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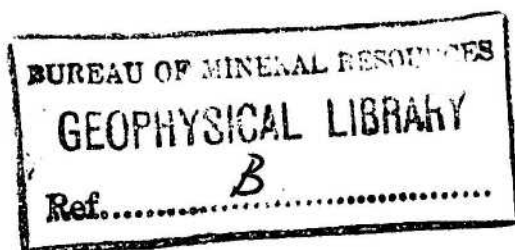
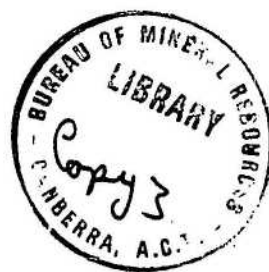
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DEPARTMENT OF NATIONAL DEVELOPMENT.  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS.

RECORDS.

1961/16



PLANT FOSSILS FROM MITCHELL RIVER AND MOUNT MULLIGAN  
NORTH QUEENSLAND

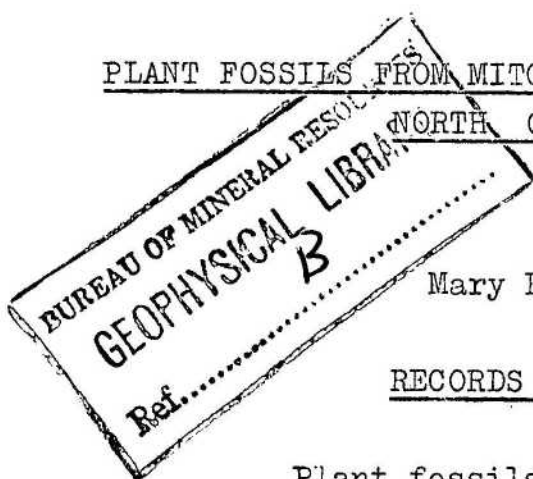
by

Mary E. White

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Plant fossils were collected from four localities on the Mossman 4-mile sheet, North Queensland in 1960 by F.de Keyser.

I. Specimens M.531.

Locality: Near Mitchell River, eight miles south-east of Mount Mulgrave Homestead.

Associated with kaolinic arkoses, shales, siltstones and fine feldspathic sandstone. Overlain by volcanics.

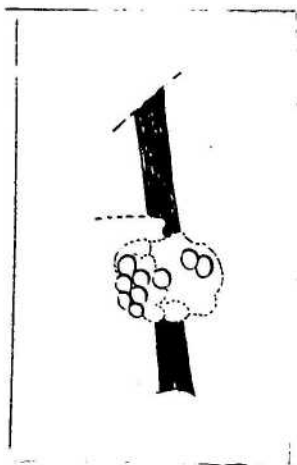
The following plant species are identified:-

- (a) Glossopteris indica Sch. Large and medium-sized leaves or fragmentary impressions of venation occur in all the specimens from this locality. G.indica is very abundant in Permian and Lower Triassic strata.
- (b) Glossopteris angustifolia Brong. A basal portion of a leaf with characters of this species is present. The species has Permian and Lower Triassic distribution.
- (c) Scale leaf of Glossopteris.
- (d) Fragment of leaf of Taeniopteris cf. T.elongata Walk. 2cm. long, width 3 mm., with clear broad midrib and faintly discernable secondary venation of parallel veins at right angles to the midrib. Taeniopteris leaves of this type are very abundant in Rhaetic and Jurassic strata but range throughout Triassic.
- (e) Small herbaceous Equisetalean: Long ribbon-like impressions of stems, some showing minute vertical striation, are present. (Measurements of three samples are as follows: 10cm. long and 25mm wide; 2cm long and 2mm wide; 2.5cm. long and 35mm wide).

Text Figure I shows portion of one of these long, narrow stems bearing a cone made up of small circular segments. Maximum width of the cone is 7 mm., maximum depth 5 mm.

Text Figure I.

Small Equisetalean with cone. Magn.X2.

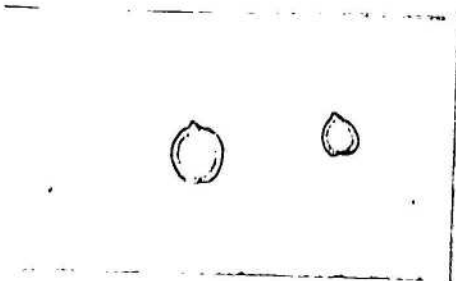


Similar long, narrow, ribbon-like stems bearing cones of this sort were recorded and described by me as a small herbaceous equisetalean in material from the Canning Basin, W.A. (Records 1957/74) from locality C 8 on the Cornish 4-mile sheet associated with Middle Triassic forms. The species was believed to be a new one and referable to Equisetites. No Glossopteris was associated with it in the Canning Basin. The presence of this species of Equisetites associated with a Glossopteris community at Mitchell River can be assumed to indicate a Triassic age, a fact substantiated by the presence of Taeniopteris.

- (f) Large numbers of seeds of three types are present. Text figures 2, 3 and 4 show the form and relative sizes of the types.

Text Figure 2.

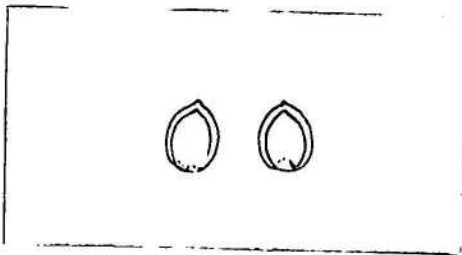
Seeds. Magn. X 2.



Large numbers of round seeds have a point above and are emarginate below. They appear to have a narrow wing. Sizes vary but most are about 3 mm. in diameter.

Text Figure 3.

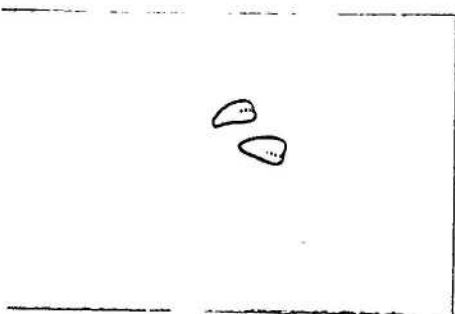
Seeds. Magn. X 2.



These larger, oval seeds are mostly about 4mm x 3mm. They have an eccentric oval nucule and are referable to Carpolithes sp. and similar to examples figured by Walkom (1928) from Belmont, New South Wales.

Text Figure 4.

Seeds. Magn. X 2.



Small pointed seeds 2.5 mm. long and 1.5 mm. wide at the base are indeterminate.

All these seeds are similar to widespread Permian and Triassic types.

Age of assemblage at M 531

Lower Triassic or passage from Uppermost Permian.

## 2. Specimens M 532.

Locality. At Mitchell River, near Jug Waterhole, 7 miles south-east of Mount Mulgrave Homestead. Associated with coaly, low-dipping sediments, underlain by arkose and siltstone, overlain by rhyolite and andesite.

Age given as Uppermost Permian by D.E. Balme, Report Dixon, 1957).

- (a) A series of layered impressions of large numbers of leaves of Glossopteris indica Sch. is seen in Figure 1. All the leaves are large. Maximum width of the biggest is about 8 cm. A smaller leaf, maximum width 4 cm., shows the lamina tapering steeply to a rounded apex. Venation varies according to the size of the leaves.
- (b) Small seeds are associated with the leaves. They are oval, measuring about 4mm x 3.5mm. They have a divided apex and a short stalk. There is no indication of a wing. In size and shape these seeds resemble the nucule of Samaropsis barcellosa White. Seeds similar to these occur in Permian and Lower Triassic horizons all over the world.

Text Figure 5.

Seed. Magn. X 2.



- (c) A large frond, width more than 12 cm., with strong Taeniopteroid venation, is seen in Figure 2. The generic name Macrotaeniopteris was originally used for fronds of this type but it is generally agreed that they cannot be separated from Taeniopteris. A single, incomplete specimen such as this cannot be assigned to a species. It appears to be indistinguishable from Taeniopteris wianamattae (Feist) which occurs in the Narrabeen Series in New South Wales associated with Glossopteris in passage beds from Permian to Triassic. It is similar to Macrotaeniopteris feddeni Feist. which occurs in the Raniganj group in India. There is no record of a Permian occurrence of Taeniopteris in Australia. It is therefore suggested that the association of Taeniopteris cf. T. wianamattae and Glossopteris indica Sch. at this locality indicates an uppermost Permian or Lower Triassic age.

Age of the assemblage at M 532.

Uppermost Permian or Lower Triassic.

## 3. Specimens M 663.

Locality: North West tip of Mount Mulligan. Fossiliferous shales underlain by coarse conglomerate. Steeply dipping here because of severe faulting.

Glossopteris indica Sch. and Glossopteris angustifolia Brong. are associated in these specimens.

Age of assemblage at M 663.

Permian or Lower Triassic.

4. Locality King Cole Mine, Mount Mulligan.

Figure 3 shows two examples of Vertebraria indica Royle, the rhizome of Glossop<sup>eroid</sup> plants. There appears to be partial preservation of internal tissues in some carbonised compressions of these stems and sections will be made for microscopic examination. Little is known of the internal anatomy or exact nature of these so-called rhizomes and any information on structure would be of considerable academic interest.

Leaves of Glossopteris indica Sch. and indeterminate wood impressions are associated with Vertebraria indica Royle.

Age of assemblage at King Cole Mine:

Permian or Lower Triassic.

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Figure 1. Glossopteris indica Sch. Nat.Size. Loc.M.532.



Figure 2. Taeniopteris sp. Nat.size. Loc. M 532



Figure 3. Vertebraria indica Royle. Nat.Size.  
Loc. King Cole Mine.