

Type Species Designation for *Pelagolimnaea* Germain, 1928, and a Correction Regarding the Type Species of *Pseudisidora* Thiele, 1931 (Gastropoda: Basommatophora: Lymnaeidae)¹

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Germain (1928: 995–996) described *Pelagolimnaea* as a new subgenus of *Lymnaea* Lamarck, 1799, and assigned nine endemic Hawaiian species to it. He failed to select any one of these as type of his new subgenus, however, an omission which has not yet been remedied. Thiele (1931) established *Pseudisidora* as another subgenus of Hawaiian lymnaeids, but misidentified the species he identified as its type. This paper designates a type species for *Pelagolimnaea* and corrects Thiele's misidentification.

The question of how many genera and subgenera should be recognized within the Lymnaeidae is a matter of controversy (Vinarski 2013) and is outside the scope of this note, which is concerned only with ambiguities in the nomenclature of the various genus-level names that have been applied to the native Hawaiian lymnaeids. Hubendick (1951, 1952) assigned all of Hawaii's native lymnaeids to *Lymnaea* Lamarck, 1799 (type species: the Holarctic *Helix stagnalis* Linnaeus, 1758, by subsequent designation of Fleming 1818). Cowie et al. (1995) regarded the Hawaiian species as comprising one endemic genus, *Erinna* H. Adams & A. Adams in A. Adams, 1855 [not of Meigen (1800), a work suppressed by ICZN (1963)] (type species by original designation: *Erinna newcombi* H. Adams & A. Adams in A. Adams, 1855), and an endemic subgenus of *Lymnaea*, *Pseudisidora* Thiele (1931) (type species by original monotypy: *Lymnaea rubella* Lea, 1841). Cowie et al. (1995) recognized four valid Hawaiian species: *E. newcombi*, *E. aulacospira* (Ancey, 1889), *L. (P.) rubella*, and *L. (P.) producta* (Mighels, 1845), each of the last three with one or more synonyms. The most recent review of the family (Vinarski 2013) also recognized *Erinna* as a valid genus but elevated *Pseudisidora* [as "*Pseudisidora*"] to full generic status with an included subgenus, *Pseudobulinus* Kruglov & Starobogatov, 1993b (type species by original designation: *Physa reticulata* Gould, 1847 [= *Physa producta* Mighels, 1845, *vide* Cowie et al. 1995]). None of these works recognized *Pelagolimnaea*.

Germain (1928) cited his new taxon as "*Pelagolimnaea* Germain, 1925", and in Germain (1934:111) he gave the publication date as 1926; the name first appeared in the proceedings of the 1926 Pan-Pacific Science Congress, however, which were not published until 1928. Although *Pelagolimnaea* has been cited in the literature at least four times (Germain 1934; Riech 1937; Taylor 1988; Kinzie 1992), it is not listed in Neave (1939–2004) or in the published compilation of Germain's new taxa (Fischer-Piette 1947) and has been overlooked by subsequent authors reviewing the supraspecific classification of the Lymnaeidae (Thiele 1931; Hubendick 1951, 1952; Zilch 1959–1960; Cowie et al.

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1995; Kruglov & Starobogatov 1993a, 1993b; Vinarski 2013).

Pseudisidora, on the other hand, has been recognized by numerous subsequent authors, either as a distinct genus (Zilch 1959–1960; Morrison 1968; Burch & Patterson 1971; Patterson & Burch 1978; Burch 1982; Haynes 1990; Ponder & Waterhouse 1997; Vinarski 2013), as a subgenus of *Lymnaea* (Cowie *et al.* 1995), or as a “section” of subgenus *Polyrhytis* Meek, 1876, of *Lymnaea* (Kruglov & Starobogatov 1993a). Finally, Kruglov & Starobogatov (1993b) erected *Pseudobulinus* as a subgenus of *Lymnaea*.

Germain (1928) included nine species in *Pelagolimnaea*: *Lymnaea compacta* Pease, 1870, *L. oahuensis* Souleyet, 1852, *L. rubella*, *L. reticulata*, *L. hartmanni* Clessin in Küster, Dunker, & Clessin, 1886, *L. hawaiiensis* Pilsbry, 1904, *L. affinis* Souleyet, 1852, *L. volutata* Gould, 1847, and *L. turgidula* Pease, 1870. *L. hawaiiensis*, is now regarded as a synonym of *E. aulacospira*, the others as synonyms of *rubella* (*oahuensis*, *volutata*, *turgidula*) or of *producta* (*reticulata*, *compacta*, *hartmanni*, *affinis*) (Cowie *et al.* 1995). Johnson (1994, 1996), on the other hand, contended that *compacta* is not a lymnaeid at all but is instead a synonym of *Physa mexicana* Philippi, 1841 (Physidae). Accordingly, the identity of *Pelagolimnaea* will remain ambiguous until a type species is designated.

The situation is further complicated by the fact that Thiele’s designation of *Lymnaea rubella* as type species of *Pseudisidora* was based on a misidentification. His illustration representing that species (Thiele 1931: 476, fig. 571) is of a species having a sinistral shell, an error repeated by Zilch (1959–1960: 93, fig. 300). In fact, however, the shell of *L. rubella* is dextral (Hubendick 1951, 1952; Morrison 1968); examination of the holotype, National Museum of Natural History, Smithsonian Institution, catalog number 118646 (personal communication, Norine W. Yeung, April 9, 2014), confirms this. The only sinistral lymnaeid known to occur in the Hawaiian Islands, and indeed the only extant species of *Lymnaea* yet recognized from any location that is invariably sinistral (Burch 1982), is *L. producta*, the current name for the type species of *Pseudobulinus*. The error may have originated with Pease (1870), whose illustrations of *L. rubella* included both sinistral (pl. 3, fig. 1) and dextral shells (pl. 3, fig. 2). Pease either mislabeled his figures or failed to recognize that *L. rubella* and *L. producta* are separate species, one dextral and the other sinistral. The suggestion by Zimmerman (1948:136-137) that one of the native Hawaiian lymnaeids demonstrates chiral dimorphism is based on a misidentification. Yoshio Kondo, in marginalia dated 28 July 1965, in a copy of Zimmerman’s work now held by Bishop Museum, noted that identifications by Hubendick (1952) of the material previously examined by Zimmerman demonstrate that the dextral specimens are *L. rubella* and the sinistrals are *L. producta*.

Thiele’s illustration of a sinistral specimen (presumably of *L. producta*) as a representative of the invariably dextral *L. rubella* constitutes the “clear evidence” needed under Article 70.1 of the International Code of Zoological Nomenclature (I.C.Z.N. 1999, hereinafter “the Code”) to overcome the usual presumption that his identification was correct, and thus the provisions of Article 70.3 of the Code are applicable providing that in such circumstances either “the nominal species previously cited as type species” or “the taxonomic species actually involved in the misidentification” may be selected as would “best serve stability and universality.”

In order to resolve the existing uncertainties as to the identities and status of these taxa, it is necessary to select a type species for *Pelagolimnaea* pursuant to Article 69 of the Code (*i.e.*, any of the species assigned to that taxon in Germain’s original description

of it) and to designate a corrected type species of *Pseudisidora* pursuant to Article 70.3 of the Code (*i.e.*, either the species supposedly designated by Thiele or the species that he in fact had before him).

Accordingly, *Lymnaea aulacospira* Ancy, 1889 (synonym: *Lymnaea hawaiiensis* Pilsbry, 1904) is **here selected as type species** of *Pelagolimnaea* Germain, 1928, thereby rendering the latter a subjective synonym of *Erinna*. This action serves the interests of stability by preserving the current usage of *Pseudisidora* and *Pseudobulinus*, rather than replacing of one or the other with Germain's long-overlooked name.

Finally, *Lymnaea rubella* Lea, 1841, is **now selected as type species** of *Pseudisidora* Thiele, 1931, an action that "best serves stability and universality" by preserving the existing usage of *Pseudisidora* and avoiding the preemption of *Pseudobulinus* that would occur if *Lymnaea producta* were instead to become the type of *Pseudisidora*.

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