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PERMIAN FORAMINIFERA FROM THE SOUTHERN SYDNEY BASIN,
NEW SOUTH WALES.

by

D.J. Belford

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Samples from Lower Permian sediments in the southern Sydney Basin, collected by Mr. D. Rose, were forwarded for micropalaeontological examination by Australian Oil and Gas Corporation Limited. Only arenaceous foraminifera occurred in these samples, which were collected over several measured sections. Detailed information on the location and thickness of the sections and the lithology of the sampled intervals was supplied by Australian Oil and Gas Corporation. Not all samples have been examined, particularly in those parts of the sections where there is little or no lithological change.

Results of the examination are as follows:

1. Endrick Gap, section "B", in Permian "Upper Marine" sediments; samples DR.11 to DR.33, with samples DR.15 to DR.19 collected on a side traverse from the base of DR.20 to the basement. Microfossils were found in only one sample, DR.28, which contained very rare Hyperammina sp. and Involutina multincinctus.
2. Yalwal Gap, section "C", in Permian "Upper Marine" sediments; samples DR.37 to DR.76. Sample DR.54 contained rare coarse-grained arenaceous foraminifera, including Reophax asperus and DR.70 contained rare Hyperammina sp., Digitina recurvata, Trochammina cf. pulvillus, Involutina multincinctus Hyperammina cf. expansa and Reophax asperus.
3. Kelletts Creek, section "E", in Permian "Upper Marine" sediments; samples DR.84 to DR.124. Sample DR.114 contained rare Involutina multincinctus, Hyperammina sp. and Reophax asperus.
4. Browns Mountain Road, section "F", in Permian "Upper Marine" sediments and volcanics. The lower 311 feet of this section is the total thickness of "Berry Shale" at this locality. Samples DR.134, DR.140, DR.142, DR.144 and DR.146 contained rare specimens of Hyperammina sp.; these samples are from the "Berry Shale".
5. Southern headwaters of Wandrawandian Creek, four miles west of Princes Highway; samples DR.160 to DR.168, from the "Wandrawandian Siltstone" section of the Permian "Upper Marine" sediments. Samples DR.160 and DR.161 contained numerous large specimens of Hyperammina sp. and also Hyperammina hebdenensis, Digitina recurvata, Reophax asperus, Ammovertella cf. occlusa and Involutina multincinctus.

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6. The Round Hill, three miles east of Princes Highway at Falls Creek and 7 miles west of the Pacific coast at Lake Wollumboola. Sample DR.170 contained rare, poorly preserved broken and distorted arenaceous foraminifera.
7. Wheelers Point, east of Nowra, on the Pacific Coast between Lake Wollumboola and Crookhaven Lighthouse; samples DR.171, DR.172 and DR.247. No microfossils were found in these samples.
8. Montagu Point - Green Island, on north-east coast of Jervis Bay, 5 miles north-north-west of Point Perpendicular; samples DR.173 and DR.174. No microfossils were found in these samples.
9. Nowra Hill, section "N", four miles south-south-west of Nowra; samples DR.179 to DR.190 from the "Berry Shale". Samples DR.182, DR.184, DR.188 and DR.190 contain rare Hyperammia sp. and DR.182 also contains rare Involutina multicinctus.
10. Brickworks quarry, three miles south of Nowra on the western side of Princes Highway; samples DR.191 and DR.192 from the "Berry Shale". Arenaceous foraminifera, including Involutina multicinctus and Hyperammia sp. occur in these samples.
11. Cambewarra Range - Kangaroo Valley Road, section "O"; samples DR.193 to DR.233 from the "Berry Shale". Samples DR.203, DR.210, DR.213, DR.215, DR.218, DR.220, DR.222, DR.224, DR.226, and DR.228 contain Hyperammia sp. which occurs more commonly towards the base of the section. DR.218 also contains one specimen tentatively referred to Sacculinella sp.
12. Broughton Creek - Shoalhaven River junction, section "P"; samples DR.234 to DR.241, from the "Berry Shale". No microfossils were found in these samples.
13. Broughton Creek - Shoalhaven River junction, section "Q"; samples DR.243 to DR.246. No microfossils were found in these samples.
14. Crookhaven Head, east of Nowra, on the Pacific coast between Wheelers Point and the Shoalhaven River; no microfossils were found in the one sample, DR.248, from this locality.

In the sections examined, foraminifera occur in the Wandrawandian Siltstone, the Nowra Sandstone and the Berry Shale. Except for the occurrence of Hyperammia in the Cambewarra Range - Kangaroo Valley road section (section "O"), foraminifera occur rarely, and the assemblages are uniform throughout the three formations. Except for the beds in sections "P" and "Q", the Berry Shale is the most fossiliferous formation, the foraminifera occurring regularly throughout, particularly in section "O".

It seems that foraminifera are of little stratigraphical value in this area, particularly for detailed local correlations; it is not possible to give more than a general Permian age to the sediments on foraminiferal evidence. Similar faunas occur in the Victoria Pass, Mitchell Highway, section. Megafossils, which are stated to be abundant at Wheelers Point, east of Nowra, may be of more importance than any microfossil group.