

JURASSIC PLANT FOSSILS IN A GONDWANA BASIN, NORTH WEST SRI LANKA: SOME RECENT FINDINGS

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Plant fossils of Jurassic age are known to occur in a few small isolated sedimentary basins in the North-Western part of Sri Lanka. Tabbowa basin is one such basin and was investigated mainly to focus on the plant fossils, to describe and classify the plants taxonomically and to compare similar fossil plant species found in other parts of the world.

The Tabbowa basin consists of an alternating sequence of mudstone, siltstone and sandstone that are deposited in a series of narrow faulted basins developed within the Precambrian basement rocks. Thickness of the sedimentary sequence is expected to be several hundred meters. A few scattered outcrops of sedimentary rocks are exposed at surface within an area of few km².

During the present study it was possible to identify fragments of leaves and fronds of nine plant species namely, *Cladophlebis zeylanica*, *Cladophlebis* sp., *Sphenopteris* sp., *Eusphenopteris* sp., *Nilssonia* sp., *Ptilophyllum* sp., *Otozamites* sp., *Taeniopteris* sp. and *Glossopteris* sp. belonging to the two divisions, Pteridophyta and Cycadophyta. Two fossilized stem fragments of higher plants were also found. The characteristic features of these samples indicate that they probably belong to the Gymnospermae.

Record of *Glossopteris* sp. at Tabbowa basin is interesting as this species has only been previously recorded in the Triassic period. Therefore, this record leads to other interesting arguments that needs further research. The record of the lithified stem of Cycadophyta (Gymnosperm) was found for the first time from Sri Lanka.

The stem fragments have not been properly identified previously from Tabbowa sediments. Therefore, they were identified for the first time in Tabbowa during the present study. The species *Cladophlebis* sp. can be related to the present day living flora whereas *Sphenopteris* sp., *Ptilophyllum* sp., *Nilssonia* sp., *Otozamites* sp. and *Taeniopteris* sp. are now extinct.

The identified fossilized flora further reveal that the Paleo-environment within which the plants grew is a warm terrestrial environment though much cooler sub environments have prevailed probably under huge shady trees supporting survival of some species. Further, the evolutionary leaf changes of the studied flora appear to show the gradual environmental changes that have occurred during the period within which the plants survived.