

Case 2977***Arca pectunculoides* Scacchi, 1834 and *A. philippiana* Nyst, 1848 (currently *Bathyarca pectunculoides* and *B. philippiana*; Mollusca, Bivalvia): proposed conservation of the specific names**

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Abstract. The purpose of this application is to conserve the specific names of *Arca pectunculoides* Scacchi, 1834 and *A. philippiana* Nyst, 1848 for two European bivalves. Since 1978 the name *Arca grenophia* Risso, 1826 has been generally, but incorrectly, adopted as a senior synonym of *A. pectunculoides*, the type species of *Bathyarca* Kobelt, 1891; however, *A. grenophia* is conspecific with *A. philippiana*. Use of *A. grenophia* in place of *A. philippiana* would create considerable confusion and its suppression is proposed. Both *A. pectunculoides* and *A. philippiana* are widely distributed from Norway to southern Morocco, the Canary Islands, the Azores and seamounts of the North Atlantic, and the Mediterranean. Both were originally described from Pleistocene fossils.

Keywords. Nomenclature; taxonomy; Mollusca; Bivalvia; *Bathyarca*; *Bathyarca pectunculoides*; *B. philippiana*; *B. grenophia*.

1. Risso (1826, p. 313) described *Arca grenophia* from a shell from the 'régions coralligènes' of the surroundings of Nice in Mediterranean France. He did not illustrate the taxon. Jeffreys (1879, p. 573) used the name *Arca pectunculoides* Scacchi, 1834 as valid (see paras. 2 and 6 below) and noted: 'Risso described this species in 1826 as *A. grenophia*; but the name [*grenophia*] may be considered obsolete'. Kobelt (1891, p. 213) and Lamy (1907, p. 279) cited Jeffreys's (1879) comment but neither used the name *A. grenophia*; Lamy had no access to Risso's types which were donated to the Muséum National d'Histoire Naturelle, Paris only in 1927. The name *Arca grenophia* was then ignored until 1978 (para. 6 below).

2. Scacchi (1834, p. 82) described *Arca pectunculoides* from a Pleistocene fossil from Gravina di Puglia, province of Bari, southern Italy, and later (1835, p. 18, pl. 1, figs. 12a b) figured it accurately. Some subsequent authors have cited 1833 for Scacchi's description, others have given 1834. The confusion in dating Scacchi's publications was noted by Boss (1968, p. 35), who gave 1834 as the correct date of appearance of vol. 6 of *Annali Civili del Regno delle due Sicilie*. Philippi (1844, p. 44, pl. 15, fig. 3) also gave a good description and illustration of *A. pectunculoides* in a book which became well known, and stated that he had obtained specimens from

Scacchi. This established the name in the European literature and its use was followed by several authors (see, for example, Weinkauff, 1867, p. 201; Monterosato, 1875, p. 12; Jeffreys, 1879, p. 572; Hidalgo, 1917, p. 147; Dautzenberg, 1927, p. 280; Coen, 1933, p. 96; Ockelmann, 1958, p. 41; Tebble, 1966, p. 32; Bowden & Heppell, 1966, p. 102; Nordsieck, 1969, p. 22).

3. Philippi (1844, p. 43, pl. 15, fig. 2) described and illustrated *Arca obliqua* from a Pleistocene fossil from the Lamato valley, province of Catanzaro, southern Italy. The exact date of Philippi's publication is uncertain; under Article 21c(ii) of the Code it must be taken as December 1844. *A. obliqua* Philippi was generally accepted as a valid species but authors noted that the name was preoccupied by *Arca obliqua* Portlock, 1843 (p. 429, pl. 34, fig. 6) and *A. obliqua* Reeve, 1844 (February; *Arca*, pl. 6, species 41). Nyst (1848, p. 54) renamed Philippi's species *Arca philippiana*. Locard (1899, p. 158) did not mention that the name *A. obliqua* was preoccupied nor that it had been replaced but emended it to *A. obliquata*, also preoccupied (by *A. obliquata* Wood, 1828, p. 6, pl. [2], fig. [5b] and by *A. obliquata* Zieten, 1833, p. 93, pl. 70, figs. 2a, 2b). Dautzenberg (1927, p. 281) also overlooked Nyst's name and renamed the species *A. obliquatula*. The name *A. philippiana* was cited, but not used, by Lamy (1907, p. 288) but it has become established in the literature in the last few decades (see, for example, Regteren Altena, 1962, p. 2; Nordsieck, 1969, p. 22; Piani, 1980, p. 181; Hoisaeter, 1986, p. 116; Sabelli, Giannuzzi-Savelli & Bedulli, 1990, p. 278; Smith & Heppell, 1991, p. 59; Poppe & Goto, 1993, p. 44).

4. Kobelt (1891, p. 213) established the new nominal taxon *Bathyarca*. Under *Arca pectunculoides* Scacchi, 1834, one of the originally included nominal species, Kobelt noted (in translation) 'I will establish the subgenus *Bathyarca* for this species'. *A. pectunculoides* is thus the type species of *Bathyarca* by original designation. *Bathyarca* is cosmopolitan and from geological horizons of Eocene to Recent. It has been considered as valid by Newell (1969, p. 254) and by Oliver & Allen (1980, p. 45), among others.

5. Arnaud (1978, p. 119) revised Risso's molluscan types in the Paris Muséum and designated the single valve in the Risso collection as the lectotype of *Arca grenophia*. He noted that *A. grenophia* was a senior synonym of *Arca pectunculoides* and, unlike Jeffreys a century earlier, adopted the earlier name. This has been followed, and the name *A. grenophia* adopted, by a majority of recent authors: Piani (1980, p. 181), Rolan (1989, p. 64), Sabelli, Giannuzzi-Savelli & Bedulli (1990, p. 278), Smith & Heppell (1991, p. 59), Cossignani, Cossignani, Di Nisio & Passamonti (1992, fig. 264), Oliver & Cosel (1992, p. 359), Poppe & Goto (1993, p. 44). The publications include checklists and taxonomic works which are intended to stand as references for many years. A few authors (Hoisaeter, 1986, p. 116 and Barash & Danin, 1992, p. 234) have ignored the change and continued to use the name *Bathyarca pectunculoides*.

6. A re-examination of Risso's *A. grenophia* lectotype in the Paris Muséum shows that it is conspecific with *A. philippiana* Nyst, 1848, and not with *A. pectunculoides* Scacchi, 1834, as assumed since 1879. The lectotype agrees with Risso's original figure (not published until Arnaud, 1978, pl. 12, fig. 225) so it is quite certain that the specimen is actually Risso's type. The specimen is elongate (7 mm), its hinge has seven anterior and 11 posterior teeth, and externally the shell has a radial depression in its anterior third, all enabling unambiguous identification as *A. philippiana*.

A. pectunculoides is smaller, has only three teeth on each side of the hinge, and is shorter and regularly convex. The use of the name *A. grenophia* in the sense defined by Risso's type specimen would lead to considerable confusion. To remove the ambiguity of usage of *A. grenophia* as a senior synonym of *A. pectunculoides*, and to conserve the name *A. philippiana*, we propose that *A. grenophia* Risso, 1826 be suppressed.

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

- (1) to use its plenary powers to suppress the specific name *grenophia* Risso, 1826, as published in the binomen *Arca grenophia*, 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 *Bathyarca* Kobelt, 1891 (gender: feminine), type species by original designation *Arca pectunculoides* Scacchi, 1834;
- (3) to place the following names on the Official List of Specific Names in Zoology:
 - (a) *pectunculoides* Scacchi, 1834, as published in the binomen *Arca pectunculoides* (specific name of the type species of *Bathyarca* Kobelt, 1891);
 - (b) *philippiana* Nyst, 1848, as published in the binomen *Arca philippiana*;
- (4) to place the following names on the Official Index of Rejected and Invalid Specific Names in Zoology:
 - (a) *grenophia* Risso, 1826, as published in the binomen *Arca grenophia* and as suppressed in (1) above;
 - (b) *obliqua* Philippi, 1844, as published in the binomen *Arca obliqua* (a junior homonym of *Arca obliqua* Portlock, 1843 and of *A. obliqua* Reeve, 1844);
 - (c) *obliquata* Locard, 1899, as published in the binomen *Arca obliquata* (a junior objective synonym of *Arca obliqua* Philippi, 1844 and of *A. philippiana* Nyst, 1848, and a junior homonym of *Arca obliquata* Wood, 1828 and of *A. obliquata* Zieten, 1833);
 - (d) *obliquatula* Dautzenberg, 1927, as published in the binomen *Arca obliquatula* (a junior objective synonym of *Arca obliqua* Philippi, 1844 and of *A. philippiana* Nyst, 1848).

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