

Case 3232

Melania curvicostata* Reeve, 1861 and *Goniobasis paupercula* Lea, 1862 (currently *Elimia curvicostata* and *E. paupercula*; Mollusca, Gastropoda): proposed conservation by designation of a neotype for *M. curvicostata

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Abstract. The purpose of this application, under Articles 75.5 and 75.6 of the Code, is to conserve, by designation of a neotype for *Melania curvicostata*, the specific names of two well-known freshwater snail species: *Melania curvicostata* Reeve, 1861 (currently *Elimia curvicostata*) and *Goniobasis paupercula* Lea, 1862 (currently *E. paupercula*) (family PLEUROCERIDAE) from the southeastern U.S.A. The nomenclatural stability of these names is threatened because none of the remaining syntypes of *E. curvicostata* is the one that was figured in the original description of *E. curvicostata*. This syntype is believed to be lost and the remaining syntypes have recently been recognized as specimens of *E. paupercula*.

Keywords. Nomenclature; taxonomy; Mollusca; Gastropoda; PLEUROCERIDAE; *Elimia curvicostata*; *Elimia paupercula*; freshwater snails; southeastern United States.

1. The names *Melania curvicostata* and *M. densicostata* were established by Reeve (1861, pl. 58, species 462 and 465 respectively) for what he thought were two species of freshwater snails (currently *Elimia*, family PLEUROCERIDAE) from Florida in the southeastern U.S.A. The genus *Elimia* H. & A. Adams, 1854 (p. 300) consists of approximately 135 recognized species of freshwater snails. In the adults of most species the juvenile whorls, which have characters important for species discrimination and phylogenetic interpretation, are lost above the apical plug (Thompson, 2000). This causes convergence in adult shell appearance among different species within the genus. The original figures and descriptions of both nominal taxa are virtually identical and since Tryon (1864, p. 34) the two names have been treated as synonyms. The name *E. curvicostata* (Reeve, 1861) has priority by action of the First Reviser (see Tryon, 1864, p. 34; Clench & Turner, 1956; Chambers, 1990, p. 262; Article 24.2) over *E. densicostata* (Reeve, 1861). The syntypes of both *E. curvicostata* (BMNH 1994056) and *E. densicostata* (BMNH 1994057) are from the Hugh Cuming Collection in The Natural History Museum, London. The syntypes were sent to Cuming by John G. Anthony with manuscript labels stating their locality as 'Florida, United States'. This is the type locality published by Reeve (1861). As Anthony is

known to have sometimes confused locality data (see Goodrich, 1931), we have little assurance that these specimens actually came from Florida. The shells figured in the original descriptions of both these species are no longer present in either of the respective syntype series.

2. In the case of *Elimia curvicastrata*, the original illustration shows a more elongate and slender specimen than any currently present in the syntype series. Recent examination of the extant syntypes of *E. curvicastrata* has revealed that the specimens are in fact *Goniobasis paupercula* Lea, 1862 (p. 268), currently *Elimia paupercula* (see Lea, 1863, p. 324, pl. 38, fig. 176 for illustrations), a well-known species from tributaries of the Tennessee River in northern Alabama (see Goodrich, 1940, p. 15; Burch & Tottenham, 1980, p. 140). The lectotype of *E. paupercula* (USNM 118923; Graf, 2001, p. 79) is accurately depicted by Lea's illustration and there is no question that it is the same species as extant populations in northern Alabama. Figure 1 illustrates a syntype of *E. curvicastrata* and Figures 2 & 3 illustrate specimens for comparison of *E. paupercula* from a known locality. If the extant syntypes of *E. curvicastrata* are considered to represent the original concept to which this name was applied then the name *E. curvicastrata* is a senior subjective synonym of *E. paupercula*. However, as stated in para. 1 above, this appears to have been a composite type series and only the figured specimen (now believed lost) actually belonged to the nominal taxon known as *E. curvicastrata*.

3. The extant syntypes of *Elimia densicastrata* exhibit some of the adult shell characters of *E. curvicastrata* Reeve, 1861. One of the syntypes is illustrated in Figure 4. However, the heavy ribs, lack of spiral striations and single peripheral spiral cord on the uppermost juvenile whorl are features that are common to several species.

4. In order to conserve prevailing usage and maintain stability of the names *Elimia curvicastrata* and *E. paupercula*, a specimen (Florida Museum of Natural History 292208) is proposed as the neotype of *E. curvicastrata*. The specimen is labeled: 'United States, Florida, Jackson Co., Florida Caverns State Park, Blue Hole Spring, 5.6 miles (9.3 km) north of Marianna (30°44.2' N, 85°14.6' W); collected 20 January, 2002 by Fred G. Thompson'. It is illustrated in Figures 5 & 6. The shell is conical, with a straight-sided spire diverging at an angle of 30°; its periostracum is brown with a narrow light-tan zone just below the suture and light-tan ribs. The sculpture is of bold, slightly arched, synchronized ribs that are about as wide as their interspaces. The ribs continue onto the last whorl where they end at the periphery. The juvenile portion of the shell has distinct axial ribs that extend from the suture to the peripheral carina that is weakly scalloped where it intercepts the ribs. Succeeding whorls are nearly flat-sided. There are 4.8 whorls below the apical plug and 3.2 dead whorls remaining above. Weak incremental striations are present on and between ribs; incised spiral striations are absent. There are 15 ribs on the penultimate whorl. The aperture is broadly elliptical, nearly quadrangular, in shape. The outer lip of the peristome is moderately recessed at the periphery.

5. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the nominal species *Melania curvicastrata* Reeve, 1861 and to designate as neotype the specimen (Florida Museum of Natural History 292208) described in para. 4 above;

- (2) to place on the Official List of Specific Names in Zoology the following names:
- (a) *curvicostata* Reeve, 1861, as published in the binomen *Melania curvicostata* and as defined by the neotype designated in (1) above;
 - (b) *paupercula* Lea, 1862, as published in the binomen *Goniobasis paupercula*.

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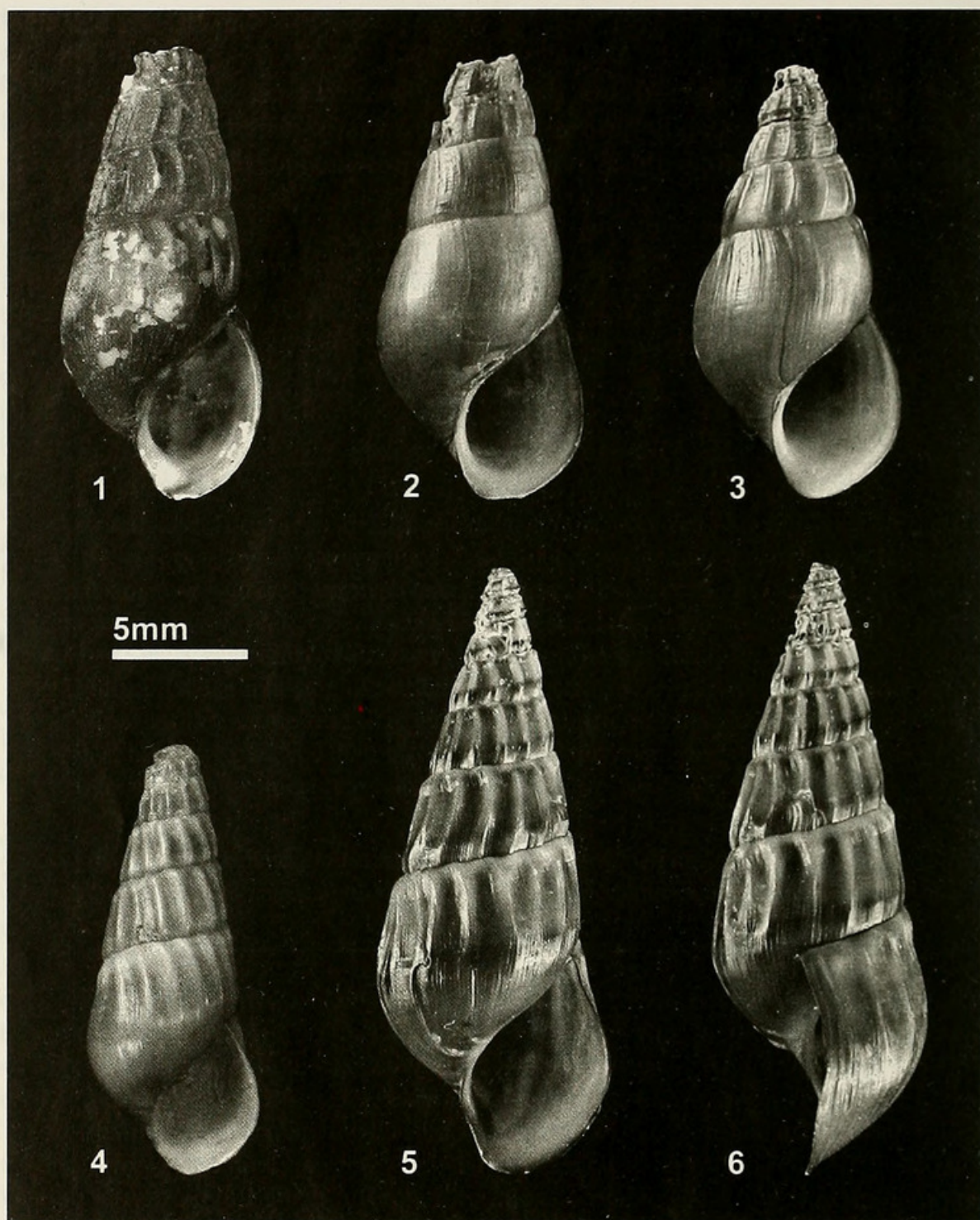


Fig. 1. *Melania curvicostata* Reeve, 1861, syntype BMNH 1994056/1, 'Florida, United States'.

Figs. 2 & 3. *Goniobasis paupercula* Lea, 1862, FMNH 75455, Spring branch affluent of Four-mile Creek, Killen, Lauderdale Co., Alabama.

Fig. 4. *Melania densicostata* Reeve, 1861, syntype BMNH 1994057/1, 'Florida, United States'.

Figs. 5 & 6. *Melania curvicostata* Reeve, 1861, neotype FMNH 292208, Blue Hole Spring, 5.6 miles (9.3 km) north of Marianna, Florida Caverns State Park, Jackson Co., Florida, United States (30°44.2' N, 85°14.6' W).



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