Freshwater Mollusks Conservation Society
Names of Freshwater Mollusks Subcommittee
Petition for Proposed Scientific or Common Name Change

Gastropod Petitions 2021

G-2019-01 – Proposed placement of *Archiphysa* D.W. Taylor, 2003 in *Physella* Haldeman, 1842.

G-2019-06 – Proposed placement of *Laurentiphysa* D.W. Taylor, 2003 in *Physa* Draparnaud, 1805.

G-2019-09 – Proposed placement of *Micromenetus* F.C. Baker, 1945 in *Menetus* Clessin, 1885.

G-2019-10 – Transfer of *Phreatoceras* Hershler and Longley, 1987 and *Texapyrgus* Thompson and Hershler, 1991 to the Cochliopidae.

G-2021-01 – Proposed placement of *Stagnicola caperata* (Say, 1829) and *Stagnicola pilsbryi* (1890) in *Hinkleyia* F. C. Baker 1928.

G-2021-02 – Proposed placement of *Lymnaea atkaensis* (Dall, 1884), *Stagnicola apicina* (I. Lea, 1838), *S. arctica* (I. Lea, 1864), *S. bonnevillensis* (Call, 1884), *S. catascopium* (Say, 1817), *S. contracta* (Currier in DeCamp, 1881), *S. elodes* (Say, 1821), *S. elrodi* (F.C. Baker & Henderson, 1933), *S. elrodiana* (F.C. Baker, 1935), *S. emarginata* (Say, 1821), *S. exilis* (I. Lea, 1834), *S. gabbii* (Tryon, 1865), *S. hinkleyi* (F.C. Baker, 1906), *S. idahoensis* (Henderson, 1931), *S. kennicotti* (F.C. Baker, 1933), *S. mighelsi* (Binney, 1865), *S. neopalustris* (F.C. Baker, 1911), *S. oronoensis* (F.C. Baker, 1904), *S. petoskeyensis* (B. Walker, 1908), *S. traski* (Tryon, 1865), *S. utahensis* (Call, 1884), *S. woodruffi* (F.C. Baker, 1901) in *Ladislavella* B. Dybowski, 1913.

G-2021-03 – Proposed placement of *Lymnaea producta* (Mighels, 1845) and *L. rubella* (I. Lea, 1841) in *Pseudisidora* Thiele, 1931.

G-2021-04 – Proposed placement of *Galba montanensis* (F.C. Baker, 1913) in *Walterigalba* Kruglov & Starobogatov, 1985.

G-2021-05 - Consideration of *Galba rustica* (I. Lea, 1841) and *Galba modicella* (Say, 1825) as *Galba humilis rustica* and *Galba humilis modicella* respectively.

G-2021-06 - Consideration of *Stagnicola traski* (Tryon, 1863) as a *nomen inquirendum*.

G-2021-07 – Proposed synonymy of *Physella winnipegensis* Pip, 2004 with *Physella lordi* (Baird, 1863).

G-2021-08 – Consideration of *Physella acuta* (Draparnaud, 1805) as the valid name for *Physella virgata* (Gould, 1855) and *P. mexicana* (Philippi in Küster, 1841).

G-2021-09 - *Ferrissia californica* (Rowell, 1863) is the priority name for *Ferrissia fragilis* (Tryon, 1863).

G-2021-10 – Status of *Armiger crista* (Linnaeus, 1758) in North America.

G-2021-11 – Proposed synonymization of *Gyraulus hornensis* F.C. Baker, 1934 and *G. vermicularis* (Gould, 1847) with *Gyraulus deflectus* (Say, 1824).

G-2021-12 - Proposed placement of *Neritina clenchi* Russel, 1940 and *Neritina usnea* (Röding, 1798) into *Vitta* (H. Adams & A. Adams, 1854).

G-2021-13 – Proposed placement of *Viviparus georgianus* (I. Lea, 1834), *Viviparus goodrichi*, Archer, 1933, *Vivparus intertexta* (Say, 1829), *Viviparus limi* Pilsbry, 1918, *Viviparus subpurpureus* (Say, 1829) in *Callinina* Thiele, 1931.

G-2021-14 – Proposed placement of *Assiminea infima* Berry, 1947 in *Angustassiminea* Habe, 1943.

G-2021-15 – Proposed transfer of *Holsingeria unthanksensis* Hershler, 1988 from the Lithoglyphidae to the Cochliopidae.

G-2021-16 - Proposed recognition of *Antrorbis tennesseensis* Perez et al., 2019 and placement of *A. breweri* into the Cochliopidae.

G-2021-17 – Proposed recognition of *Phreatodrobia spica* Perez & Alvear, 2020 from central Texas.

G-2021-18 – Proposed transfer of *Fontigens* spp. into the Emmerciidae.

G-2021-19 – Proposed synonymization of *Pyrgulopsis nonaria* Hershler, 1998, *Pyrgulopsis transversa* Hershler, 1998 with *Pyrgulopsis pilsbryana* (Bailey & Bailey 1952).

G-2021-20 – Proposed recognition of *Pleurocera shenandoa* Dillon, 2019 from Virginia.

Freshwater Mollusks Conservation Society
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Title: Proposed placement of *Archiphysa* D.W. Taylor, 2003 in *Physella* Haldeman, 1842.

Background: Recognized as a valid genus on the FMCS list. Recognized as *Physella* Haldeman, 1843 by Lydeard and Wethington *in* Lydeard and Cummings (2019) and MolluscaBase (2019).

Supplemental Information: None.

Specific Recommendation: I recommend moving *Archiphysa* D.W. Taylor, 2003 to *Physella* Haldeman, 1843 to provide consistency with the cited sources.

Literature Cited:
MolluscaBase (2019). MolluscaBase. Accessed at http://www.molluscabase.org on 2019-03-01.

Wethington, A.R., and C. Lydeard. 2019. Chapter 33. Physidae Fitzinger, 1833. pp. 175-180 in C. Lydeard and K.S. Cummings (Eds.). Freshwater Mollusk Families of the World. Johns Hopkins University Press, Baltimore, MD. 264 pp.

Submitted By: Kevin S. Cummings

Proposal Date: March 2019

Petition Number: Gastropod-2019-01

Subcommittee Member Voting:
The Gastropod Subcommittee voted 4 to 2 to table the petition on 14 April 2019.

Explanation for tabling: The newly published Lydeard and Cummings wasn't widely available in April 2019 to be thoroughly considered by the subcommittee. Moreover, petitions citing Lydeard and Cummings reference incorrectly that MolluscaBase considers the proposed names as valid. Thus, subcommittee members voted 4 to 2 to table this petition until 2021, so Lydeard and Cummings can be appropriately reviewed.

2021 Addendum – pj notes
Archiphysa ashmuni Taylor, 2003 and *Archiphysa sonomae* Taylor 2003 were recognized in Johnson et al. 2013 but are now synonymized in *Physella* (Wethington and Lydeard, 2019). However, *Archiphysa laphami* (F.C. Baker, 1928), *A. latchfordi* (F.C. Baker, 1928) are still recognized by InvertEBase (2018). *Physella lordi* (Baird, 1863), *Physella parkeri* (Currier in DeCamp, 1881) were recognized by Turgeon et al., 1998; Johnson et al., 2013 but *Physella latchfordi* F.C. Baker, 1928 and *Physella zomos* (J. L. Baily & R. I. Baily, 1952) were not. However, those taxa are still recognized by MolluscaBase.

Petition Number: Gastropod-2019-01

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusks Conservation Society
Names of Freshwater Mollusks Subcommittee
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Title: Proposed placement of *Laurentiphysa* Taylor, 2003 in *Physa* Draparnaud, 1805.

Background: Recognized as a valid genus on the FMCS list. Recognized as *Physa* Draparnaud, 1805 by Lydeard and Wethington *in* Lydeard and Cummings (2019) and MolluscaBase (2019).

Supplemental Information: None.

Specific Recommendation: I recommend moving *Laurentiphysa chippevarum* Taylor, 2003 to *Physa* Draparnaud, 1801 to provide consistency with the cited sources.

Literature Cited:
MolluscaBase (2019). MolluscaBase. Accessed at http://www.molluscabase.org on 2019-03-01.

Wethington, A.R., and C. Lydeard. 2019. Chapter 33. Physidae Fitzinger, 1833. pp. 175-180 in C. Lydeard and K.S. Cummings (Eds.). Freshwater Mollusk Families of the World. Johns Hopkins University Press, Baltimore, MD. 264 pp.

Submitted By: Kevin S. Cummings

Proposal Date: March 2019

Petition Number: Gastropod-2019-06

Subcommittee Member Voting:
The Gastropod Subcommittee voted 4 to 2 to table the petition on 14 April 2019.

The newly published Lydeard and Cummings wasn't widely available in April 2019 to be thoroughly considered by the subcommittee. Moreover, petitions citing Lydeard and Cummings reference incorrectly that MolluscaBase considers the proposed names as valid. Thus, subcommittee members voted 4 to 2 to table this petition until 2021, so Lydeard and Cummings can be appropriately reviewed.

Addendum 2021 – pj notes
Laurentiphysa vernalis was the type taxon for *Larnentiphysa*: Taylor, D. W. (2003). Introduction to Physidae (Gastropoda: Hygrophila); biogeography, classification, morphology. *Revista de Biología Tropical.* 51(Suppl. 1): 1-263. *Laurentiphysa chippevarum* Taylor 2003 and *L. vernalis* (Taylor & Jokinen, 1984) are placed in *Physa* (M. Vinarski placed in *Laurentiphysa* into *Physa* – MolluscaBase May 2018). Johnson et al., 2013 recognized *L. chippevarum* Taylor 2013 and *Physa vernalis* (Taylor & Jokinen, 1984).

Petition Number: Gastropod-2019-06

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusks Conservation Society
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Title: Proposed placement of *Micromenetus* F.C. Baker, 1945 placement in *Menetus* Clessin, 1885.

Background: Recognized as a valid genus on the FMCS list. Recognized as *Menetus* Clessin, 1885 by Albrecht et al., *in* Lydeard and Cummings (2019) and MolluscaBase (2019).

Supplemental Information: None.

Specific Recommendation: I recommend moving *Micromenetus* F.C. Baker, 1945 to *Menetus* Clessin, 1885 to provide consistency with the cited sources.

Literature Cited:
MolluscaBase (2019). MolluscaBase. Accessed at http://www.molluscabase.org on 2019-03-01.

Albrecht, C., B. Stelbrink, and C. Clewing. 2019. Chapter 34. Planorbidae Rafinesque, 1815. pp. 181-186 in C. Lydeard and K.S. Cummings (Eds.). Freshwater Mollusk Families of the World. Johns Hopkins University Press, Baltimore, MD. 264 pp.

Submitted By: Kevin S. Cummings

Proposal Date: March 2019

Petition Number: Gastropod-2019-09

Subcommittee Member Voting:
The Gastropod Subcommittee voted 4 to 2 to table the petition on 14 April 2019.

The newly published Lydeard and Cummings wasn't widely available in April 2019 to be thoroughly considered by the subcommittee. Moreover, petitions citing Lydeard and Cummings reference incorrectly that MolluscaBase considers the proposed names as valid. Thus, subcommittee members voted 4 to 2 to table this petition until 2021, so Lydeard and Cummings can be appropriately reviewed.

Addendum 2021 – pj notes
Micromenetus F. C. Baker, 1945 is a junior objective synonym of *Dilatata* Clessin, 1884 and not *Menetus* Clessen, 1885. Therefore *M. brongniartiana* (I. Lea, 1843), *M. dilatata* (Gould, 1845), *M. floridensis* (F. C. Baker 1945) and *M. sampsoni* (Ancey in Sampson, 1885) are now placed in *Dilatata*.

Petition Number: Gastropod-2019-09

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusks Conservation Society
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Title: Transfer of *Phreatoceras* Hershler and Longley, 1987 and *Texapyrgus* Thompson and Hershler, 1991 to the Cochliopidae.

Background: Recognized as valid genera in the Family Hydrobiidae on the FMCS list. Recognized as belonging to the Cochliopidae Tryon, 1866 *by* Clark *in* Lydeard & Cummings (2019) and MolluscaBase (2019).

Supplemental Information: None.

Specific Recommendation: I recommend moving *Phreatoceras* Hershler and Longley, 1987, *Phreatodrobia* Hershler and Longley, 1986, *Taylorconcha* Hershler, et al., 1994, and *Texapyrgus* to the Family Cochliopidae to provide consistency with the cited sources.

Literature Cited:
MolluscaBase (2019). MolluscaBase. Accessed at http://www.molluscabase.org on 2019-03-01.

Clark, S.A. 2019. Chapter 16. Cochliopidae Tryon, 1866. pp. 104-108 in C. Lydeard and K.S. Cummings (Eds.). Freshwater Mollusk Families of the World. Johns Hopkins University Press, Baltimore, MD. 264 pp.

Submitted By: Kevin S. Cummings

Proposal Date: March 2019

Petition Number: Gastropod-2019-10

Subcommittee Member Voting:
The Gastropod Subcommittee voted 4 to 2 to table the petition on 14 April 2019.

By a vote of 4 to 2 this petition was tabled by the gastropod committee pending final publication of Clark and Lydeard 2019. Moreover, the committee decided there was rationale only for placing *Phreatoceras* and *Texaspyrus* currently in Cochliopidae based on Hershler and Thompson (1992). *Phreatodrobia* was placed by Hershler and Holsinger in Lithoglyphidae, which is also the family the genus is placed in on MolluscaBase. *Taylorconcha* has never been placed in a family. Although the committee thought *incertae sedis* would be one possible designation for *Taylorconcha*, the subcommittee voted not to change the placement of *Taylorconcha* from the Lithoglypidae.

Addendum 2021 – pj notes
Taylorconcha was correctly placed in the Lithoglyphidae and not the Cochliopidae as petitioned. No additional action is required on this petition.

Freshwater Mollusk Conservation Society
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Title: Proposed placement of *Stagnicola caperata* (Say, 1829) and *Stagnicola pilsbryi* (Hemphill, 1890) in *Hinkleyia* F.C. Baker, 1928

Background: *Stagnicola caperata* (Say, 1829) and *Stagnicola pilsbryi* (Hemphill, 1890) were both included in Johnson *et al*. (2013). Based on concatenation of the 16 S, ITS-1 and ITS-2 genes, representing 5054 base pairs, Correa *et al*. (2010) reported *S. caperata* to belong to a subclade for which *Hinkleyia* is the genus with priority. MolluscaBase (2021) accepts *Lymnaeus caperatus* Say, 1829, as well as *Limnea* (*Leptolimnea*) *pilsbryi* Hemphill, 1890, as belonging to *Hinkleyia* F.C. Baker, 1928.

Supplemental Information: The phylogeny of Correa *et al*. (2010) was accepted by Vinarski (2013).

Specific Recommendation: I recommend moving *Stagnicola caperata* and *Stagnicola pilsbryi* to *Hinkleyia*, to follow MolluscaBase.

Literature Cited:

Correa, A.C., J.S. Escobar, P. Durand, F. Renaud, P. David, P. Jarne, J.-P. Pointier, and S. Hurtrez-Bousses. 2010. Bridging gaps in the molecular phylogeny of the Lymnaeidae (Gastropoda:Pulmonata), vectors of fascioliasis. BCM Evolutionary Biology, 10:381 (2010). https://doi.org/10.1186/1471-2148-10-381.

Johnson, P.D., A.E. Bogan, K.M. Brown, N.M. Burkhead, J.R. Cordiero, J.T. Garner, P.D. Hartfield, D.A.W. Lepitzki, G.L. Mackie, E. Pip, T.A. Tarpley, J.S. Tiemann, N.V. Whelan, and E.E. Strong. 2013. Conservation status of freshwater gastropods of Canada and the United States. Fisheries, 38(6): 247-282.

MolluscaBase. 2021. MolluscaBase. Accessed at https://molluscabase.org on 2021-03-05.

Vinarski, M.V. 2013. One, two, or several? How many lymnaeid genera are there? Ruchenica, 23(1): 41-58. https://ruthenica.net/sites/default/files/2020-02/vol23_41-58_Vinarski.pdf

Submitted By: Jeffrey T. Garner

Proposal Date: March 2021

Petition Number: Gastropod-2021-01

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
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Title: Proposed placement of *Lymnaea atkaensis* (Dall, 1884) and 21 *Stagnicola* species in *Ladislavella* B. Dybowski, 1913.

Background: Johnson *et al*. (2013) included *Lymnaea atkaensis* Dall, 1884, *Stagnicola apicina* (Lea, 1838), *Stagnicola arctica* (Lea, 1864), *Stagnicola bonnevillensis* (Call, 1884), *Stagnicola catascopium* (Say, 1817), *Stagnicola contracta* (Currier, 1881), *Stagnicola elodes* (Say, 1821), *Stagnicola elrodi* (Baker and Henderson, 1933), *Stagnicola elrodiana* Baker, 1935, *Stagnicola emarginata* (Say, 1821), *Stagnicola exilis* (Lea, 1834), *Stagnicola gabbi* (Tryon, 1865), *Stagnicola hinkleyi* (Baker, 1906), *Stagnicola idahoensis* (Henderson, 1931), *Stagnicola kennicotti* Baker, 1933, *Stagnicola mighelsi* (Binney, 1865), *Stagnicola neopalustris* (Baker, 1911), *Stagnicola petoskeyensis* (Walke, 1908), *Stagnicola traskii* (Tryon, 1863), *Stagnicola utahensis* (Call, 1884), *Stagnicola walkeriana* Baker, 1926, and *Stagnicola woodruffi* (Baker, 1901). MolluscaBase (2021) accepts all of these species as belonging to *Ladislavella* B. Dybowski, 1913. Vinarski (2012) recognized the priority of *Ladislavella* over *Catascopia* Meier-Brook and Bargues, 2002, and noted the "North American group" to belong to the *Ladislavella* subgenus *Walterilymnaea* Starobogatov and Budnikova, 1976. MolluscaBase (2021) accepted these 22 species as valid, placing them in *Ladislavella* without indicating a subgenus.

Supplemental Information: None.

Specific Recommendation: I recommend moving *Lymnaea atkaensis* Dall, 1884, *Stagnicola apicina* (Lea, 1838), *Stagnicola arctica* (Lea, 1864), *Stagnicola bonnevillensis* (Call, 1884), *Stagnicola catascopium* (Say, 1817), *Stagnicola contracta* (Currier, 1881), *Stagnicola elodes* (Say, 1821), *Stagnicola elrodi* (Baker and Henderson, 1933), *Stagnicola elrodiana* Baker, 1935, *Stagnicola emarginata* (Say, 1821), *Stagnicola exilis* (Lea, 1834), *Stagnicola gabbi* (Tryon, 1865), *Stagnicola hinkleyi* (Baker, 1906), *Stagnicola idahoensis* (Henderson, 1931), *Stagnicola kennicotti* Baker, 1933, *Stagnicola mighelsi* (Binney, 1865), *Stagnicola neopalustris* (Baker, 1911), *Stagnicola petoskeyensis* (Walke, 1908), *Stagnicola traskii* (Tryon, 1863), *Stagnicola utahensis* (Call, 1884), *Stagnicola walkeriana* Baker, 1926, and *Stagnicola woodruffi* (Baker, 1901) to *Ladislavalla* B. Dowskki, 1913, to follow Vinarski's recommendation in MolluscaBase.

Literature Cited:

Johnson, P.D., A.E. Bogan, K.M. Brown, N.M. Burkhead, J.R. Cordiero, J.T. Garner, P.D. Hartfield, D.A.W. Lepitzki, G.L. Mackie, E. Pip, T.A. Tarpley, J.S. Tiemann, N.V. Whelan, and E.E. Strong. 2013. Conservation status of freshwater gastropods of Canada and the United States. Fisheries, 38(6): 247-282.

MolluscaBase. 2021. MolluscaBase. Accessed at https://molluscabase.org on 2021-03-05.

Vinarski, M.V. 2012. The lymnaeid genus Catascopia Meier-Brook et Bargues, 2002 (Mollusca: Gastropoda: Lymnaeidae), its synonymy and species composition.

Submitted By: Jeffrey T. Garner

Proposal Date: March 2021

Petition Number: Gastropod-2021-02

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
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Title: Proposed placement of *Lymnaea producta* (Mighels, 1845) and *L. rubella* (I. Lea, 1841) in *Pseudisidora* Thiele, 1931.

Background: *Pseudisidora* has long been recognized as a distinct genus by numerous authors as well as a subgenus of *Lymnaea*. Christensen (2015) stabilized the nomenclature of these taxa by resolving the error made by Thiele (1931) in his designation of *Lymnaea rubella* as the type species for the genus *Pseudisidora*, which is dextral, as confirmed by examination of the holotype. Thiele's figure was sinistral, and likely *Lymnaea producta*, the only recognized invariably sinistral lymnaeid in Hawaii. *L. producta* is the current name for the type species of *Pseudobulinus*, a subgenus of *Lymnaea*.

Christensen (2015) resolved these issues by selecting *Lymnaea rubella* Let, 1841 as the type species of *Pseudisidora* Thiele, 1931.

Supplemental Information: None.

Specific Recommendation: It is recommended that *Lymnaea producta* and *Lymnaea rubella* be placed in *Pseudisidora* consistent with the currently accepted nomenclatural acts as outlined in Christensen (2015) and recognized in MolluscaBase.

Literature Cited:
MolluscaBase eds. 2021. MolluscaBase. *Pseudisidora* Thiele, 1931. Accessed at: http://www.molluscabase.org/aphia.php?p=taxdetails&id=724494 on 2021-03-14

Christensen, C.C., 2015. Type species designation for *Pelagolimnaea* Germain, 1928, and a correction regarding the type species of *Pseudisidora* Thiele, 1931 (Gastropoda: Basommatophora: Lymnaeidae). *Bishop Museum Occasional Papers*, *116*, pp.53-56.

Submitted By: Kenneth Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-03

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
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Title: Proposed placement of *Galba montanensis* F.C. Baker, 1913, in *Walterigalba* Kruglov and Starobogatov, 1985.

Background: Johnson *et al*. (2013) listed *Stagnicola montanensis* (F.C. Baker, 1913). *Walterigalba* Kruglov and Starobogatov, 1985, is currently accepted by MolluscaBase (2021) and *Galba montanensis* F.C. Baker, 1913, is the type species by original designation.

Supplemental Information: None.

Specific Recommendation: I recommend placement of *Stagnicola montanensis* (F.C. Baker, 1913) to *Walterigalba* Kruglov and Starobogatov, 1985.

Literature Cited:

Johnson, P.D., A.E. Bogan, K.M. Brown, N.M. Burkhead, J.R. Cordiero, J.T. Garner, P.D. Hartfield, D.A.W. Lepitzki, G.L. Mackie, E. Pip, T.A. Tarpley, J.S. Tiemann, N.V. Whelan, and E.E. Strong. 2013. Conservation status of freshwater gastropods of Canada and the United States. Fisheries, 38(6): 247-282.

Kruglov N.D., Starobogatov Ya.I. (1985). The volume of the subgenus Galba and of other similar subgenera of the genus Lymnaea (Gastropoda, Pulmonata). Zoologicheskiy Zhurnal. 64(1): 24-35.

MolluscaBase. 2021. MolluscaBase. Accessed at https://molluscabase.org on 2021-03-05.

Submitted By: Jeffrey T. Garner

Proposal Date: March 2021

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Petition Number: Gastropod-2021-04

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Consideration of *Galba rustica* (I. Lea, 1841) and *Galba modicella* (Say, 1825) as *Galba humilis rustica* and *Galba humilis modicella* Say, 1825 respectively as the valid names for the Rusty Fossaria and the Rock Fossaria.

Background:

Taxonomy changes over time for *rustica*

Lea (1841) described *Lymnaea rustica* from Poland, Ohio from a single shell (holotype USNM 118652). Tryon (1865) considered this species, as well as *L. modicella*, to be junior synonyms of *Lymnaea humilis* Say, 1822. This was later changed to *Fossaria rustica* by Westerlund (1885), when that genus was erected. Baker (1905) considered *G. rustica* to be a junior synonym of *Lymnaea desidiosa* var. *modicella* (= *Galba modicella* Say 1825) based on shell characteristics. Later Baker (1911), who was the first to consider animal characteristics in its taxonomy, considered it a subspecies of *Galba humilis*. Burch (1960) and Inaba (1969) noted that *rustica* has 19 haploid chromosomes, suggesting that it should be a separate species, differing from other lymnaids, which have 18 chromosomes. Taylor et al. (1963) also noted the chromosome count, but listed it as *Fossaria modicella rustica,* as Baker (1928) and Clarke (1973) similarly did. Johnson et al. (2013) elevated it again as a *Galba rustica* without comment or rationale. It is also worth noting that Burch (1989) later listed the snail as a subspecies of *Galba obrussa*, rather than as a species.

Taxonomy changes over time for *modicella*

Say (1825) described *Lymnaeus modicella* from the Susquehanna River near Owego, Tioga Co., NY (holotype ANSP 58790). Tryon (1865b) considered the species to be a junior synonym of *Lymnaea humilis* Say 1822. Baker (1905) later classified it as *Lymnaea desidiosa* var. *modicella* or *Lymnaea obrussa modicella* Baker, 1906. In his opus on Lymnaeidae, Baker (1911) considered it a subspecies of *G. humilis* Say 1822. He later (Baker 1928) considered it a distinct species, *Fossaria modicella*, based on shell character differences (narrower than *humilis*, with a longer aperture, and a "more or less impressed inner lip where it joins the parietal wall"). Burch (1989) considered it a form of *G. obrussa*, with which it shares a common anatomy. Johnson et al. (2013) listed it as *Galba modicella*.

***Galba humilis* group**

Galba humilis Say, 1822, *G. humilis modicella* Say, 1825*, G. humilis rustica Lea, 1841,* and *G. obrussa Say, 1825,* share a common anatomy and a tumultuous taxonomic history. Each of these taxa has tricuspid lateral teeth, intermediate teeth of 3-4 cusps, marginal teeth with 4-7 cusps, and a penis that is about as long as the penis sac (shorter in other Utah *Galba*) (Baker 1911; McCraw 1957; Clarke 1973). *Galba humilis* s.s. anatomy was published by McCraw (1957), showing similar penial anatomy to others in the group. Modern genetic data supports the separation of the *Galba* group from stagnicoline and radicine snails (Remigio 2002; Correa et al. 2010, 2011), but more work is needed within the genus, especially for North American taxa. For now however, we consider *modicella*

and *rustica* shell morphs as subspecies of *humilis*, and *G. obrussa* as a separate species. The rationale is reviewed below.

Baker (1911) considered *G. humilis* a southeastern U.S. lymnaeid that transitioned in the northern and western U.S. into the *G. humilis modicella* form. However, museum specimens listed as *Lymnaea humilis* or *Galba humilis* are found from Florida to western Canada. Baker (1911) remarks "A careful study of all available material, including Say's type, following Mr. Walker's suggestion, revealed the fact that typical *humilis* was not authentically known outside of the region east of Appalachain Mountains. The fact also became apparent that *modicella* was simply a northern form of *humilis*, thus, in part, corroborating Binney's opinion expressed 1865…… (p. 267) The spire in *modicella* varies greatly in length, the short-spired individuals being the form commonly known as *humilis.*" Baker (1911) listed both the *modicella* form and the *rustica* form as subspecies of *G. humilis* based on anatomy. Baker (1911) noted the external appearance of the animal of *rustica* was not different from *modicella*. Baker (1928) later differentiated *rustica* from *modicella* based on the more ovate aperture and taller spire. However even Baker (1911) notes the wide variation in spire height for *modicella*: "No line can be drawn between short and long-spired specimens, as every kind of intermediate form occurs".

Henderson (1924) similarly considered *L. humilis* specimens from Colorado as *L. humilis modicella*. Baker's (1928) elevation of *modicella* to species was also adopted by Chamberlin and Jones (1929) in their Utah catalogue. Burch (1989), like Baker (1911), considered *humilis s.s.* restricted to the Atlantic drainage from New Jersey to South Carolina, and *rustica, modicella*, and *obrussa*, as part of the *G. obrussa* group distributed over the rest of the North America. In Burch (1989), *rustica* and *modicella* are subspecies of *G. obrussa*. Baker (1911) listed *G. obrussa* as a separate species, with similar anatomy, but distinctive shell characters.

Hubendick (1951), a taxonomic 'lumper', synonymized all the North American *Galba* species under *Lymnaea humilis*. Clarke (1973) listed *modicella* as *Lymnaea modicella*, and considered *rustica* a junior synonym of *modicella*. Burch (1960) and Inaba (1969) noted that *rustica* has 19 haploid chromosomes, the latter suggesting that it should be a separate species, differing from other Lymnaeinae, which have 18 chromosomes. Hibbard and Taylor (1960, p.94) considered *Lymnaea humilis rustica* to be a junior synonym of *Fossaria obrussa*. Taylor, Walter, and Burch (1963) later acknowledged the chromosome count, but listed it as *Fossaria modicella rustica,* as Baker (1928) and Clarke (1973) did. Notably, Burch still listed *rustica* as a subspecies in later work (1989), despite the chromosome count difference. Johnson et al. (2013) listed it as a *Galba rustica*. McCraw (1957) noted that the penial morphology of *humilis* was like that of *modicella*, *rustica*, and *obrussa*, but failed to provide radular teeth data, which are still wanting. Data from Baker (1911), Baker (1928), and Clarke (1973), show that *rustica*, *modicella*, and *obrussa* have radular characters in common, i.e., tricuspid lateral teeth, intermediate teeth with 4-7 cusps, and marginal teeth with 4-7 cusps. Each is these forms is also turreted to varying degrees. Maximum size is similar among *humilis*, *rustica*, and *modicella* (10-12.5 mm), but *obrussa* reaches larger maximum size (19.5 mm SL). *G. obrussa* also appears to have

greater variation in the number, size, and position of marginal teeth cusps than the other forms (Baker 1911). The spire is more strongly shouldered than the other forms. Correa et al. (2010) compared gene sequences (16S, ITS-1, & ITS-2) among Lymnaeidae; they demonstrated very little differentiation between a South Carolina sample of *Galba humilis* and a Canadian sample of *Galba obrussa*, suggesting synonymy.

So, the similarity in radular teeth and penial anatomy, as well as shell characteristics, suggests that *rustica* and *modicella* are variants of *Galba humilis*, which has date priority. The genetic work of Correa et al. (2010) also hints at synonymy of this group. We would prefer to keep the subspecific name in deference to the taxonomic history and potential for some populations to diverge over time, but if subspecific classification is ignored, then they both would be simply *Galba humilis*.

Supplemental Information: A decision by the Zoological Nomenclature Commission (ZNC 1998) has declared *Fossaria* Westerlund, 1885, a junior synonym of *Galba* Schrank, 1803. The rusty character used for the specific name *rustica* refers to a coating of iron oxide on the type shell.

Specific Recommendation: We recommend *Galba humilis rustica* replace *Galba rustica* as the valid scientific name for the species and the common name be changed to remove the outdated reference to an old genus. Similarly, *Galba humilis modicella* should replace *Galba modicella* as the valid scientific name for the Rock Fossaria. However, if subspecific classification is ignored, then they both would be simply *Galba humilis.*

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Kungliga Svenska Vetenkapsakadamiens Handlingar. Fjärde

Serien

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Submitted By: Eric Wagner, Kate Holcomb (FMCS members)

Proposal Date: October 2020

Petition Number: Gastropod-2021-05

Subcommittee Member Voting:

_____I support the petition _____I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Consideration of *Stagnicola traskii* (Tryon, 1863) as *nomen inquirendum*.

Taxonomic History

Figure 1. Lymnaea traskii, ANSP holotype 58519, credit: ANSP

Tryon (1863) named *Limnaea traskii* after Dr. J.B. Trask, an early California conchologist. The type location is Mountain Lake, California (San Francisco, about a mile south of Golden Gate Bridge). The description (see Supplemental Information) appears to be based on a single shell (see Fig. 1). Later, California malacologist J. Cooper (1870) considered *traskii* a variety of *Stagnicola elodes* Say, 1821. Tryon himself later (1870) considered *traskii* to be a form of *Lymnaea proxima* Lea, 1856 (also, Hovingh 2018), which Clarke (1981) notes might be a subspecies of *S. elodes*. *Lymnaea proxima* is currently considered a synonym of *Stagnicola elodes* (molluscabase.org). *Notably, Tryon (1863) also recorded Lymnaea caperata, L. fragilis (synonym of L. stagnalis, Mezhzherin et al. 2008; Welter-Schultes 2012), L. umbrosa Say, 1832 and L. reflexa (form variant of S. elodes; Burch 1989) at the same location in CA where the traskii form was found, also suggesting that traskii may be a variant of another lymnaeid. Hannibal (1912) considered traskii to be an ecological variant of Lymnaea palustris*. Baker (1911) listed *traskii* as a distinct species under the genus *Galba*. However, Chamberlin and Jones (1929), in consultation with F. Baker, considered *S. reflexa, traskii*, and *proxima* to be synonyms of *Stagnicola palustris nuttalliana* (originally *Limnaea nuttalliana* Lea, 1841, now considered a synonym of *S. elodes or G. humilis* [molluscabase.org]). In the Smithsonian collection (USNM 29082), *Lymnaea proxima* Lea, 1856, is synonymized with *Stagnicola elodes*. Baker (1928) later modified the Lymnaeidae taxonomy, changing *Galba* to *Fossaria*, which was more narrowly defined; He also created *Hinkleyia* and *Nasonia* as subgenera within *Stagnicola*.

Burch (1989) and Johnson et al. (2013) listed the species as *Stagnicola traski*. Beetle (1989) and Tronsted and Andersen (2018) considered *traskii* to be a synonym of *S. elodes*. Baker (1928) noted that the animal of *S. reflexa* Say, 1821, *S. umbrosa* Say, 1832, and *S. exilis* Lea, 1837, were the same as for *S. palustris*, the european counterpart to *Stagnicola elodes*, suggesting synonymy. However, *Stagnicola elodes* separated from *palustris* in a genetic analysis; *S. palustris* was in a clade with other Euopean lymnaeids (e.g., *S. turricola, fuscus, & corvus*), of which *S. turricola* is now considered a junior synonym of *palustris* by several authors (Bargues et al. 2005; Correa et al. 2010; Welter-Shultes 2012), but not all (Pienkowska et al. 2015).

Hubendick (1951, p.120) also noted that *palustris* had a tricuspid first lateral in the radular teeth, whereas American "palustris" (=*elodes*) had a bicuspid first lateral. Regarding *traskii* in Utah per se, describing *Stagnicola hemphilli* from near Salt Lake City, Utah, Baker (1934) noted "the species belongs in the series of forms erroneously placed under *traskii* in the Lymnaeidae monograph, p. 368…..)."

Observations on lymnaeid shell variation suggest there are fewer species than have been named. For example, Lewis (1860) remarked that *elodes* was found in canals, ditches, pools, etc. and that "varieties *emarginata* and *catascopium*, I have ascertained, may be produced from the eggs of *elodes*, by change of station. A small pool of stagnant water, formerly the bed of the canal previous to its enlargement, is populated by thousands of *Lymnaea* that formed part of the canal family. These vary in form in different seasons; some retain the form of *catascopium*, others diverge to *emarginata*, but a larger number are *elodes*." Clarke (1973) statistically compared shell metrics from a wide variety of Canadian populations and eventually synonymized *emarginata* with *catascopium*; He noted "the characters customarily used to distinguish "*L. catascopium*" from "*L. emarginata*" show such considerable intra- and inter-population variability that they are not useful in delimiting species. Since no significant anatomical differences exist either, the 2 names are considered synonyms." Some examples of variation in shell form in Swedish *Lymnaea palustris* can be seen in Fig. 2 (Hubendick 1951). Baker (1911), and Vinarski and Glöer (2008) also discuss shell variation in Lymnaeidae. Trends in recent genetic studies also suggest that there are fewer species than have been named.

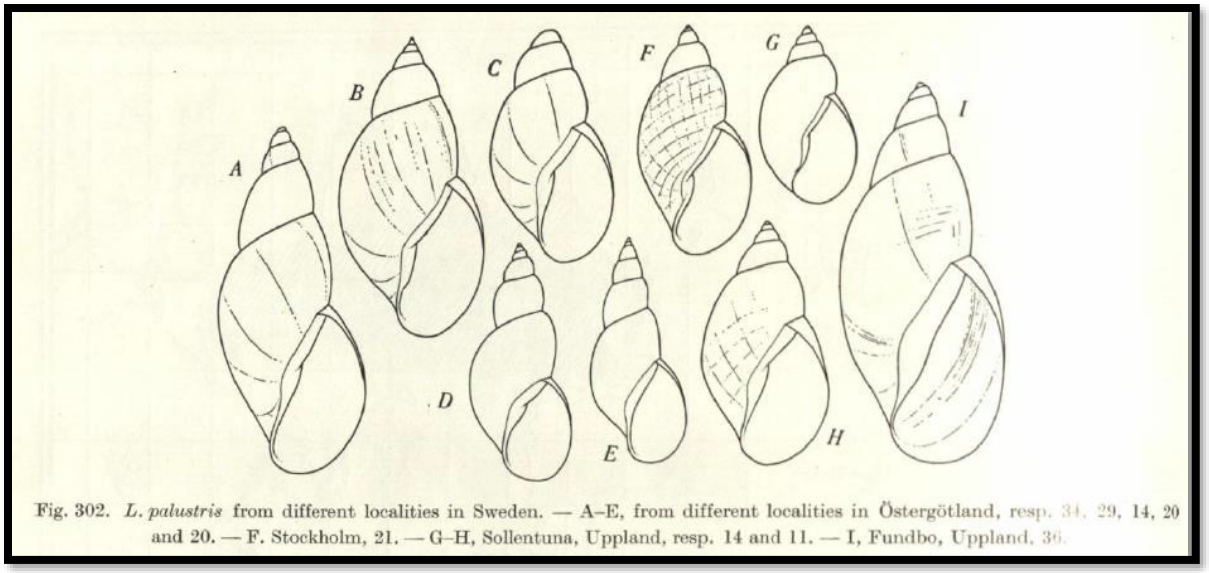


Fig. 302. *L. palustris* from different localities in Sweden. — A–E, from different localities in Östergötland, resp. 34, 29, 14, 20 and 20. — F. Stockholm, 21. — G–H, Sollentuna, Uppland, resp. 14 and 11. — I, Fundbo, Uppland, 36.

Figure 2. Comparison of shell variation in Lymnaea palustris from different sites in Sweden (Hubendick 1951).

So, to summarize the above data, the majority considers *traskii* a synonym of a previously described species, many of which have been synonymized with *Stagnicola elodes*. Even Tryon himself synonymized *traskii* in later work. To date, there is no animal data or genetic data for *Limnaea traskii*, so comparisons with other species must be made on shell characters alone, relying on the holotype shell and original description (see Supplemental Information). Its length was 16 mm x 8 mm wide; aperture 7 x 5 mm. A photo of shells classified as *Lymnaea traskii* from another population from an unknown location in California is shown in Fig. 3 (ANSP 122054). Some shells identified in Baker (1911) as *Galba traskii*, are shown in Fig. 4. The holotype of *Stagnicola elodes* is shown in Fig. 5.

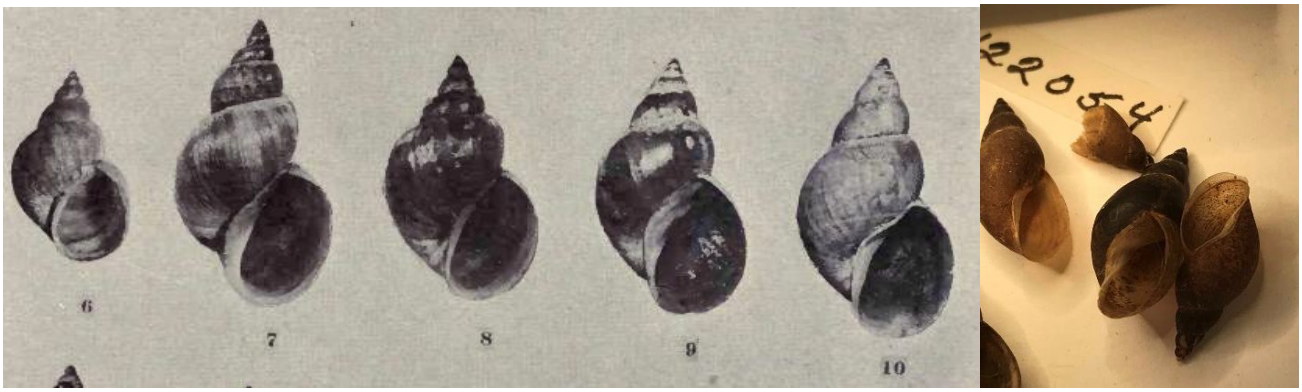


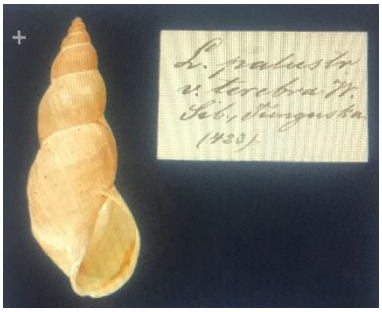
Figure 4. Stagnicola traskii. Shells from Plate 39 of Baker (1911; 6. holotype, San Fco. CA, 7-8. Black Rock Butte, WY, 9-10. Banff, Alberta).

If we objectively compare shell characters of *traskii* with other Lymnaeids of similar size (ruling out most *Galba* species except *G. obrussa,* which is more angularly turreted, narrower, and has only 5-5.5 whorls), we must compare it with other stagnicoline species with similar numbers of whorls (6-6.5). We need to include *Stagnicola*-type species from Europe given the type location and the heavy boat traffic visited currently include *S. palustris* Müller 1774*, S. corvus* Gmelin, 1791*,* and *S. terebra* Westerlund, 1885. *Stagnicola fuscus* is also a valid European species, but its umbilicus was described as imperforate (Pfeiffer 1821), whereas *traskii* was umbilicate. North American stagnicoline species to consider would include *S. elodes* (6-7 wh., up to 37 mm SL), *S. catascopium* (5- 6 wh., to 22.5 mm), *S. contracta* (6-7 wh., 16.5-22 mm SL)*, S. elrodi* (6.5 whorls, to 25 mm), *S. elrodiana* (5-6 wh., to 31 mm), *S. exilis* (to 39 mm, 7 wh.), and *S. petoskeyensis* (6-6.5 wh., to 25 mm). *S. emarginata* usually has 5-5.5 whorls, but Baker (1936) described two varieties that have 6 (*S.e. magnifica*) or 7 whorls (*S.e.bryantwalkeri*). However, *S. emarginata magnifica* is larger (over 40 mm long) with a greater ApL/SL ratio than *traskii* (Baker 1936). *S. emarginata bryantwalkeri* also has a higher ApL/SL ratio (0.57-0.68) than *traskii* (0.40-0.50).

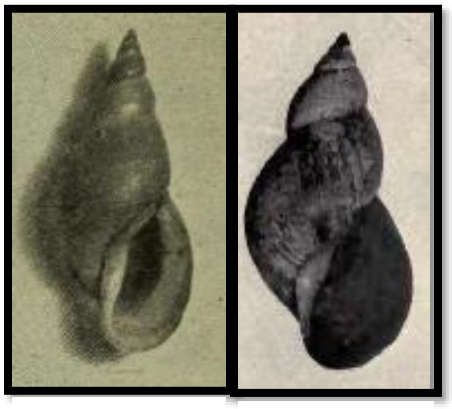
Figure 3. *Lymnaea traski*, ANSP 122054, California, collected 3 Feb. 1916. Credit E. Wagner

Other *Stagnicola* can be ruled out as synonyms. *E.g., S. montanensis* has a smaller shell, with a maximum size of about 14 mm, as well as an apex that is not as acute (Baker 1912). *S. apicina, S. caperata, S. bonnevillensis, S. gabbi, S. hinkleyi, S. idahoensis, S. mighelsi, S. oronensis, S. walkeriana, S. woodruffi,* and *S. utahensis* have fewer whorls. *S. arctica* (5.1-6.7 wh., SL averages 15-18 mm) and *S. kennicotti* (6-7 wh., to 20.2 mm) can be ruled out due to their distribution being restricted to the Arctic. *S. neopalustris* (5-6 wh., 13 mm) can be ruled out as well due to its distribution being limited to Virginia,

where recent surveys indicate it "might be imperiled, if not already extirpated from Virginia" (Stewart and Dillon 2004). *S. emarginata mighelsi* has a shorter spire resulting in a lower Ap/SL ratio (Baker 1900).



The stagnicoline species of similar whorls and size are contrasted in the attached Excel file, which was largely derived from individual measurement data in Baker (1911); European data is from Welter- Shultes (2012). Additional data from Clarke (1973) and Baker (1928) are also added. Comparison of *Stagnicola elodes, S. exilis,* and *S. contracta* with *S. traskii* shows that the shell length/width ratios do not overlap; i.e., these are narrower shells, as seen in the holotype photo of *S. elodes* (Fig. 5). *S. contracta* is also rare or possibly extinct (Goodrich 1941). The umbilicus for *S. elodes* is usually closed as well (Baker 1911), though Say (1821), in his original description, notes that the 'labium, calcareous deposit rather copious, not appressed at base, but leaving a linear umbilical aperture.' An image of *S. terebra* Westerlund, 1885 is given in Fig. 6 (Vinarski and Glöer 2008). It shows it is another narrow-formed *Stagnicola*, differing from the description for *S. traskii*. The proportion of the aperture to shell length (ApL/SL) data indicates there is little to no overlap between either *S. catascopium* or *S. elrodi,* and *S. traskii*. Though larger sample sizes may alter this variable, the roundly ovate aperture of *traskii* would likely still tend to result in a lower ApL/SL value.



So that leaves *S. petoskeyensis, S. elrodiana, Stagnicola palustris, and S. corvus* to discuss. Both *S. petoskeyensis* and

S. elrodiana have have similar L/W and ApL/SL ratios to *S. traskii,* as well as an open umbilicus (Figs. 7, 8). *S. elrodiana* has a more convex penultimate whorl, but otherwise the description is very similar to *traskii*. *S. petoskeyensis* has whorls that are somewhat shouldered peripherally on the spire and tends to have a narrower aperture and less rotund body whorl, though ApW/ApL values overlap with *S. traskii*. Also, the second whorl in *S. petoskeyensis* is about 3 times the length of the first, though whorl size is likely environmentally influenced. *Stagnicola corvus* and *S. palustris* can only be differentiated anatomically for younger shells; older shells of *corvus* have more whorls and a larger

maximum size. Shell measurements for *S. traskii* overlap with *S. palustris/corvus*. So, based on shell characters *S. traskii* is likely a junior synonym of *S. palustris/corvus.* Since *S. petoskeyensis* Walker, 1908, and *S. elrodiana* (first described as *Limnaea emarginata* var. *montana* by Elrod, 1901) Baker, 1935, were described after *S. traskii*, they would be junior to *traskii*. Since there is no animal data, we cannot definitively assign it to either *palustris* or *corvus*, though *S. corvus* appears to be a larger shell with more whorls and less likely to be the synonym.

The type shell for *S. traskii* does feature a unique aperture, which is continuous and more ovate than typical *Stagnicola* or *Lymnaea*. However, if we examine other shells identified as *S. traskii* (Fig. 3 & 4), we see that this character is absent, either because of variation or possibly these shells were misidentified. So, the validity of this species hangs on this characteristic. Is it characteristic of the species or just a variant? Given ample evidence of lymnaeid variation (e.g., Hubendick 1951), we suspect the latter is the case.

So, the data show that based on shell characters, it cannot be differentiated from *Stagnicola palustris/S. corvus*, which has taxonomic date priority. *S. petoskeyensis* and *S. elrodiana* differ only in minor whorl shape differences that are likely environmentally controlled, but these species postdate *S. traskii*.

***Ladislavella* Dybowksi 1913, new genus for nearctic stagnicolines?**

A further wrinkle in the taxonomy regards recent proposed changes to the genus *Stagnicola*. The website Molluscabase.org now has *Ladislavella* as the genus for American stagnigolines and *Hinkleyia* as the genus for *Stagnicola caperata*.

First some background. The type species of *Lymnaea* is *L. stagnalis* Linneus, 1758. For *Stagnicola* Jeffreys, 1830, the type species is *S. palustris* (originally *Buccinum palustre* Müller, 1774), a European counterpart to *S. elodes*. *Stagnicola turricula* Held, 1836 was recently synonymized with *S. palustris* (Bargues et al. 2005; Welter-Shultes 2012). In Europe, other species in *Stagnicola* include *S. corvus* Gmelin 1791, *S. fuscus* Pfeiffer, 1821; and *S. terebra* Westerlund, 1885. *Stagnicola occulta* Jackiewicz, 1959 is a junior synonym of *S. terebra*; Vinarski and Glöer 2008; Welter-Shultes 2012), though Pienkowska and Lesicki (2018) presented genetic data (COI and ITS2 analyses) suggesting *S. occulta* was still a valid taxon.

Genetic analyses (Fig. 9, Bargues et al. 2001) using ITS-2 sequences shows that snails in the *Stagnicola emarginata*, *S. catascopium*, and *S. elodes* group cluster separately from *Lymnaea stagnalis*, *S. turricula/palustris, S. fuscus* and *S. corvus*. In between is *Omphiscola glabra* Müller, 1774, a rare, slender species in a separate genus based on the prostate gland, which lacks a fold (*Stagnicola* has ≥1). Based on this genetic separation into a distinct clade, Meier- Brook and Bargues (2002) named a new genus, *Catascopia,* within Lymnaeidae.

Limnaea catascopium Say, 1817 was named as type species.

Correa et al. (2010) subsequently did further analyses of Lymnaeidae using more genetic information (ITS-1, ITS-2, and 16S sequences) and more species for the phylogenetic trees. The tree by Correa et al. (2010; Fig. 10) shows three deep clades corresponding to geography, C1 for the North and South American species, C2 for the Eurasian species, and C3 for Australia

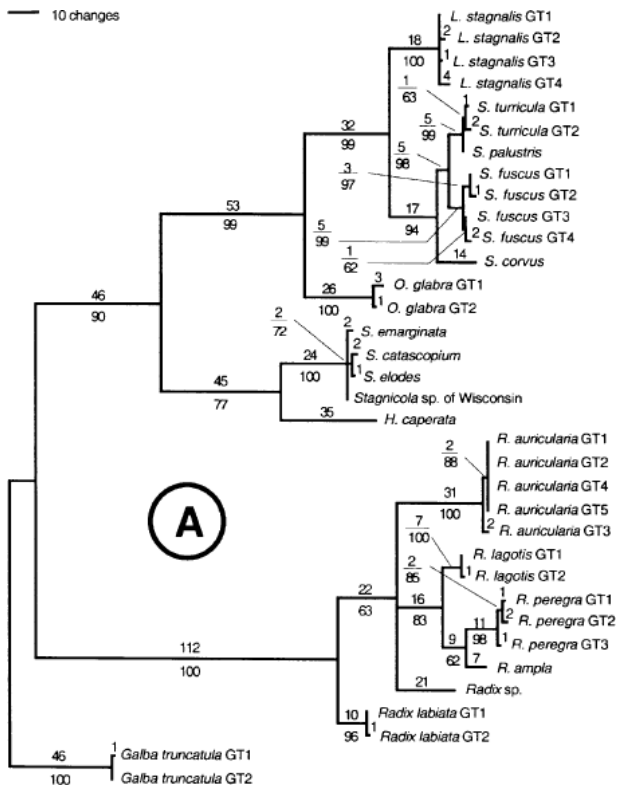


Figure 9. Phylogenetic tree based on ITS-2 gene sequences from some specie in Lymnaeidae (Bargues et al. 2001).

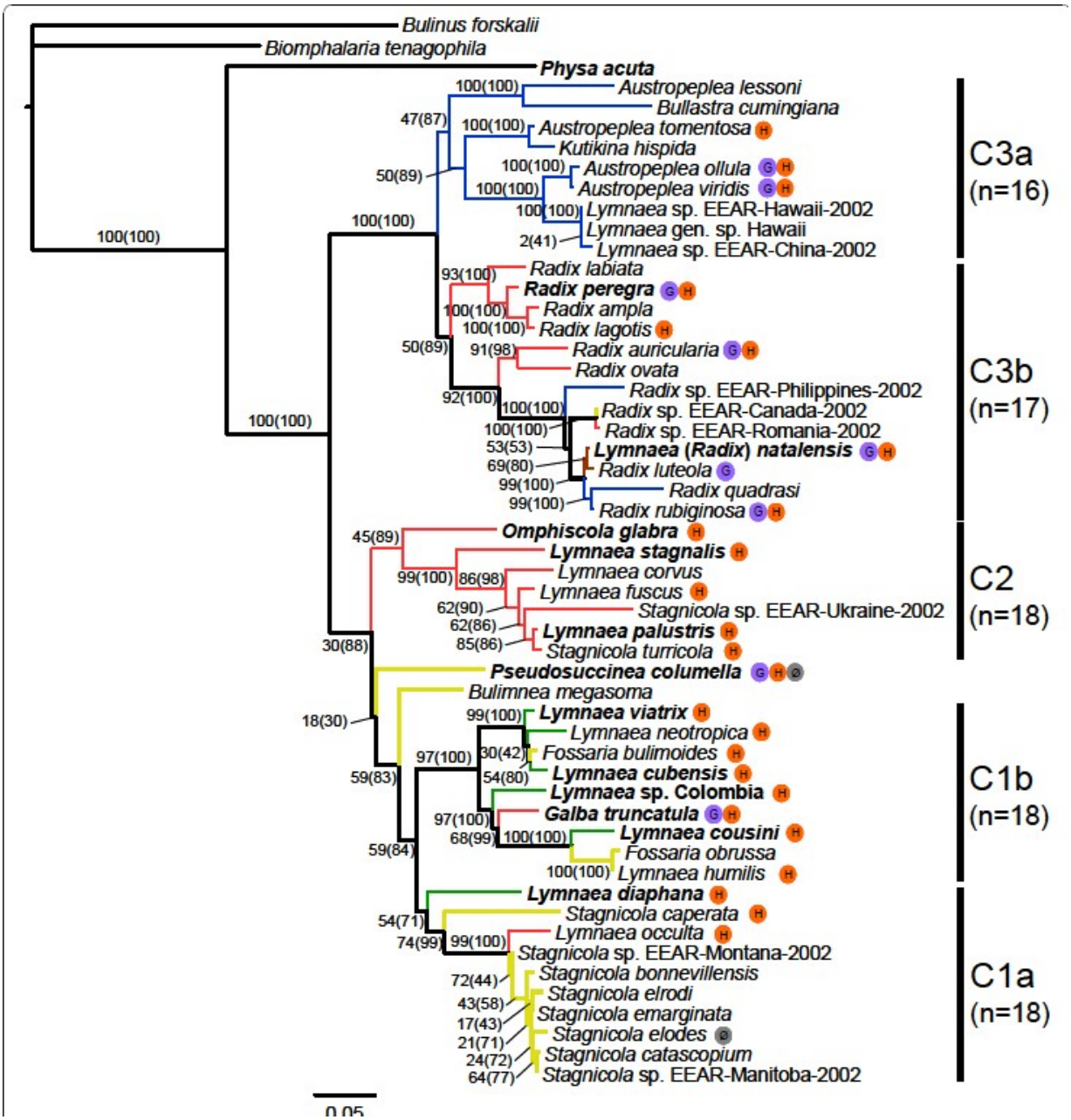


Figure 10. Phylogenetic tree for Lymnaeidae using 16S, ITS-1, and ITS-2 data (Correa et al. 2010).

and the Indo-Pacific region. Note that in this tree, *S. caperata* still branches off from the other North American stagnicoline species, but still can be easily grouped with other American *Stagnicola*, depending on how finely one wants to split taxa. *Lymnaea diaphana* was described from South America but has been reported in South Dakota. *Lymnaea occulta* (now *S. terebra*), described from Poland, groups with the North American species, suggesting introduction to Europe. The tree also suggests *S. emarginata*, *S. elodes*, and *S. catascopium* are possibly synonymous or at least sister taxa. Correa et al. (2010) suggested that species within clade C2 should be in the genus *Lymnaea* since *L. stagnalis* is the oldest member of the clade. Given that the type species for *Stagnicola* (*palustris*) is in clade C2, a different name is needed for the species in Clade C1a. *Hinkleyia* Baker, 1928 was suggested by Correa et al. (2010) for this clade. *Bullastra* Pfeiffer, 1839, was suggested for species of clade C3a.

Vinarski (2012) pointed out that there are other Lymnaeid genera available that could be used for the C1a group that are older such as *Polyrhytis* Meek, 1876; *Ladislavella* Dybowski, 1913 and *Walterilymnaea* Starobogatov et Budnikova, 1976. Since *Polyrhytis* is a fossil and can't be used for any genetics, this was ruled out. Vinarski (2012) also remarked that there were no living descendants of *Polyrhytis*, which is not the case (*Stagnicola utahensis* populations are still around Utah and represented by the genetic sample labeled as *S. bonnevillensis* in Fig. 2). Campbell et al. (2017) used *Polyrhytis* as a replacement for *Stagnicola* in their recent publication on Lancinae, a subfamily of limpets within Lymnaeidae. Vinarski (2012) proposed *Ladislavella* Dybowski, 1913, as the genus for the group.

Dybowski (1913) had *Ladislavella sorensis* as the type species for *Ladislavella,* which had previously been identified as *Limnophysa terebra* var. *sorensis* by his brother (Dybowski 1913b). Vinarski (2012) did not mention the Correa et al. (2010) work that put *palustris* in the genus *Lymnaea*. The work of Bargues et al. (2001) also supports the same grouping of *palustris* with *Lymnaea stagnalis*. Additional animal anatomy data by Walter (1960) also supports this grouping. Walter (1960) dissected hundreds of lymnaeids for his dissertation, including five *S. palustris* from Sweden. Comparing these to American 'palustris' (=*elodes*) he writes (pp.215-216):

> "In the study of European specimens, the chief characters in support of *Stagnicola* as a genus were lacking, but those same specimens had characters which made them inseparable
> from *Lymnaea*. Even ignoring the prostate of "Lymnaea s.s.", the other anatomical features observed resembled *Lymnaea* more than any known form. While it would be premature to come to any definite conclusions from a study of so few specimens, the (1) prostatic pouch, (2) oothecal gland neck pouch, and (3) penial knot in S. palustris were all absent in the European material."

If we accept the suggestion by Correa et al. (2010), *palustris* becomes *Lymnaea palustris* and *Stagnicola* becomes available as a genus with date priority, preserving the name for American stagnicoline species. One could argue that *S. caperata* be included, or not, in this grouping. Biologically there are some unique characteristics of the species, but whether these are worthy of generic or subgeneric status is a matter of opinion. Taylor, Walter, and Burch (1963) thought *Hinkleyia* should be a subgenus of *Stagnicola*. Hubendick (1951) opined "This group is only distinguished by a few characteristics in the shell and the genitalia, which, however, are sufficient only for making specific separation."

One of the issues of using either Vinarski (2012) or Correa et al. (2010) is that the taxonomy is based solely on genetics (i.e., what animal and shell characteristics distinguish them from each other or unite each clade as a separate group?). Hubendick (1951) examined mostly European Lymnaeidae in detail comparing anatomy and concluded that everything should be in one genus, *Lymnaea*. Correa et al. (2010) and Welter-Shultes (2012) have chosen to wait on more data before further taxonomic action is taken.

Our interpretation of the data is similar to Welter-Shultes. Correa et al. (2010) has more genetic information and more species, presenting a fuller picture of relationships within Lymnaeidae, though the work of Bargues et al. (2001) also points out the grouping of European species distinct from North American species. The broad clades noted in Fig. 10 generally agree with geographical distribution and genetic isolation. The *Stagnicola* of North America are clearly genetically different from European counterparts and so the nearctic clade should be a different

genus or subgenus. Whether *caperata* should be in a separate genus is matter of opinion. In our opinion, it should be in *Stagnicola*, but with a separate subgenus *Hinkleyia* as Taylor et al. (1963) proposed. Based on Fig. 10, European species belong in *Lymnaea*. As this would include the type *palustris*, that frees up *Stagnicola* to be used for the nearctic species (though a new type would need to be designated). Since *Stagnicola* (Leach) Jeffreys, 1830, has date priority over *Ladislavella*, *Stagnicola* stands. Other generic names that antedate *Ladislavella* that have been synonymized with *Stagnicola* include *Turrilimnaea* Dybowski, 1908; *Palustria* Dybowski, 1908; and *Microlimnaea* Dybowski, 1908 (Hubendick 1951). An alternative interpretation, in the spirit of Hubendick (1951) and based more on the animal morphology, would put *Lymnaea*, *Omphiscola*, and *Stagnicola* (i.e., all of Clade 1 & 2) in the genus *Lymnaea*. However, this would also include *Psuedosuccinea*, which has a very different (succineiform) shell and no fold in the prostate (Hubendick 1951).

To summarize, we propose keeping *Stagnicola* for North American stagnicoline species and keeping *Hinkleyia* as a subgenus within *Stagnicola*.

Supplemental Information: Original description (Tryon 1863) of *Limnaea traskii*: "Shell elongated, the spire drawn out and apex acute. Whorls six, convex, almost shouldered, sutures deeply impressed.
Aperture small, oval, labrum well rounded, labium slightly rounded, not appressed below, nor covering the umbilicus, which, though small, is very distinct. Color light-horn or cinereous".

The current Zoological Code of Nomenclature states under Article 31.1.3, "The original spelling of a name formed under Articles 31.1.1 and 31.1.2 is to be preserved [Art. 32.2] unless it is incorrect [Arts. 32.3, 32.4] (for treatment of incorrect subsequent spellings of such species-group names see Articles 33.3 and 33.4)." 32.3. Also "Preservation of correct original spelling: The correct original spelling of a name is to be preserved unaltered, except where it is mandatory to change the suffix or the gender ending under Article 34 (for treatment of emendations and incorrect subsequent spellings see Articles 32.5, 33.2, 33.3, 33.4)."

So, since *traskii* was the name given by Tryon, *traski* (with one 'i') is incorrect.

Specific Recommendation: We recommend changing *traski* to *traskii* and listing it as "classification uncertain"(*taxon inquirendum*).

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Submitted By: Eric Wagner, Kate Holcomb (FMCS members)

Proposal Date: December 2020

Petition Number: Gastropoda-2021-06

Subcommittee Member Voting:

_____I support the petition _____I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed synonymy of *Physella winnipegensis* Pip, 2004 with *Physella lordi* (Baird, 1863).

Background: *Physella lordi* (Baird, 1863) was temporarily placed into *Archiphysa* by Taylor, 2003 and subsequently returned to *Physella* by Lydeard and Wethington, 2019 [the latter reference does not seem to exist – possibly referring to Wethington & Lydeard (2007)?].

Petition G-2019-01. Unsure if Lydeard and Wethington synonymized *P. winnipegensis* and MolluscaBase isn't clear- R. Bieler August 2019. [Wethington et al. (2009) treated it as a synonym of *P. acuta.*

MolluscaBase considers *P. winnipegensis* as an unaccepted name, and is treated as a synonym of *Physella acuta*, possibly following Wethington et al. (2009) and Pip and Franck (2008). MolluscBase also treats *Physella lordi* (Baird, 1863) as an accepted name.

Pip and Franck (2008) recovered *P. winnipegensis* within the *Physa acuta* clade, which was weakly supported as distinct from other species in that clade. Although Pip and Franck interpret their data as supporting *P. winnipegensis* being a distinct clade within the *P. acuta* group, critical examination of their phylogenetic trees and other data indicate that the two individuals fall within the range of genetic variation of the *P. acuta* group and is more appropriately interpreted as geographic structure.

Wethington et al. (2009) treated *P. winnipegensis* as a synonym of *P. acuta*, although they provided no reason or data to support this conclusion, and it can only be inferred that they were following data the same interpretation of Pip and Franck (2009) as given above.

Mitochondrial COI DNA sequences available on Genbank for *P. winnipegensis* differ from *P. acuta* by less than 2%, which is well within, and in most cases less than, the range of genetic variation among *P. acuta* sequences.

Wethington and Lydeard (2007) predicted that *P. lordi* should be in a group with *Physlella.* ancillaria (Say, 1825), but do not actually synonymize these taxa or offer any other evidence for these statements.

Kadolsky (2012) placed *Physa acuta* in the new combination *Physella acuta* which is followed by MolluscaBase.

Supplemental Information: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports/lake-winnipeg-physa-addendum.html

Specific Recommendation: It is recommended that *Physella winnipegensis* be considered a synonym of *P. acuta* following a strict interpretation of Pip & Franck (2008) and as suggested by Wethington et al. (2009). No new data (genetic or otherwise) since the DFO (2009) assessment or the 2012 addendum (see link in supplemental information), has been published to support the

synonymy of *P. winnipegensis* and *P. lordi*, and until such data exist, *P. lordi* should be retained as distinct species following MolluscaBase.

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Submitted By: Kenneth A. Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-07

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Consideration of *Physella acuta* (Draparnaud, 1805) as the valid name for *Physella virgata* Gould, 1855 and *Physella mexicana* (Philippi in Küster, 1841).

Background: *Physa virgata* was named by A. A. Gould (1855) from the Gila River of Arizona. *Physa virgata* from the type location in the Gila River was shown to be able to hybridize with *Physella acuta* by Dillon et al. (2005). Therefore, based on the biological species concept (Mayr 1942), *virgata* is considered a junior synonym of *P. acuta,* which was described first. Cooper (1870) also considered the striping character of *virgata* an environmental effect of alkaline habitat, not a species-worthy character.
P. virgata was synonymized with *Haitia mexicana* by Taylor (2003, p. 133) in his opus on Physidae. So, since *P. virgata = P. acuta*, and *H. mexicana = P. virgata*, logically, *Haitia mexicana = P. acuta*. *H. mexicana* was described by Philippi (1841) from Mexico. As *P. acuta* was described first, it has priority.

Supplemental Information: The genus for *acuta* has recently been changed from *Physa* to *Physella* based on genetic testing and the priority of *Physa fontinalis* L. (originally *Bulla fontinalis* L., 1758) as the type species for *Physa* (Wethington and Lydeard 2007). The type species for *Physella* Haldeman, 1842, is *P. globosa* Haldeman from Tennesee (Taylor 2003). Mayr's (1942) biological species concept was defined as follows: "A species consists of a group of populations which replace each other geographically or ecologically and of which the neighbouring ones intergrade or interbreed wherever they are in contact or which are potentially capable of doing so (with one or more of the populations) in those cases where contact is prevented by geographical or ecological barriers."

Specific Recommendation: We recommend that *Physella virgata* and *Physella (Haitia) mexicana* be considered junior synonyms of *Physella acuta*.

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Submitted By: Eric Wagner, Kate Holcomb (FMCS members)

Proposal Date: December 2020

Petition Number: Gastropod-2021-08

Subcommittee Member Voting:

_____I support the petition _____I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: *Ferrissia californica* (Rowell, 1863) is the priority name for *Ferrissia fragilis* (Tryon, 1863).

Background: *Ferrissia fragilis* (Tryon, 1863) is conspecific with *F. califorinica* (Rowell, 1863), but the former was in wide use and often assumed to have priority. However, Christensen (2016) clearly outlines the evidence for *Ferrissia califorinica* (Rowell, 1863) having priority over *F. fragilis* (Tryon, 1863) and cites numerous others that have come to similar conclusions, including Bequaert and Miller, (1973) and Coan (1989), both of which note that Rowell's paper was published in May, while Tryon could not have been published prior to July, 1963. Following International Code of Zoological Nomenclature Articles 21.3 and 21.4 establishes the priority of *F. californica*. Additionally, the use of *F. californica* at least twice since 1899 makes *F. fragilis* unavailable for conservation under the conditions of Article 23.9.

MolluscaBase considers *F. californica* the correct name while *F. fragilis* is unaccepted.

Supplemental Information: MolluscaBase eds. (2021). MolluscaBase. Ancylus fragilis Tryon, 1863. Accessed at: https://www.molluscabase.org/aphia.php?p=taxdetails&id=872749 on 2021-03-15

Specific Recommendation: It is recommended that *Ferrissia californica* (Rowell, 1863) be recognized as having priority over *Ferrissia fragilis* (Tryon, 1863) consistent with Christensen et al. (2016) and MolluscaBase.

Literature Cited:

Christensen, C.C., 2016. Change of status and name for a Hawaiian freshwater limpet: *Ancylus sharpi* Sykes, 1900, is the invasive North American *Ferrissia californica* (Rowell, 1863), formerly known as *Ferrissia fragilis* (Tryon, 1863) (Gastropoda: Planorbidae: Ancylinae). *Bishop Museum Occasional Papers*, *118*, pp.5-8.

Coan, E. 1989. the publications and taxa of the Reverend Joseph Rowell (1820–1918). The Veliger 32: 43–46.

Bequaert, J.C., & Miller, W.B. 1973. The mollusks of the arid southwest with an Arizona checklist. University of Arizona Press, Tucson. xvi + 271 pp

Submitted By: Kenneth A. Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-09

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Status of *Armiger crista* (Linnaeus, 1758) in North America.

Background: *Gyraulus crista* is the alternative representation of *Armiger crista* (Linnaeus, 1758) and it was inferred that *Gyraulus crista* may be restricted to Europe. MolluscaBase - Vinarski February 2019 – although this statement was included with the petition spreadsheet, there was no supporting documentation to support this assertion.

Leonard (1972) described *Armiger exigua* which MolluscaBase currently considers a synonym of *Gyraulus crista* (Linn., 1758), which itself is an alternative of *Armiger crista* (Linn, 1758). Leonard (1974) and Leonard and Frye (1975) report *A. exigua* in deposits from Northern Illinois and New Mexico, respectively.

Baker 1943 reports *Armiger* as Palearctic but indicates that *A. crista* is "…reported from the trans-Mediterranean region".

Burch (1982) lists *Gyraulus* (*Armiger*) *crista* as Holarctic, in North America from Ontario and Maine to Minnesota, Northwest Territories and Alaska.

Pip (1987) reported *A. crista* occurring at 10 sites in her study of Central North American freshwater systems.

Prozorova and Starogoatov (1996) consider *Armiger* as having a Holarctic distribution, and further comment that nearly all the 15 species in the genus are considered synonyms of *A. crista*. The do comment that the Asian species in the genus are distinct species, and "The same can be said about American "*A. crista*"; this is evident from descriptions and pictures [Clarke 1973, Burch 1989]."

Vinarski et al. (2020) indicated that *Armiger crista* was one of the few mollusc species with true circumpolar ranges, extending into the northern Canada.

Supplemental Information: None.

Specific Recommendation: Based on the combined evidence from numerous accounts in the literature by multiple authors, it is recommended that *Armiger crista* (Linnaeus, 1758) be retained on the list of species in North America.

Literature Cited:

Leonard, A.B., 1972. New gastropods from the Pleistocene of Illinois. The Nautilus, 85, pp.78-84.

Burch, J.B., 1982. Freshwater snails (Mollusca: Gastropoda) of North America.

Prozorova, L. A. & Y. I. Starobogatov, 1996. Guide to Recent molluscs of northern Eurasia. 6. Genus Armiger Hartmann, 1840 (family Planorbidae). Ruthenica: The Russian Malacological Journal 5(2): 167–175.

Pip, E., 1987. Species richness of freshwater gastropod communities in central North America. Journal of Molluscan Studies, 53(2), pp.163-170.

Vinarski, M.V., Bolotov, I.N., Aksenova, O.V., Babushkin, E.S., Bespalaya, Y.V., Makhrov, A.A., Nekhaev, I.O. and Vikhrev, I.V., 2020. Freshwater Mollusca of the Circumpolar Arctic: a review on their taxonomy, diversity and biogeography. Hydrobiologia, pp.1-28.

Submitted By: Kenneth A. Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-10

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed synonymization of *Gyraulus hornensis* F.C. Baker, 1934 and *G. vermicularis* (Gould, 1847) with *Gyraulus deflectus* (Say, 1824).

Background: *Gyraulus vermicularis* is a species from the Pacific northwest that is apparently a junior subjective synonym of *G. deflectus* (MolluscaBase). *Gyraulus vermicularis* was recognized in Johnson et al., (2013) and *G. hornensis* was recognized by both Turgeon et al., (1998) and Johnson et al., (2013).

MolluscaBase recognizes all three of the species in question as accepted names, and contrary the statement above, which was included with the petition spreadsheet, MolluscaBase does not indicate that *G. vermicularis* is a synonym of *G. deflectus*.

All three species names have been used in recent literature (see Lit Cited list) and none have indicated any taxonomic changes suggesting that they be synonymized.

Supplemental Information: None.

Specific Recommendation: It is recommended that *Gyraulus hornensis* F.C. Baker, 1934, *G. vermicularis* (Gould, 1847) and *G. deflectus* (Say, 1824) be retained until such a time as there is good evidence in peer-reviewed literature to support synonymies.

Literature Cited:

Stephen, B.J., 2018. A conservation assessment of the freshwater gastropods of South Dakota based on historical records and recent observations. bioRxiv, p.309385.

Neubauer, T.A., Kroh, A., Harzhauser, M., Georgopoulou, E. and Mandic, O., 2015. Taxonomic note on problematic Neogene European freshwater Gastropoda. Annalen des Naturhistorischen Museums in Wien. Serie A für Mineralogie und Petrographie, Geologie und Paläontologie, Anthropologie und Prähistorie, pp.95-100.

Beetle, D.E., 1989. Checklist of recent Mollusca of Wyoming, USA. The Great Basin Naturalist, pp.637-645.

Harzhauser, M., Gross, M. and Binder, H., 2008. Biostratigraphy of Middle Miocene (Sarmatian) wetland systems in an Eastern Alpine intramontane basin (Gratkorn Basin, Austria): the terrestrial gastropod approach. GEOLOGICA CARPATHICA-BRATISLAVA-, 59(1), p.45.

Lewis, D.B. and Magnuson, J.J., 2000. Landscape spatial patterns in freshwater snail assemblages across Northern Highland catchments. Freshwater Biology, 43(3), pp.409-420.

Miller, D.M., Reynolds, R.E., Groover, K.D., Buesch, D.C., Brown, H.J., Cromwell, G., Densmore, J., Garcia, A.L., Hughson, D., Knott, J.R. and Lovich, J.E., 2018. Against the current—The Mojave River from sink to source: The 2018 Desert Symposium field trip road log. In Against the Current: The Mojave River from Sink to Source (pp. 7-34).

Brunton, D.F., 1987. List of Original Descriptions Published in *The Canadian Field*: 1932-1986. Canadian Field-Naturalist 101 (4): 627—635.

Submitted By: Kenneth A. Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-11

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed placement of *Neritina clenchi* Russel, 1940 and *Neritina usnea* (Röding, 1798) into *Vitta* H. & A. Adams, 1854

Background: Eichhorst (2016b) placed *Neritina clenchi* Russel, 1940 and *Neritina usnea* (Röding, 1798) into Vitta H. & A. Adams, 1854 based on the claim that Vitta, as defined by Eichhorst (2016b), is a natural group. This claim was stated to be supported by Holthuis (1995).

Supplemental Information: However, two molecular phylogenetic analyses place *Neritina clenchi* and *Neritina usnea* in a clade with *Neritina punctulata* (Lamarck, 1816) (Quintero-Galvis and Castro 2013; Barroso et al. 2020); Eichhorst (2016a) placed *N. punctulata* in *Nereina*. Thus, available data indicate that *Vitta,* as conceived by Eichhorst (2016) is polyphyletic. The systematics of Neritidae is poorly understood and requires additional research. However, available data do not indicate that *Vitta sensu* Eichhorst (2016b) is a monophyletic genus.

Specific Recommendation: Given molecular phylogenetic analyses showing *Vitta* as not monophyletic, I recommend not adopting the taxonomy of Eichhorst (2016a, b).

Literature Cited:

Barroso, C. X., J. E. Pereira de Freitas, H. Matthews-Cascon, L. E. A. Bezerra, and T. M. da Cruz Lotufo. 2020. Molecular evidences confirm the taxonomic seperation of two sympatric congeneric species (*Mollusca*, *Gastropoda*, *Neritidae*, *Neritina*). ZooKeys 904:17-130.

Eichhorst, T. E. 2016a. Neritidae of the World, Volume 1. ConchBooks, Harxheim, Germany.

Eichhorst, T. E. 2016b. Neritidae of the World, Volume 2. ConchBooks, Harxheim, Germany.

Holthuis, B. V. 1995. Evolution between marine and fresh-water habitats: a case study of the gastropod suborder Neritospina. University of Washington.

Quintero-Galvis, J., and L. R. Castro. 2013. Molecular Phylogeny of the Neritidae (Gastropoda: Neritimorpha) based on the mitochondrial genes cytochrome oxidase I (COI) and 16S rRNA. Acta Biológica Colombiana 18:307-318.

Submitted By: Nathan Whelan

Proposal Date: March 19, 2021

Petition Number: Gastropod-2021-12

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed placement of *Viviparus georgianus* (I. Lea, 1834), *Viviparus goodrichi*, Archer, 1933, *Vivparus intertextus* (Say, 1829), *Viviparus limi* Pilsbry, 1918, *Viviparus subpurpureus* (Say, 1829) in *Callinina* Thiele, 1931.

Background: The genus *Viviparus* as traditionally conceived, has been considered to have both European and North American representatives. The checklist of Johnson et al. (2013) recognized five species in North America: *Viviparus georgianus* (I. Lea, 1834), *Viviparus goodrichi*, Archer, 1933, *Vivparus intertextus* (Say, 1829), *Viviparus limi* Pilsbry, 1918, *Viviparus subpurpureus* (Say, 1829).

In the 3-gene (COI, H3, 28S) phylogeny of Stelbrink et al. (2020), *Viviparus* was recovered as polyphyletic. North American species were found to be closely related to *Tulotoma*, also from North America, while the European species were recovered as more closely related to the Asian *Rivularia*.

The genus-group name *Callinina* Thiele, 1931 (a replacement name for *Callina* Hannibal, 1912 *non* Lowe, 1855), with *Viviparus intertextus* (Say, 1829) as type species by typification of a replaced name, is available for the American species of *Viviparus*.

According to Art. 34.2 of the International Code of Zoological Nomenclature (ICZN, 1999), "The ending of a Latin or latinized adjectival or participial species-group name must agree in gender with the generic name with which it is at any time combined [Art. 31.2]; if the gender ending is incorrect it must be changed accordingly (the author and date of the name remain unchanged [Art. 50.3.2])."

The gender of *Callinina* is feminine. Thus, gender agreement will further result in the following changes: *Callinina georgiana*, *C. intertexta*, and *C. subpurpurea*.

Supplemental Information: None.

Specific Recommendation: I recommend recognition of *Callinina georgiana, C. goodrichi, C. intertexta, C. limi,* and *C. subpurpurea*.

Literature Cited:

ICZN. 1999. International Code of Zoological Nomenclature, 4th ed. London: International Trust for Zoological Nomenclature.

Johnson PD, Bogan AE, Brown KM, Burkhead NM, Cordeiro JR, Garner JT, Hartfield PD, Lepitzki DAW, Mackie GL, Pip E, Tarpley TA, Tiemann JR, Whelan NV & Strong EE. 2013. Conservation Status of Freshwater Gastropods of Canada and the United States. Fisheries. 38: 247-282.

Stelbrink B, Richter R, Köhler F, Riedel F, Strong EE, Van Bocxlaer B, Albrecht C, Hauffe T, Page TJ, Aldridge DC, Bogan AE, Du L-N, Manuel-Santos MR, Marwoto RM, Shirokaya AA,

von Rintelen T. 2020. Global diversification dynamics since the Jurassic: low dispersal and habitat-dependent shell evolution explain hotspots of diversity and shell disparity in River Snails (Viviparidae). Systematic Biology, 69: 944–961. https://doi.org/10.1093/sysbio/syaa011

Submitted By: Ellen Strong

Proposal Date: March 4, 2021

Petition Number: Gastropod-2021-13

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed placement of *Assiminea infima* Berry, 1947 in *Angustassiminea* Habe, 1943.

Background: MolluscaBase list *Assiminea infima* Berry, 1947 as an unaccepted name and instead accepts the combination *Angustassiminea* Habe, 1943 (Bouchet, May 2015). Bouchet provided Hallan and Fukuda (2015) as support for this combination.

Previously, Abbott (1974) had placed *Assiminea californica* (Tryon, 1865) in *Angustassiminea*. Hershler et al. (2007) seemed to agree that these North American species needed to be transferred to another genus but indicated additional analyses that included these and other taxa was needed. Fukuda and Ponder (2003) after examining reproductive systems of the type species of *Assiminea* Fleming, 1828, *Angustassiminea* Habe, 1943, and *Pseudomphala* Heude, 1882 suggested that most species do not belong in *Assiminea sensu stricto*. But they did not go so far as to move these species and did not treat *A. infima* directly.

Hallan and Fukdua (2015) carried out phylogenetic analyses that did include *A. infima* and recovered it in a well-supported clade with *A. californica* and others they placed in *Angustassiminea.* Most importantly, none of these species were recovered in the group with *Assiminea grayana* J. Fleming, 1828, the type species for the genus.

Supplemental Information: None.

Specific Recommendation: It is recommended that *Assiminea infima* Berry, 1947 be referred to *Angustassiminea* Habe, 1943 consistent with MolluscaBase and the analysis by Hallan and Fukuda (2015).

Literature Cited:
Hershler, R., 1987. Redescription of Assiminea infima Berry, 1947 from Death Valley, California. Veliger.

Hallan, A. and Fukuda, H., 2015. Taiwanassiminea phantasma n. sp.: a terrestrial assimineid (Caenogastropoda: Truncatelloidea) from Middle Osborn Island, Kimberley, Western Australia. Molluscan Research, 35(2), pp.112-122.

Fukuda, H. and Ponder, W.F., 2003. Australian freshwater assimineids, with a synopsis of the Recent genus-group taxa of the Assimineidae (Mollusca: Caenogastropoda: Rissooidea). Journal of Natural History, 37(16), pp.1977-2032.

Abbott, R. T., 1974. American seashells. The marine Mollusca of the Atlantic and Pacific Coasts of North America. 2nd edn. Van Nostrand Reinhold Company, New York

Submitted By: Kenneth A. Hayes

Proposal Date: March 2021

Petition Number: Gastropod-2021-14

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed transfer of *Holsingeria unthanksensis* Hershler, 1988 from the Lithoglyphidae to the Cochliopidae.

Background: When describing the new genus and species *Holsingeria unthanksensis*, Hershler (1988) placed it in the Hydrobiidae, as all North American freshwater hydrobioids were placed in the family. Hershler (1988) indicated the species had affinities with *Phreatodrobia*. Hershler & Thompson (1990) placed *Holsingeria* near *Pterides*, *Antrorbis* and *Phreatodrobia* in the Lithoglyphinae, which was recognized at the rank of family by Wilke et al. (2001). This placement was followed by Johnson et al. (2013) and most recently by Clark (2019a). Other stygobitic genera formerly placed in the Lithoglyphidae (*Phreatodrobia, Phreatoceras, Balconorbis, Stygopyrgus, and Texapyrgus*) were reassigned to Cochliopidae by Clark (2019b).

Supplemental Information: In the phylogenetic analysis of Gladstone et al. (2019) based on partial COI sequences, *Holsingeria* clustered with *Antrorbis* and *Phreatodrobia* in a stygobitic clade within the Cochliopidae. On the basis of their phylogeny, Gladstone et al. (2019) tentatively transferred *Antrorbis* to the Cochliopidae. They made no recommendation about the placement of *Holsingeria*.

Specific Recommendation: I recommend transfer of *Holsingeria unthanksensis* from Lithoglyphidae to Cochliopidae.

Literature Cited:

Clark S. 2019a. Lithoglyphidae Tryon 1866. In: Lydeard C, Cummings KS (Eds) Freshwater Mollusks of the World: A Distribution Atlas. Johns Hopkins University Press, Baltimore, 118-121.

Clark S. 2019a. Cochliopidae Tryon 1866. In: Lydeard C, Cummings KS (Eds) Freshwater Mollusks of the World: A Distribution Atlas. Johns Hopkins University Press, Baltimore, 104-109.

Gladstone NS, Perez KE, Pieper EB, Carter ET, Dooley KE, Shoobs NF, Engel AS, Niemiller ML (2019). A new species of stygobitic snail in the genus *Antrorbis* Hershler & Thompson, 1990 (Gastropoda, Cochliopidae) from the Appalachian Valley and Ridge of eastern Tennessee, USA. Zookeys, 898: 103–120. doi: 10.3897/zookeys.898.46917

Hershler R. 1988. *Holsingeria unthanksensis*, a new genus and species of aquatic cavesnail from eastern North America. Malacological Review, 22(1-2): 93-100.

Hershler R, Thompson FG. 1990. *Antrorbis breweri*, a new genus and species of hydrobiid cavesnail (Gastropoda) from Coosa River Basin, Northeastern Alabama. Proceedings of the Biological Society of Washington, 103(l):197-204.

Johnson PD, Bogan AE, Brown KM, Burkhead NM, Cordeiro JR, Garner JT, Hartfield PD, Lepitzki DAW, Mackie GL, Pip E, Tarpley TA, Tiemann JR, Whelan NV & Strong EE. 2013. Conservation Status of Freshwater Gastropods of Canada and the United States. Fisheries. 38: 247-282.

Wilke, T., G. M. Davis, A. Falniowski, F. Giusti, M. Bodon, and M. Szarowska. 2001. Molecular systematics of Hydrobiidae (Mollusca: Gastropoda: Rissooidea): testing monophyly and phylogenetic relationships. Proceedings of the Academy of Natural Sciences, Philadelphia 151:1-21.

Submitted By: Ellen Strong

Proposal Date: March 4, 2021

Petition Number: Gastropod-2021-15

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed recognition of *Antrorbis tennesseensis* Perez et al., 2019 and placement of *A. breweri* into the Cochliopidae.

Background: *Antrorbis tennesseensis* was described and distinguished from *Antrorbis breweri* (the only congener) using COI DNA and features of the shell. The paper provides limited support for placement of *Antrorbis* into Cochliopidae, generally following Clark 2019 (in Lydeard & Cummings, 2019) in movement of many North American groups formerly part of the Lithoglyphidae to Cochliopidae. However, this is limited as this paper does not present an evaluation of relationships among all those former hydrobiid families and that is beyond the ability of COI to resolve (per Wilke et al. 2012, DOI: 10.1016/j.ympev.2012.10.025).

Supplemental Information: Gladstone et al. 2019. ZooKeys. doi: 10.3897/zookeys.898.46917

The Tennessee Cavesnail, *Antrorbis tennesseensis* Perez, Shoobs, Gladstone, & Niemiller, **sp. nov.** is distinguished from its only known congener, *Antrorbis breweri*, by the absence of raised tubercles on its finely spirally striate protoconch, and its unique radular formula. Moreover, *A. tennesseensis* is genetically distinct from *A. breweri* based on substantial divergence at the mitochondrial CO1 locus.

Specific Recommendation: Recommend accepting new species description of *Antrorbis tennesseensis* Perez, Shoobs, Gladstone, & Niemiller, but discuss movement of *Antrorbis* to Cochliopidae. Probably reasonable but no one has actually published any evidence to support this.

Literature Cited:

Gladstone et al. 2019. ZooKeys. doi: 10.3897/zookeys.898.46917

Wilke, Thomas & Haase, Martin & Hershler, Robert & Liu, Hsiu-Ping & Misof, Bernhard & Ponder, Winston. 2012. Pushing short DNA fragments to the limit: Phylogenetic relationships of 'hydrobioid' gastropods (Caenogastropoda: Rissooidea). Molecular phylogenetics and evolution. 66. 10.1016/j.ympev.2012.10.025.

Clark, S. 2019a.Cochliopidae Tryon 1866. In: Lydeard C, Cummings KS (Eds) Freshwater Mollusks of the World: A Distribution Atlas. Johns Hopkins University Press, Baltimore, 104–109.

Clark, S. 2019b. Lithoglyphidae Tryon 1866. In: Lydeard C, Cummings KS (Eds) Freshwater Mollusks of the World: A Distribution Atlas. Johns Hopkins University Press, Baltimore, 118–121.

Submitted By: Kathryn Perez

Proposal Date: March 15, 2021

Petition Number: Gastropod-2021-16

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed recognition of *Phreatodrobia spica* Perez & Alvear, 2020 from central Texas.

Background: *Phreatodrobia spica* is distinguished from congeners using morphological and molecular (COI DNA) evidence and is characterized by an elevated, trochiform shell with unique sculpture that include spikes and pustules. It has an open umbilicus and a complete, reflected lip that is sometimes appressed to the body whorl.

Supplemental Information: Alvear, D.; Diaz, P. H.; Gibson, J. R.; Jones, M.; Perez, K. E. (2020). An unusually sculptured new species of Phreatodrobia Hershler & Longley (Mollusca: Caenogastropoda: Cochliopidae) from central Texas. Zootaxa. 4810(1): 143-152. Zootaxa: https://doi.org/10.11646/zootaxa.4810.1.8

DNA and morphological distinction from other *Phreatodrobia*, a very distinctive snail in shell shape and sculptural features.

Specific Recommendation: Recommend accepting new species description of *Phreatodrobia spica* Perez & Alvear, 2020.

Literature Cited:
Alvear, D.; Diaz, P. H.; Gibson, J. R.; Jones, M.; Perez, K. E. (2020). An unusually sculptured new species of Phreatodrobia Hershler & Longley (Mollusca: Caenogastropoda: Cochliopidae) from central Texas. Zootaxa. 4810(1): 143-152. Zootaxa: https://doi.org/10.11646/zootaxa.4810.1.8

Submitted By: Kathryn Perez

Proposal Date: March 15, 2021

Petition Number: Gastropod-2021-17

Committee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed transfer of *Fontigens* Pilsbry, 1933 from the Hydrobiidae to the Emmericiidae.

Background: Morrison (1947) placed *Fontigens* in Emmericiinae owing to similarities in penial morphology. Taylor (1966) proposed the new subfamily Fontigentinae, which was followed by Burch & Tottenham (1980). In their revision of the genus, Hershler et al. (1990), preferred to retain *Fontigens* in the Emmericiinae (at that time, a subfamily of Hydrobiidae) and synonymized Fontigentinae with Emmericiinae. In the phylogenetic analysis of Wilke et al. (2013), *Fontigens* placed in a polytomy without strong support with representatives of (Emmericiidae + Bithyniidae) and Bythinellidae. Based on these results, Wilke et al. (2013) removed Fontigentinae from the synonymy of Emmericiinae but left the family affinities of Fontigentinae unresolved. On the recommendation of Wilke (pers. comm.), Bouchet et al. (2017) retained *Fontigens* in Emmericiidae given the lack of definitive evidence to overturn the status quo, but placed it in its own subfamily. Bouchet et al. (2017) indicated that additional studies involving more taxa would be required to resolve whether the group represents a subfamily within Emmericiidae or should be recognized as a distinct family.

Supplemental Information: None.

Specific Recommendation: I recommend transfer of *Fontigens* from the Hydrobiidae to the Emmericiidae.

Literature Cited:
Bouchet P., Rocroi J.P., Hausdorf B., Kaim A., Kano Y., Nützel A., Parkhaev P., Schrödl M. & Strong E.E. (2017). Revised classification, nomenclator and typification of gastropod and monoplacophoran families. Malacologia. 61(1-2): 1-526.

Burch JB, Tottenham JL. 1980. North American Freshwater Snails: Species List, Ranges and Illustrations. Walkerana, 1: 1-215.

Hershler R, Holsinger JR, Hubricht L. 1990. A revision of the North American freshwater snail genus *Fontigens* (Prosobranchia: Hydrobiidae). Smithsonian Contributions to Zoology, 509: 1-49. https://doi.org/10.5479/si.00810282.509

Morrison JPE. 1947. Notes on the genus *Probythinella* (Hydrobiinae). Nautilus, 61:25-28.

Taylor DW. 1966. A remarkable snail fauna from Coahuila, México. The Veliger. 9(2): 152-228.
Wilke T, Haase M, Hershler R, Liu H-P, Misof B & Ponder W. (2013) Pushing short DNA fragments to the limit: Phylogenetic relationships of 'hydrobioid' gastropods (Caenogastropoda: Rissooidea). Molecular Phylogenetics and Evolution, 66: 715-736., available online at https://doi.org/10.1016/j.ympev.2012.10.025

Submitted By: Ellen Strong

Proposal Date: March 4, 2021

Petition Number: Gastropod-2021-18

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed synonymization of *Pyrgulopsis nonaria* Hershler, 1998 and *Pyrgulopsis transversa* Hershler, 1998 with *Pyrgulopsis pilsbryana* (Bailey & Bailey 1952).

Background: *Pyrgulopsis nonaria* was described by Hershler (1998) from springs that fed Ninemile Reservoir, a water body in the Bonneville Basin of Utah. *Pyrgulopsis nonaria* had differences in penial gland characteristics which were previously used to separate it as a distinct species. However, this character is not always consistent (e.g., see Taylor 1987).

Pyrgulopsis transversa, the Southern Bonneville Pyrg, was described by Hershler (1998) from the Bonneville Basin of Utah. *P. transversa* had differences in penial gland characteristics which were previosly used to separate it as a distinct species. Hershler (1998) noted for *P. transversa* that the ventral gland may or may not be present.

Genetic analysis by Liu et al. (2018; Fig. 1) using mitochondrial cytochrome oxidase 1 genes (COI) showed that springsnails from many Bonneville Basin and Wasatch Front locations within Utah formerly ascribed to *Pyrgulopsis kolobensis* Taylor, 1987, were all in one clade. Mean genetic distance among members of the clade designated as Lineage A (Fig. 1) was 0.7% and ranged from 0.0 to 2.9%, with 96% of the differences <1.5%. Regarding intraspecific versus interspecific variance in COI data, Vinarski et al. (2016) noted "Some recent studies reveal that the largest pairwise intraspecific COI sequence differences in freshwater and terrestrial snails could reach ~5% (Desouky & Busais, 2012; Dillon & Frankis, 2004; Elejalde et al. 2008; Fehér et al. 2013)." Variance among the Lineage A group specimens is well below this threshold. Liu et al. (2018) considered members of Lineage A a single species, which we also support. Among these samples were two snails formerly considered separate species, *Pyrgulopsis nonaria* and *P. transversa*. Also in the clade was *P. pilsbryana*, which was described earlier by Baily & Baily (1951), so has date priority for naming the lineage members.

Supplemental Information: Type location for *P. pilsbryana* was Lifton, Bear Lake Utah-Idaho (holotype 187691 in Acad.Nat.Sci.Phila.), which was formerly in the Bonneville Basin during the Pleistocene. The species was originally named *Amnicola pilsbryi,* but the species name was occupied by Walker, 1906, so the name was changed to *A. pilsbryana* Baily and Baily, 1951. It was later transferred to *Pyrgulopsis pilsbryana* by Hershler and Thompson (1987). Type location for *P. transversa* was Sixmile Springs, Simpson Mountains, Old River Bed, Tooele Co., Utah (holotype USNM 883221).

Specific Recommendation: We recommend considering *Pyrgulopsis nonaria* and *Pyrgulopsis transvera* as variants and junior synonyms of *Pyrgulopsis pilsbryana* Baily and Bailey, 1951, the Bear Lake Springsnail.

Literature Cited:

Baily, J.L., and R.I. Baily. 1951. Further observations on the Mollusca of the relict lakes in the Great Basin. Nautilus 65(2):46-53.

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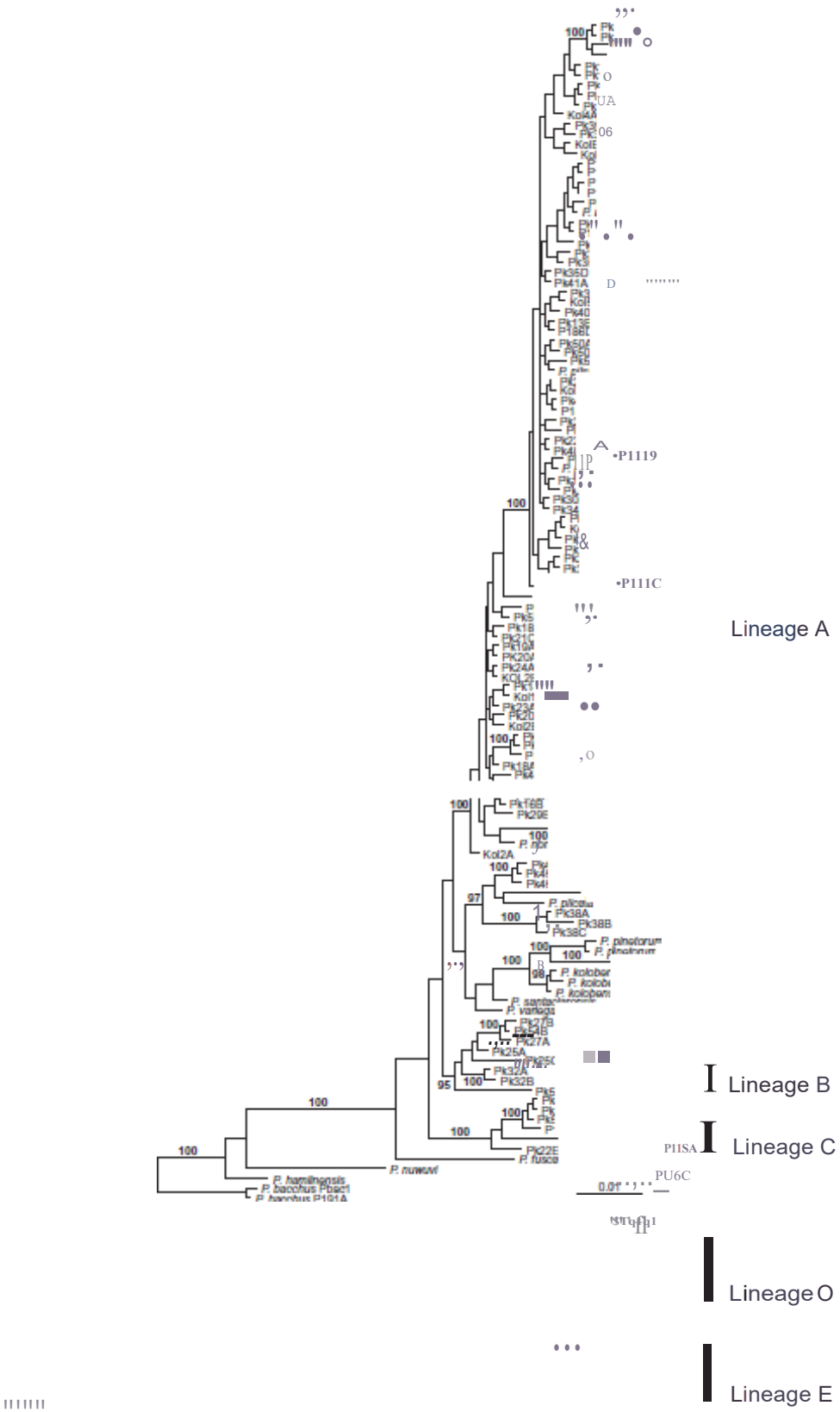
Submitted By: Eric Wagner, Kate Holcomb (FMCS members)

Proposal Date: December 2020



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Petition Number: Gastropod-2021-19

Subcommittee Member Voting:

_____I support the petition _____I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.

Freshwater Mollusk Conservation Society
Names of Freshwater Mollusk Subcommittee
Petition for Proposed Scientific or Common Name Change

Title: Proposed recognition of a new pleurocerid species, *Pleurocera shenandoa* Dillon, 2019, from Virginia

Background: In 2019, a new species was described from Virginia *P. shenandoa* (https://fwgna.blogspot.com/2019/03/pleurocera-shenandoa-nsp.html). Under current FMCS taxonomy, this species would be placed in the genus *Elimia*, given shell shape and that it was previously claimed to be a synonym of *E. semicarinata*.

Based on old allozyme data showing a population of "*E. semicarinata*" from Virginia to be distinct from *E. semicarinata* from the Ohio River drainage, the Virginia population was described as *E. shenandoa*. The analysis did not include other pleurocerids known from Virginia like *E. virginica*, *E. proxima*, and *E. simplex* so the distinctness of the putative species from other described pleurocerids cannot be assessed at this time. Shell shape variation in pleurocerids is poorly understood, and the data Dillon (2019) provided does not differentiate the shell shape of *P. shenandoa* is distinct enough from other *Elimia* spp. to merit specific status.

Supplemental Information: None.

Specific Recommendation: This species should not be recognized or added to the FMCS list. Available evidence is equivocal as to whether "*P. shenandoa*" is a distinct species; rather, available data merely show that the sequenced population is distinct from *E. semicarinata* and a small number of other species from the Ohio River drainage. If this species were to be recognized, it should be placed in *Elimia*.

Literature Cited:
Dillon R.T. (2019). Appendix: Description of a new species of freshwater snail Caenogastropoda: Pleuroceridae from the Great Valley of Virginia. Pp. 189-193, in: R.T. Dillon, M.J. Ashton, W.K. Reeves, T.P. Smith, T.W. Stewart & B.T. Watson, Freshwater gastropods of North America, Volume 1: Atlantic drainages, Georgia through Pennsylvania. Charleston: Freshwater Gastropods of North America Project.

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Submitted By: Nathan Whelan

Proposal Date: March 8, 2021

Petition Number: Gastropod-2021-20

Subcommittee Member Voting:

____ I support the petition ____ I do not support the petition

Subcommittee members *may* issue a detailed justification of their opinion to express support or rejection of the petition.