Case 3532

*Murex tubercularis* Montagu, 1803 (currently *Cerithiopsis tubercularis*; Mollusca, Gastropoda, Cerithiopsidae): proposed conservation of usage of the specific name by designation of a neotype

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**Abstract.** The purpose of this application, under Article 75.6 of the Code, is to conserve the current usage of the name *Cerithiopsis tubercularis* (Montagu, 1803) for a species of cerithiopsine gastropod from the southern coast of Great Britain. The lectotype of *Cerithiopsis tubercularis* (Montagu, 1803) is not in taxonomic accord with the current usage of this name and the confusing description ignoring the part bearing the most obvious diagnostic characters led to considerable confusion. It is proposed that the previous type fixations for the species *Cerithiopsis tubercularis* (Montagu, 1803) be set aside and a neotype consistent with the current usage be designated.

**Keywords.** Nomenclature; taxonomy; Cerithiopsidae; Cerithiopsis; Cerithiopsis tubercularis; cerithiopsine gastropod; Recent; Atlantic; Mediterranean.

1. *Murex tubercularis* was established by Montagu (1803, p. 270) on the basis of Recent British specimens found at ‘the mouth of the Ann in Devonshire’ and ‘on the coast of Sandwich’. In Montagu’s text there is no information about the number of specimens dealt with. The brief original description ‘M. with nine or ten, slender, taper, tuberculated volutions, separated only by a slight depression: colour chestnut-brown: apex pointed; aperture small, oval, ending in a canal, somewhat enclosed by the columella turning inward. Length a quarter of an inch’, and the absence of any illustration failed to clarify the distinguishing characters of the species. Forbes & Hanley (1851), introducing the new genus *Cerithiopsis* for Montagu’s species (p. 364), were the first to delineate (p. 365) the main characters of *Cerithiopsis tubercularis*, which was reported to have a uniform dark or chocolate-brown colour, three to four smooth and semitransparent apical whorls, 3 spiral rows of beads on the spire whorls, and 2–3 basal spirals. The interpretation of most subsequent workers has followed the species concept outlined by Forbes & Hanley (1851). Only some sculptural details of the protoconch, i.e. subsutural and suprasutural granular microprotuberances, were discovered more recently with the advent of scanning electron microscopy.
2. While there is general agreement about the teleoconch characters of *C. tubercularis*, remarkable discrepancies exist concerning the sculpture of the larval shell of the species (cf. Jeffreys, 1885; Gilbert, 1973; Richter & Thorson, 1975; Grecchi, 1984; Giribet & Peñas, 1997; Giannuzzi-Savelli et al., 1999; Landau et al., 2006; Chirli, 2009; Prkić & Mariottini, 2009). Marshall (1978), aiming to correctly interpret *Cerithiopsis tuberculavis*, examined a syntype from the Montagu Collection in the City Museum, Exeter (EXEMS) and designated it as lectotype of *C. tuberculavis*. Marshall (p. 83) provided a detailed description of the protoconch of the lectotype 'Protoconch of plaktotrophic larval type, clearly demarcated from teleoconch whorls. Last half-whorl with a sharp peripheral carina and evenly spaced brephic riblets on shoulder. First 1\(^{1/2}\) (embryonic) whors minutely granulate throughout. Subsequent whors traversed over abapical two-thirds by fine, crisp, evenly spaced prosocline riblets; each riblet with about 5 evenly spaced triangles extending in the direction of coiling for about width of rib from apertural side. Sinusigera sinus deep, opisthocryt-
opisthocline.' Marshall (1978, fig. 13C) figured the entire shell of the lectotype of *C. tuberculavis* without any SEM image of its protoconch.

3. Montagu's original material in EXEMS consists of one box with two specimens glued to a small piece of paper attached to the original manuscript label; these specimens are collectively numbered 4235. The first syntype (Fig. 1A) lacks the protoconch. Its teleoconch of about 10 whors conforms to the concept of *Cerithiopsis tuberculavis* followed for nearly two centuries by most authors and is not in disagreement with the short description published by Montagu; there are no upper basal spirals and the color is reddish-brown. The second syntype retains only the last protoconch whorl (Fig. 1C) sculptured with sparse granules and unevenly spaced, broken prosocline riblets on the abapical three-quarters, with remnants of minute granules occurring subapically. The teleoconch (Fig. 1B) of about 8 whors is closely similar to that of the first syntype; the color is whitish. This specimen was designated as the lectotype of *C. tuberculavis* by Marshall (1978) as indicated by a label of National Museum, Wellington, N.Z., now in EXEMS (Fig. 1D). The illustration of the lectotype published by Marshall (1978, fig. 13C) shows a shell with a complete protoconch; thus, it must be inferred that the protoconch was broken after Marshall's examination of the specimen. The sculpture observed on the preserved whorl (the last) of the protoconch scarcely agrees with the description of the larval shell of the lectotype provided by Marshall, whereas it matches that reported by Marshall (1978, p. 84) for his new species *Cerithiopsis powelli* (Fig. 1G). The description of the larval shell of the lectotype of *Cerithiopsis tuberculavis* published by Marshall (1978) agrees with that of the lectotype of *Cerithiopsis barleei* Jeffreys, 1867 (Fig. 11) in the Smithsonian Institution, National Museum of Natural History, Washington (USNM), selected from lot USNM 62164 by Cecalupo & Robba (2010). This suggests that the type series of *C. tuberculavis* is probably mixed and that the lectotype designated by Marshall could in fact be *C. barleei*. However, the sculpture on the last protoconch whorl (the preserved one) of the lectotype of *C. tuberculavis* in EXEMS is more similar to that of New Zealand *Cerithiopsis powelli* as described and figured by Marshall (1978) than to that of the Atlantic and Mediterranean *C. barleei*. Because of this discrepancy, it is unclear which specimen Marshall actually examined, and the taxonomic identity of *C. tuberculavis* cannot be reliably identified from the lectotype (the whitish syntype).
Fig. 1. A–C. Syntypes of *Murex tubercularis* Montagu, 1803, Montagu collection, EXEMS 4235 (2 specimens), mouth of the Ann in Devonshire and coast of Sandwich, Recent: A. Reddish-brown syntype (protoconch missing) conforming to the current concept of *Cerithiopsis tubercularis* (Montagu, 1803); B. Whitish syntype designated lectotype of *Cerithiopsis tubercularis* (Montagu, 1803) by Marshall (1978); C. Same, detail of last protoconch whorl. D. EXEMS labels. The upper label reads 'National Museum, Wellington, N.Z. *Cerithiopsis tubercularis* (Montagu). White specimen designated lectotype by B.A. Marshall'. The lower label reads 'Tuberculated Horn-Shell. *Cerithiopsis tubercularis* (Montagu). Britain. H. D'Orville. 4235. (Montagu Collection)'. E, F, H. Possible syntype of *Murex tubercularis* Montagu, 1803, Montagu's types, BMNH 20090384, British coast, Recent, proposed herein as neotype of *Murex tubercularis* Montagu, 1803: E. Apertural view; F. Preserved apical whorls; H. detail of F showing remnants of subsutural and suprasutural granular microprotuberances. G. Protoconch of *Cerithiopsis powelli* Marshall, 1978 (reproduced from Fig. 13B of Marshall) diameter 0.4 mm. I. Protoconch of the lectotype of *Cerithiopsis barleti* Jeffreys, 1867. J. *Cerithiopsis tubercularis* (Montagu, 1803) of prevailing usage, Taşucu, Turkey, 7 m depth; detail of the protoconch showing remnants of granular microprotuberances (illustrated for comparison).
4. The lectotype does not conform to the prevailing usage of *C. tuberculatus* (Sowerby, 1855, 1859; Jeffreys, 1867, 1869; Bucquoy, Dautzenberg & Dollfus, 1884; Watson, 1886; Locard, 1892; 1903; Kobelt, 1908; Lebour, 1933; Thiriot-Quiévreux, 1969; Fretter & Pilkington, 1970; Parenzan, 1970; Hubendick & Warén, 1972; Thiriot-Quiévreux & Rodriguez Babio, 1975; Nordsiek, 1976; Fretter & Graham, 1982; van Aartsen et al., 1984; Graham, 1988; Cachia et al., 1996; Palazzi & Villari, 2001; Coppini, 2008; Cecalupo & Robba, 2010). In fact, the protoconch of *C. tuberculatus*, as described and/or illustrated by the cited authors, differs markedly in having convex whorls throughout, being devoid of axial sculpture and bearing only suprasutural and subsutural granular microprotruberances.

5. Amelia MacLellan found a possible syntype (BMNH 20090384) of *Cerithiopsis tuberculatus* in the Natural History Museum, London. She (pers. comm., 2009) informed us that ‘it is considered so as the labelling on the specimen is the same as other material thought to be Montagu’s types’. The locality of this possible syntype is ‘British Coast’. The specimen is nicely preserved and retains the last 2 whorls of the larval shell. The protoconch whorls are convex, showing remnants of subsutural and suprasutural granular microprotruberances; there is no trace of either axial sculpture or carination of the last half-whorl (Fig. 1F, H). These characters fully agree with the SEM images and the descriptions of the protoconch of *C. tuberculatus* published by some recent workers (Thiriot-Quiévreux & Rodriguez Babio, 1975; Nordsiek, 1976; Fretter & Graham, 1982). The teleoconch (Fig. 1E) conforms in shape and sculpture to the current concept of *C. tuberculatus*; the colour is slightly pale reddish-brown.

6. From the above, it appears that (1) the two types of *Cerithiopsis tuberculatus* in EXEMS belong to two different species, (2) the identity of the lectotype is doubtful, and (3) the lectotype is not in taxonomic accord with the prevailing usage of the name. We conclude that the existing name-bearing type of *C. tuberculatus* should be set aside and a neotype designated in order to maintain stability (Article 75.6 of the Code). The reddish-brown syntype in EXEMS is most probably *C. tuberculatus*, but it is not suitable for a neotype as it lacks the protoconch (Recommendation 75A of the Code). We think it wiser to select the better preserved possible syntype (BMNH 20090384) as neotype of *Cerithiopsis tuberculatus*.

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

   (1) to use its plenary power to set aside all previous type fixations for the species *Murex tuberculatus* Montagu, 1803 and to designate as neotype the possible syntype BMNH 20090384 at the Natural History Museum, London;

   (2) to place on the Official List of Specific Names in Zoology the name *tuberculatus* Montagu, 1803, as published in the binomen *Murex tuberculatus* and as defined by the neotype designated in (1) above.

References


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Comments on this case are invited for publication (subject to editing) in the Bulletin; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).