

## NEW AND LITTLE KNOWN GASTROPODA FROM THE UPPER CRETACEOUS OF TENNESSEE.

BY BRUCE WADE.

An announcement of the discovery of unusually well preserved Upper Cretaceous fossils in the Ripley formation on Coon Creek in McNairy County, Tennessee, was made in the *Contributions to Geology* of the March, 1917, number of the *Johns Hopkins University Circular*. A somewhat detailed description of the locality and a few preliminary observations on the fauna were made in the same article. The studies of this fauna have since been pursued further and more than 350 species have been recognized.

The Gastropoda of this fauna are especially interesting, since this class is so prolific and so well preserved. A systematic study of these gastropods has recently been submitted as a dissertation from the Geological Laboratory of the Johns Hopkins University. In this study 151 species of Gastropoda from the Coon Creek locality have been differentiated and described. As a result of the evidence furnished by this large assemblage of perfect or nearly perfect univalve shells, it has been found necessary, in order to classify all of these forms, to propose several new generic groups. Descriptions of some of the more interesting of these new genera and species have been published recently<sup>2</sup> and it is the purpose of the present paper to present several additional forms of especial interest from this locality.<sup>3</sup>

## Family CONIDÆ.

Genus CONORBIS Swainson.

**Conorbis mcnairyensis** n. sp. Pl. XVII, figs. 1, 2.

*Description.*—Shell very small and biconic in outline; spire elevated, its altitude equal to about half that of the entire shell; whorls abruptly

<sup>1</sup> Published by permission of Dr. A. H. Purdue, State Geologist of Tennessee.

<sup>2</sup> PROC. ACAD. NAT. SCI., PHILA., July, 1916, pp. 455-471, Pls. XXIII, XXIV. *Am. Jour. Sci.* (IV), Vol. 43, pp. 293-297, figs. 1, 2, 1917.

<sup>3</sup> The writer wishes to express his indebtedness to Prof. W. B. Clark and his associates in Paleontology, Prof. E. W. Berry and Dr. J. A. Gardner, under whose guidance this study has been conducted. The writer is also indebted to Drs. W. H. Dall, T. W. Stanton, L. W. Stephenson, C. W. Cooke, and J. B. Reeside, Jr., of the U. S. Geological Survey, and Dr. H. A. Pilsbry, of The Academy of Natural Sciences of Philadelphia, for the privilege of studying their collections, for the kindly interest they have shown in the work, and for their assistance in helping to determine the biological relations of some of these forms.

shouldered or strongly tabulated, the maximum diameter falling in front of the median horizontal, volutions closely appressed and increasing gradually in size, probably four in number in a perfect individual; sculpture subdued and irregular; well-defined axial costæ not developed; spirals low and crowded, about six in number on the penultima, and more than sixteen on the ultima, spirals crossed by numerous irregular, sharply incised incremental lines which give the surface of the shell a subcancellate aspect; suture impressed; body shouldered posteriorly and sloping gently and evenly in front; aperture narrow; margin of outer lip broken away; inner lip concave medially; columella slightly flexed near the anterior extremity; umbilicus indicated by a narrow depression along the outer margin of the reflected inner lip.

*Dimensions.*—Altitude 4.3 mm.; maximum diameter 2.5 mm.

This form is represented by a single specimen. The species has been referred to the genus *Conorbis* since it shows all the generic features revealed in the type of the genus, *Conus dormitor* (Sowerby)<sup>4</sup> from the Eocene of western Europe. The Tennessee form is probably the first typical *Conorbis* to be reported from the Upper Cretaceous. An imperfect individual from the Senonian of Ria Piabas, Brazil, has been described under the name of *Conorbis restitutus*,<sup>5</sup> but the correctness of this generic determination has been questioned by Cossmann.<sup>6</sup>

Family **VOLUTIDÆ.**

Genus **HYLLUS** n. gen.

*Etymology:* *Hyllus*, a son of Hercules.

*Type:* *Hyllus callilateras* n. sp.

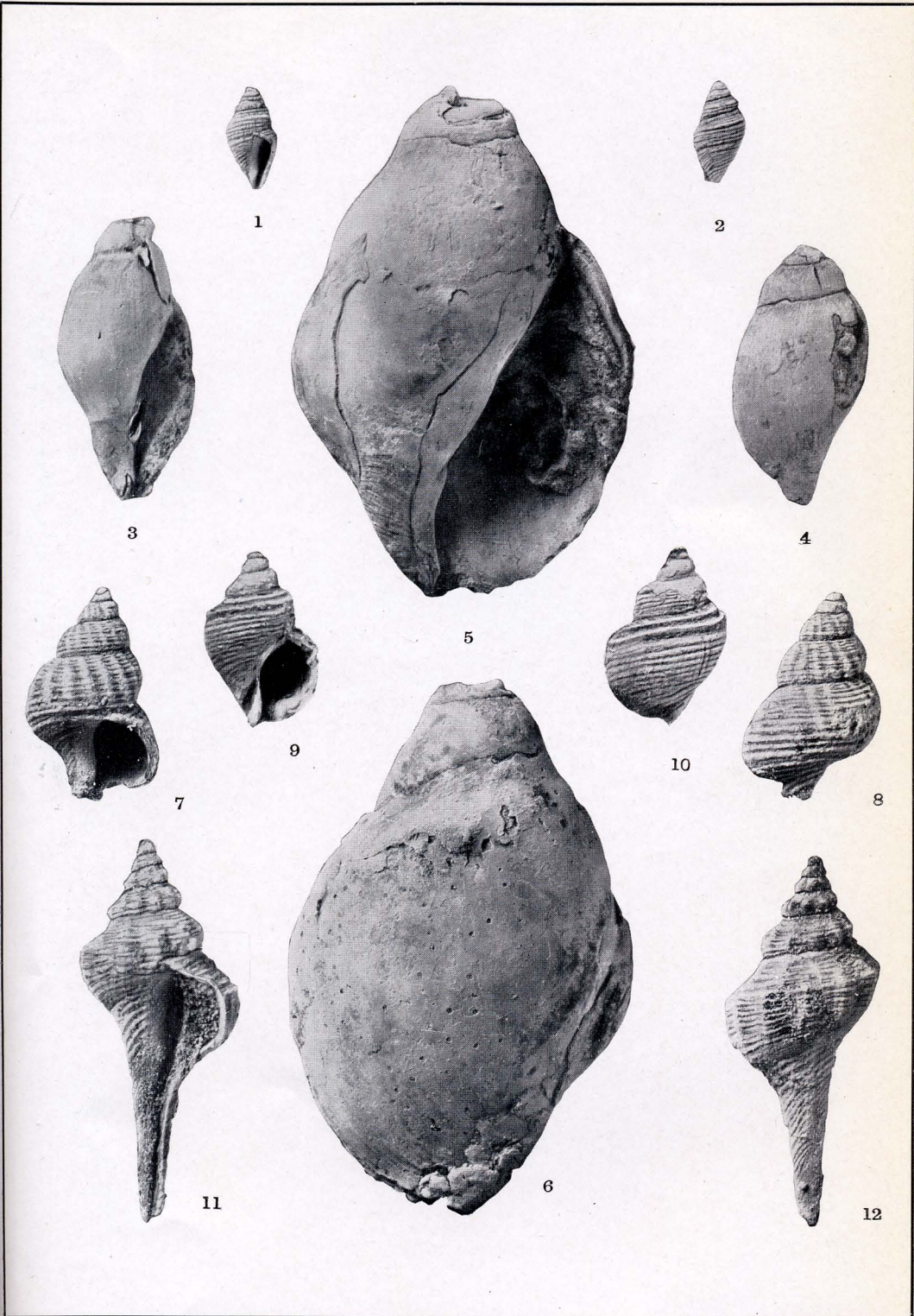
Shell large and subvoid in outline; spire obtuse or only slightly elevated; whorls closely appressed, increasing in size rapidly to a much inflated body; protoconch unknown; sculpture absent, external surface free from ornamentation except for incremental lines which show through the glazed surface; sutures obscured by callus; body slightly inflated and sometimes flattened dorso-ventrally, gently constricted behind, and in front it slopes gradually into a broad, slightly curved short pillar; aperture broad and lenticular, distinctly notched in front or produced into a short canal, slightly notched posteriorly; outer lip simple and broadly arcuate; inner lip

<sup>4</sup> Cossmann, M., 1896, *Ess. de Pal. Comp.*, livr. II, p. 149, Pl. VIII, figs. 16 et 18.

<sup>5</sup> White, C. A., 1888, *Archiv de Museu Nacional de Rio de Janeiro*, vol. VII., p. 119, est. X, figs. 4, 5.

<sup>6</sup> Cossmann, M., *loc. cit.*, p. 150.





BRUCE WADE: CRETACEOUS GASTROPODA OF TENNESSEE.