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# Fossil Early Psilophytian & Lycopodian, Sphenopsida Lines of Evolution

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## Abstract

Evolution of the plants is the very important aspects of the life on the planet. Since early plant life was typically aquatic in nature. It was the assemblage of the many kind of the aquatic algae's and the other taxa's of the aquatic importance. Among them the bryophytes are the plants which were amphibious in nature. However, the pteridophytes are typically land plants having well developed vascular bundles as well as other features of the and adaptations. Pteridophytes have the long fossils history; plants were well developed in the whole Paleozoic era. They were flourished well in the late Devonian and the carboniferous period. In that era one can find the number of the examples of fossils plants which were intimidate in evolution of the many kinds of the organs. Lepidocarpaceae was the assemblage of the organs like structure which have the pioneer's symptoms of the evolution of the ovules. That review presents the assemblage of the fossil pteridophytes.

**Keywords:** Fossils pteridophytes; Evolution; Adaptations; Land plants

## Introduction

The pteridophytes formed the dominant part of the vegetation in the historic past. It was the middle of the Paleozoic era when these plants group was well flourished in every place. This flora of the pteridophytes was very abundant till early Mesozoic but late Mesozoic era was well dominated by the gymnosperms. In modern day the pteridophytes flora is replaced by the spermatophytes. These spermatophytes involved the gymnosperms and the angiosperms. Present era is the best flourished by the angiosperms [1,2].

## Ages of angiosperms

In whole world the pteridophytes are now of the relict in distribution. They are restricted to the some of the tropical rain forest and the northern hemisphere of the world. However in India the pteridophytes are distributed in to the Himalayas and the Nilgiris. Here large very beautiful tree ferns can be seen with good physiognomy, similarly epiphytic ferns and the other hanging club mosses can be seen in the Nilgiris hills. In India 500

species of the ferns can be seen with different kinds of the pattern of the foliage, which are the taxonomic significance in nature [3-6].

Pteridophytes plants have the long fossil's history. They have been recognized in the late Silurian period of the Paleozoic era. These plants have the dominant vegetation in whole of the Paleozoic era. The middle and the late Paleozoic era can be regarded as the age of ferns or ages of pteridophytes. The giant lycopsida and the horse tails and the arborescent tree ferns dominated the whole biota at that time. The pteridophytes which are presented by the lycopsida and sphenopsida and the pteridopsida which are of the length of the maximum 6 to 7 feet's were very abundant in distribution and in height of the trees [7]. They were reportedly around 120 feet's at the time of the Paleozoic era. They were very abundant and highly s in whole vegetation. This era was the evolution of the pteridophytes and the evolution of the gymnosperms. However in today world they are represented only by the some relict genera and the relict fossils evidences [8].

That era was dominated by the Lepidodendron, sigillaria and the calamites and other fossil lycopsida of that era.

However distribution of the ferns was the matter of the slightly ambiguity, since ferns were of less diversity in the Paleozoic era but as the evolution proceeds and the time passes the diversity of the ferns increase, well a number of the ferns can be seen in that era with great diversity [9].

In India, the fossil pteridophytes are studied by Surange in detail. He has given the whole account of the places in India, which have the long distribution of the fossils pteridophytes. Among the four classes of the pteridophytes like Psilopsida, lycopsida and sphenopsida and pteridopsida, he has described one of the members of psilophyta, seven fossil members of the lycopodiophyta, 12 members of the sphenophyta and 66 members of the pteriphyta. A large number of the fossil ferns have been described in the Rajmahal hills of the India [10]. Bose, Sah and Sharma have described a number of the fossil ferns from the Bihar and other hills of the India. Suthar & Sharma reconstruct the whole solenopteris from the jurrasic flora of the Rajmahal hills.

They found the plant in the form of the leaves, stems, flower, and the seeds in different forms. These plants organs have been termed with different terminology [11-15].