

Case 3340***Heliacus* d'Orbigny, 1842 (Mollusca, Gastropoda): proposed conservation**

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Abstract. The purpose of this application, in reference to Article 24.2.5 of the Code, is to establish priority of the generic name *Heliacus* d'Orbigny, 1842 over *Torinia* Gray, 1842 (Mollusca, Gastropoda, ARCHITECTONICIDAE). The two nominal genera are subjective synonyms both published in the same year, but their relative priority remained unresolved. As a consequence both *Heliacus* and *Torinia* have been used in the literature, but *Heliacus* has predominant usage and *Torinia* seems to have been used only twice in the last 24 years. Evidence supports priority of the name *Heliacus* established by action of the First Reviser; however, suppression of the name *Torinia* is proposed to ensure stability.

Keywords. Nomenclature; taxonomy; Gastropoda; ARCHITECTONICIDAE; *Heliacus*; *Torinia*; *Heliacus cylindricus*; sundial shell; Western Atlantic.

1. d'Orbigny (1842, p. 68) established the genus *Heliacus* as a 'Division' of *Solarium* [= *Architectonica*] with a single species, the type species by monotypy, *Solarium heberti* (an incorrect subsequent spelling of *herberti*) Deshayes, 1830. The lectotype of *Solarium herberti* Deshayes is in the Museum National d'Histoire Naturelle, Paris (see Bieler, 1985, pp. 97–98).

2. Gray (1840, p. 147) first introduced the name *Torinia* without a description or indication (nomen nudum). Later, Gray (1842, p. 60) provided a diagnosis: '*Torinia* differs [from *Solarium* = *Architectonica*] in having a nearly orbicular operculum, which is very convex, and marked with a spiral ridge looking like a pagoda'. This description of part of the animal makes the name *Torinia* available from 1842 under Article 12.1 of the Code.

3. The first included species, *Trochus cylindraceus*, was listed as the type species of *Torinia* by Gray (1847, p. 151) but no author or reference was cited. Gray showed the generic name as dating from both 1840 and 1842 and listed *Heliacus* as a synonym. The name *Trochus cylindraceus* was first introduced by Chemnitz (1781, p. 95, pl. clxx, figs. 1639a–b) in a work in which species-group names are not available under Opinion 184 (1944) and Direction 1 (1954) (see also BZN 61: 181). The first

author to use the name *Trochus cylindraceus* in an available work was Dillwyn, 1817 (p. 767). The nominal type species of *Torinia* is thus *Trochus cylindraceus* Dillwyn, 1817. However, Gmelin (1791, p. 3572) had earlier established the name *Trochus cylindricus* based on the same Chemnitz illustrations and that name is therefore a senior objective synonym of *T. cylindraceus*. The original Chemnitz material is thought to be lost and the type locality is unknown. However, the Chemnitz figures are good and it is possible to identify them as being conspecific with *Solarium herberti* Deshayes. *Heliacus* and *Torinia* are thus subjective synonyms.

4. Harris (1897, p. 245) argued that '*Torinia* must fall in synonymy' with *Heliacus* because he considered Gray's 1840 and 1842 usage as nomina nuda. Iredale (1911, p. 255) concurred. Subsequently, Barnard (1963, p. 158) followed Smith (1910, pp. 199–200) in considering that the description of the operculum, without reference to a species, rendered *Torinia* unacceptable. This position is contrary to the Code as the operculum is part of the animal.

5. Iredale (1913), in a detailed collation of the molluscan parts of the *Synopses of the Contents of the British Museum* with comments on the rarity of editions 42 (1840) and 44 (1842), advocated the rejection of all the new names introduced by Gray (1842), suggesting that they should date from Gray (1847). Iredale (1913, p. 301) admitted that his proposal was 'simply an individual opinion' and listed 'the whole of the diagnoses so that this matter may be fully discussed, and a definite policy of rejection or acceptance adopted'. Iredale made no mention of priority.

6. Thiele (1925, p. 80) used the name *Torinia*, accepting its introduction from the description of the operculum. Referring to Iredale (1911), he pointed out that *Heliacus* might be somewhat older but that its publication date was not completely certain. Thiele (1929, p. 183) maintained *Torinia* as senior synonym of *Heliacus*, dating both names from 1842.

7. Tomlin (1928, p. 333) used the generic name *Heliacus*, referring to Iredale's 1913 paper, and added his opinion that 'a short comparative account of operculum only . . . hardly seems a sufficient diagnosis on which to found a genus, and the reasons for rejection given by Iredale on p. 301 may well be applied to this case at any rate'.

8. Bayer (1948, p. 3) used the name *Torinia*, opening his paper by stating: 'opinions are divided in relation to what generic name has priority, *Heliacus* or *Torinia*. In proof of this I will quote . . . the opinions of two authorities'. He then cited Thiele (1925, p. 80) and Tomlin (1928, p. 333). Bayer qualified his usage of the name *Torinia* by adding that in accordance with his declaration in a previous paper (1940, p. 223) he followed Thiele (1929) 'in relation to the generic names, . . . but it is not my intention to state thereby that I always completely agree with the opinions of his author [sic]'.

9. Woodring (1959, p. 168) gave a short history of *Heliacus* and *Torinia* and stated: 'in the absence of data concerning priority within the year 1842, *Heliacus* is given precedence, for in that year it was on a much more satisfactory footing than *Torinia*'.

10. Bieler (1985, pp. 95–98) published a long discussion of the history of *Heliacus* and *Torinia* concluding that both names were validly introduced in 1842 but that their relative priority remained unresolved. He pointed out that type material and an extensive original description are available for *Heliacus* whereas *Torinia* has no known type material.

11. Despite recent attempts to date more precisely the parts of d'Orbigny's work the date of publication for most of the parts in volume 2 is unknown. Available evidence and inference point to the part [no. 5, pp. 65–80] containing *Heliacus* having been published early in 1842 but there is as yet no publishable information to confirm this supposition. The exact date of Gray's work is also unknown. The part of the catalogue containing mollusks is signed by Gray on June 24, 1842 but that is the date he finished his contribution, not the publication date. Other parts have different dates, the latest being 27 June 1842. That is the earliest possible date but it could have been printed anytime thereafter and in the absence of a definite publication date must be dated as the last day of 1842.

12. Bieler (1985), in his discussion, stated that he was maintaining the use of the name *Heliacus* as had most authors in the previous decades and that an application would be made to the the Commission for suppression of *Torinia* Gray, 1842. A search of the literature of the past 50 years found that *Torinia* had been used as a senior synonym in only 15 works by 11 authors, the most recent being in 1981 and 1982, the only two uses found for the past 24 years. In contrast, *Heliacus* has been used as a senior synonym in over 153 works by at least 85 authors. A list of these references is held by the Commission Secretariat.

13. While it is possible that Bieler's (1985) selection, or that of Harris (1897), could be taken as action of the First Reviser under Articles 24.2.1 and 24.2.2 of the Code, such action could be upset by determination of a precise date for one of the two works which were, as matters now stand under Article 24.2.5, published simultaneously.

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

- (1) to use its plenary power to suppress the generic name *Torinia* Gray, 1842 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to place on the Official List of Generic Names in Zoology the name *Heliacus* d'Orbigny, 1842 (gender: masculine), type species by monotypy *Solarium herberti* Deshayes, 1830 (an incorrect subsequent spelling of *herberti*), a junior subjective synonym of *Trochus cylindricus* Gmelin, 1791;
- (3) to place on the Official List of Specific Names in Zoology the name *cylindricus* Gmelin, 1791, as published in the binomen *Trochus cylindricus*, senior synonym of *Solarium herberti* Deshayes, 1830, specific name of the type species of *Heliacus* d'Orbigny, 1842;
- (4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Torinia* Gray, 1842 (as suppressed in (1) above).

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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., Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).



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