

more closely related to the present Chipola species, especially the arrangement of the "cardinals" with the anterior and posterior series being separated by a narrowly sub-trigonal median tooth, which is situated higher on the hinge-plate than any of those on either side.

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NOTES ON THE FAUNA OF THE CHIPOLA FORMATION - XXVIII:  
ON THE OCCURRENCE OF THE NON-MARINE GENUS *MYTILOPSIS*  
(MOLLUSCA : BIVALVIA)

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Material collected from the Chipola Formation, Early Miocene, at Tulane locality 459 on the east bank of the Chipola River, Calhoun County, Florida, has yielded seven valves of *Mytilopsis*, a genus primarily known from the lower reaches and mouths of rivers within the tropical zone of the Western Hemisphere. Associated with these valves in the collection are more than 100 specimens of a small species of the fresh-water gastropod *Planorbis*, plus many valves of what appears to be a new species of the estuarine genus *Mulinia*, abundant donacids, and other forms indicative of a shallow-water environment adjacent to the mouth of a small fresh-water stream. This is the only locality in our Chipola collections with a fauna suggesting such a depositional environment.

Family DREISSENIDAE Gray in Turton,  
1840 [ICZN Direction 41, 1956]

Genus MYTILOPSIS Conrad, 1858

- Mytilopsis* CONRAD, 1858, Acad. Nat. Sci. Phila., Proc., v. 9, p. 167.
- Praxis ADAMS and ADAMS, 1857, Genera Recent Mollusca, v. 2, p. 522 (non Guenée, 1852, Lepid.).
- Mytiloides* CONRAD, 1874, Acad. Nat. Sci. Phila., Proc., v. 26, p. 29 [err. pro *Mytilopsis*, fide Conrad, supra p. 83] (non Brongniart, 1822, Inoceramidae).
- Type species, by subsequent designation, Dall, 1898 : *Mytilus leucopheatus* Conrad, 1831; Recent, southeastern United States.
- "Shell mytiliform, attached by a byssus; hinge with a septum, beneath which on the cardinal side is a triangular cup-shaped process; cartilage groove rather deep." (Conrad, 1858)

The "triangular cup-shaped process" beneath the septum – a myophore – distinguishes *Mytilopsis* from *Dreissena* van Beneden, 1835 [emend. pro *Dreissena*, Intl. Comm. Zool. Nomen., *Opinion* 351, 1955].

MYTILOPSIS ERIMIOCENICUS

H.E. Vokes, n. sp.

Text figures 1-3

*Description:* Shell small, mytiliform, inflated, with a rather strong, rounded antero-postero crest sloping gently to the broadly arched dorsal/postero-dorsal margin, but steeply to the ventral one; the latter straight to slightly concave, sharply rounded into posterior margin; umbones anteriorly terminal, subangulately rounded, smooth; valve surface marked only by growth lines, a hint of fine radial striae on worn specimens; interior septum characteristic of genus, more deeply inset on right valves than on left, myophore on dorsal side below septum, small; anterior half of dorsal margin of left valve grooved for reception of low, narrow and inconspicuous ridge on margin of right valve; posterior adductor scar slightly bilobed.

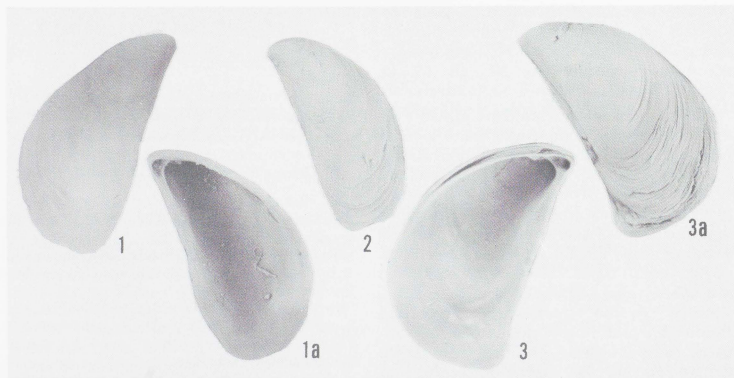
*Holotype:* USNM 398345; length 7.3 mm, height 4.2 mm, semidiameter (left valve with slightly damaged postero-ventral margin ca. 1.5 mm.

*Paratype:* USNM 398346; length 7.1 mm, height 3.3 mm, semidiameter (right valve) 1.2 mm.

*Paratype:* USNM 398347; length 6.2 mm, height 3.0 mm, semidiameter (left valve) 1.0 mm.

*Type locality:* TU 459; Chipola Formation, east bank of Chipola River; steep bank about 1500 feet above the mouth of Taylor Lake Branch (NW ¼ Sec. 29, T1N, R9W), Calhoun Co., Florida.

*Remarks:* *Mytilopsis erimiocenicus* n. sp. is, in-so-far as the writer is aware, the first species of the genus to be reported from the Miocene strata of the Atlantic and Gulf Coastal area. *Mytilopsis cira* Pilsbry and Olsson (1935, p. 19, pl. 5, fig. 2), from the Late Oligocene or Early Miocene of the Magdalena Embayment area of Colombia, the only species of possible equivalent or slightly older age that has been described from the western Atlantic faunas, differs greatly in shape with a sharply angulate umbonal ridge, a straight dorsal margin and a flattened to slightly convex ventral margin, forming a much more broadly expanded valve than that of the present species, as indicated by the measurements cited (length 16.75 mm, height 14 mm for



MYTILOPSIS ERIMIOCENICUS Vokes, n. sp.

Figures

1. Paratype, USNM 398345; exterior of right valve; 1a, interior of right valve.
2. Paratype, USNM 398346; exterior of left valve.
3. Holotype, USNM 398347; interior of left valve; 3a, exterior of left valve – largest specimen in collection.

All figures approximately  $\times 6$ .

one valve; a second one with length 18.25 and height 16.50 mm).

The form figured by Maury (1917, p. 195, pl. 39, fig. 5) from the Early Pliocene Cercado Formation on the Rio Cana at Caimito, Dominican Republic, and identified as "*Mytilopsis domingensis* Recluz," a Recent species (described as *Dreissena domingensis*) from Haiti, differs in the broadly flaring and flattened dorsal edge of the valve. As noted by Weisbord (1964, p. 209) Maury's figured specimen is probably incorrectly identified as the Recluz species, which has recently been synonymized with the type species, *M. leucopneatus* (Conrad) (see Marelli, 1980, p. 12).

*Mytilopsis lamellatus* (Dall) (1898, p. 809, pl. 35, figs. 13-15) from the Late Pliocene Caloosahatchee Formation of Florida is similar to the present Chipola species, but differs in the broad angulation between the relatively straight anterior portion of the dorsal slope and the point where it begins to curve toward the posterior end. The ventral margin is also slightly more concave in most specimens, although some examples in the Tulane collection have a straight one, and one or two are even slightly convex. The growth lamellae on the surface of the larger specimens is also distinctive, but small forms of a size equivalent to the new species tend to have the lamellae only weakly developed, if at all.

The Bowden species *M. jamaicensis* Woodring (1925, p. 86, pl. 10, figs. 13, 14) has an angulate dorsal margin with the marginal groove on the left valve much shorter than present on *M. erimioecentus*.

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#### NOTES ON THE FAUNA OF THE CHIPOLA FORMATION - XXIX A NEW SPECIES OF *PANOPEA* (MOLLUSCA: BIVALVIA)

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Dall (1898, p. 829) reported the presence of *Panopea* Ménard in the fauna of the "Oligocene...of the Chipola River and Oak Grove...Florida," identifying the species as "*Panopea Whitfieldi*," a new name for "*Panopea Goldfussii* Whitfield" 1895, *non* Wagner, 1838. He repeated the citation as to the distribution in 1915 (p. 156, pl. 18, fig. 13) spelling the generic name *Panope* (see discussion below). Subsequently Gardner (1928, p. 237, pl. 36, figs. 11, 12) described the Oak Grove form as *Panope parawhitfieldi*, noting: "The Chipola species is ap-

parently distinct from the Oak Grove, differing in the more produced and attenuated posterior extremity. The material is too fragmentary to name."

The Tulane University collections from the Chipola Formation, now known to be Lower Miocene, Burdigalian, in age, contain several thin-shelled specimens (six of which are paired valves) in varying degrees of completeness, which are here referred to the new species *Panopea chipolana*.