

TRILOBITES FROM THE SILURIAN OF NEW SOUTH WALES.

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(Plates xv-xvi.)

In this paper three new species of trilobites are described from a Lower Silurian horizon at Borenore, near Orange, New South Wales, as *Encrinurus borenorensis*, *Phacops macdonaldi* and *Dicranogmus bartonensis*. The genus *Encrinurus* Emmrich, 1844, is discussed and it is considered that the genus *Cryptonymus* Eichwald, 1825, is an abandoned name and cannot be used outside certain limits. Reference is made to the recorded Australian species of the family Lichidae and their geological age.

The fossil material was originally found and forwarded to the Australian Museum by Mr. George McDonald, of "Rosyth", Borenore, on whose property the new horizon of fossils is situated. The author visited the locality later and collected additional specimens of all the described species. My thanks are due to Mr. McDonald for his assistance and interest, which have made possible the preparation of this paper. I am also indebted to Mr. F. Booker and Mr. L. Hall, of the Geological Survey of New South Wales, for assistance in determining the geological succession of the area.

The trilobite remains are not well preserved and in not one instance was a complete specimen collected. Conditions for their preservation must have been most unfavourable, and it appears as if the trilobites were transported some distance before burial, as the fragmentary remains are found closely packed together in definite zones. The specimens are represented by numerous head-shields and pygidia but, although an intensive search was made, no thoracic segments were found.

STRATIGRAPHICAL NOTES.

The fossil beds are exposed on Portion 292, Parish of Barton, County Ashburnham. They are Lower Silurian in age and the sequence consists of limestones, shales, and dacitic tuffs. The basal limestone in the area is richly fossiliferous and contains an abundant coral fauna in which the genus *Halysites* predominates. Overlying this coralline limestone is approximately 190 feet of non-fossiliferous shales, while overlying this again is a thin band of ferruginous shales, a small exposure of which contained a trilobite fauna consisting mainly of the genera *Encrinurus*, *Phacops* and isolated fragmentary remains of the family Lichidae. Very occasional brachiopods and corals are also found in this horizon.

At the top of the sequence of rocks in this area is a crinoidal limestone, approximately 380 feet in thickness, in which the genus *Halysites* has not been found.

The geological sequence is as follows:

Lithology.	Thickness in feet.
Crinoidal limestone	380
Dacitic tuff	130
Shales and tuffs	330
Ferruginous shale with trilobites	20
Shales	190
Coralline limestone with <i>Halysites</i>	260