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THE UNIVERSITY OF MICHIGAN

VOL. 22, No. 2, p. 33–35 (1 pl.) JUNE 7, 1968

TWO UNUSUALLY WELL-PRESERVED TRILOBITES FROM THE MIDDLE DEVONIAN OF MICHIGAN AND OHIO

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VOLUME 22

1. New species of Porocrinidae and brief remarks upon these unusual crinoids, by Robert V. Kesling and Christopher R. C. Paul. Pages 1–32, with 8 plates and 14 text-figures.

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ABSTRACT.—The holotype of *Dechenella* (*Basidechenella*) *witherspooni* n. sp. is described from the Alpena Limestone of Michigan, and a beautifully preserved specimen of *Dechenella* (*Basidechenella*) *lucasensis* Stumm is described from the Silica Shale of Ohio.

INTRODUCTION AND ACKNOWLEDGMENTS

WELL-PRESERVED SPECIMENS of *Dechenella* and *Dechenella* (*Basidechenella*) are rare in the Devonian rocks of the Michigan Basin. The two specimens described herein are among the best preserved I have seen. The holotype of *D.* (*B*) *witherspooni* was picked up at the base of the cliff on the north side of the Huron Portland Cement Quarry at Alpena Limestone. The specimen is undoubtedly from the Alpena Limestone but its exact stratigraphic position is in doubt because it was blasted loose during quarrying operations.

The specimen of *D.* (*B.*) *lucasensis* was picked up loose in the Silica Shale in the north Quarry of the Medusa Portland Cement Company at Silica, 1½ miles southwest of Sylvania, Lucas County, Ohio, by Dr. R. D. Hoare of Bowling Green State University.

I wish to thank Mr. Thomas Witherspoon of Dearborn, Michigan, for the gift of the holotype of *D.* (*B.*) *witherspooni* and Dr. R. D. Hoare for the gift of the hypotype of *D.* (*B.*) *lucasensis* Stumm.

I also wish to thank Dr. C. A. Arnold and Dr. R. V. Kesling for critically reviewing the manuscript.

SYSTEMATIC DESCRIPTIONS

DECHENELLA (BASIDECHENELLA) WITHERSPOONI n. sp. Stumm

Pl. 1, fig. 2

Description.—Holotype relatively complete except for left librigena and palpebral lobe, part of frontal brim, and small fragments of left pleural thoracic segments. Glabella somewhat crushed. Total length of specimen 30 mm; width of cephalon 18 mm (estimated), of thorax 18 mm, of pygidium 16.5 mm. Glabella tapering slightly anteriorly, length 8 mm, posterior width 6.5 mm. No glabellar furrows visible. Entire glabella covered with very fine granules. Brim slightly over 1 mm wide; relatively flat, smooth except for terrace lines. Palpebral lobe finely granulose. Librigena with smooth convex field, flat brim, and genal spine extending to the fourth thoracic segment. Occipital lobes convex, oval, about 2 mm in maximum diameter. Occipital furrow narrow, well defined. Occipital ring convex, finely granular, with very faint medial node.

Thorax with low convex axial lobe, 7 mm in maximum width, tapering slightly posteriorly. Anterior 5 segments without axial nodes. Nodes present on posterior 5 segments, becoming more prominent posteriorly. Articulating rings very narrow and smooth. Pleural lobes low convex, averaging 5 mm in width. Segments faintly granulose with smooth subtrigonal articulating rings.

Pygidium about 7 mm long and about 15 mm in maximum width. Axial lobe 5 mm wide at anterior end, tapering to 2 mm at the posterior; composed of 11 segments. Segments low convex and anterior 3 segments with medial nodes. Pleural lobes with 6 or 7 wide, very low convex segments separated by narrow grooves. Anterior 2 or 3 segments with a medial groove. Entire pygidium finely granulose.

Remarks.—*Basidechenella witherspooni* is most nearly related to *B. reimanni* Stumm (1960, p. 121) from the Thunder Bay Limestone but differs in having the test granulose instead of tuberculate and in having grooved segments in the anterior pleural lobes of the pygidium. In addition the glabella of *B. reimanni* tapers anteriorly to a greater degree than that of *B. witherspooni*.

Occurrence.—Middle Devonian—Traverse Group—Alpena Limestone; quarry of the Huron Portland Cement Company, Alpena, Michigan. Collected by Thomas Witherspoon and presented to the Museum of Paleontology.

Type.—Holotype no. 56620.

DECHENELLA (BASIDECHENELLA) LUCASENSIS Stumm

Pl. 1, fig. 1

Dechenella (*Basidechenella*) *lucasensis* Stumm, 1965, p. 164–165, pl. 1, figs. 1–8; 1967, p. 116, pl. 2, fig. 3.

Description.—The hypotype is a complete specimen measuring 29 mm in maximum length. Width of cephalon 20 mm; width of thorax 18 mm; maximum width of pygidium 15 mm. Glabella tapering slightly anteriorly with a slight constriction midway between posterior and anterior ends. Length 8 mm; posterior width 6 mm. Posterior pair of glabellar furrows present but indistinct. Entire glabella covered with evenly spaced tubercles. Brim 2 mm wide, smooth, with a medial groove. Palpebral lobes smooth, crescentic, 4 mm long and 1 mm wide. Librigenae with a low convex, weakly tuberculate field, and smooth genal spines extending to between the sixth and seventh thoracic segments. Eyes crescentic, about equal in measurements to the palpebral lobes. Indistinct terrace lines present on brim and genal spines. Occipital lobes strongly convex, laterally elongate, about 2 mm in horizontal dimension and 1 mm in vertical. Occipital ring moderately convex, faintly tuberculate, with an indistinct medial node.

Thorax with convex axial lobe 2 mm higher at axis than at margins and averaging 6 mm in diameter. Segments faintly tuberculate, each with a median node. Nodes more prominent on posterior three segments. Articulating rings relatively smooth. Pleural lobes slightly convex, 6–7 mm in diameter. Segments weakly tuberculate, each separated by a low triangular articulating ring.

Pygidium with maximum width of 15 mm and maximum length of 8 mm. Axial lobe convex with axis 1–2 mm above periphery. Lobe tapering posteriorly from 4 mm to 2 mm and terminating about 1 mm above pygidial brim. Segments 11, each weakly tuberculate and with a prominent axial node. Pleural lobes low convex with 7 low convex weakly tuberculate lobes, each with an indistinct medial groove.

Furrows between lobes narrow and moderately deep. Brim about 1 mm in diameter. Impressions of lobes and medial furrows weakly present on brim.

Remarks.—This is the first complete carapace of this species to be found. It was presented to the Museum by Dr. R. D. Hoare, Bowling Green State University, Bowling Green, Ohio.

Occurrence.—Middle Devonian (lower part of Silica Shale); North quarry of the Medusa Portland Cement Company at Silica, 1½ miles southwest of Sylvania, Ohio.

Type.—Hypotype no. 56619.

MANUSCRIPT RECEIVED JUNE 10, 1967.

LITERATURE CITED

STUMM, E. C., 1960, Trilobites of the Devonian Traverse Group of Michigan: Contr. Mus. Paleontology, Univ. Michigan, v. 10, no. 6, p. 101–157, 12 pls.

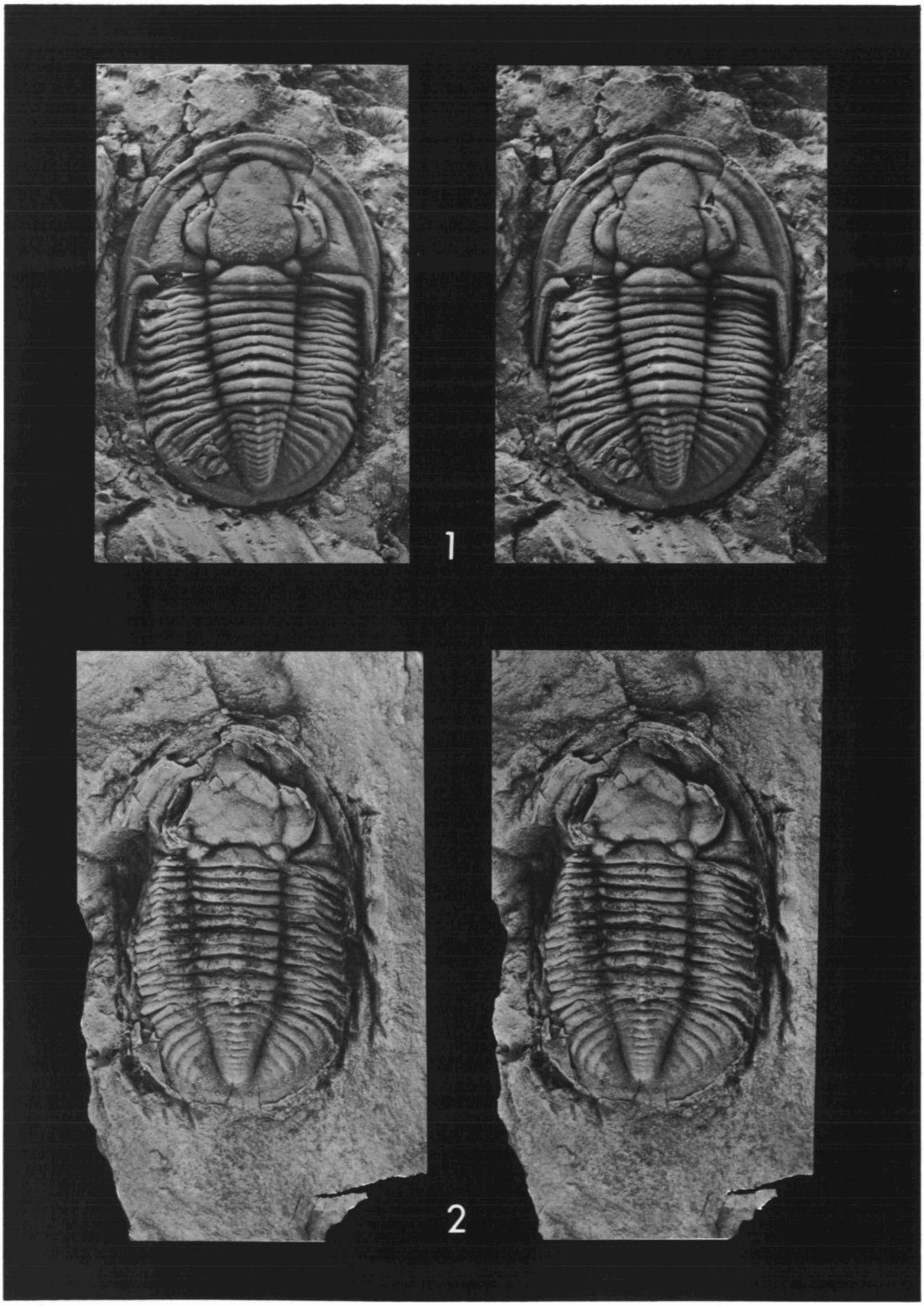
————, 1965, *Ibid.*, v. 19, no. 13, p. 157–162, 1 pl.

EXPLANATION OF PLATE 1

Both figures × 2

FIG. 1—*Dechenella* (*Basidechenella*) *lucasensis* Stumm. Stereophotograph of hypotype UMMP 56619. Middle Devonian, Silica Shale; northern quarry of the Medusa Portland Cement Company at Silica, 1½ miles southwest of Sylvania, Lucas County, Ohio.

2—*Dechenella* (*Basidechenella*) *witherspooni* n. sp. Stereophotograph of holotype UMMP 56620. Middle Devonian, Traverse Group, Alpena Limestone; quarry of the Huron Portland Cement Company, Alpena, Michigan.



PLATE