

CONTRIBUTIONS FROM THE MUSEUM OF PALEONTOLOGY

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*PRODUCTELLA WAYNENSIS*, A NEW  
BRACHIOPOD FROM THE NEW  
PROVIDENCE SHALE OF  
KENTUCKY

BY

KARL G. BRILL, JR.



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*PRODUCTELLA WAYNENSIS*, A NEW  
BRACHIOPOD FROM THE NEW  
PROVIDENCE SHALE OF  
KENTUCKY

By K. G. BRILL, JR.

THE specimens serving as the types of the new brachiopod here described were collected from the New Providence shale exposed in the valley slope of the Cumberland River about five miles west of the University of Michigan Geological Field Station at Mill Springs, Wayne County, Kentucky. They were studied at the suggestion of Professor G. M. Ehlers of the University of Michigan, to whom the writer is indebted for aid in preparing this paper.

*Productella waynensis*, sp. nov.

(Pl. I, Figs. 1-5)

*Description.* — Shell thin, concavo-convex; wider than long; width of hinge line not seen in incomplete specimens at hand, but probably equal to greatest width of shell. Dimensions of holotype in present imperfect condition: length 25 mm., width 37.5 mm., and convexity 6 mm. Dimensions of paratype, a very imperfect shell: length 30 to 32 mm., width approximately 45 mm., and convexity 6.5 mm.

Ventral valve uniformly convex along the median line, but becoming concave at the posterolateral margins; surface of medial region somewhat flattened. Sulcus, if present at all, is a poorly defined flattened area, limited to the anterior third of the valve. Beak not preserved in specimens available, but apparently small, projecting only slightly beyond the cardinal margin. Umbo

slightly elevated. Interarea narrow; posterior margins sharply defined, bearing four to six oblique spines on each side of beak. Delthyrium wider than long. A low, short medium septum, present near the beak, passes anteriorly into a weak groove, which becomes more prominent near the central part of the valve and then disappears anteriorly. Muscle scars indistinct; diductor scars appear to be large and oval; adductor scars smaller than diductor scars. Inner surface papillose, the papillae becoming small and more numerous on the anterior and lateral one third of the valve.

Dorsal valve concave except at posterolateral margins, where it is convex. Interarea somewhat narrower than that of ventral valve. Cardinal process of moderate size, bifid, each half divided by a distinct groove; anteriorly, process merges into a smooth elevated area, with concentrically arranged growth lines. Medium septum prominent, extending from the smooth elevated area to the center of the valve. Muscle scars indistinct. Inner surface papillose, the papillae becoming smaller and more numerous on the anterior and lateral one third of the valve.

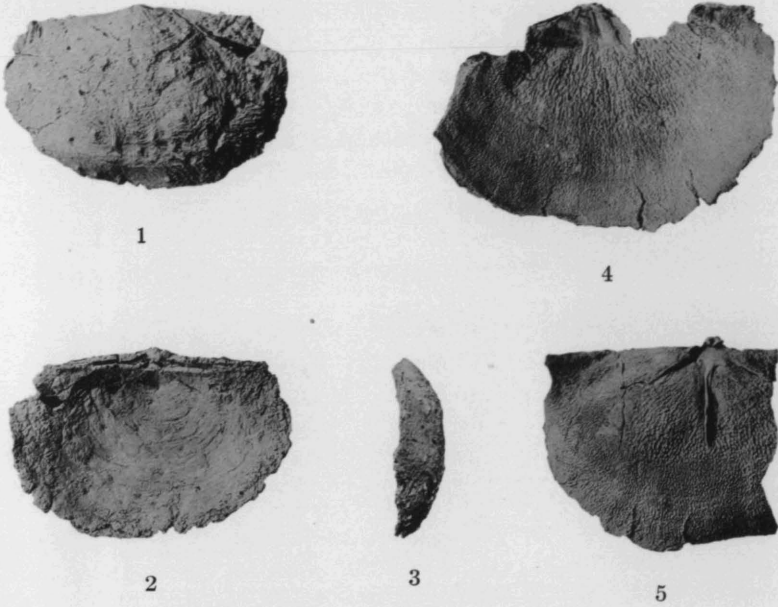
Surface of both valves covered with coarse lines of growth. Surface of ventral valve exhibits spine bases arranged in irregularly concentric rows; spine bases more numerous toward cardinal extremities. Surface of dorsal valve without spines.

*Remarks.* — This species bears some resemblance to the Upper Devonian Chemung species *Productella hirsuta* Hall and the Upper Devonian (Snyder Creek shale) species *Productella callawayensis* (Swallow), but is distinct from them.

*Types.* — The holotype and the paratype are preserved in the Museum of Paleontology of the University of Michigan under numbers 12161 and 12162.

*Occurrence.* — The types were collected from the New Providence shale about twenty feet above its contact with the Chattanooga shale, exposed on a slope a short distance above the valley flat of the Cumberland River a little more than one-half mile southeast of the mouth of Forbush Creek in Wayne County, Kentucky.

PLATE I



EXPLANATION OF PLATE I

*Productella waynensis*, sp. nov.

- FIG. 1. Ventral view of holotype, No. 12161 U.M., showing arrangement of spine bases.  $\times 1$
- FIG. 2. Dorsal view of holotype, showing growth lines and nonspinose character of surface of valve.  $\times 1$
- FIG. 3. Lateral view of holotype, showing convexity of shell.  $\times 1$
- FIG. 4. Interior of ventral valve of paratype, No. 12162 U.M., showing short medium septum and papillae.  $\times 1$
- FIG. 5. Interior of dorsal valve of same paratype, showing cardinal process and medium septum.  $\times 1$





