

ON THE OCCURRENCE OF *MILTHA (EOMILTHA) MEGAMERIS* (DALL)  
IN THE DOMINICAN REPUBLIC

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In the summer of 1982, while we were working on the Paleontology and Geology of the Cibao Valley area of the northwestern section of the Dominican Republic, Mrs. Vokes collected six paired-valve internal molds of an exceedingly large lucinid bivalve that proved upon examination to be referable to "*Lucina*" *megameris* Dall, 1901, described from the late Eocene of Jamaica. The present specimens were found in a conglomerate zone immediately north of the crest of the Cordillera Septentrional at Puerto de los Hidalgos on the west side of the Mao-Los Hidalgos road (TU 1424 — see text fig. 1). Limestone boulders in the conglomerate contain abundant foraminifera, including *Lepidocyclina* and *Discocyclina*, similar to those listed by Bermudez (1949, p. 11) from the strata that he "tentatively termed" the Hidalgos Formation, referring it to the middle Eocene. However, the boulders in the outcrop at TU 1424 clearly were completely lithified prior to their erosion and redeposition, suggesting a post-middle Eocene age for these strata in which they presently occur.

Family LUCINIDAE Fleming, 1828

Subfamily MILTHINAE Chavan, 1969

Genus MILTHA Adams and Adams, 1857

*Miltha* ADAMS and ADAMS, 1857, Genera of Recent Mollusca, v. 2, p. 468.

Type species, by monotypy, *Lucina childrenae* Gray, 1825. Recent, northeastern Brazil southward to off Bahia (Rios, 1975, p. 217).

Subgenus EOMILTHA Cossmann, 1912

*Eomiltha* COSSMANN, 1912, in COSSMANN and PEYROT, Actes Soc. Linn. Bordeaux, v. 65, p. 269.

Type species, by original designation, *Lucina contorta* DeFrance, 1823, Thanetian Stage, Paleocene, France.

MILTHA (*EOMILTHA*) MEGAMERIS (Dall)

Plate 1, Figures 1-3

*Lucina megameris* DALL, 1901, Nautilus, v. 15, p. 40 (Eocene, "Clairmont" [*sic* = Claremont], St. Ann's Parish, Jamaica).

*Phacoides (Pseudomiltha ?) megameris* (Dall). DALL, 1901, U. S. Natl. Mus., Proc., v. 23, no. 1237, p. 829, pl. 42, fig. 1.

*Lucina (Pseudomiltha)* sp. TRECHMANN, 1923, Geol. Mag., v. 60, (no. 710), p. 361, pl. 14, fig. 5 (Chapelton Fm., Yellow Limestone Gr., Spring Mount, western Jamaica).

*Pseudomiltha haitensis* WOODRING and MANSFIELD, 1924, in WOODRING, BROWN and BURBANK, Geology Republic of Haiti, p. 612, pl. 10, fig. 1 (Plaisance Limestone, middle Eocene, Haiti).

*Phacoides (Pseudomiltha) megameris* (Dall). COX, 1941, Malac. Soc. London, Proc., v. 24, pt. 4, p. 136, pl. 9, fig. 1 (White Limestone, "about top of the upper Eocene," Jamaica).

*Pseudomiltha ? cf. haitensis* Woodring and Mansfield. WOODRING and DAVIESS, 1944, U. S. Geol. Surv., Bull. 935-G, p. 373 (Charco Redondo Limestone, early upper Eocene, Oriente Prov., Cuba).

*Pseudomiltha cf. megameris* [Dall]. WOODRING and THOMPSON, 1949, Amer. Assoc. Petrol. Geol., Bull., v. 33, no. 2, p. 228 (Gatuncillo Fm., late Eocene, Madden Basin, Panamá).

*Pseudomiltha megameris* Dall. RICHARDS, 1953, in RICHARDS and PALMER, Florida Geol. Surv., Bull. 35, p. 48, pl. 10, fig. 6 (Eocene, Avon Park Limestone, and Inglis Memb., Moody's Branch Fm.; Citrus and Levy counties, Florida).

*Phacoides megameris* [Dall]. HOSE and VERSEY, 1956, Colonial Geol. and Min. Res., v. 6, no. 1 (a fossil bank in Gibraltar Limestone member of White Limestone, on northern flank of Jamaica, characterized by abundant *Phacoides megameris*).

*Pseudomiltha megameris* Dall, PALMER and BRANN, 1965, Bulls. Amer. Paleontology, v. 48, no. 218, p. 284 (USNM specimen no. 147592 designated as lectotype).

*Pseudomiltha megameris* (Dall). JUNG, 1972, VI Conf. Geol. del Caribe, Mem., p. 466 ("abundant and characteristic of Claremont Formation," White Limestone Gr., Jamaica).

*Pseudomiltha megameris* (Dall). JUNG, 1974, Verhandl. Naturf. Ges., Basel, v. 84, no. 1, p. 493 (Ceru di Cueba Fm., "middle or late Eocene age," Curaçao; "another similar or even conspecific form occurs in the middle Eocene St. Bartholomew Formation," island of St. Bartholomew).

*Miltha (Eomiltha ?) megameris* (Dall). BRETZKY, 1976, Palaeont. Americana, v. 8, no. 50,



Text figure 1. View of outcrop at TU locality 1424, Puerto de los Hidalgos on west side of Mao-Los Hidalgos road, Dominican Republic.

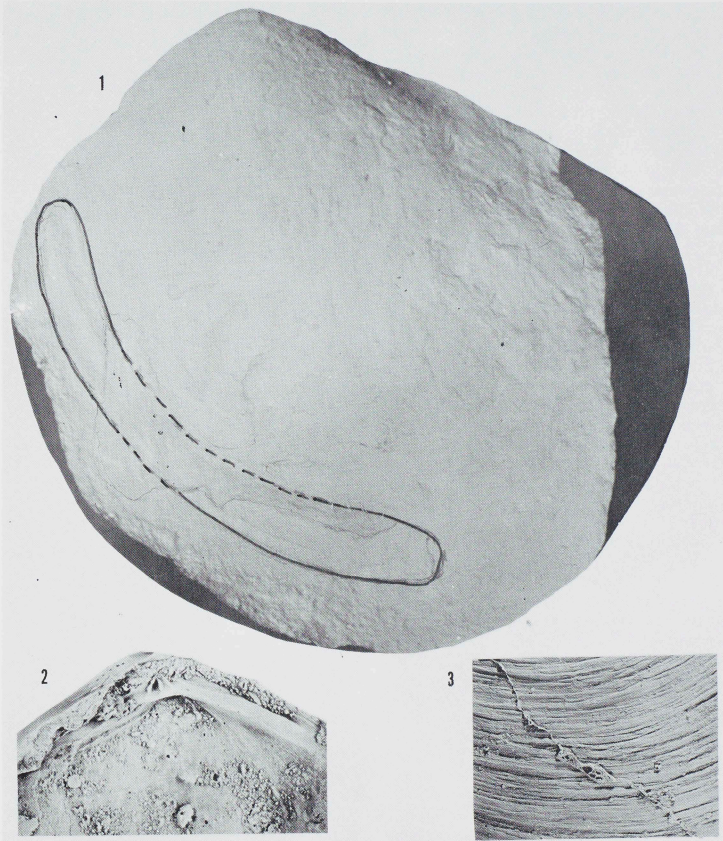
pp. 239, 290 ("may be an *Eomiltha*. . . has the characteristic long, curved anterior adductor scar . . .").

*Pseudomiltha megameris* (Dall). WOODRING, 1982, U. S. Geol. Surv., Prof. Paper 306-F, p. 620, pl. 88, fig. 1 (Gatuncillo Fm., late Eocene, Madden Basin, Panamá).

**Discussion:** *Miltha* (*Eomiltha*) *megameris* (Dall), the largest known lucinid species, described from Jamaica in 1901 as "*Lucina*," but almost immediately (also in 1901) provisionally referred to *Phacoides* (*Pseudomiltha* ?), has been assigned almost universally to *Pseudomiltha* Fischer, 1887 (type species, by monotypy, *Lucina gigantea* Deshayes; Eocene, Paris Basin, France). *Pseudomiltha gigantea* is, however, an edentulous species, but essentially topo-

type specimens of *M. megameris* in the Tulane University collections (TU 1006) show evidence suggestive of weak cardinal teeth, and molds of others from the Inglis Formation of Florida (TU 778) reveal a right valve hinge that is marked by a small and slender anterior cardinal and a broader, bifid, posterior one (pl. 1, fig. 2). This type of hinge, plus the presence of the extremely long and curved anterior adductor scar strongly supports Bretzky's (1976, pp. 239, 290) suggestion that it "may be an *Eomiltha*."

It seems probable that a misinterpretation of Olsson's (1932, p. 34) statement, "*Phacoides* (*Pseudomiltha* ?) *megameris* Dall from Jamaica, which is probably not a true *Pseudomiltha*, is nearly twice as large and much heavier" than "large specimens



## PLATE 1

*Miltha (Eomiltha) megameris* (Dall)

## Figures

1. ( $\times 0.6$ ) largest specimen from the Dominican Republic (max. dimension 200 mm); marginal extensions to show approximate original shape of internal cast. Anterior adductor scar outlined showing its similarity to that of species of *Eomiltha*; dashed areas where scar is partially covered by worn remnants of shell. Locality TU 1424.
2. ( $\times 1$ ) Latex cast of hinge area of small specimen from the Inglis Formation, upper Eocene; locality TU 778, Inglis, Florida.
3. ( $\times 1$ ) Latex cast of piece of an external mold, showing surface ornamentation of shell; locality TU 1006, Clarendon, Jamaica.

of *Zorrita* from the lower Miocene beds of Ecuador [which] have a length of 120 millimeters" is responsible for Chavan's statement (1969, p. N504) that *Zorrita* has a range: "*Eoc.-Mio.*, Peru-Jamaica-Eu." It is also to be noted that Olsson says, in his description of the type species of *Zorrita* (p. 95): "hinge edentulous without cardinal and lateral teeth," but Chavan states "remnants of 3b and 4b present;" the basis for this statement is not known.

It is apparent that Woodring and Mansfield (1924, p. 613) overlooked Dall's description of the present species when they described their *Pseudomiltha haitensis*. They state: "no similar American species has been described, but the same or very similar species has been collected from the 'Yellow Limestone' of Jamaica. Dr. C. A. Matley, Government Geologist of Jamaica, recently brought to Washington specimens from the parishes of St. James and Trelawney. Most of the Jamaica specimens are internal casts and clearly show the long, narrow anterior muscle scar, but the hinge is obscure." Accordingly, that species is here considered a synonym of *M. megameris*.

In summary, *Miltha (Eomiltha) megameris* (Dall originally described from late middle or upper Eocene limestones at Claremont, Jamaica, has also been reported, in-so-far as a search of available literature has revealed, from limestones of the same general age in Florida, from Cuba and Hispaniola (Haiti and here the Dominican Republic) in the Greater Antilles, from the island of St. Bartholomew in the northern portion of the Leeward Islands group,

from Curacao in the southernmost Lesser Antilles, and from Panamá (in the former Canal Zone).

#### LOCALITY DATA

778. Inglis Fm., Florida Barge Canal, at U. S. Highway 19, just south of Inglis, Florida.  
 1006. Claremont Fm., Claremont, Parish of St. Ann, quarry across from church on road to Moneague, Jamaica.  
 1424. Los Hidalgos Fm., roadcut at crest of ridge on highway from La Cruz de Guayacanes to Los Hidalgos, approximately 25 kms north of Mao, Dominican Republic.

#### LITERATURE CITED

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## REVIEW

FROM RIFT TO DRIFT: Iowa's Story in Stone, by Jack Clayton Troeger. Published by Iowa State University Press, Ames, Iowa, 1983, x + 152 pp., illus., \$14.95

This is intended as a "minicourse" in geology written in everyday conversational terms, describing the earth's materials and processes, geological time, and

other fundamental aspects of geology. It traces Iowa's geological history from a "wrenching plate boundary" in its remote past to today's terrane, a relic from the Ice Age. It will be of interest to readers who have had no formal training in geology but who are interested in the past history of Iowa. It can be used as a text in earth science courses in the lower schools.

--H.C.S.