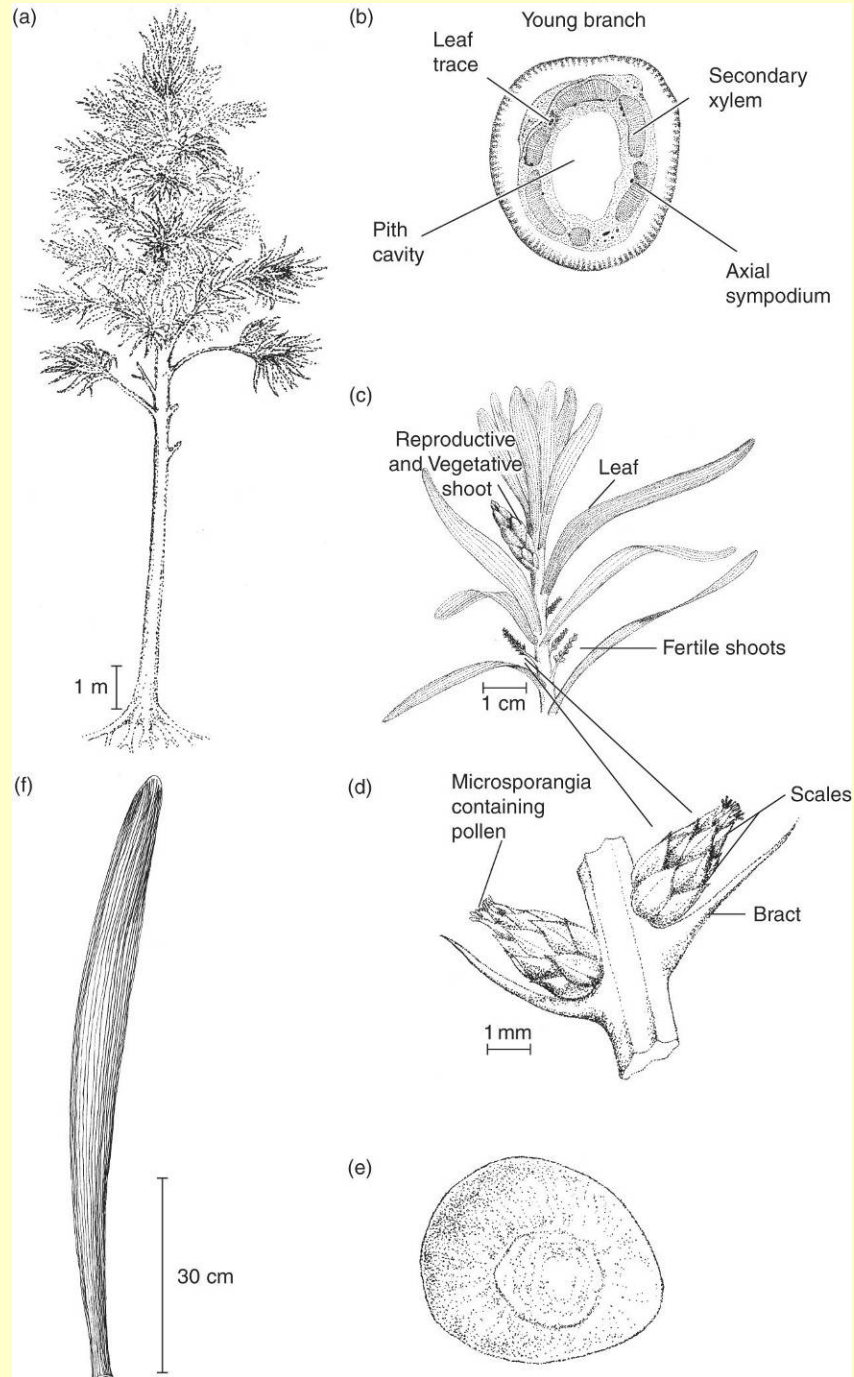


Pecopteris fontainei



Crossothea sagittata

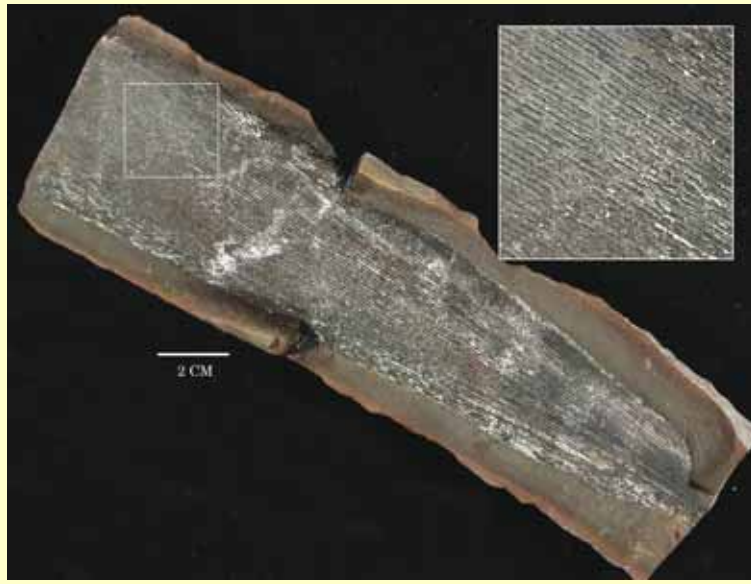
Cordaitea



Cordaite Genera

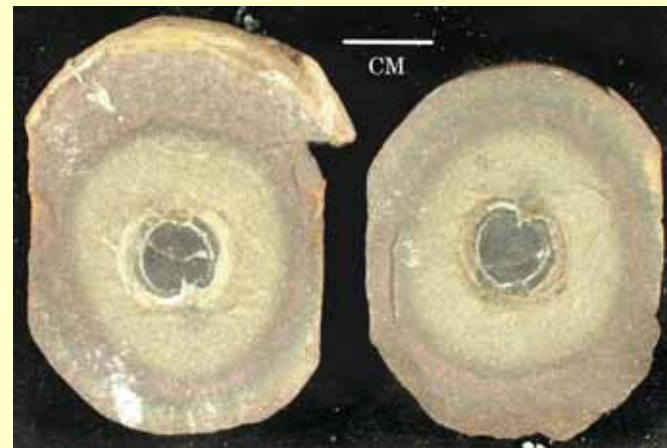
- Foliage—*Cordaites*
- Trunk pith casts—*Artisia*
- Pollen and seed cones—*Cordaianthus*
- Seed—*Samaropsis*

Cordaites



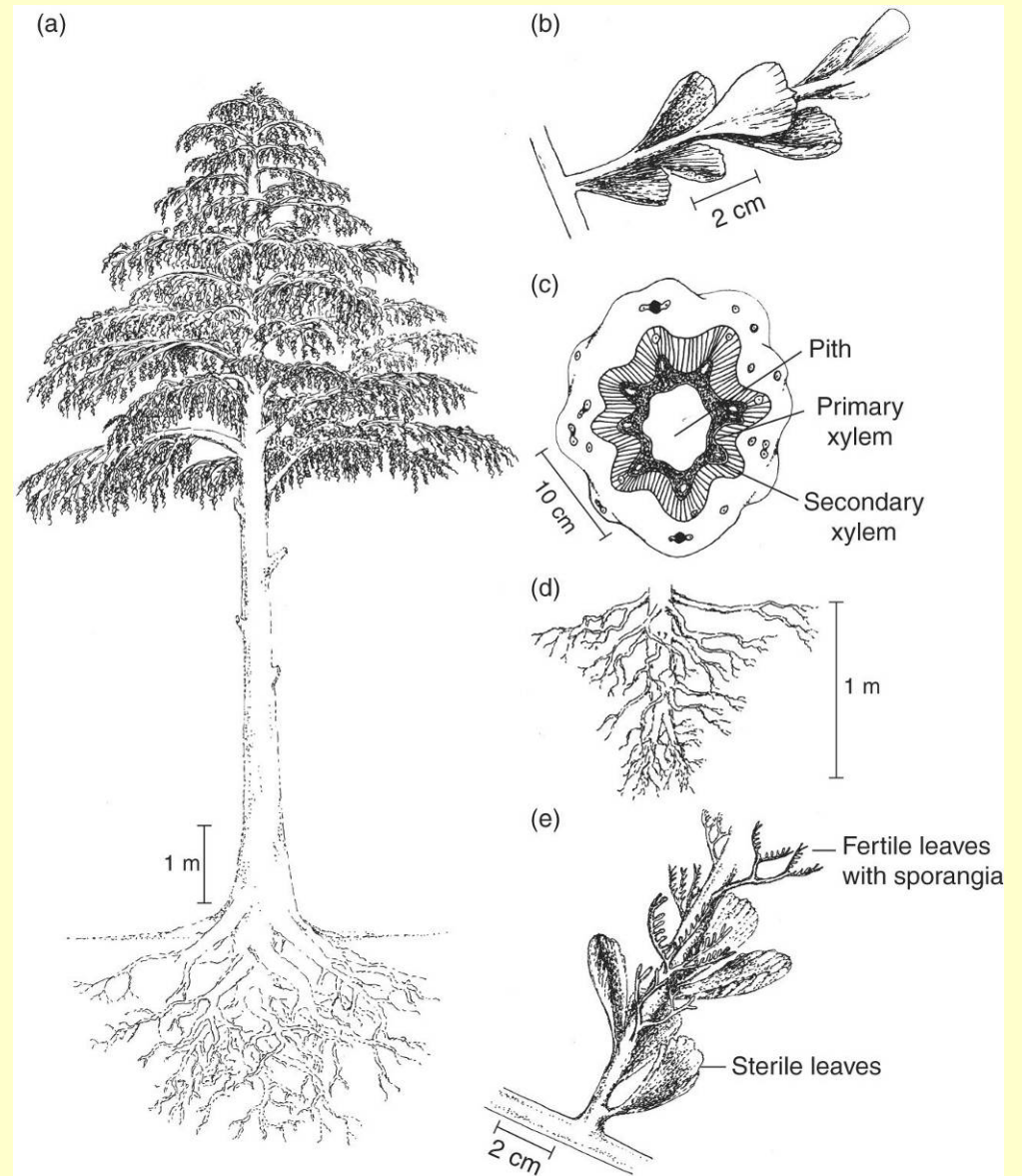
Cordaianthus

Artisia



Samaropsis

Progymnosperms



Progymnosperm Genera

- Cones—*Noeggerathiaestrobis*



Noeggerathiaestrobus sp.

Conclusion

- Confirmed plant species types; 2 Algae, ≥ 11 Lycopside, ≥ 10 Sphenopside, ≥ 25 True Ferns, ≥ 35 Seed Ferns, 1 Cordaite, 1 Progymnosperm, ≥ 5 incertae sedis foliage
Grand Total = at least **90** plant species.
- Certain plant biases are evidence to a short, one time flooding event. Likely no more than several weeks. Making Mazon Creek a snapshot in time of mostly transported flora.