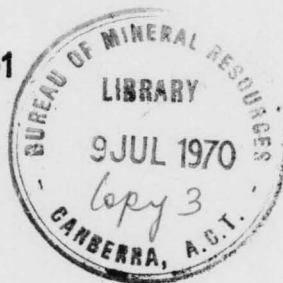


COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Record No. 1969 / 51



**Report on the 1968 Collection of  
Plant Fossils from the Moolayember  
and Teviot Formations**

*by*

**Mary E. White**

The information contained in this report has been obtained by the Department of National Development as part of the policy of the Commonwealth Government to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology & Geophysics.



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REPORT ON THE 1968 COLLECTION OF PLANT FOSSILS  
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SUMMARY: A Dicroidium Flora assemblage of plants is present in the Teviot and Moolayember Formations. The plants are of Triassic age.

INTRODUCTION:

Plant fossils were collected at two localities on the Mount Coolom sheet from Teviot Formation and at eleven localities in Moolayember Formation from the Baralaba, Taroom and Springsure Sheet areas. The collector was P.J. Alcock.

Preservation of some of the plants is fair. The registered number of the collection is 6801.

Details of locality and plants identified follow:-

1. Locality AA03. Mount Coolom 1:250,000

Photo 45, run 7, CAB 271.

Section A G, Carborough Syncline.

6 miles S.E. of Ellensfield Homestead.

Teviot Formation.

(a) Sample AA03/A Specimen no. F 23229

A bipinnate portion of frond, poorly preserved and with very little detail visible, is referred to Asterotheca (Pecopteris) fuchsii (Zeiller) Kurtz. A few pinnules show venation of a median vein and forking laterals. This fern is a member of the Marratiaceae, section Asterothecaceae, and is a regular constituent of the Triassic Dicroidium flora.

Figure 1 illustrates this specimen.

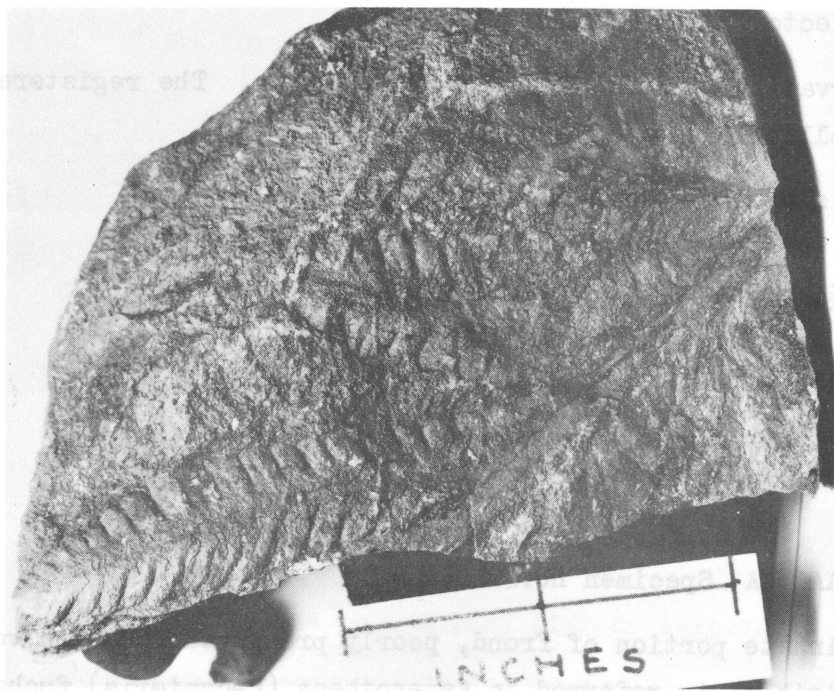
(b) Sample AA03/B Specimens F 23230.

These specimens are very poorly preserved. An Equisetalean stem with fine ribbing is the best preserved impression. A large lobed leaf with a reticulated surface pattern is referred to Dictyophyllum sp. It closely resembles D. ellenbergi Fabre which was described from the Molteno series of Basutoland (Southern Africa) (ref. Fabre, J and Greber Ch. 1960. Presence d'un Dictyophyllum dans la flore Molteno du Bazutoland. Bull. Soc. Geol de France 7, 11, 178-182). The Molteno flora is Middle Triassic in age. Dictyophyllum has a Triassic to Lower Cretaceous distribution.

Figure 1. Neg. F/5445

Asterotheca fuchsii. F 23229.

Natural size



(c) Sample AA03/C Specimen F 23231

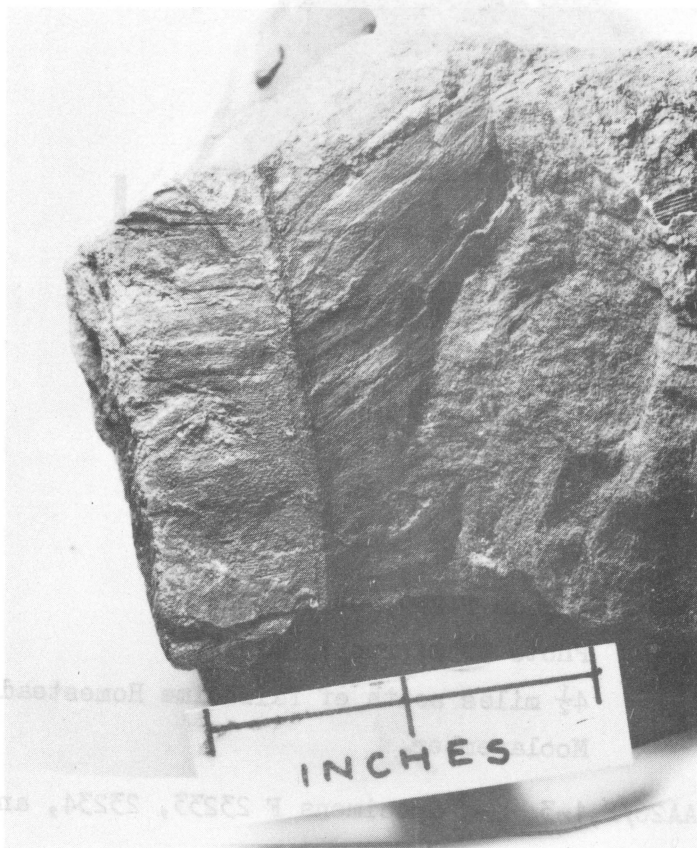
A poorly preserved frond is present. It has a very prominent rachis. The lamina appears to be attached to the upper edge of the rachis and is dissected into segments of irregular width. Veins are parallel, arising at right angles to the rachis, and are numerous in each segment. The attachment of the lamina indicates that the specimen is referable to Nilssonia and not Pterophyllum. It is referable to N. eskensis Walkom.



Figure 2. Neg. F/5454

Nilssonsonia eskensis Walkom

F 23231. Natural size



2. Locality AA04. Mount Coolon 1:250,000

Photo 66, run 2. CAB 270

Redcliffe Tableland.  $2\frac{1}{2}$  miles S.E. of Redcliffe Vale H/S.

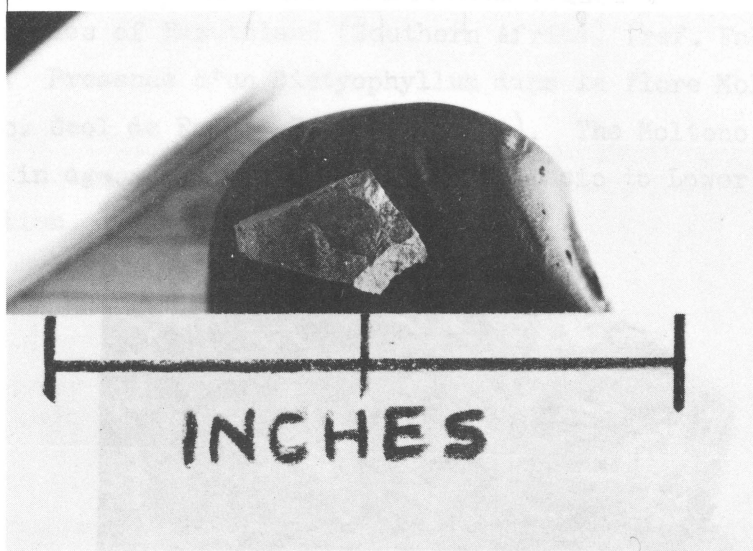
Teviot Formation.

Specimen F 23232

A small pear shaped seed is present. It is referable to Carpolithus sp. and appears to be identical to the seed figured (fig. 3) on plate XXX1 of Walkom, 1925. (Walkom, A.B. 1925, Fossil plants from the Narrabeen stage of the Hawkesbury Sandstone. Proc. Linn. Soc. N.S.W. 1,3).

Figure 3. Neg. F/5462

Carpolithus sp. F23232 Magn. X 2.



3. Locality AA26. Taroom 1:250,000.

Photo 5058, run 1, CAB 210.

4½ miles south of Fairholme Homestead.

Moolayember.

Samples AA26/F,1-3 - Specimens F 23233, 23234, and 23235.

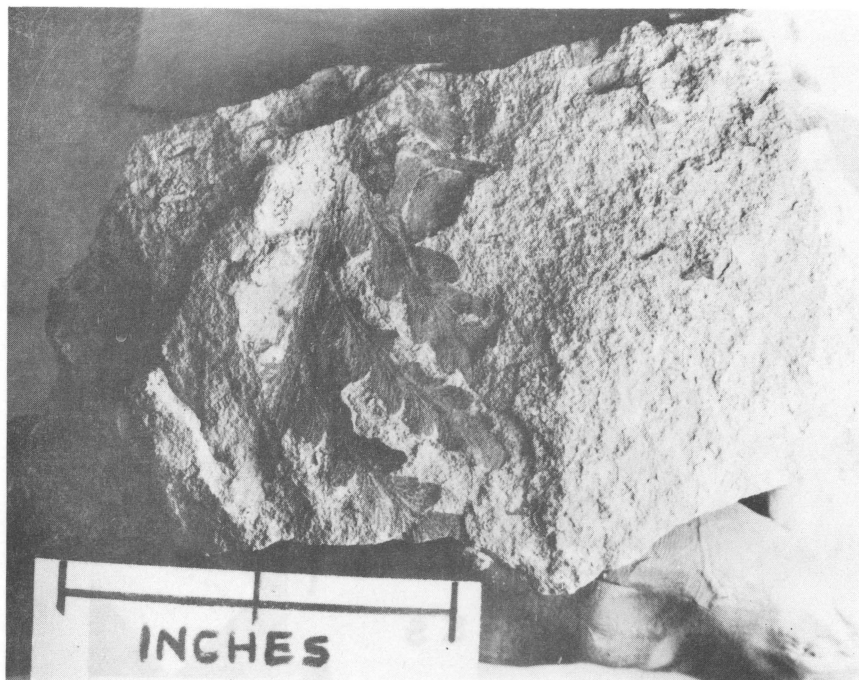
Well preserved fronds of Dicroidium odontopteroides (Morr) Gothan are present. There is considerable variation in size and form of pinnules but all come within the range of this species. There are also finely striated Equisetalean stems and one small fragment of the fern Stenopteris elongata (Carr).

This is a Triassic assemblage of plants.

Figure 4. Neg. F/5450

Dicroidium odontopteroides. F 23235.

Natural age



4. Locality AA36 Baralaba 1:250,000

Photo 5104, run 9, CAB 210

On road, 6 miles W.N.W. of Glenmaral Gap.

Moolayember Formation.

Samples AA36/E, 1-10 Specimens F 23236 - 23245.

Preservation of all but the Equisetalean fragments is poor,

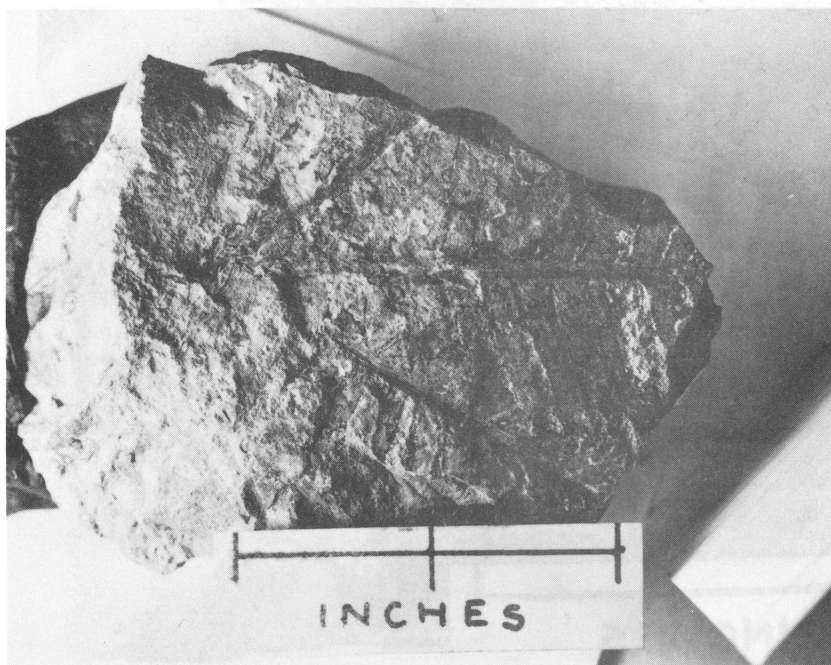
The following plants are identified:

- (a) Sample i: F 23236: Dicroidium odontopteroides (Morr) Gothan  
Dictyophyllum cf. D. ellenbergi Fabre  
Equisetalean stems.
- (b) Sample ii: F 23237: Nilssonia eskensis Walkom. Frond with  
segments of irregular width, fine, numerous,  
simple veins.  
Equisetalean stems.  
Pterophyllum nathani Walkom, Fronds with  
segments of regular width subopposite on  
the rachis. Fine parallel veins.  
Illustrated in fig. 5.

Figure 5. Neg. F/5459

Pterophyllum nathani Walk. F 23237

Natural size



- (c) Sample iii: F 23238: Equisetalean stems  
Dicroidium odontopteroides (Morr) Gothan
- (d) Sample iv: F 23239: Equisetalean stems.  
Dicroidium odontopteroides (Morr) Gothan
- (e) Sample v: F 23240: Equisetalean stems cf. Schizoneura.
- (f) Sample vi: F 23241: "
- (g) Sample vii: F 23242: Equisetalean stems and ? leaves, ?Schizoneura
- (h) Sample viii: F 23243: Dicroidium odontopteroides (Morr) Gothan  
Equisetalean stems.  
Poorly preserved, contorted frond of  
Pterophyllum nathani Walkom.
- (i) Sample ix: F 23244: D. odontopteroides (Morr) Gothan.  
Equisetalean stems.
- (j) Sample x: F 23245: Equisetalean stems.

5. Locality AK09 Taroom 1:250,000

Photo 5058, run 1, CAB 210.

4 miles South of Fairholme Homestead.

Moolayember Formation

Sample Ak09/B F 23246: Equisetalean stems

Sample Ak09/C 23247 Lepidopteris stormbergensis (Sew.) Townrow.

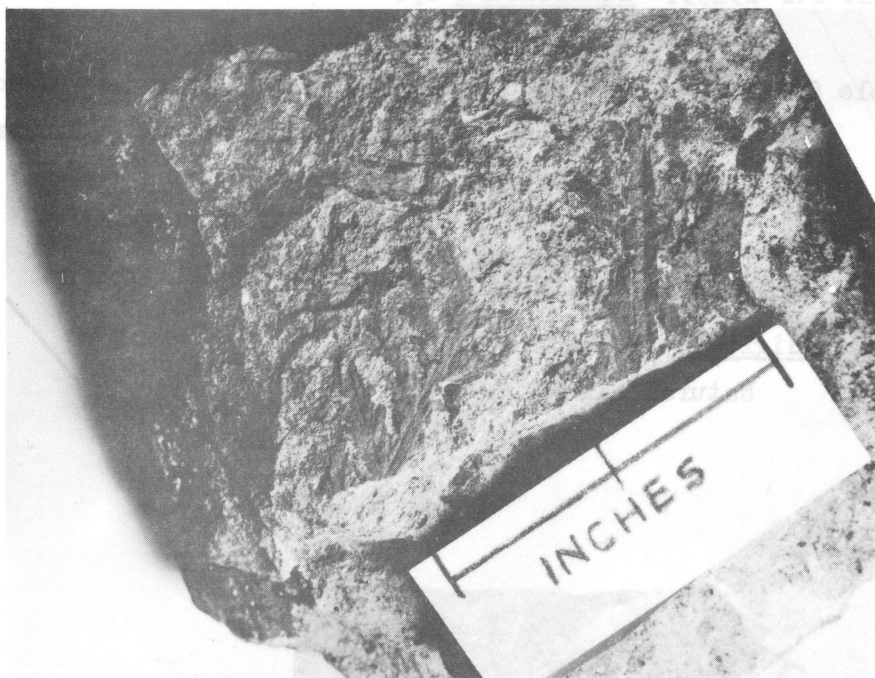
A poorly preserved frond of this species  
is present.

It is illustrated in Figure 6.

Figure 6. Neg. F/5451

Lepidopteris stormbergensis F 23247

Natural size



Lepidopteris stormbergensis occurs commonly in the Dicroidium floras  
of South Africa and Australia.



6. Locality AK 13: Taroom 1:250,000

Photo 5058, run 1, CAB 210

4 miles South of Fairholme H/S.

Moolayember Formation

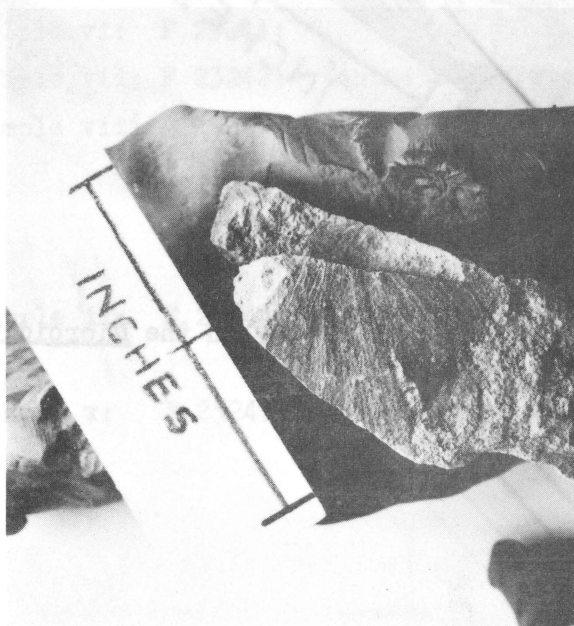
Samples A - G, Specimens F 23248 - 23254

- (a) Sample A:F 23248. Lepidopteris stormbergensis (Sew.)  
Dicroidium odontopteroides (Morr) Gothan.
- (b) Sample B:F 23249. Dicroidium odontopteroides
- (c) Sample C:F 23250. "
- (d) Sample D:F 23251. Dicroidium odontopteroides and Lepidopteris stormbergensis.
- (e) Sample E:F 23252. Dicroidium odontopteroides.
- (f) Sample F:F 23253. Schizoneura sp.  
Lepidopteris stormbergensis
- (g) Sample G:F 23254 Ginkgo digitata (Brong). This is a species with Triassic/jurassic distribution. Illustrated Fig. 7.

Figure 7. Neg. F/5449

Ginkgo digitata (Brong). F 23254.

Natural size





7. Locality AMO2: Taroom 1:250,000

Photo 5058, run 1, CAB 210.

2½ miles South of Fairholme Homestead.

Moolayember Formation.

Specimen F 23255

Fronds of Dicroidium superbum (Shirley) Townrow are identified. Preservation is too poor to allow photography. Very faint impressions only are present on a fine grained white rock.

8. Locality AMO4 Taroom 1:250,000

Photo 5058, run 1, CAB 210.

2½ miles South of Fairholme Homestead.

Moolayember Formation.

Sample AMO4/B Specimen F 23256.

A small frond of Cladophlebis australis (Morr). is present. This fern has a Triassic - Lower Cretaceous distribution.

9. Locality ASO1 Taroom 1:250,000.

Photo 5054, run 3, CAB 204

2½ miles S.E. of Moolayember Dip and ¾ mile S.W.  
of Injune rd

Moolayember Formation

Sample A501/A Specimen F 23257.

Impressions of Equisetalean stems are present. A number of linear impressions adjacent to the stem impressions represent leaves. Their presence indicates that the stems are referable to Neocalamites horrensis (Schimper) Halle.

Figure 8. Neg. F/5457

Neocalamites horrensis. F 23257

Natural size



10. Locality AU04 Springsure 1:250,000  
Photo 5143, run 3, CAB 218.  
Rougemont Creek.  $7\frac{1}{2}$  miles N.N.E. Seracold  
Homestead.  
Moolayember Formation.

Sample AU04/8 Specimen F 23258

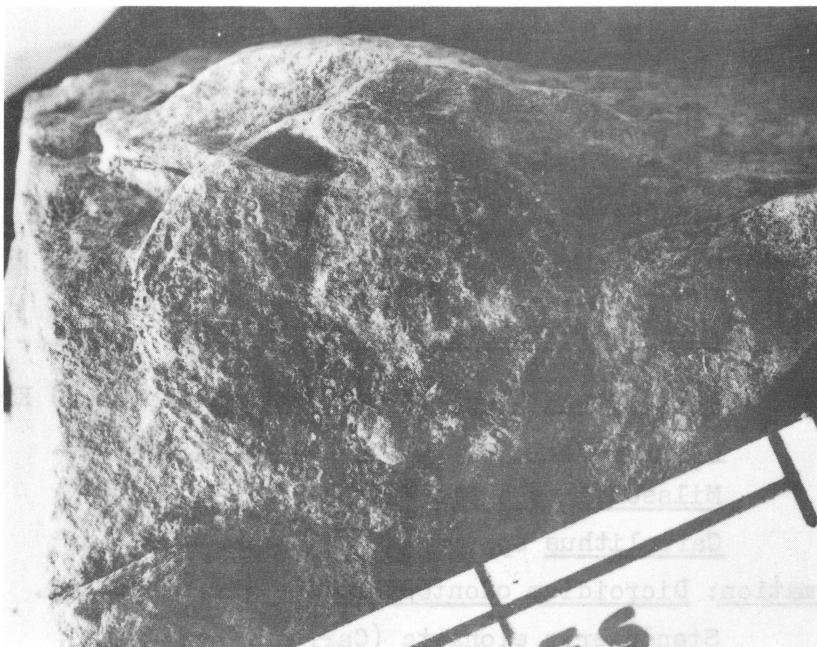
This is a most interesting specimen. A con<sup>e</sup>-like body flattened during fossilisation into a disc about 3 cm. in diameter, with maximum thickness of about .5 cm in the middle, is covered with oval markings. The whole object resembles a flattened strawberry. Investigation of this fruit is continuing. It is believed to be an ovular cone such as occurs in Sturiella langeri Krausel. (An illustration of the "flower" of the Triassic S. langeri can be seen

in figure B on page 304 of "Studies in Palaeobotany" by H.N. Andrews - Published by John Wiley, 1961). Sturiella is a Bennetitalean fruiting body.

The present specimen is assumed to be the fructification of the Nilssonia or Pterophyllum in the collection.

Figure 9. Neg. F/5466

Ovulate cone. F 23258 Magn. X 2.



11. Locality AA48 Taroom 1:250,000  
Photo 5035, run 2, CAB 210.  
5½ miles S.E. of Mopala Homestead.  
Moolayember Formation.

Sample AA48/A Specimens F 23259

Equisetalean stems. No leaf sheaths or other features which indicate genus.

12. Locality AA52 Taroom 1:250,000  
Photo 5037, run 2, CAB 210.  
8 $\frac{1}{2}$  miles S.W. of Mopala Homestead  
Moolayember Formation.

Specimens F 23260.

Equisetalean stems. Genus indeterminate.

13. Locality AA77 Taroom 1:250,000  
Photo 5044, run 2, CAB 209.  
2 $\frac{1}{2}$  miles S.W. of Moolayember Dip at base of  
Precipice Sandstone.  
Moolayember Formation.

Specimens F 23261.

Equisetalean stems.

LIST OF PLANTS IDENTIFIED IN COLLECTION 6801.

- Teviot Formation: Asterotheca (Pecopteris) fuchsii (Zeiller) Krausel.  
Dictyophyllum sp. cf. D. ellenbergi Fabre.  
Milssonia eskensis Walkom  
Carpolithus sp.
- Moolayember Formation: Dicroidium odontopteroides (Morr) Gothan.  
Stenopteris elongata (Carr)  
Dictyophyllum cf. D. ellenbergi Fabre.  
Nilssonia eskensis Walkom.  
Pterophyllum nathani Walkom.  
Schizoneura sp.  
Lepidopteris stormbergensis (Seward)  
Ginkgo digitata (Brong).  
Dicroidium superbum (Shirley) Townrow.  
Cladophlebis australis (Morr)  
Neocalamites horrensis (Sch.) Halle.  
Sturiella sp.

All the species listed above are members of the Triassic Ipswich and Esk Floras except Sturiella sp. Sturiella has not been recorded from Australia. It is a Triassic fructification in Europe. Some of the species present in the collection range into Jurassic but there are no forms present which indicate a Jurassic age for this assemblage.

The age of plant fossil collection 6801 is Triassic.