

NOTES ON THE FAUNA OF THE CHIPOLA FORMATION - XLI
A REEXAMINATION OF *BURSA* (MOLLUSCA: GASTROPODA)
FROM THE CHIPOLA FORMATION,
WITH THE DESCRIPTION OF A NEW SPECIES

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In 1973 Emily Vokes reviewed the genus *Bursa* in the Alum Bluff Group and identified Chipola Formation specimens collected from Tenmile Creek, Farley Creek, and the Chipola River as *Bursa pelouatensis* (Cossmann and Peyrot, 1923). Although *Bursa pelouatensis* is a European species from the Aquitaine Basin of France, Vokes noted that the Chipola specimens and their French counterpart have similar spiral ornamentation and varices that are not aligned up the spire (1973, p. 97). It was these characteristics that led her to conclude that both the Chipola and Aquitaine Basin specimens belong to the same species.

Recently this investigator was given an opportunity to examine a complete growth series of *Bursa pelouatensis* from the Aquitaine Basin and compare them with Chipola specimens collected along Tenmile Creek and Chipola River. Although both the Chipola and Aquitaine Basin species exhibit the similarities reported by Vokes, it is this investigator's opinion that there are sufficient morphological differences between the two to justify describing the Chipola form as a separate species.

A visual comparison of the two forms of *Bursa* is presented in plate 1, figures 1 and 2. These photographs clearly illustrate that the Chipola shell is broader, squatter and possesses more pronounced nodular and beaded sculpturing on the body whorls than its Aquitaine Basin counterpart. In addition, the Chipola species consistently has a better developed anal channel, the shoulders are straighter, and the neck of the body whorl arches more acutely to left. It is these differences that have led this investigator to recognize the Chipola form as a new species.

Family BURSIDAE Thiele, 1925

Genus *BURSA* Röding, 1798

Bursa RÖDING, 1798, Museum Boltenianum, p. 128.

Type species: *Murex bufonius* Gemlin, 1791 (by subsequent designation, Jousseume, 1881, p. 174).

Subgenus BUFONARIELLA Thiele, 1929

Bufonariella THIELE, 1929, Systematischen Weichtierkunde, v. 1, pt. 1, p. 284.

Type species: *Murex scrobilator* Linné, 1758 (by monotypy).

BURSA (BUFONARIELLA) CHIPOLANA

Schmelz, n. sp.

Plate 1, figure 1

Plate 2, figures 1, 2

Bursa pelouatensis (Cossmann and Peyrot).

VOKES, 1973, Tulane Stud. Geol. Paleont., v. 10, no. 2, p. 97, text-fig. 2 (not of Cossmann and Peyrot).

Description: Protoconch worn in all specimens. Shell bulbous, not flattened dorso-ventrally. Two varices on each body whorl; varices not aligned up spire, strongly offset on body whorl. Postnuclear whorls five; sculptured with seven, strongly noded intervarical tubercles, best developed along edge of shoulder on body whorl. Beaded spiral cords and faint spiral threads traversing nodes and internodal spaces; suture distinct. Shoulder prominent, slightly downward sloping. Aperture oval; outer margin fluted, reflexed anteriorly, bearing nine to eleven lirae along inside edge. Parietal callus strongly wrinkled; posterior canal U-shaped, well-developed, arching backwards; siphonal canal short, slightly reflexed.

Holotype: UF 73199; height 46.0 mm, maximum diameter 29.0 mm.

Type locality: TU 546, Chipola Formation, Tenmile Creek, about 1 3/4 miles west of Chipola River (NE 1/4 Sec. 12, T1N, R10W), Calhoun Co., Florida (=USGS 2212, "one mile west of Bailey's Ferry").

Paratype A: USNM 647108; height 48.3 mm, maximum diameter 30.8 mm; locality TU 547.

Paratype B: UF 73200; height 35.0 mm, maximum diameter 24.2 mm; locality TU 951.

Additional unfigured paratypes: Three specimens from TU 951 (two from the Bell collection and one from the Schmelz collection) and one specimen from TU 546 (Murray collection); Tulane Collection, locality numbers TU 546, 547, 1051, 1098, 1196.

Discussion: In his paper on the family Bursidae, Beu (1980, p. 254) reviewed Vokes's (1973, pp. 97-101) observations concerning the species of *Bursa* found in the Chipola Formation. It was his conclusion that the Chipola specimen identified as *Bursa* ("*Tutufa*") *pelouatensis* [now listed as the new species *Bursa* (*Bufonariella*) *chipolana*] should be placed in the subgeneric group *Bufonariella*. He based this decision on the fact that the Chipola specimen showed close affinities to two Recent species of *Bufonariella*, *B. caelata* (Broderip) and *B. granularis* (Röding).

In her paper on the Chipola *Bursa*, Vokes (1973, p. 99) also reported that there was a very close similarity between the Chipola *Bursa* identified as *Bursa* ("*Tutufa*") *pelouatensis* and the recent *Tutufa* (*Tutufella*) *rubeta*. According to Beu (1980, p. 254), there is a distinct difference between the two species and that the similarities cited by Vokes are purely superficial. In *T. rubeta* he notes that all the varices are in alignment down the spire while in the Chipola *Bursa* the varices become unaligned on the last few whorls. In addition, Beu reported that *T. rubeta* has an operculum with the nucleus situated near the center of the height, and a short distance from the abaxial edge, while the Chipola *Bursa* belongs to a group that has an abapically terminal nucleus.

ACKNOWLEDGMENTS

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Jean-Claude Six, and Daniel Ladon for their loan of Chipola and Aquitaine Basin specimens.

LOCALITY DATA

The following Tulane University localities are all in the Chipola Formation, Calhoun Co., Florida:

- 546. Tenmile Creek, about 1 3/4 miles west of Chipola River (NE 1/4 Sec. 12, T1N, R10W), (= USGS 2212, "one mile west of Bailey's Ferry").
- 547. West bank of Chipola River, about 1/2 mile below Tenmile Creek (SW 1/4 Sec. 17, T1N, R9W).
- 951. Tenmile Creek, about 1 3/4 miles west of Chipola River (SE 1/4 Sec. 12, T1N, R10W).
- 1051. Tenmile Creek, south bank just downstream from TU 817 (SE 1/4 Sec. 12, T1N, R10W).
- 1098. Tenmile Creek, south bank just east of power line crossing (SE 1/4 Sec. 12, T1N, R10W).
- 1196. Farley Creek, north bank about 0.8 mile east of bridge on Florida Highway 275, approximately 500 feet upstream from TU 1048 (NE 1/4 Sec. 21, T1N, R9W).

LITERATURE CITED

- BEU, A. G., 1980, Australian Gastropods of the Family Bursidae. Part 1. The Families of Tonnacea, the genera of Bursidae, and revision of the species previously assigned to *Tutufa* Jousseume, 1881: Records Australian Museum, v. 33, no. 5, p. 248-324, 22 text-figs.
- VOKES, E. H., 1973, Notes on the fauna of the Chipola Formation-XIV. On the occurrence of *Bursa* (Mollusca: Gastropoda) with comments on the genus: Tulane Stud. Geol. Paleont., v. 10, no. 2, p. 97-101, 2 text-figs.

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PLATE 1

Figures

1. *Bursa* (*Bufonariella*) *chipolana* Schmelz, n. sp. (X 1-1/2)
UF 73199 (holotype); height 46.0 mm, diameter 29.0 mm.
Locality: TU 546, Chipola Formation, Florida.
2. *Bursa* (*Bufonariella*) *pelouatensis* (Cossmann and Peyrot, 1923) (X 1-1/2)
Daniel Ladon collection; height 46.8 mm, diameter 29.9 mm.
Locality: Saucats (Pelova), France.

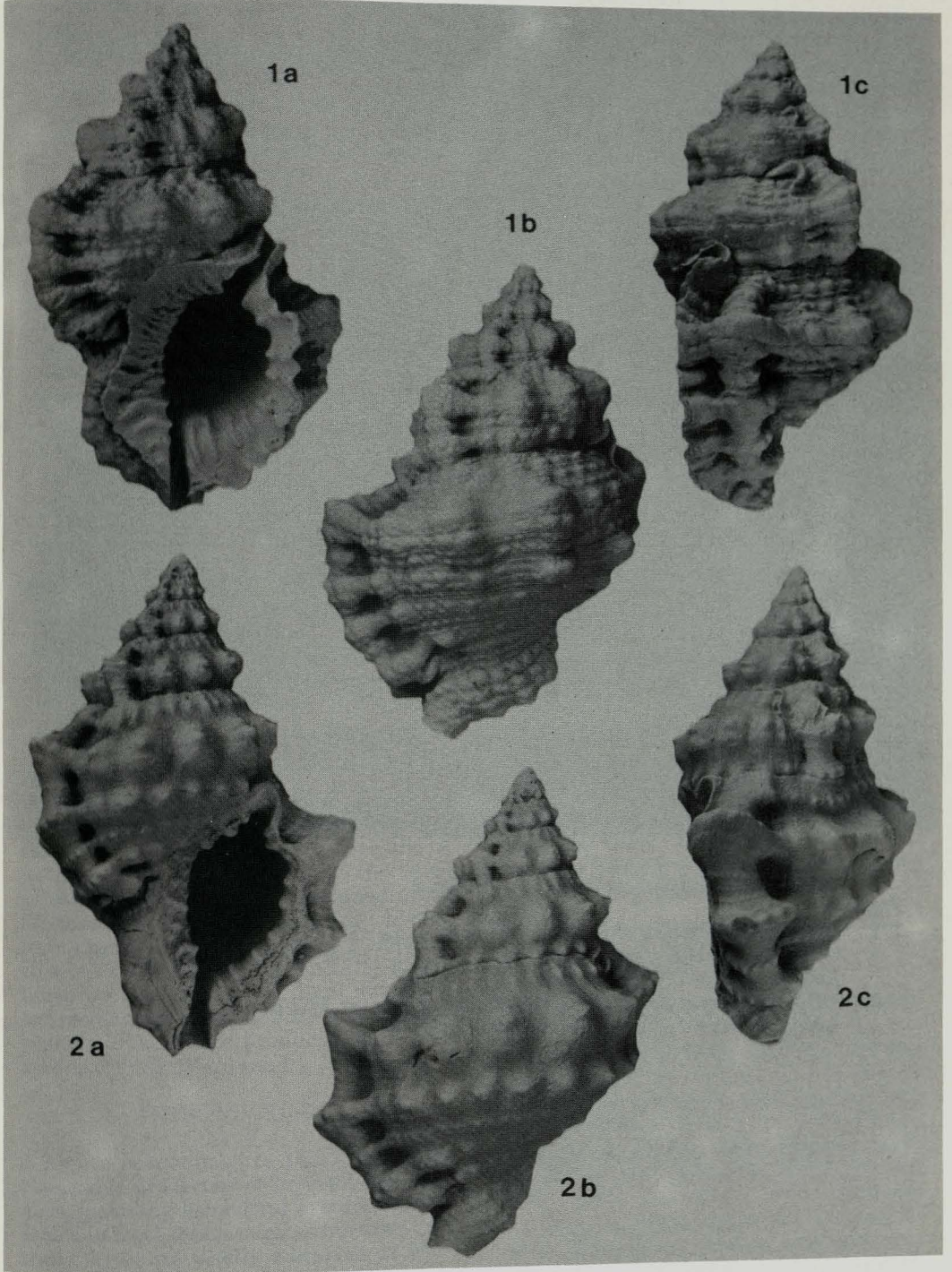


PLATE 1

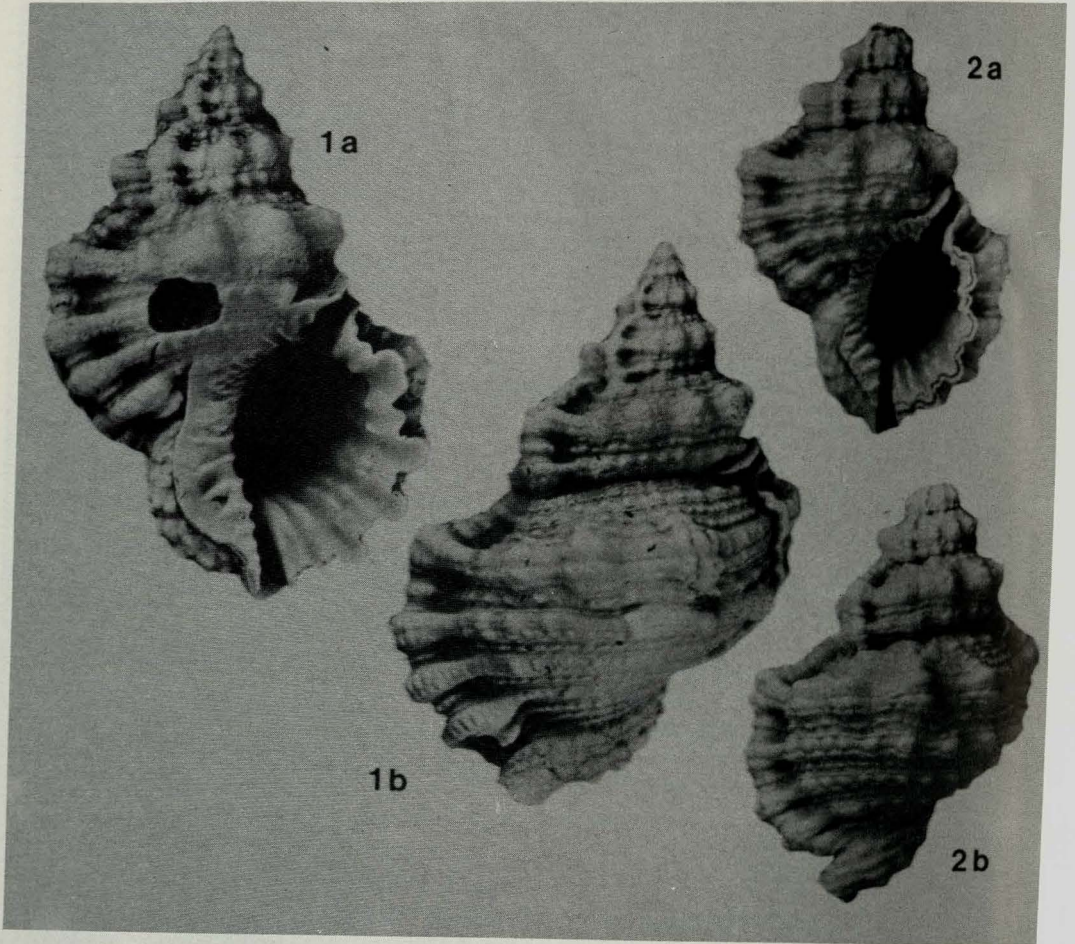


PLATE 2

Figures

- 1, 2. *Bursa (Bufonariella) chipolana* Schmelz, n. sp. (X 1-1/2)
1. USNM 647108 (paratype A); height 48.3 mm, diameter 30.8 mm.
Locality: TU 547, Chipola Formation, Florida.
 2. UF 73200 (paratype B); height 35.0 mm, diameter 24.2 mm.
Locality: TU 951, Chipola Formation, Florida.