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REPORT ON EAST BOWEN BASIN PLANT FOSSIL COLLECTIONS, 1962

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 It may not be published in any form or used in a company prospectus without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

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SUMMARY: Plant fossils were collected at 22 localities in the East Bowen Basin in 1962. A Lower Permian flora occurs in the Lower Bowen Volcanics (7 localities); the Carmila beds (7 localities) have a Lower Bowen type of assemblage at three localities and plants which range throughout Permian at three localities; the Calen beds (4 localities) have Lower Permian plants at two localities and long-ranging Permian forms at a third. Tertiary Dicotyledonous leaf fossils occur at locality P 28f, and a Triassic or Jurassic plant at MC 1425.

Details of localities, descriptions of specimens, identifications of plants and a discussion of evidence for age determination follow. Localities have been grouped according to the geological units to which they were assigned in the field. In this report the entire East Bowen Basin collection has been reviewed and some alterations and additions have been made to descriptions of material in Record 1963/1.

I. LOCALITIES IN THE CARMILA BEDS

1. Locality M572: Mackay 4-mile sheet; photo run 5, photo 93.
Specimens F 22266.

Glossopteris indica Sch.

Small Samaropsis seeds.

Equisetalean stems

Equisetalean leaf sheaths, probably of Phyllothea australis Bgt

Age: Permian. There are no forms present which are diagnostic of Upper or Lower Permian.

2. Locality M 654: Mackay 4-mile sheet; photo run 7, photo 53.
Specimens F 22267.

Glossopteris communis Feist.

Phyllothea australis Bgt., stems and sheaths.

Glossopteris indica Sch.

Nummulospermum bowenensis Walk.

Age: Permian. (All long-ranging Permian forms).

3. Locality M 506: Mackay 4-mile sheet; photo run 7, photo 55.

Specimens F 22269

Indeterminate.

4. Locality M 675: Mackay 4-mile sheet; photo run 7, photo 53.

Specimens F 22270.

Noeggerathiopsis hislopi (Bunb.)

Equisetalean stems.

Nummulospermum bowenensis Walk.

Glossopteris venation fragment.

Age: Permian. Lower Permian

Noeggerathiopsis hislopi is characteristic of the Lower Bowen series and does not occur with typical Upper Bowen species. Dr. Plumstead, in a recent "Review of the Permo-Carboniferous Coal Measures of the Transvaal, South Africa" states that Noeggerathiopsis hislopi is "a survival of a pre-Glossopteris flora, which may be regarded as indicative of the earliest period of Gondwana coal formation, and if the Argentine dating is acceptable, as of a late Carboniferous age."

5. Locality M751: Mackay 4-mile sheet; photo run 4, photo 63.

Specimens F22271

Equisetalean stems

Age: Indeterminate.

6. Locality M754: Mackay 4-mile sheet; photo run 3, photo 51.

Specimens F 22272

(Very poor specimens)

Glossopteris ampla Dana

Glossopteris indica Sch.

Noeggerathiopsis hislopi (Bunb.) ?

Samaropsis dawsoni Shirley

Equisetalean stems

Age: Permian - ?Lower Permian on the presence of

Noeggerathiopsis doubtfully determined in poor specimen. The very large

Samaropsis dawsoni seeds are very common in Lower Bowen series, but may not be confined to Lower Bowen. Large seeds from Upper Bowen have been referred to the species. It is impossible to determine whether they are in fact co-specific when they are known only from impression.

7. Locality SL 410 F:St Lawrence 4-mile; photo run 1, photo 49.
Specimens F 22300.

Very large numbers of leaves of Noeggerathiopsis hislopi (Bunb). are present, ranging in size from small, complete leaves approximately 4cm long and 1cm broad at the widest part, tapering to a narrow petiolar region; to complete leaves approx. 10 cm. long and 4cm. wide at widest part; to incomplete leaves, some with very coarse venation, of unknown length with breadth at least 8 cm. Associated with these leaves are very large seeds of Samaropsis dawsoni (Shirley) type which measure about 2.5 cm. long and 2 cm. broad near the base. These pear-shaped seeds show a divided apex and appear to have had a narrow wing. There is a strong possibility that they are the seeds of Noeggerathiopsis hislopi in this case.

In view of Dr. Plumstead's remarks quoted above, it is possible that a pure assemblage of Noeggerathiopsis with its (?) seeds might be of Upper Carboniferous age. If Loc. SL 410 is from the base of the Carmila beds it might indicate that deposition of the sediments took place from Upper Carboniferous and continued into Lower Permian. However, if the age of the beds is known to be younger than Lower Permian volcanics, a Lower Permian age is indicated.

AGE OF CARMILA BEDS: A Lower Permian, or Upper Carboniferous to Lower Permian, age is suggested by plant evidence.

II. LOWER BOWEN VOLCANICS

8. Locality M140: Mackay 4-mile sheet; photo run 2, photo 25.
Specimens F 22268.

Equisetalean stems.

Age: Indeterminate

9. Locality M765: Mackay 4-mile sheet; photo run 2, photo 25
Specimens F 22273.

Small Equisetalean stems.

Indeterminate plant fragments.

Age: Indeterminate.

10. Locality P 52: Proserpine 4-mile; photo run 8, photo 43.

Specimens F 22275

Noeggerathiopsis hislopi (Bunb.)

Equisetalean stems

Glossopteris venation fragmentsAGE: Lower Permian11. Locality P 174: Proserpine 4-mile; photo run 7, photo 55.

Specimens F 22276

Equisetalean stems

Age: Indeterminate12. Locality P 150: Proserpine 4-mile; photo run 7, photo 57.

Specimens F 22277

Equisetalean stems

Noeggerathiopsis hislopi (Bunb.)Samaropsis dawsoni ShirleyAge: Lower Permian13. Locality P 17: Proserpine 4-mile; photo run 9, photo 13.

Specimens F 22279.

Equisetalean fragments.

Noeggerathiopsis hislopi (Bunb.)?Glossopteris fragmentsAge: Permian - ?Lower Permian on identification of
Noeggerathiopsis in poor specimens.III. CALEN BEDS14. Locality P 40: Proserpine 4-mile sheet; photo run 8, photo 41

Specimens F 22274.

Noeggerathiopsis hislopi (Bunb) ?Age: ?Lower Permian.15. Locality P 2: Proserpine 4-mile sheet; Photo run 9, photo 15.

Specimens F 22293

Noeggerathiopsis hislopi (Bunb.)?Glossopteris fragmentAge: Lower Permian16. Locality P 4: Proserpine 4-mile sheet; photo run 9, photo 5

Specimens F 22294

Noeggerathiopsis hislopi (Bunb.)Age: Lower Permian

17. Locality P153: Proserpine 4-mile sheet; photo run 7,
photo 55.

Specimens F 22297.

Glossopteris indica Sch.

Equisetalean stem.

Age: Permian.

AGE OF CALEN BEDS: Lower Permian.

IV. MISCELLANEOUS

18. Locality P28F: Proserpine 4-mile sheet; photo run 8, photo 45

Specimens F 22295

Dicotyledonous leaves.

Age: Tertiary or younger.

19. Locality MC1425: Mt. Coolon 4-mile; stockton run 3;
photo 91.

Specimens F 22298.

Dicroidium odontopteroides (Morr.) Gothan

Age: Triassic or Jurassic

20. Locality S 241: St Lawrence 4-mile sheet; photo run 5,
photo 48.

Specimens F 22299.

Noeggerathiopsis sp. ?

Age: Permian or Upper Carboniferous