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FOSSIL PLANTS FROM THE LITTLE RIVER COAL MEASURES,
IN THE COOKTOWN REGION OF NORTH QUEENSLAND.

by

Mary E. White.

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Plant fossils were collected from the Little River Coal Measures in 1961 from a locality about $2\frac{1}{2}$ - 3 miles North of the old Fairlight Telegraph Office, North of Palmerville. (Cooktown 1/80,000; R 7/5075, pt. C 13). Specimen numbers F 12876 (bulk of collection), and F 12877 - 12885 Figured specimens.

A representative selection of specimens is described and illustrated below:-

1. Vertebraria indica Royle.

In Figure 1, specimen F 12882, the characteristic form of Vertebraria indica is clearly seen. There are several narrower stem-like impressions in the material which probably also belong to the species.

The nature and affinities of Vertebraria are not known. It is no longer thought that these impressions represent the rhizomes of Glossopterida. They appear to be a decortication form of stems or rhizomes and never occur attached to other fossil types. Their regular association with Glossopteris in all Glossopteris Floras wherever they are found suggests affinity with Glossopteridae.

Figure 1.

Vertebraria indica Royle.
F 12882. Natural size.



Figure 2.

Glossopteris indica Sch.
F 12883. Natural size.



2. Glossopteris indica Sch.

In Figure 2, specimen F 12883, part of a leaf of form-species "indica" is seen. Venation with uniformly small meshing from midrib to margin is of "communis" type.

3. Glossopteris angustifolia Bgt.

Figure 3, specimen F 12877, shows two leaves of Glossopteris angustifolia and a seed of Samaropsis type.

4. Indeterminate Rootlets (?) are illustrated in Figure 4. They are fine, branching filaments.

Figure 3.

Glossopteris angustifolia Bgt.
and Samaropsis.
Spec. F12877. Natural size.

Figure 4.

Indeterminate rootlets.
F 12884. Natural size.



5. Schizoneura australis Eth. fil.

Figures 5 - 9 illustrate the species. Very large numbers of "leaf" fragments form layered impressions in the specimens. In Figure 5 a node is seen with two attached pseudo-leaves. Characteristic striation of the tissue between the veins is seen on the right of the photograph. In Figures 6, 7 and 8 the range of size and form in pseudo-leaves is seen. Figure 9 shows an example in which the pseudo-leaf has split into one-veined segments in a manner characteristic of older leaves in S. gondwanensis.

Schizoneura australis Eth fil. was recorded from "Hawkesbury Sandstone - shale roof of Bulli Seam" by Etheridge in 1893. A second occurrence from Cremorne Bore, Shell Cove,

Port Jackson, from the "unproductive measures between the Bulli Seam and the Hawkesbury Sandstone" was recorded in 1894 (Etheridge 1903). In 1903 specimens from the Birthday Shaft of the Sydney Harbour Colliery Co. at Balmain contained fertile examples. (Etheridge, 1903).

Apart from these Upper Permian occurrences in New South Wales there are no other records of Schizoneura australis in Australia. Other species of Schizoneura occur in Upper Permian and in Triassic strata. Whether the species is really distinct from S. gondwanensis, from the Damuda and Panchet divisions of the Lower Gondwanas in India, is not clear. Walkom (1938) apparently felt there was no valid distinction and refers to "S. gondwanensis from the Upper Coal Measures of New South Wales."

Schizoneura gondwanensis is recorded from Upper Permian in the Zambesi Basin of Central Africa (Hoeg and Bose, 1960).

The present specimens are considerably smaller than figured examples of Schizoneura gondwanensis from India and Africa. The species australis is retained for the present but further collections may show that it is not valid.

Schizoneura australis Eth. fil.

Figure 5. Specimen F 12880.

Node with pair of pseudo-leaves attached.
Magnification X 3.



Figure 6.

Specimen F 12881.
Natural size.



Figure 7

Small "leaf".
Specimen F 12879.



Figure 8.

Specimen F.12878.



Figure 9

Specimen F. 12885
Leaf sheath split into
one-veined segments.
Natural size.



Age of Little River Coal Measures:

Schizoneura australis is a rare plant in Australia. It does not occur in the well known Bowen floras in Queensland. It may have been a plant with a very restricted habitat and it is likely that it will be found with Glossopteris in some formations where it has not yet been seen when sufficient collections are made. On the very limited evidence available at this stage it appears to indicate an Upper Permian age for the Little River Coal Measures.

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