

**Two Genera of North American Freshwater Snails:
Marstonia Baker, 1926, Resurrected to Generic
Status, and *Floridobia*, New Genus (Prosobranchia:
Hydrobiidae: Nymphophilinae)**

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Herein we recognize two genera of North American freshwater snails of the hydrobiid subfamily Nymphophilinae. One genus is resurrected from the synonymy of *Pyrgulopsis* Call & Pilsbry, 1886, while the other is newly proposed to accommodate species from the eastern United States previously placed in the genus *Cincinnatia* Pilsbry, 1891.

Baker (1926) proposed *Marstonia* as a subgenus of *Amnicola* Gould & Haldeman, 1840, containing *A. lustrica* Pilsbry, 1890. Subsequently Baker (1928) added seven other species (all from northeastern North America) to this group, all of which are either currently placed in other genera or are fossils that are not readily assignable to genus. Berry (1943) showed that the penes of *Amnicola* and *Marstonia* differ in terms of internal ducts (and other features), and Morrison (1949) implied that these taxa should be placed in separate subfamilies of Hydrobiidae on this basis. Thompson (1970) redefined *Marstonia* and restricted it to the type species and one (new) species from the southeastern United States. Thompson (1977) subsequently expanded *Marstonia* to include six other eastern North American species which he described in detail. He noted the close morphological similarity between *Marstonia* and eastern species of *Pyrgulopsis*, but continued to recognize these as separate genera pending

study of the poorly known, extinct type species of the latter, *P. nevadensis* (Stearns, 1883). Hershler & Thompson (1987) studied resuscitated dried material of this western species, showed that its penis is closely similar to that of *Marstonia*, and synonymized the latter with *Pyrgulopsis* largely on this basis. However, a subsequent study showed that eastern North American species assigned to *Pyrgulopsis* are strongly differentiated morphologically from western congeners (Hershler, 1994) and has led us to re-evaluate the status of *Marstonia* and again recognize it as a distinct genus.

Marstonia Baker, 1926

Marstonia Baker, 1926:195.

Diagnosis: Eastern North American nymphophilines with ovate- to elongate-conic shells. The penis bears a small terminal lobe. The penial filament is variably sized. The penial ornament consists of a terminal gland and sometimes a ventral gland. *Marstonia* is distinguished from other nymphophilines in that the oviduct and bursal duct join well in front of the posterior pallial wall (Hershler, 1994:fig. 5C). *Marstonia* is further distinguished from *Pyrgulopsis* by the more coarsely pitted protoconch sculpture, incomplete inner shell lip across the parietal wall, banded (as opposed to diffuse) pattern of mantle pigmentation, narrowly vertical oviduct coil, and bursal duct largely or entirely imbedded in (as opposed to superficial to) the albumen gland (Hershler, 1994).

Type species: *Ammicola lustrica* Pilsbry, 1890 (original designation).

Other species included: *Marstonia agarhecta* Thompson, 1970; *Marstonia arga* Thompson, 1977; *Marstonia castor* Thompson, 1977; *Marstonia comalensis* (Pilsbry & Ferriss, 1906) (originally *Ammicola comalensis* Pilsbry & Ferriss, 1906); *Marstonia halcyon* Thompson, 1977; *Marstonia letsoni* (Walker, 1901) (originally *Ammicola letsoni* Walker, 1901); *Marstonia ogmorhappe* Thompson, 1977; *Marstonia olivacea* (Pilsbry, 1895); *Marstonia ozarkensis* (Hinkley, 1915) (originally *Pyrgulopsis ozarkensis* Hinkley, 1915); *Marstonia pachyta* Thompson, 1977; *Marstonia scalariformis* (Wolf, 1869) (originally *Pyrgula scalariformis* Wolf, 1869).

Distribution: Eastern North America from south-central Texas to the Atlantic Coastal Plain.

Remarks: As circumscribed herein, *Marstonia* includes species that Thompson (1977) previously allocated to the genus, and other eastern species that were previously placed in *Pyrgulopsis* (Hershler, 1994). We also transfer *Ammicola comalensis* to *Marstonia* based on our unpublished studies which show this species to conform morphologically to this genus.

Cincinnatia Pilsbry, 1891, was established as a subgenus of *Ammicola* to include *Paludina cincinnatiensis*

Anthony, 1841 (a synonym of *Paludina integra* Say, 1821). Baker (1928) elevated *Cincinnatia* to full generic status, and Thompson (1968) expanded it to include 11 species which share a simple conical shell and a complex pattern of penial glandular ornament. Hershler & Thompson (1996) showed that the type species, *C. integra*, uniquely has two female bursal ducts; other species placed in *Cincinnatia* share a completely different female genitalic groundplan (Davis & Mazurkiewicz, 1985; Hershler & Thompson, 1996; Thompson, 2000; Hershler, unpublished data). Based on these observations, we restrict *Cincinnatia* to its type species and erect a new genus for other species from Florida and Maine. We propose that this genus be named for its center of diversity.

Floridobia Thompson & Hershler, gen. nov.

Diagnosis: Eastern American nymphophilines with ovate-conic shell. The penis has a large terminal lobe and a short filament. The penial ornament consists of large, crescent-shaped terminal and ventral glands, one or two narrow glands on the filament, and dorsal glands corresponding to Dg 1-3 (*sensu* Hershler, 1994). Additional glands on the dorsal and ventral surface are variably present and developed. *Floridobia* differs from all other North American nymphophilines in that females have a second, small anterior seminal receptacle (Thompson, 2000:figs. 23, 24). *Floridobia* further differs from *Cincinnatia* in that the dorsal glandular fields on the penis are not extensively fused; the bursa copulatrix is ovate or pyriform (but not cylindrical) and considerably overlaps the posterior end of the albumen gland; and there is only a single bursal duct which is superficial to or shallowly imbedded within the albumen gland.

Type species: *Ammicola floridana* Frauenfeld, 1863.

Other species included: *Floridobia alexander* (Thompson, 2000) (originally *Cincinnatia alexander* Thompson, 2000); *Floridobia fraterna* (Thompson, 1968) (originally *Cincinnatia fraterna* Thompson, 1968); *Floridobia helicogyra* (Thompson, 1968) (originally *Cincinnatia helicogyra* Thompson, 1968); *Floridobia leptospira* (Thompson, 2000) (originally *Cincinnatia leptospira* Thompson, 2000); *Floridobia mica* (Thompson, 1968) (originally *Cincinnatia mica* Thompson, 1968); *Floridobia monroensis* (Dall, 1885) (originally *Bythinella monroensis* Dall, 1885); *Floridobia parva* (Thompson, 1968) (originally *Cincinnatia parva* Thompson, 1968); *Floridobia petrifons* (Thompson, 1968) (originally *Cincinnatia petrifons* Thompson, 1968); *Floridobia ponderosa* (Thompson, 1968) (originally *Cincinnatia ponderosa* Thompson, 1968); *Floridobia porteri* (Thompson, 2000) (originally *Cincinnatia porteri* Thompson, 2000); *Floridobia vanhyningi* (Vanatta, 1934) (originally *Lyogyrus vanhyningi* Vanatta, 1934); *Floridobia wekiwae* (Thompson, 1968) (originally *Cincinnatia wekiwae* Thompson, 1968); *Flor-*

idobia winkleyi (Pilsbry, 1912) (originally *Amnicola winkleyi* Pilsbry, 1912).

Distribution: Eastern United States. Numerous species occur in Florida, while one congener (*F. winkleyi*) lives along coastal Maine.

Etymology: The name *Floridobia* (f.) is derived from the name of the State of Florida plus the Classical Greek βίος, meaning life. The name is feminine in keeping with the usual practice for diminutive creatures.

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