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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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**Report on 1969 Collection of Plant  
Fossils from the Moolayember  
Formation and Clematis Sandstone**

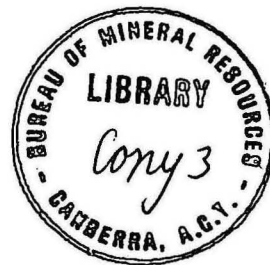
*by*

*Mary E. White*

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REPORT OF 1969 COLLECTION OF PLANT FOSSILS FROM THE  
MOOLAYEMBER FORMATION AND CLEMATIS SANDSTONE

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REPORT ON 1969 COLLECTION OF PLANT FOSSILS FROM THE  
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Summary: Eleven species of fossil plants with a Triassic to Lower Jurassic range are identified in this collection.

Introduction:

Plant fossils collected from outcrop localities in Moolayember Formation and basal Clematis Sandstone, and cores from the Taroom 2 and 3 Bores at their intersection with Moolayember Formation were submitted by P.J. Alcock for investigation.

Preservation of some of the specimens is good, and some interesting plants are present. All the species have a Triassic to Lower Jurassic range.

Description of specimens:

1. Locality 6901 G A 33/P

Carnarvon Range near Moolayember Dip  
Taroom 1:250,000 Sheet  
Grid ref. 13458664  
Lower part of Clematis Sandstone

Specimen Nos. F 23288 - F 23294

Representative specimens from this locality have been selected to illustrate the species present :-

Specimen F 23288: (Plate 1 Figure 1) Diplasiophyllum acutum (Walkom)  
Frenguelli.

This frond is of interest as preservation is good and all details of venation and form are clear. Individual pinnules have a Cladophlebis-like appearance but the strongly decurrent lamina identifies the frond with the Dicroidium group. Walkom described fronds of this type as Thinnfeldia acuta (Walkom, 1917). Recent study of the group has resulted in the new generic name, one which is satisfactory for a sterile frond of this sort where there is no evidence of reproductive structures.

The very thin and delicate nature of the leaves is clearly seen and details of venation including supply to the wide, decurrent portions of lamina are of interest.

Diplasiophyllum acutum occurs in the Ipswich Series in Queensland, and has recently been recorded from the Antarctic. (Townrow, 1967).

Specimen F 23289: (Plate 1, Figure 2) Pterophyllum multilineatum Shirley.

Portion of a median section of a frond of the species is present. The very fine, parallel venation is at right angles to the rachis. This species is common in the Ipswich Series in Queensland (Walkom, 1917).

Superimposed on the frond is a large cone scale F 23289 (Plate 1, Figure 2), narrow at the base and rounded at the apex with a depression for a seed. There is no indication that the scale terminated in a spine, but it is incomplete. The scale is referable to Araucarites cf. A. grandis Walkom. Small branching stems associated with the scale and frond are indeterminate.

Specimen F 23290: (Plate 1, Figure 3)

In this specimen another example of Diplasiophyllum acutum is seen. Venation is particularly clear. Equisetalean stems are also present in the specimen.

Specimen F23291: (Plate 1, Figure 4)

In the centre of this specimen is a small toothed frond which is referred to Nilssonsonia minima Gothan. There are portions of some large pinnules of Diplasiophyllum acutum. The narrow parallel strips are the ribs of an equisetalean stem which has been squashed. Numerous small equisetalean stems are present. Many are very narrow and long. They are probably referable to Neocalamites hoerensis Sch. which is a component of the Ipswich flora.

Specimen F 23292: Not illustrated. There is part of a large cone scale similar to that in specimen 23289 present.

Specimen F 23293: (Plate 1, Figure 5)

Very fine branches arising at nodes on stems which appear to be finely ribbed are referred to Neocalamites hoerensis (Sch.). Some of the very fine branchlets fork. These are assumed to be adventitious roots of the sort which regularly occur at nodes on equisetalean stems.

A broad, flat lamina about a centimeter wide with fine vertical striation is referred to Phoenicopsis elongatus (Morr.) a species common in the Ipswich Series.

Specimens F 23294: Remainder of specimens from this locality containing species detailed above. Not illustrated.

2. Locality Ga 01/ : Outcrop in Spring Creek.

Military grid ref. E 143100 N 1860800

Taroom 1:250,000 sheet.

From base of Clematis Sandstone

Specimen F23300 (Plate 1, Figure 7)

A single specimen from this locality, contains an excellently preserved cone scale which is referable to Araucarites cutchensis Feist.

Specimen F 23301. (Plate 2, Figure 1)

A cone scale referable to Araucarites sp. is present with indeterminate macerated plant material.

3. Locality D A 55: Samples A - E.

Bullarroo Creek;  $\frac{1}{2}$  mile W of Carnarvon Highway  
Pt. DA 55; Photo 5054, run 3, CAB 209.

Specimen Nos. F 23295 - F 23299.

Sample A. Specimen F 23295 (Plate 1, Figure 6). Dicroidium feistmanteli (Johnston) Gothan

Samples B, C, D, E (specimens F 23296 - 23299) contain indeterminate plant stems and macerated material.

4. Taroom No. 2 Bore: Pt. DE; Photo 5058, run 1, CAB 210.  
1 mile ENE of Flagstaff Hill.  
Core 2. Depth 200 feet.

Specimens F 23302 and F 23303.

Fronds of Dicroidium feistmanteli (Johnston) Gothan occur in these specimens (Plate 2, Figure 2, Specimen F 23302). A layer of carbonised cuticle on the impression surface can be removed quite readily and preparations of cuticles will be made for microscopic examination.

Taroom No. 3 Bore: Pt. DF; photo 5058, run 1, CAB 210.  
 $\frac{1}{4}$  mile SE of Flagstaff Hill.  
Moolayember Formation.

Core 3. 74-75 feet

Specimens F 23304 not illustrated.  
Specimen F 23305 (Plate 2, Figure 3).

A poorly preserved conifer twig and a small part of a leaf of Ginkgo sp. are identified. The other plant fragments are indeterminate.

Core 4. 180-181 feet

Specimen F 23306 (Plate 2, Figure 4).  
Specimens F 23307 not illustrated.

Large numbers of equisetalean stems are present associated with fragmentary Dicroidium odontopteroides (Morris) Gothan and a segment of Ginkgo digitata Brong.

Core 6. 400-401 feet.

Specimen F 23308 (Plate 2, Figure 5).  
It shows an example of an equisetalean stem. Specimens F 23309 contain many more stems of this type.

List of species identified in the Clematis Sandstone:

Diplasiophyllum acutum (Walkom)  
Pterophyllum multilineatum Shirley  
Araucarites cf. A. grandis Walkom  
Nilssonina minima Gothan  
Neocalamites hoerensis (Sch.)

Phoenicopsis elongatus (Morr.)

Araucarites cutchensis Feist

List of species identified in the Moolayember Formation

Dicroidium feistmanteli (Johnston) Gothan

Ginkgo sp.

Dicroidium odontopteroides (Morris) Gothan

Ginkgo digitata Brong.

Conifer twig.

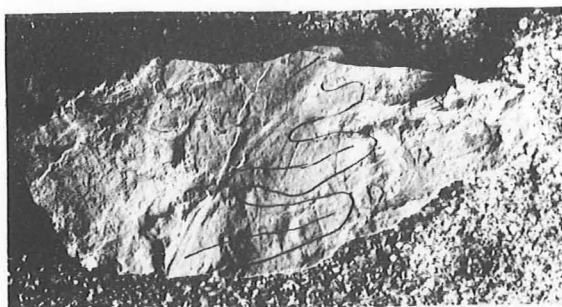
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PLATE 1

- FIGURE 1:      Diplasiophyllum acutum (Walkom)  
Specimen F 23288.    Natural size.
- FIGURE 2:      Pterophyllum multilineatum Shirley and  
                    Araucarites sp.  
Specimen F 23289.    Natural size.
- FIGURE 3:      Diplasiophyllum acutum (Walk)  
Specimen F 23290.    Magnification X2
- FIGURE 4:      Nilssonsonia minima Gothan  
                    Diplasiophyllum acutum (Walk)  
                    Neocalamites hoerensis Sch.
- FIGURE 5:      Phoenicopsis elongatus (Morr.)  
                    Neocalamites hoerensis (Sch.)  
Specimen F 23293.    Natural size.
- FIGURE 6:      Dicroidium feistmanteli (Johnston) Gothan  
Specimen F 23295.    Natural size.
- FIGURE 7:      Araucarites cutchensis (Feist)  
Specimen F 23300.    Natural size.





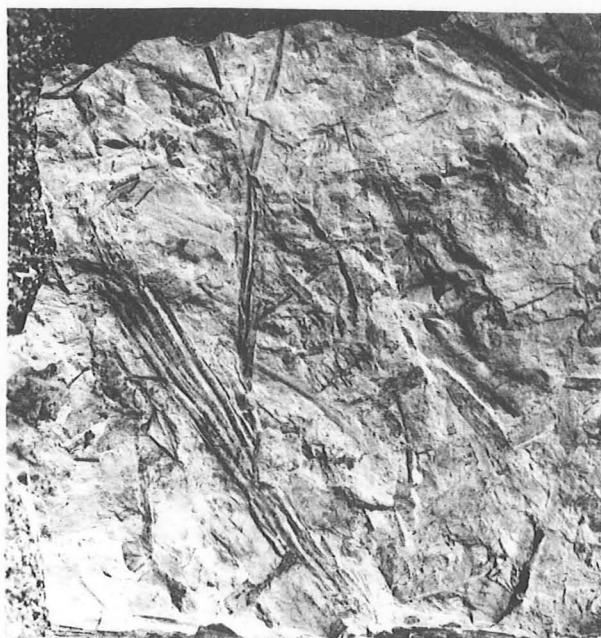
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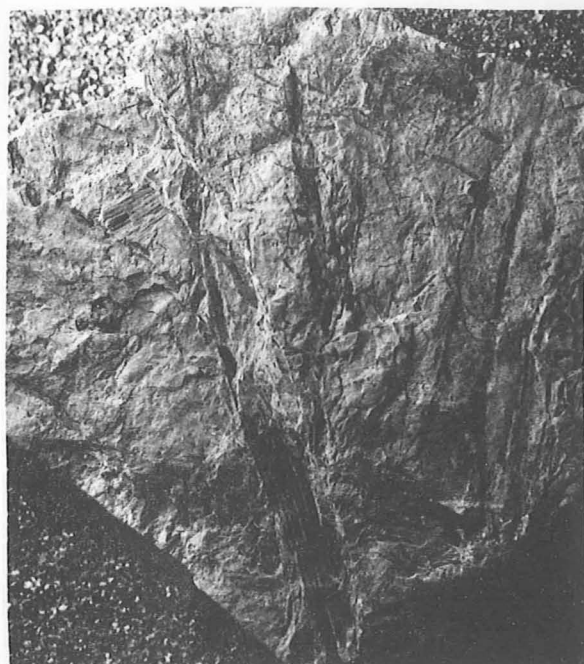
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PLATE 2

- FIGURE 1:      Araucarites sp.  
Specimen F 23301.    Natural size.
- FIGURE 2:      Dicroidium feistmanteli (Johnston) Gothan  
Specimen F 23302 Magnification X2
- FIGURE 3:      Conifer twig and Ginkgo sp.  
Specimen F 23305.    Natural size.
- FIGURE 4:      Ginkgo digitata Brong. and Dicroidium  
odontopteroides (Morr.) Gothan with  
equisetalean stems  
Specimen F 23306.    Magnification X2
- FIGURE 5:      Equisetalean stem  
Specimen F 23308.    Magnification X2



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