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## Case 2558

# *Proptera* Rafinesque, 1819 (Mollusca, Bivalvia): proposed conservation

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Abstract. The purpose of this application is to conserve the name *Proptera* Rafinesque, 1819, for a genus of North American freshwater mussels, by the suppression of the senior objective synonym *Potamilus* Rafinesque, 1818.

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1. A fairly concise, historical review of *Proptera* and *Potamilus* has been presented by Clarke (1986). The genus *Potamilus* was described briefly with a list of 24 undescribed species, one of them named *alatus*, arranged in five unnamed subgenera (Rafinesque, 1818a, p. 355), all nomina nuda. Rafinesque stated that he had '... collected and described over 30 species, the whole of which appear to be new' and appended an abbreviation of his name, 'Raf.', at the end of the species list for each of the three presented genera (*Potamilus*, *Pleurocera*, and *Ambloxis*). Rafinesque later (1818b, p. 107) noted *Potamilus* as a new genus of fluviatile bivalves with 34 unnamed species and emended the gender of the name to feminine, as *Potamila*.

2. In 1819 Rafinesque (p. 420) briefly described *Proptera* as a subgenus of *Unio*, and in it listed 3 nomina nuda: '*alata, phaiedra, pallida*, etc.'.

3. In 1820 Rafinesque noted his previous use of *Potamilus* as a catch-all genus, similar to his contemporaries' use of *Unio*, and abandoned it to be replaced by the 'system' he initially had outlined in 1819 and which he now presented. He also replaced *Proptera* with *Metaptera* (p. 299: he considered the former name to be inappropriate due to his earlier misinterpretation of the anterior-posterior orientation of mussels), described *M. megaptera* (p. 300), included (p. 300) *U. alatus* Say, 1817 (unpaginated, pl. 4, fig. 2; not 1816: see Johnson, 1975) under *Metaptera*, and speculated that *U. ochraceus* Say, 1817 and *U. cariosus* Say, 1817 were in this genus. *Metaptera megaptera* is a junior subjective synonym of *U. alatus* (synonymy originally proposed by Conrad, 1834, p. 67; justification in Clarke, 1973 , p. 101), and *Metaptera* is invalid as a junior objective synonym of *Proptera*.

4. *Potamilus alatus* Rafinesque, 1818 and *U. (Proptera) alata* Rafinesque, 1819 are not Say's species but are nomina nuda. Rafinesque did not explicitly refer Say's *alatus* to the genus-group under consideration until 1820 (p. 300), as *Metaptera alata*.

5. Herrmannsen (1847, p. 41) designated *U. alatus* Say as the type of *Metaptera*, thereby also establishing it as the type of *Proptera* (Article 67h). In 1969 (p. 24) Morrison stated: '*Potamilus alatus* Say, 1817 (monotype of *Potamilus* in 1818)', thereby establishing *alatus* Say as the type of *Potamilus*. Morrisson was the first person to include a species in *Potamilus*. This action has made *Potamilus* Rafinesque, 1818 and *Proptera* Rafinesque, 1819 objective synonyms.

6. The taxon in question has been incorporated in modern systems of unionid nomenclature since Baker (1898, p. 97) as *Metaptera*, and recognized as *Proptera* since Simpson (1900, p. 566). Morrison's 1969 assumption that *Potamilus alatus* Rafinesque was the same as Say's species and his resurrection of *Potamilus* were not consistent with any usage by Rafinesque or subsequent authors. Rather than representing any sort of taxonomic revision, Morrison's action appears to have been solely to reintroduce an unused Rafinesque name.

7. In accordance with the Code, Clarke (1986, p. 62) has noted the availability of *Potamilus* under Article 12a, and the validity of Morrison's type designation under the provision of Article 69a, particularly sections i(1), ii and vii.

8. In 1971 the name *Potamilus* was adopted by Valentine & Stansbery (p. 25), and its usage has been promulgated by the latter, largely through personal communications to various authors. The name *Proptera* has remained in common usage within the liter-

ature, included in faunal surveys such as those of Clarke (1973, 1981); Johnson (1980); Gordon (1981, 1985); van der Schalie (1981), and in systematic reviews of unionids by Haas (1969a, p. 415), Heard & Guckert (1971, p. 340), Burch (1975, p. 21), and Davis & Fuller (1981, p. 219). In 1980 Vokes (p. 90) listed both generic names as valid, and Haas (1969b, p. N454) considered *Potamilus* to be a possible synonym of *Ligumia* Swanson, 1840. Johnson (1980, p. 128) discussed the usage of *Proptera* v. *Potamilus*, noting that priority of authorship was not in question. Citing Article 23, he concluded that resurrection of *Potamilus* had resulted in nomenclatural instability and confusion. These problems have not been resolved.

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

(1) to use its plenary powers to suppress the generic name *Potamilus* Rafinesque, 1818 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 *Proptera* Rafinesque, 1819 (gender: feminine), type species by subsequent designation by Herrmannsen (1847) *Unio alatus* Say, 1817;

(3) to place on the Official List of Specific Names in Zoology the name *alatus* Say, 1817, as published in the binomen *Unio alatus* (specific name of the type species of *Proptera* Rafinesque, 1819);

(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Potamilus* Rafinesque, 1818, as suppressed in (1) above.

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