

Copy 3

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS

RECORDS

1956/105

PERMIAN PLANT REMAINS FROM WATER BORE FOR B.M.R. 3 PRICE'S CREEK,
KIMBERLEY DIVISION, WESTERN AUSTRALIA

by

M.E. White

PERMIAN PLANT REMAINS FROM WATER BORE

FOR B.M.R. 3, PRICE'S CREEK,

KIMBERLEY DIVISION, WESTERN AUSTRALIA.

by

M.E. White, M.Sc.

Record 1956/105

PERMIAN PLANT REMAINS FROM WATER BORE NO. 3
B.M.R. 3 PRICE'S CREEK, KIMBERLEY DIVISION
WESTERN AUSTRALIA.

INTRODUCTION

A bore drilled to 108 feet to supply the B.M.R. 3 stratigraphic bore with water passed through Grant Formation consisting of fine grey sandstone rich in plant remains between sixty and seventy feet. The water bore was cased near the 1923 Freney Kimberley Oil Company's No. 4 Bore, Price's Creek, thirteen miles north of Christmas Creek homestead, Lat. $18^{\circ}42'S.$, Long. $125^{\circ}53'E.$, The sample under consideration is from a $2\frac{1}{2}$ " diameter bore core taken at 61 to 62 feet and contains a large amount of plant material. This is the first determination of plant remains in the fluvioglacial deposits of the Fitzroy Basin. Casey (personal communication) reports a bed of "reed-like (Cordaitean?)" plant remains near the top of the Grant Formation on the southern-central part of the St. Georges Range.

DESCRIPTION OF MATERIAL

The plant material in the Price's Creek Bore consists of carbonised impressions of stems, rootlets, leaves and seeds.

The stem impressions varying from $\frac{1}{2}$ - $1\frac{1}{2}$ " in width, are of a pith cast type; some have a coaly layer adhering to the surfaces. Numerous linear impressions, probably rootlets, occur throughout the cores and are concentrated in zones in the sample. No structure is preserved in the stems and rootlets and they are not of diagnostic value.

The leaf impressions are well preserved and show venation clearly, and are referable to Noeggerathiopsis (Cordaitea) hislopi (Bunbury). The leaves are associated with seeds referable to Samaropsis sp. and Cordaicarpus. The latter have an appearance suggesting that they may be incomplete specimens of the Samaropsis type with which they are associated.

A small portion of a fertile frond is illustrated in plate 3, and is suggestive of Cordainthus.

CONCLUSIONS

The occurrence of Noeggerathiopsis associated with Samaropsis in Permian and Carboniferous strata in Australia, South Africa, India and South America is the Southern Hemisphere counterpart of the Cordaitea - Samaropsis association of Permian and Carboniferous horizons in Europe. The association persists into the Triassic in Europe and is found in beds of Rhaetic age in Mexico.

In South Africa Noeggerathiopsis hislopi (Bunb.) is found in the Ecca Series (Permian). It occurs in the Middle Bowen Series in Queensland, and in Permian beds at Springsure, Queensland. It occurs in the Upper Coal Measures of New South Wales, and in the Irwin River and Collie Coal Measures in Western Australia.

The presence of Noeggerathiopsis hislopi (Bunb.) in the Grant Formation of Western Australia therefore suggests a Permian age for this Formation.

5

REFERENCES

- DU TOIT, A.L. 1939 - Geology of South Africa,
Cliver and Eoyd.
- FAIRBRIDGE, R.W., 1953 - Australian Stratigraphy.
Aus.Text Books Board, N.A.
- SEWARD, A.C. 1917 - Fossil Plants III.
Camb.Univ.Press.
- TEICHERT, 1952 - Symposium sur les Series de Gondwana.
19th.Congres International, Alger.
- WALKOM, A.B., 1935 - Some FossilSeeds from the Upper
Palaeozoic Rocks of the Werrie Basin,
N.S.W. Proc.Linn.Soc.N.S.W. 60, (5-6).
- WALKOM, A.B., 1921 - On a Specimen of Noeggerathiopsis
from the Lower Coal Measure of N.S.W.
Proc.Linn.Soc.N.S.W. 46.
- WALKOM, A.B., 1944 - The Succession of Carboniferous and
Permian Floras in Australia.
Proc.Roy.Soc.N.S.W. 78.
- WALKOM, A.B., 1933 - Limits of the Permian System in
Australia. 16th.International geol.
Cong. Washington.
- WALKOM, A.B., 1922 - Palaeozoic Floras of Queensland.
Qld.geol.Surv.Publ. 270

58-
-Plate 1.

Figure 12.

648

Seeds of Samaropsis Type, portion of lamina of
Hoeggerathiopsis hislopi (Dumb), showing venation.

Magnification X4.

Lamina

Cordaicarpus
type seed.

SAMAROPSIS sp

Cordaicarpus
type seed.



Plate 2.

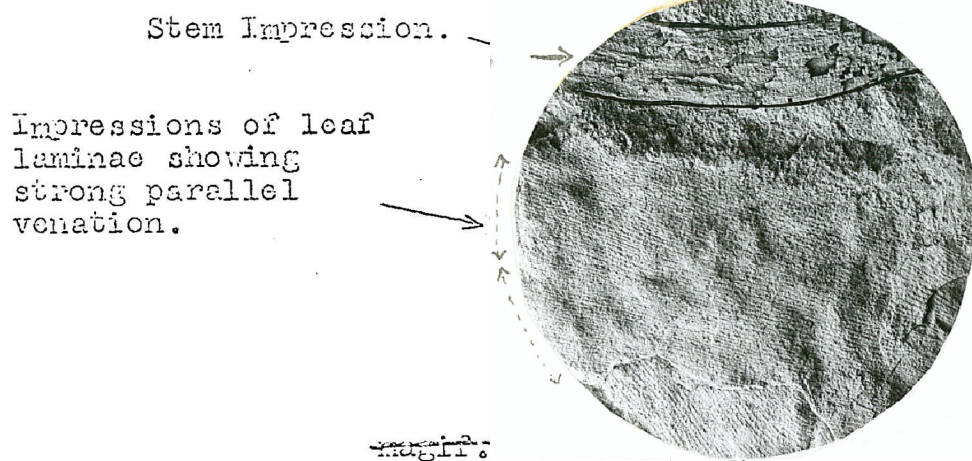


Plate 3

Linear rootlet impression.



← Cordaianthus?.

Magnification X 4.