

NOTES ON THE FAUNA OF THE CHIPOLA FORMATION—XVI  
ON THE COLOR PATTERN OF *GLOBULARIA FISCHERI* (MOLLUSCA:GASTROPODA)

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The large inflated naticoid gastropod named *Ampullina fischeri* by Dall (1892, p. 374) is a moderately common species throughout the Chipola Formation, occurring at almost every Tulane locality on the Chipola River, Ten Mile Creek, and Farley Creek. Such widespread distribution is rare among the Chipola species for more often than not there is a pronounced paleoecological influence apparent in the distribution of a species. This is not the case with *Globularia fischeri*, which seems equally common in the limy facies of the lower parts of the formation (e.g., localities 546 & 830), the sandy "beach-like" parts (459 & 548), the coral-reef facies (458, 547, & 555) and the silty upper beds of Ten Mile Creek (70 & 655). The greatest number of specimens has been taken at the type locality, "one mile west of Bailey's Ferry" (TU 546=65 specimens), closely followed by TU 458 (60 specimens) and 555 (48 specimens); but a total of 350 examples from 27 localities indicated its relative abundance throughout the formation. Gardner (1947, p. 556) lists the species as questionably occurring at Alum Bluff (USGS 2211) but this is almost certainly in error; no specimens have been taken there by us. In addition to the Chipola occurrences the species also is found rarely in the Oak Grove Sand (TU 91), making its ubiquity almost complete.

Text figure 1. *Globularia fischeri* (Dall); USNM 647318; height 33.5 mm, diameter 33.0; locality TU 459 (color pattern as shown under ultraviolet light); X 1½. Text figure 2. *Globularia fluctuata* (Sowerby); from Reeve, 1855, *Conchologia Iconica, Natica*, pl. 3, fig. 10a; Mindoro, Philippine Islands; X 1. Text figure 3. *Globularia sigaretina* (Lamarck); USNM 643719; height 30.0 mm, diameter 32.0 mm; Paris Basin, Eocene (color pattern as shown under ultraviolet light); X 1½.



The genus *Globularia* has a long geologic history, being represented in the Eocene of the Paris Basin by the species *G. sigaretina* (Lamarck), type of the genus, and in the Recent of the Indo-Pacific by *G. fluctuata* (Sowerby). The principal distinction between the Recent form and the Chipola one is the nature of the color pattern. Investigation with ultraviolet light shows *G. fischeri* to have a pattern similar to *G. fluctuata* but with more numerous zigzag lines. In the Recent form the pattern is a brown ground color with widely spaced light-colored axial zigzags but in *G. fischeri* the dark and light colors are almost equally divided, giving a striped dark and light appearance to the shell. The Eocene ancestor has yet a third variation on this theme, a light ground color, with widely spaced dark zigzags. The three species are figured here for comparison. The two fossil species were photographed under ultraviolet light, which gives a "negative" color pattern, and therefore a second negative was made to restore the original nature of the light and dark portions.

The members of the genus that do not form a callus over the umbilicus, such as *G. sigaretina*, the type species, have been segregated from those that do form such a callus, such as the modern *G. fluctuata*, which has therefore been made the type of a different genus-group, *Cernina* Gray, 1842. *G. fischeri* has no callus and is umbilicate up to a size of about 10 mm, at which time it develops a callus just like that of *G. fluctuata*. In view of the transitional nature of this feature and the marked similarity of the color pattern there seems little justification in keeping the two forms separate even at the subgeneric level.

#### LOCALITY DATA

The following are Tulane University fossil localities. Except as noted all are in the Chipola Formation, Calhoun County, Florida.

- 70. Ten Mile Creek, at bridge of Florida Highway 73 (NW ¼ Sec. 12, T1N, R10W).
- 91. Oak Grove Sand, (type locality), west bank of Yellow River, about 100 yards below bridge at Oak Grove, (NE ¼ Sec. 20, T5N, R23W), Okaloosa Co., Florida.
- 458. East bank of Chipola River, above Farley Creek (SW ¼ Sec. 20, T1N, R9W).
- 459. East bank of Chipola River, steep bank about 1500 feet above the mouth of Taylor Lake Branch (NW ¼ Sec. 29, T1N, R9W).
- 546. Ten Mile Creek, about 1½ miles west of Chipola River (NW ¼ Sec. 12, T1N, R10W).
- 547. West bank of Chipola River, about 2000 ft. above Four Mile Creek (SW ¼ Sec. 29, T1N, R9W).
- 548. West bank of Chipola River (NW ¼ Sec. 29, T1N, R9W).
- 549. East bank of Chipola River, about ¼ mile below Four Mile Creek (NE ¼ Sec. 32, T1N, R9W).
- 555. East bank of Chipola River, about 1000 ft. above Four Mile Creek (SW ¼ Sec. 29, T1N, R9W).
- 655. Ten Mile Creek, about 0.1 mile downstream from bridge of Florida Highway 73 (NW ¼ Sec. 12, T1N, R10W).
- 830. Ten Mile Creek, at power line crossing about one mile west of Chipola River (SE ¼ Sec. 12, T1N, R10W).

#### LITERATURE CITED

- DALL, W. H., 1892, Contributions to the Tertiary fauna of Florida: Wagner Free Inst. Sci., Trans., v. 3, pt. 2, p. 201-473, pls. 13-22.
- GARDNER, JULIA, 1947, The molluscan fauna of the Alum Bluff Group of Florida, Part 8: U.S. Geol. Surv. Prof. Paper 142-H, p. 493-656, pls. 52-62.

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