Ferns of Allanach-Wolf Woodlands

Windham, Connecticut
Joshua's Trust

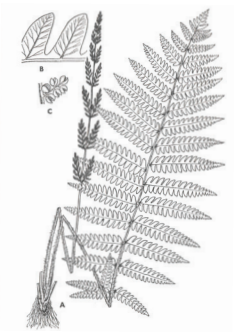
Osmundaceae (royal fern family)

Ancient History

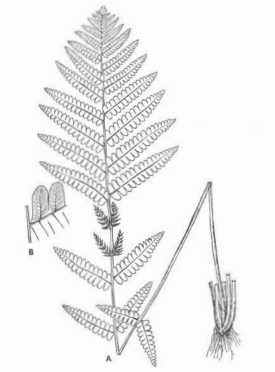
Royal ferns are the most "ancient" fern family that you'll encounter here. Fossils of this family date back to the Permian period more than 250 million years ago (that makes the royal ferns older than the dinosaurs!) They were particularly widespread during the Jurassic period, making them prime dino-food candidates.

American Royal Fern
[*Osmunda spectabilis*]

Cinnamon Fern
[*Osmundastrum cinnamomeum*]



Interrupted Fern
[*Osmunda claytoniana*]

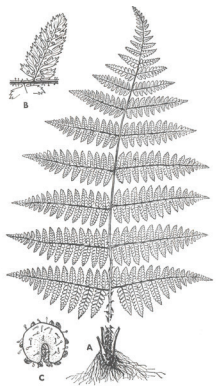


Dryopteridaceae (wood fern family)

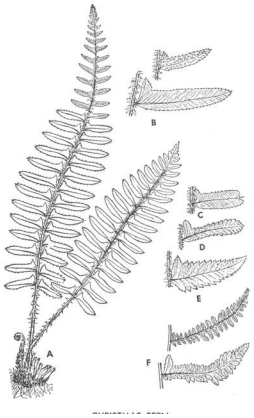
Ancient History

Genetic studies place the common ancestor of modern wood ferns in the Cretaceous period, sometime around 100 million years ago. Recently, a fertile portion of a fossil wood fern was found pristinely preserved in Burmese amber, dating to 99 million years ago. Rarely do you get such strong agreement between fossil and genetic studies! This makes wood ferns dino food, but only to the later dinosaurs in the Cretaceous.

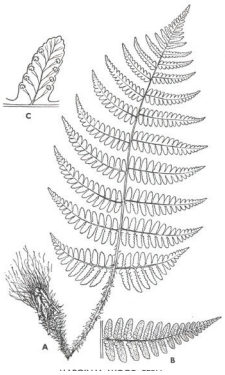
Intermediate Wood Fern
[*Dryopteris intermedia*]



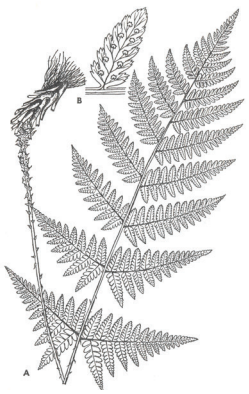
Christmas Fern
[*Polystichum acrostichoide*]



Marginal Wood Fern
[*Dryopteris marginalis*]



Spinulose Wood Fern
[*Dryopteris carthusiana*]



Onocleaceae (sensitive fern family)

Ancient History

The sensitive ferns emerged during the Cretaceous as well, probably a little bit after the Dryopteridaceae, but before the extinction of the dinosaurs. Sensitive fern fossils from the Paleocene (the epoch just after the extinction of the dinosaurs) from Canada "conform in all recognizable features... to the modern living species of Onoclea sensibilis". Our sensitive fern in eastern North America seems to be the exact same species that existed 60 million years ago. Such evolutionary "stasis" is almost unknown. For context, the famous "living fossil" ginkgo (Ginkgo biloba) is "only" known to have been around for 50 million years.

Sensitive Fern
[*Onoclea sensibilis*]

Research–Tammo Reichgelt
Design–Melica Stinnett
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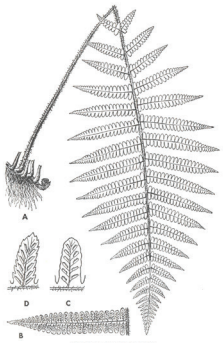
joshuastrust.org

Thelypteridaceae (maiden ferns)

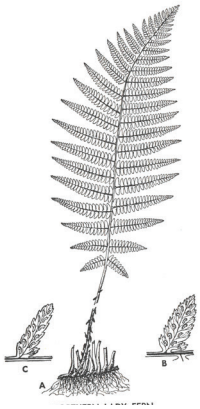
Ancient History

The oldest known fossil representatives of the maiden ferns are from rock layers that straddle the Cretaceous–Paleogene boundary. In other words, maiden ferns came around just in time to witness the dinosaurs go extinct.

Silvery Glade Fern
[*Deparia acrostichoides*]



Northern Lady Fern
[*Athyrium angustum*]



Athyriaceae (lady ferns)

Ancient History

Though debated, the oldest putative lady fern fossils are also from the early Cretaceous.

Recognizing the Family

Lady ferns look similar to maiden ferns, but a difference is lady ferns are clumped & maiden ferns spread by their rhizomes.

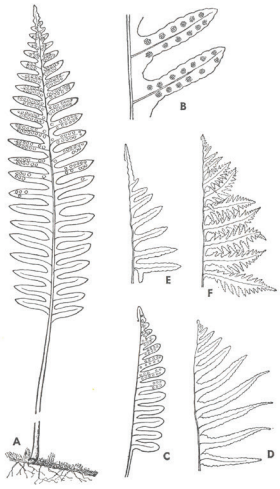
Polypodiaceae (polypod family)

Ancient History

A hotly debated fern family, but mostly because of confused outdated nomenclature and the uncertainty surrounding assigning spores to entire fern groups. But in reality, the polypods seem to be a relatively recent group, emerging after the dinosaurs had already gone extinct.

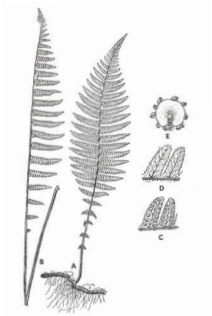
Recognizing the family

Polypods are almost exclusively lithophytes and/or epiphytes, growing on rocks or on other plants. Their fronds are evergreen and they have very distinct large round to oval sori.

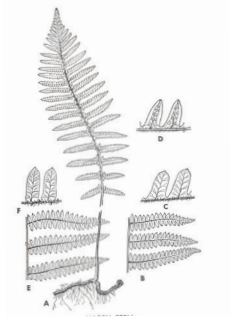


Rock Polypody
[*Polypodium virginianum*]

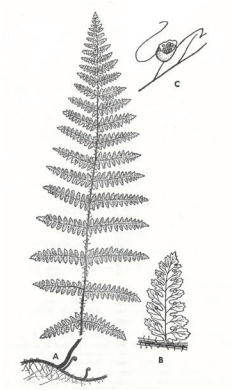
New York Fern
[*Amauropelta noveboracensis*]



Marsh Fern
[*Thelypteris palustris*]



Hay-Scented Fern
[*Dennstaedtia punctilobula*]



Eagle Fern
[*Pteridium aquilinum*]

Dennstaedtiaceae (bracken family)

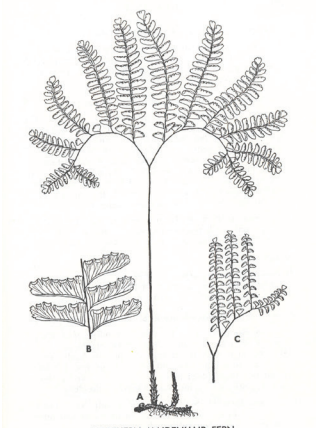
Ancient History

The bracken family are the best-known "disturbance" ferns. Famously, brackens were the first to recolonize the landscape after the Mt St Helens eruption cleared the forest around it in 1980. Some ferns seem to have spread clonally, with rhizomes apparently surviving pyroclastic flows. Their fossil record, again, stretches back to the early Cretaceous, and 99-million-year-old Burmese amber provides again one of the best-preserved fossils of that period.

Pteridaceae (maidenhair fern family)

Ancient History

A fascinating and diverse fern family. Current habitats include rainforests, deserts, and barren mountain tops. Their adaptations to xeric environments are notable because the plants require water in the environment to reproduce. The oldest fossils of maidenhair ferns are from Cretaceous Burmese amber.



Northern Maidenhair Fern
[*Adiantum pedatum*]