NOTES ON THE FAUNA OF THE CHIPOLA FORMATION - XXXVII
VARIATION IN THE SHELL MORPHOLOGY OF *CALLIOSTOMA CERAMICUM* (GASTROPODA:TROCHIDAE)

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Over two hundred specimens of *Calliostoma* were collected "in situ" from locality TU 951 along Tenmile Creek in Calhoun County, Florida. The majority were *Calliostoma ceramicum* (Dall, 1892). An examination of this species reveals a high degree of variation in shell morphology. In at least one instance, the shell structure and sculpture of *C. ceramicum* differed so much from the holotype that this investigator was tempted to identify it as a new species. The purpose of this note is to document the degree of variability of *C. ceramicum*.

Calliostoma ceramicum was initially described by Dall (1892, p. 404, pl. 18, fig. 10) from a specimen collected on Tenmile Creek. Dall characterized the species as a distinctive form that possesses an umbilicus and has tile-like sculpturing on the body whorls, the latter being created by four squarish ribs that are crossed by numerous, deeply-impressed, oblique lines. Later, Maury (1910, p. 32, pl. 8, fig. 4) identified a smaller specimen of *C. ceramicum* as a new species and named it *C. palmeri*. This specimen has finely beaded spiral whorls. Gardner (1947, p. 619) listed *C. palmeri* as a form of *C. ceramicum*, noting that it is probably a juvenile of *C. ceramicum*.

According to Hickman and McLean (1990, p. 109) it is best to study the mouth parts, radula and marginal teeth when identifying different species of *Calliostoma*. Since there are no fossil records of these features, researchers must determine their identification of any new fossil species of this genus through a careful analysis of its different structural forms. In the case of *C. ceramicum* such a study helped reveal a wide range of variability in shell structure, including differences in the shape and sculpture of the body whorl and an occasional closure of the umbilicus by the parietal shield.

Pictured on plate 1, figures 1-5, are representative examples of the different morphological types of *C. ceramicum* collected at TU 951. Figure 1 depicts a specimen that closely resembles the holotype of *C. ceramicum*, as described by Dall. This shell possesses a well-developed umbilicus and has the "tile-like" sculpturing on its body whorls. Figure 2 shows a juvenile specimen, which illustrates the finely beaded spirals, especially in the early whorls, of Maury's *C. palmeri*. The shell shown in figure 3 is similar to Dall's holotype but lacks an umbilicus. Figure 4 shows a shell that does not have the pronounced "tile-like" sculpturing of the holotype and has a single row of beaded ribs above and below the suture in the later whorls. The most radical departure from the holotype is the shell illustrated in figure 5. This specimen lacks an umbilicus, has straight sided body whorls and lacks the pronounced tile-like sculpturing on the body whorl.

LITERATURE CITED

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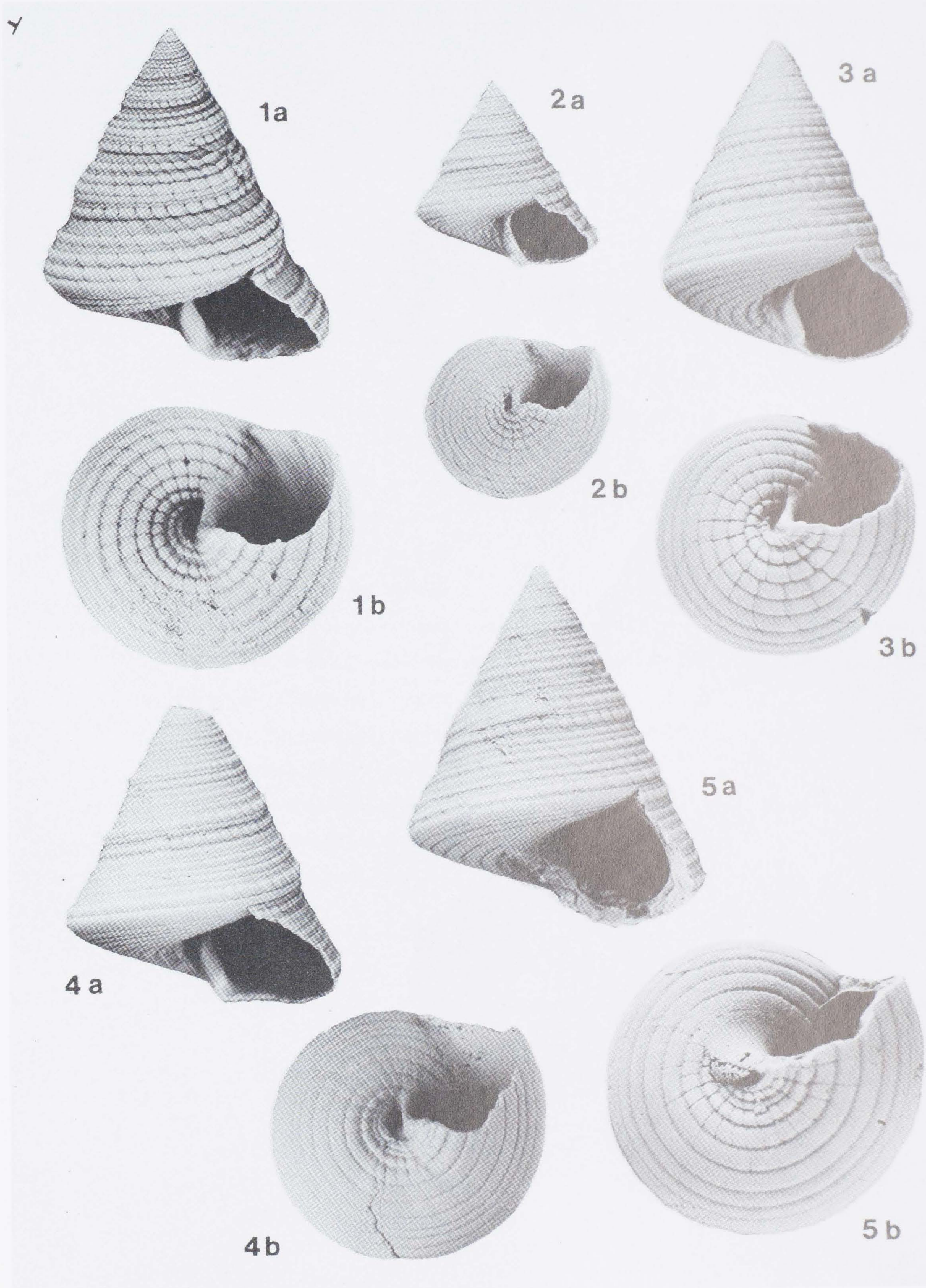
Text-figures 1-5. Different morphological types of *Calliostoma ceramicum* Dall. Fig. 1, height 16.4 mm. Fig. 2, height 8.8 mm. Fig. 3, height 15.5 mm. Fig. 4, height 14.9 mm (apex missing). Fig. 5, height 17.9 mm. All specimens from locality TU 951, Tenmile Creek, about 1 1/4 miles west of Chipola River, Calhoun County, Florida.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