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(Continuation of Contributions from the Museum of Geology)

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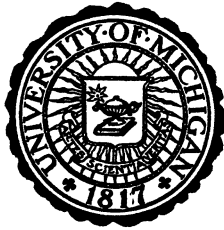
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DECEMBER 1, 1932

GYPIDULA PETOSKEYENSIS, SP. NOV.,
A NEW BRACHIOPOD FROM
THE TRAVERSE GROUP
OF MICHIGAN

BY

R. W. IMLAY



UNIVERSITY OF MICHIGAN PRESS
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110

133

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CONTRIBUTIONS FROM THE MUSEUM OF PALEONTOLOGY

(Continuation of Contributions from the Museum of Geology)

UNIVERSITY OF MICHIGAN

Editor: EUGENE S. McCARTNEY

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(Continued on inside of back cover)

GYPIDULA PETOSKEYENSIS, SP. NOV.,
A NEW BRACHIOPOD FROM
THE TRAVERSE GROUP
OF MICHIGAN

By R. W. IMLAY

INTRODUCTION

THE specimens of *Gypidula petoskeyensis*, sp. nov., described below, were collected during the course of a study of the Traverse group made for the Geological Survey of Michigan by Drs. E. O. Ulrich, E. C. Case, G. M. Ehlers, and C. F. Deiss, during the summer of 1926.

DESCRIPTION AND OCCURRENCE

Gypidula petoskeyensis, nov. sp.

(Plate I, Figs. 1-10).

Description.—Shell subtrigonal in outline, usually wider than long. The average dimensions of ten mature individuals are: length 25.7 mm., width 27.2 mm., thickness 15.4 mm. Greatest width is about one third of the distance back of the front of the shell. Sides diverge regularly from the beaks to the greatest width and then round into the gently convex, and emarginate anterior margin.

Pedicle valve is considerably larger than the brachial valve, varying from moderately convex in most shells to strongly convex in the largest. The greatest convexity is posterior to the hinge line. The beak is small, slightly arched, and does not project beyond the hinge line. There is no fold. The valve is marked with 18-22 conspicuous plications, which extend about three fourths of the distance to the beak and are as distinct on the

lateral margins as in the middle. The plications are subangular near the anterior margin, becoming increasingly rounded toward the beak. The interspaces are equal to, or slightly wider than, the plications. The cardinal area is large and distinctly differentiated from the rest of the shell. It is marked by numerous fine, longitudinal striae and a few more distantly placed, vertical ridges. The delthyrium is wide and occupied to a large extent by the incurved beak of the brachial valve. A short median septum is present. The spondylium is deepest in its middle part; its anterior end is rounded.

The brachial valve is gently convex. The beak is slightly incurved. No sinus is present. The plications are similar in form and number to those of the pedicle valve. The crural plates and septae extend almost two thirds of the length of the valve. The trough formed by the septa is rounded at the posterior end, but gradually becomes sharply V-shaped at the anterior end. The crural plates at their posterior ends curve inward and upward and then outward and slightly downward. They gradually become less arched and narrower toward the anterior end, finally disappearing about midway in the valve. (See Plate I, Figs. 9-10.)

The surface of both valves is marked by concentric lines of growth, which are rarely conspicuous.

Remarks. — This species is quite similar to *Gypidula mineolaensis* Branson, but differs from it in having 18-22 plications instead of 30, a much less projecting umbo, and a larger and more distinctly defined cardinal area.

Occurrence. — The shells of *Gypidula petoskeyensis* were found in very great abundance in a slightly calcareous, bluish gray shale exposed in the bottom of a small abandoned quarry about two and one-half miles northeast of Petoskey, Michigan. The more exact location is in the NE. $\frac{1}{4}$ of the NW. $\frac{1}{4}$ section 34, T. 35 N., R. 5 W., about one-quarter mile southeast of the intersection of the Pere Marquette Railroad with U. S. Highway No. 31, just east of East Bay View, Michigan.

The shells are present in numbers so large as to suggest social crowding of the living animals. Only a very few individuals of *Cystodictya*, *Spirifer*, and *Athyris* are associated with the gypidulas.

According to Dr. Erwin R. Pohl,¹ the shale containing the shells of *Gypidula petoskeyensis* occupies a position within the Petoskey formation of the Traverse group.

Types. — The holotype and paratypes of *Gypidula petoskeyensis* are preserved in the Museum of Paleontology of the University of Michigan, where they bear the numbers 14361, 14362, 14363, and 14364.

¹ Pohl, Erwin R., "The Middle Devonian Traverse Group of Rocks in Michigan, A Summary of Existing Knowledge," *Proc. U. S. Nat. Mus.*, Vol. 76, Art. 14, pp. 15-16, 1929.

EXPLANATION OF PLATE I

Gypidula petoskeyensis, sp. nov.

- FIGS. 1-3. Pedicle, brachial, and lateral views of holotype, number 14361.
× 1
- FIGS. 4-5. Pedicle and brachial views of paratype, number 14362. × 1
- FIGS. 6-7. Lateral and brachial views of paratype, number 14363. × 1
- FIG. 8. Pedicle valve, paratype number 14364, showing spondylium. × 1
- FIG. 9. Restoration of interior of brachial valve, based on serial sections.
× 2
- FIG. 10. A series of ten cross-sections of a shell of *G. petoskeyensis*, showing spondylium and median septum of the pedicle valve and the crualium of the brachial valve

PLATE I



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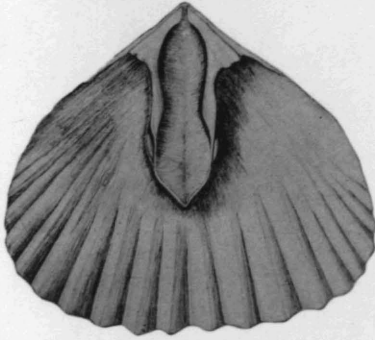
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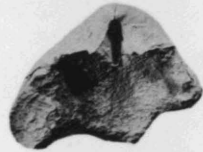
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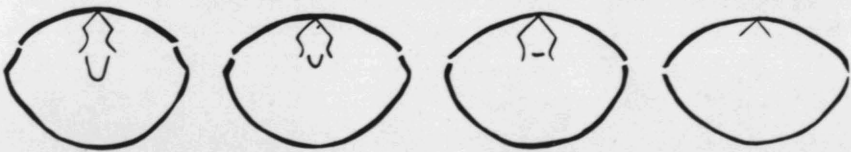
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(Continued from inside of front cover)

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