

COMMONWEALTH OF AUSTRALIA.

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

REPORT No. 1948/84
(Pa. Ser. No. 33)

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RE-EXAMINATION OF FOSSILS OF LOCALITY, B.68
(20.4 MILES WEST OF DJARRA), QUEENSLAND, WITH A
NOTE ON THE PALAEOGRAPHY OF THE MIDDLE CAMBRIAN.

by

A. A. OPIK.

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(SUPPLEMENTARY TO NO. 1948/73)

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Palaeontological Series No. 33.

BY A. A. OPIK.

In the Preliminary Report (1948/73) on Cambrian Fossils collected in the Northern Territory locality B.68, 20.4 miles west of Djarra, was placed among the localities with the western development of the Middle Cambrian Xystridura-fauna. Mr. P. B. Nye has drawn the writer's attention to the fact that the Djarra locality is in Queensland 90 miles east from the Northern Territory border; i.e. far from those localities with a typical "western fauna" and near those with an "eastern fauna". A re-examination of the fossils and the palaeogeographical interpretation of the locality near Djarra therefore becomes necessary.

The writer also split the rock specimens from the sample bag B.68 (coll. Traves) and cleaned out several pygidia of a species of Xystridura. Neither a "six ring pygidium" nor a "denticulate" one which are characteristic of the western (Northern Territory) faunal development of the Middle Cambrian could be obtained. All the pygidia from locality B.68 belong to the forms described by Whitehouse as Xystridura Saint-Smithi (Chapman) from the trilobite fauna of Queensland, which are as yet not recorded in the Northern Territory. So it seems that locality B.68 near Djarra (Queensland) has a fauna characteristic of the eastern Middle Cambrian basin of Northern Australia, and is quite different from the contemporaneous fauna of the Cambrian basin of the Northern Territory.

The line of division between the two basins can be drawn along the meridian 138° East (the boundary line between Queensland and Northern Territory).

As the trilobite genera Nepea, Amphoston, Kootenia (=Notasaphus) and Dinesus occur in the Queensland Middle Cambrian basin and also in Victoria, but have not yet been recorded in the Northern Territory, this suggests that Queensland and Victoria had a direct sea-connection in Middle Cambrian time.

The divide (whatever its nature) between the Middle Cambrian Marine basins of Queensland and Northern Territory was a salient palaeogeographical and palaeozoogeographical boundary. There are also indications of the presence of this divide at the beginning of the ingression of the Cambrian Sea in Northern Australia, since the Redlichia-fauna of the Northern Territory is richer than that of Queensland and more like the fauna of Redlichia beds in the Kimberley District.

A. A. Opik.

10th January, 1949.
MELBOURNE.