

NEW OCCURRENCES OF SILURIAN EURYPTERIDS (CARCINOSOMATIDAE)
IN PENNSYLVANIA, OHIO AND NEW YORK

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Carcinosomatids are rare among the Silurian eurypterid faunas of northeastern United States. New discoveries, discussed below, extend the geographic and stratigraphic ranges of two important types:

Paracarcinosoma, known primarily from the Bertie Group of western New York, and

Rhinocarcinosoma, known only from the Illion Shale of eastern New York.

PENNSYLVANIA: The very distinctive Rhinocarcinosoma was obtained from rocks of the McKenzie Fm., below Bloomsburg redbeds, just east of Lock Haven. Remains consist of a well preserved carapace with characteristic 'shovel' developed as an extension of the anterior portion of the carapace. This occurrence is analogous to the occurrence in the New York stratigraphic sequence 185 miles (285 km) to the northeast in the type area of the Illion Shale. At the New York localities, the eurypterid-bearing beds are overlain by the redbeds of the Vernon Fm. (Salina Group).

OHIO: The Maumee Quarry east of Toledo has been studied extensively by many geologists. The stratigraphic sequence exposed consists of "Niagaran reefs" overlain by the Greenfield Fm. (Bass Islands Group) but with an impressive array of stromatolitic beds transitionally developed between the two units.

In the transitional beds occur the scattered remains of Paracarcinosoma. Specimens are fragmentary, but a small well preserved carapace was obtained showing the intramarginal position of the compound eyes characteristic of this carcinosomatid. The specimens were obtained from fine-grained dolostone with no evidence of other fossils.

NEW YORK: The original discovery of Rhinocarcinosoma, as described in 1912 by Clarke and Ruedemann, is here supplemented by new finds in the Illion Shale east of the type area and particularly by the discovery of this eurypterid in rocks of the Lockport Group near Sodus Center, N.Y. Exposures of the Sconodoa Fm. in the Sodus Quarry and in the streambed just to the north yielded numerous specimens. Particularly noteworthy is an operculum of the size and structure illustrated by Clarke and Ruedemann. The new occurrences in the Sodus Center area extend the geographic range of Rhinocarcinosoma westward about 100 miles (160 km).

The carcinosomatid occurrences just described are intimately associated with stromatolitic or thrombolitic biostromes or "reefs." It would appear that both types of eurypterids, Paracarcinosoma and Rhinocarcinosoma, preferred a niche in backreef areas in peculiar algal-lagoonal settings little understood today. Eurypterus, the common form in the Bertie Group, is generally found in rocks having much evidence of hypersalinity (salt hopper structures, etc.), presumably a more supratidal setting.