

CONTRIBUTIONS FROM THE MUSEUM OF PALEONTOLOGY
UNIVERSITY OF MICHIGAN

VOL. XII, No. 9, pp. 175-178 (1 pl.)

JULY 22, 1955

A NEW OCCURRENCE OF
ONCOTECHMONUS CHEMOTUS KESLING,
A MIDDLE DEVONIAN ENTOMOCONCHID
OSTRACOD

BY
ROBERT V. KESLING



MUSEUM OF PALEONTOLOGY
UNIVERSITY OF MICHIGAN
ANN ARBOR

CONTRIBUTIONS FROM THE MUSEUM OF PALEONTOLOGY

Director: LEWIS B. KELLUM

The series of contributions from the Museum of Paleontology is a medium for the publication of papers based chiefly upon the collections in the Museum. When the number of pages issued is sufficient to make a volume, a title page and a table of contents will be sent to libraries on the mailing list, and to individuals upon request. A list of the separate papers may also be obtained. Correspondence should be directed to the Museum of Paleontology, University of Michigan, Ann Arbor, Michigan.

VOLS. II–XI. Parts of volumes may be obtained if available.

VOLUME XII

1. Four New Species of Rugose Corals of the Middle Devonian Genus *Eridophylum*, from New York, Michigan, and Ohio, by Erwin C. Stumm. Pages 1–11, with 2 plates.
2. Ornamentation as a Character in Specific Differentiation of Ostracods, by Robert V. Kesling. Pages 13–21, with 2 plates.
3. Mississippian Megaspores from Michigan and Adjacent States, by William G. Chaloner. Pages 23–35, with 2 plates.
4. A Tertiary Azolla from British Columbia, by Chester A. Arnold. Pages 37–45, with 2 plates.
5. Pleistocene Vertebrates from the Upper Becerra (Becerra Superior) Formation, Valley of Tequixquiac, Mexico, with Notes on other Pleistocene Forms, by Claude W. Hibbard. Pages 47–96, with 9 plates.
6. Three New Species of the Cystid Genus *Lipsanocystis* from the Middle Devonian Traverse Group of Michigan, by Erwin C. Stumm. Pages 97–103, with 2 plates.
7. A New Occurrence of *Semitextularia thomasi* Miller and Carmer, 1933, by Murray J. Copeland and Robert V. Kesling. Pages 105–112, with 1 plate.
8. Lower Mississippian Cephalopods of Michigan. Part III, Ammonoids and Summary, by A. K. Miller and H. F. Garner. Pages 113–173, with 7 plates.
9. A New Occurrence of *Oncotechmonus chemotus* Kesling, A Middle Devonian Entomoconchid Ostracod, by Robert V. Kesling. Pages 175–178, with 1 plate.

A NEW OCCURRENCE OF
ONCOTECHMONUS CHEMOTUS KESLING,
A MIDDLE DEVONIAN ENTOMOCONCHID OSTRACOD

By
ROBERT V. KESLING

CONTENTS

Introduction	175
Previously undescribed structures	176
Literature cited	177
Plate	(after) 178

INTRODUCTION

THIS paper lists a new occurrence of the entomoconchid ostracod *Oncotechmonus chemotus* Kesling and describes some structures not hitherto known. A specimen has been discovered from the Kashong shale member of the Middle Devonian Moscow formation in western New York. It is much better preserved than the specimens described previously (Kesling, 1954, pp. 577-78), which were from the Wanakah shale member of the Middle Devonian Ludlowville formation. The excellent preservation of the Kashong ostracod permits important additions to the description of the species.

Oncotechmonus chemotus is the type species of *Oncotechmonus*, the type genus of the subfamily Oncotechmoninae, of the family Entomoconchidae, superfamily Entomoconchacea, and suborder Myodocopa. All fossil ostracods of the Myodocopa are rare; but, in particular, few species of the Entomoconchacea are known. Moreover, *O. chemotus* is of special interest because of the kind of ornamentation, which is not found in other ostracods.

The Kashong specimen was shipped with some trilobites loaned to Dr. E. C. Stumm by the Buffalo Museum of Science. It is an incomplete carapace embedded in a small block of gray calcareous shale. The left valve is nearly complete but crushed and cracked, particularly in its posterior half. The right valve, askew to the left and partly hidden by it, has the anterior end broken off. Unlike specimens from the Wanakah shale, which are pyritized, this one is preserved as calcite. It reveals, what they do not show, the arrangement of the crestlike ridges at the anterior end of each valve, the ornamentation on the posterodorsal border, a minute reticulation on the lateral surface, the position of the muscle scars, and the thickness of the valves.

The specimen was found by Mr. I. G. Reimann, in 1942, in an outcrop in the bed of Bowen Brook, about $2\frac{1}{4}$ miles northwest of Alexander and $3\frac{1}{4}$ miles northeast of Darien, Alexander Township, Genesee County, New York. It was embedded in a layer of the Kashong shale member, Moscow formation, Tiounioga group of the Middle Devonian Erian series. It has been returned to the Buffalo Museum of Science, where it is catalogued as number E 14028.

The author is grateful to Dr. Fred Hall, Director of the Buffalo Museum of Science, for permission to study and describe this ostracod. Dr. E. C. Stumm kindly called my attention to the specimen. Dr. C. A. Arnold, Dr. G. M. Ehlers, and Dr. L. B. Kellum offered helpful criticism of the typescript of this paper. Photographs on the plate were made with equipment provided by the Horace H. Rackham School of Graduate Studies of the University of Michigan.

PREVIOUSLY UNDESCRIBED STRUCTURES

The valves are composed of dark calcite, which is probably a replacement of the original shell material. The exterior of the left valve and part of the interior of the right are exposed (Pl. I, Fig. 1).

The left valve is better preserved than the right but is imperfect. Parts are missing in the anterodorsal area and in the marginal areas along the posterior and ventral borders. The region just behind the subcentral projection has been crushed in and the posterior part has been displaced outward. As a result of this distortion, the valve has several large fractures. The small crestlike ridges on the lateral surface are arranged in about the same pattern as that on the pyritized specimens from the Wanakah shale (Kesling, 1954, pp. 577-78). In the Wanakah specimens, the ridges in the concave area at the front of the valve are indistinct; in the Kashong specimen (Pl. I, Fig. 2) they are seen to be concentric around the ventral part of the concavity. The posterodorsal border (Pl. I, Fig. 3) is ornamented with closely spaced small denticles. Each denticle is about 0.02 mm. wide and slightly less than 0.10 mm. long. The denticles increase in length toward the posterior border; those on the missing part of the border may have been much longer than those on the preserved part.

With high magnification an irregular reticulation can be seen on the lateral surface of the left valve (Pl. I, Fig. 5). The reticulation consists of low threadlike crests, each about 1 micron wide, set about 6 microns apart and arranged in two sets intersecting at approximately right angles. Neither set appears to bear any relation to the borders of the valve or to the crestlike ridges. The crests undulate, seemingly in a random pattern, and here and there on the surface one bifurcates. At a few places one area

of reticulation truncates another at a low angle. Each interstice in the reticulation contains a subrectangular puncta 4 to 5 microns in diameter. The reticulation is interrupted by large round punctae, each about 25 microns in diameter, set at random about 120 microns apart. If coated with ammonium chloride (Pl. I, Fig. 3) the reticulation is obscured, but the large punctae may still be seen.

When the specimen is submerged in dilute alcohol, two dark spots are seen in the anterior half of the left valve (Pl. I, Fig. 4). The spots are interpreted as the positions of muscle scars. The larger (about 0.50 mm. in diameter), which covers the anterodorsal part of the subcentral projection and extends onto the adjacent part of the lateral surface, may be the scar of the adductor muscles. The smaller (about 0.17 mm.), which lies close to the larger and in front of it, may be the scar of the mandibular muscles.

The preserved part of the left valve is approximately 9.0 mm. long and 6.9 mm. high. The center of the larger of the two muscle scars is about 3.8 mm. from the anterior end of the valve.

On the right valve it is possible to estimate the thickness (Pl. I, Fig. 1), which is about 0.05 mm. The positions of the hidden crestlike ridges on its exterior are marked on the inner surface by faint grooves. Details of the muscle scars of the right valve are not clearly defined on the inner surface. The larger scar, probably that of the adductor muscles, appears to be made up of several closely set, narrow elements, in which the dorsal parts are nearly vertical and the ventral parts are directed anteroventrad. Furthermore, each narrow element seems to have some secondary structures at about right angles to its length. The smaller scar, assumed to be of the mandibular muscles, has no such divisions within it. The surface of the two scars, unfortunately, is very little above the rest of the inner surface. The scars can be seen only when the specimen is wet.

LITERATURE CITED

- KESLING, R. V. 1954. *Oncotechmoninae*, a New Subfamily of Entomoconchid Ostracods from the Middle Devonian of New York. *Journ. Paleontol.*, Vol. 28, No. 5, pp. 575-80, Pl. 59.

Received for publication March 14, 1955

EXPLANATION OF PLATE I

Oncotechmonus chemotus Kesling 175

FIG. 1. Specimen embedded in shale matrix. Buffalo Museum of Science No. E 14028. The lower half of figure shows a lateral view of the left valve and the upper half an interior view of part of the right valve. Specimen coated with ammonium chloride. $\times 5$.

FIG. 2. Anterior view of the left valve showing the arrangement of the small crestlike ridges on the front part of the valve. Specimen coated with ammonium chloride. $\times 5$.

FIG. 3. Lateral view of posterodorsal part of the left valve showing the large punctae in the valve and the denticles along the border. Specimen coated with ammonium chloride. $\times 30$.

FIG. 4. Lateral view of anterior half of left valve showing the dark spots which are interpreted as muscle scars. Specimen submerged in dilute alcohol. $\times 10$.

FIG. 5. Lateral view of posterodorsal area of the left valve. Specimen not coated. The matrix filling the large punctae and the interstices of the reticulation is, in most places, much lighter than the little threadlike crests of the reticulation. Approximately $\times 130$.

PLATE I



