An update to the 2014 nomenclator of Valvatidae

Gerhard Haszprunar

1 SNSB – Zoologische Staatssammlung München, Münchhauensstr. 21, D-81247 München, Germany
2 Faculty of Biology and GeoBio-Center of LMU Munich, Biozentrum, Großhaderner Str. 2, D-82152 Planegg-Martinsried, Germany

Corresponding author: Gerhard Haszprunar (haszprunar@snsb.de)

Academic editor: T. A. Neubauer | Received 14 January 2022 | Accepted 4 March 2022 | Published 6 April 2022

Citation: Haszprunar G (2022) An update to the 2014 nomenclator of Valvatidae. ZooKeys 1092: 147–194. https://doi.org/10.3897/zookeys.1092.80548

Abstract
This contribution is an update to the 2014 compilation of all supra- and (infra-) specific taxa of extant and fossil Valvatidae, a group of freshwater operculate snails near the base of Heterobranchia with a nearly worldwide distribution. This update includes corrections and many additions (two replacement taxon names, 21 mainly fossil taxa previously overlooked, and 37 invalid names) to the 2014 contribution and adds all newly described species (11) during the past eight years. The extensive reference list is directly linked, where possible, to the available electronic source of the cited papers.

Keywords
freshwater snails, Gastropoda, taxonomy, Valvatidae

Introduction
My compilation of all taxa of extant and fossil valvatid gastropods (Haszprunar 2014) has been positively received by the scientific community and was followed by similar taxonomic work on other important groups of freshwater gastropods such as Neubauer (2016) for Melanopsidae or Neiber and Glaubrecht (2019) for Paludomidae. My work inspired and facilitated several recent papers on the taxonomy of Valvatidae. In particular, Russian authors cleared up the status of many uncertain taxa and provided valuable data and high-quality images of type material (e.g., Sitnikova et al. 2015, 2017; Vinarski 2016; Sitnikova 2018; Shirokaya et al. 2019; Andreeva et al. 2021; Osipova et al. 2021).
In contrast, the paleontological analysis of Valvatidae (and other taxa with similar shell morphologies) is still hampered by the unavailability of key literature. Many important and also quite recent taxonomic papers on fossil taxa have been written in non-Roman alphabets and often are not available as a digitized version. Thanks to the kindness of several colleagues, I could access some of the most important papers in particular by Russian or Chinese authorities, and the results of checking the original descriptions and their circumstances are compiled and reviewed herein.

Whereas there is constant progress in detecting and describing new valvatid species, concerning both fossil and extant taxa (Table 1), our understanding of species delimitation in Valvatidae generally is still limited. Also, a robust phylogeny of the family is still in its infancy, since only a few papers have provided molecular data on valvatids (e.g., Hauswald et al. 2008; Clewing et al. 2014; Saito et al. 2018; Falniowski et al. 2021). In particular, the seemingly well-known and widely distributed *Valvata piscinalis* (O.F. Müller, 1774) is likely to represent a species complex spread all over the Palaearctic and (by introduction) also the Nearctic region.

As a result, there have not been any recent proposals of new genera or further revisions to the supraspecific classification. Accordingly, this update is limited to the species level. The present update adds two extant and nine fossil species recently described, two replacement taxon names, another 21 mainly fossil taxa previously overlooked, and nearly 40 names based on confusions, misspellings, or invalid publications (Table 1). In addition, numerous data on type localities or type material or sequence information are provided.

**Table 1.** List of new names (alphabetically arranged) since publishing of the nomenclator (Haszprunar 2014).

(1) Newly described taxa:

*Valvata (Tropidina) armeniaca* Walther & Glöer, 2019
† *Valvata ducati* Esu & Girotti, 2015
† *Valvata jiaolaiensis* Yu, Salvador, Wang, Fang, Neubauer, Li, Zhang, Wan, 2021
*Valvata (Tropidina) kebapcii* Odabaşı, Glöer & Yıldırım, 2015
† *Valvata koehleri* Harzhauser, Neubauer & Högström, 2018
*Valvata kournasi* Glöer & Hirschfelder, 2019
† *Provalvata maior* Cataldo, Lazo, Lucci & Aguirre-Urreta, 2019
† *Valvata mathiasi* Esu & Girotti, 2018
† *Provalvata minor* Cataldo, Lazo, Lucci & Aguirre-Urreta, 2019
† *Valvata pyramidula* Esu & Girotti, 2015
† *Valvata heidemariae willmanni* Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014

(2) Previously overlooked taxa:

† *Valvata alta* K.A. Ali-Zade, 1932
† *Valvata andrussovi* A.A. Ali-Zade, 1967
† *Valvata (Cincinna) arnauti* Repelin, 1902
† Paludina avia Eichwald, 1853
† Valvata balchanica A.A. Ali-Zade, 1967
Valvata piscinalis var. cancellata Baudon, 1884
Valvata bicaarinata var. connectans Walker, 1906
† Valvata cosinensis Stache, 1889
† Valvata egregia Noulet, 1857
† Valvata faujasii Dumas, 1876
† Valvata vanciana var. kubanica Krestovnikov, 1931
† Valvata (Valvata) plattspira Szöts, 1953
† Valvata polita A.A. Ali-Zade, 1973
† Valvata (Cincinna) pontica Panä, 1990
† Valvata (Borysthenia) pronaticina Lindholm, 1932
† Valvata (Cincinna) rakovetzae Popova & Starobogatov, 1970
† Valvata (Cincinna) splendida Szöts, 1953
† Valvata tanaaticus Sanco, 2007
† Valvata turbinata Stache, 1889
† Valvata turbinoides K.A. Ali-Zade, 1936
† Valvata unalica Popov, 1965

(3) Other names that are not valid or available:
“Valvata baikalensis” [Valvata baikalensis]
“Valvata californiensis Mss.” [nomen nudum]
“Cincinna (Sibirovalvata) chankensis Prozorova, 1988” [Cincinna (Sibirovalvata) hankensis]
† “Valvata unicarinifera chiknaformis” [invalidly published]
† “Valvata (Cincinna) cinicnata” (Greppin, 1855)” [Paludina cinicnata Greppin, 1855; non Valvata cinicnata Sandberger, 1871]
† “Valvata piscinaliis var. cistopolitana G.I. Popov” [nomen nudum]
“Valvata cupensis” [Valvata cupensis]
† “Valvata denistriata” [Valvata denestriata]
“Valvata bicaarinata depressa Walker” [Valvata biaarinata perdepressa Walker, 1906]
“Valvata euzonia Ziegler” [trade name]
† “Valvata (Cincinna) fuiensis” [†Valvata (Cincinna) fuxinensis Yü, 1987]
“V. i.e., Valvata] impressa” [Valvata depressa]
† “Valvata (Cincinna) joncheryacensis Wenz, 1923” [Valvata joncheryensis Wenz, 1930]
“Valvata (Cincinna) aliena var. korotnevi Ldh. 1909” [Valvata korotnevi Lindholm, 1909]
“Valvata kurensis” [Valvata kupensis Fuchs, 1870]
“Valvata lanta” [Valvata lauta Lindholm, 1909]
“Valvata luguenis” [nomen nudum]
† “Valvata (Cincinna) mengyinensis (Grabau)” [†Bithynia mengyinensis X Valvata suturenensis]
“Valvata montenegroinus Glöct & Pešić, 2008” [Valvata montenegrina]
† “Valvata nikosi” [Pyrgula nikosi Esu & Girotti, 2015]
† “Valvata cristata palustris Kormos” [Valvata cristata X Stagnicola palustris]
† “Valvata cristata polustris” [Stagnicola palustris (O.F. Müller, 1774)]
General remarks

As in the previous work (Haszprunar 2014) all taxa (species, subspecies, named varieties) are listed alphabetically in their original version (only the spelling may be corrected according to the actual ICZN rules) regardless of validity, current taxonomic status, and synonymy. It is followed by either the citation to the page in my 2014 publication or indicated as a name newly treated herein. I also add available data sources (type material, anatomy, molecular data), which may be useful for future species delineation.

Two Ph.D. theses are discussed, since they contain the description of new taxa of Valvatidae (and of several other families): Bingle-Davis (2012) (University of North Dakota, U.S.A.) and Siodiropouloú (2003) (Aristotle University of Thessaloniki, Greece). Both theses do not satisfy the criteria for publication of the International Code of Zoological Nomenclature, Articles 8.1 and 8.6. Students and faculty advisors should ensure that Ph.D. theses do not include proposed new taxa, except as, e.g., “Species A” so that these manuscript names will not enter the taxonomic literature and databases.

A widely cited Chinese-language work, “Youlou 1978” is particularly problematic. Previous authors, myself included, did not realize that this name actually means “Editors” or “Editorial Board” in Chinese, and no individuals are identified as the authors of either this publication or specific sections of this publication. I was uncertain about the true authorship of the very many taxon names of fossil gastropods introduced in this work. Indeed, the authorship “Youluo” appeared in all cases in the online type catalogue of the Nanjing Institute as well as in the Zoological Record, and has been repeatedly cited by later authors. Meanwhile I was able to check the original paper and can confirm the term “Youluo” as the true (i.e., printed in this way) authority in all cases [checked by a native Chinese colleague]. Most important, the actual names of
any member of this group are not provided anywhere in this volume. However, ICZN Art. 14 clearly states that “A new name or nomenclatural act published after 1950 with anonymous authorship [Art. 50.1] is not thereby made available”. Accordingly, all species names (more than 120 new taxa!) as well as higher taxa (e.g., family Bohaispiridae and many hydrobiid genera; see Kabat and Hershler 1993) being introduced in this work are not available from there, but may have become available later by other authorities, if they clearly refer to the reference with an image of specimens or a diagnosis of the species. Among the Valvatidae they are listed in alphabetic order below and the names are marked as fossil taxa by “†”:

† Valvata (Cincinna) applanata Zhu X., 1995
† "Liratina basicarinata"
† “Tropidina bellireticulata”
† “Liratina fahaniuensis”
† “Liratina hedobia”
† “Aphanotylus humeratus”
† “Valvata magniumbilicata”
† “Costovalvata minuta”
† “Valvata (Atropidina) pileiformis”
† “Liratina qikouensis”
† “Valvata (Cincinna) rehetensis” → Valvata rehetensis Zhu G.-X., 1980
† “Valvata ringentis”
† “Liratina tuozhuangensis”
† “Valvata zhouqingzhuangensis”

Details on these names are outlined below under each name.

Update of species names

The page number for the taxon name in my previous work (Nomenclator of Valvatidae: Haszprunar 2014) is given in parentheses as (Nom: ##).

Valvata aliena C.A. Westerlund, 1877 (Nom: 16)

Remarks: Sitnikova et al. (2015: 3–4, fig. 1B) provided a photo of the lectotype and from specimens of several localities as well as an extensive and annotated citation record in the Russian literature. Andreeva et al. (2021: fig. 1A) added excellent photos from specimens of the Taz River basin (western Siberia).

Valvata alpestris Küster, 1853 (Nom: 16)

Type locality: “in kleinen Seen an der Quelle des Giessbaches ohnweit des Faulhorns bei Grindelwald” (Küster 1853: 87). According to current maps this is probably the “Schwarzseeli” near the Faulhorn at Grindelwald, Switzerland.

Types are figured by Boeters and Falkner (1998, not 2002 as stated).
† Valvata alta K.A. Ali-Zade, 1932 (NEW)
   Original source: K.A. Ali-Zade 1932: 21, pl. 2: figs 12–14 (not seen, but according to Ali-Zade 1936: 17).
   Type locality: near Naftalan, Azerbaijan.
   Type horizon: Akchagylian, Upper Pliocene or Lower Pleistocene.
   Remarks: Junior homonym of Valvata alta Deshayes, 1867, replaced by Valvata turbinoides K.A. Ali-Zade, 1936 (p. 17, pl. 1: figs 28–30).

† Valvata (Cincinna) altaica Popova & Starobogatov (in Popova, Devyatkin & Starobogatov, 1970) [not 1981 as stated in Haszprunar 2014] (Nom: 17)
   Original source: Popova et al. 1970: 25, pl. 1: fig 2, pl. 2: figs 13, 14.
   Type locality: Chuya Basin, left bank of the Chuya River, not located in Irkutsk Region as indicated in Haszprunar (2014), but in the southeastern part of Altai Mountains, Russia.
   Type material: Holotype deposited in the Zoological Institute, of the Russian Academy of Sciences, St. Petersburg (No. ZIN 1/533-1968).
   Remarks: Unfortunately this fossil species was omitted from the recent review of taxa created by Starobogatov (Sitnikova et al. 2017).

Cincinna (Sibirovalvata) amurensis Moskvicheva, 1985 (in Starobogatov & Zatravkin, 1985) (Nom: 17)
   Type material: Holotype deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (No. ZIN 1/405-1973).
   Remarks: Saito et al. (2018) provided molecular data from specimens from Vladimiro-Petrovka (near southwest border of Khanka Lake), Primorsky region, Russia.

† Valvata andreaei Menzel, 1904 (Nom: 18)
   Type horizon: Quaternary.
   Type material: not designated as such, but a sample with more than 20 specimens collected 1903 from the type localities (Alfeld an der Leine and Wallensen, Niedersachsen, Germany) with the original label stating “Zwergform von piscinalis” is stored in the Geozentrum Hannover (originally from Geowissenschaftliche Sammlungen Berlin, BGR) under BGR-B-STGR-000032180 (Alfeld) and BGR-B-STGR-000032693 (Wallensen).

“Valvata andrezowski” (GNI, GBIF) (Nom: 18)
   Remarks: I reported about a label with this name in the Academy of Natural Sciences of Drexel University (Philadelphia). According to Bram van der Bijl (pers. comm. email 06 Feb 2014) the collection of the Biodiversity Center Naturalis (Leiden, Netherlands) holds a sample with a similar label.

† Valvata andrussovi A.A. Ali-Zade, 1967 (NEW)
   Original source: A.A. Ali-Zade 1967: 224–225, pl. 84: figs 5, 6.
   Type locality: Maly Balkhan, northwest Turkmenistan.
Type horizon: Upper Akchagylian, Lower Pleistocene.
Type material: Dr Pavel Frolov (pers. comm. via Dr. Paval Kijashko, 22 Feb 2022) said that the fossil molluscs described by A.A. Ali-Zade in 1967 are all stored in the Museum of Earth Sciences of Moscow State University (MES MSU).
Remarks: not treated in the last 50 years.

† *Amplovalvata suturalis anjipingensis* Yü, 1980 (in Yü & Pan, 1980) (Nom: 18)
   Original source: Yü and Pan 1980: 149, pl. 3: figs 1, 2.

† *Amplovalvata antiqua* Pan, 1980 (in Yü & Pan, 1980) (Nom: 19)
   Original source: Yü and Pan 1980: 148, pl. 2: figs 21–24.

† *Valvata (Cincinna) applanata* Zhu X., 1995 (Nom: 20)
   Original source: Zhu X. 1995: 79, pl. 22: 1–14, pl. 23: 9–12. Directly referred to Youluo 1978 (not available from there; see above).
   Type locality: Qinghai Goulucuonan.
   Type horizon: Cenozoic.
   Type series: Nanjing Institute of Geology and Paleontology, Samples ## 118778-118786 and ## 118794-118797 (13 specimens).

*Valvata arenifera* Lea, 1834 (Nom: 20)
   Remarks: The history of misidentifications and nomenclature of this trichopteran insect with figures of the original description and with further links was presented by Lee (2015).

*Valvata (Tropidina) armeniaca* Walther & Glöer, 2019 (NEW)
   Original source: Walther and Glöer 2019: 1–5: fig. 2 (1–3 shell of holotype, 9 and 10 shell of paratype), fig. 3 (environment of type locality).
   Type locality: Armenia, Armavir Province, bridge over river Kasakh, 1.6 km W of Vagharshapat, 40.1650°N, 44.2558°E, 870 m asl, 27 Aug. 2018, F. Walther leg.
   Type material: Holotype: Shell height 1.5 mm, width 2.5 mm, from type locality (Zoological Museum Hamburg ZMH 59491); Paratypes: from type locality (ZMH 59492, 3 specimens in ethanol); from type locality (F. Walther 13603; 1 dry shell); Ararat Province, Jrahovit, ditch S of the cemetery, 40.0450°N, 44.4880°E, 850 m asl., 26 Aug. 2018, leg. F. Walther (FW 14008, 1 specimen in ethanol).

† *Valvata (Cincinna) arnaudi* Repelin, 1902 (NEW)
   Original source: Repelin 1902: 90, pl. 5: figs 40–42.
   Type locality: Simeyroles, Département Dordogne in Nouvelle-Aquitaine, south France.
   Type horizon: Cenomanian, Lowest Upper Cretaceous.
   Type material: described from the collection Matheron, Museum nationale d’Histoire naturelle (MNHN), Paris.
† *Valvata (Cincinna) australina* Pan, 1977 (Nom: 20)

Type locality: YH 5054-8-1, Mimalong, Lufeng County, Yunnan Province, China.
Type horizon: Fluvial-lacustrine horizon in the Zhanghe Formation, Bajocian, Jurassic.
Type material: Holotype at Nanjing Institute of Geology and Paleontology #24250.

† *Paludina avia* Eichwald, 1851 (NEW)

Original source: Eichwald 1851: 136, pl. 10: fig. 28a–c; reprinted in Eichwald 1852: pl. 10: fig. 28a–c (atlas) and Eichwald 1853: 288 (text). Nosowska (2020: 455) recently outlined that the names of all illustrations of Eichwald (1852, 1853) had been made available in 1851 in a Russian version with valid descriptions and an identical atlas. Until this paper all authors did not realize that the 1851 publication was a book on its own due to the identical plate numbering (this book is nearly unknown in European libraries). The year 1859 on the cover of the atlas being digitized at the Biodiversity Heritage Library (see references) and cited by Janssen (1984) obviously concerns a later edition.

Type locality: near Kuncza (today Kuncha, region of Khmelnytskyi/ Chmelnyzkyi), Ukraine.
Type horizon: Neogene (details not provided).
Remarks: Frauenfeld (1864: 576) regarded this species as belonging to *Hydrobia*, but later it was considered to belong to *Amnicola*. Recently, however, it has been listed as “*Valvata avia* (Eichwald, 1853)” by Neubauer et al. (2014c: Supplement 1). “*Paludina cf. avia* Eichw.” was found by Stiny (1924) in Tertiary layers at several locations near Feldbach in Styria (Austria).

*Valvata baicalensis* Gerstfeldt, 1859 (Nom: 21)

Remarks: Sitnikova (1991: 64–65, fig. 4) described and figured the egg capsules. Saito et al. (2018) provided molecular data from specimens from the type locality, Lake Baikal (Listvyanka), Russia. Sitnikova (2018: fig. 6A) illustrated the lectotype.

“*Valvata baikalensis*” mentioned in Bogachev (1961: 152) (NEW)
Remarks: misspelling of *Valvata baicalensis* Gerstfeldt, 1859.

† *Valvata balchanica* A.A. Ali-Zade, 1967 (NEW)

Original source: A.A. Ali-Zade 1967: 224, pl. 84: figs 1–4.
Type locality: Maly Balkhan, northwest Turkmenistan.
Type horizon: Akchagylian, Upper Pliocene to Lower Pleistocene.
Type material: Dr Pavel Frolov (pers. comm. via Dr. Paval Kijashko, 22 Feb 2022) stated that the fossil molluscs described by A.A. Ali-Zade in 1967 were all stored in the Museum of Earth Sciences of Moscow State University (MES MSU).
Remarks: not treated in the last 50 years.

† “*Liratina basicarinata*” mentioned in Youluo 1978 (Nom: 22)
Remarks: Not available from there (see above). I could not find a subsequent full reference on this species.
Valvata bathybria W. Dybowski, 1886 (Nom: 22)
Remarks: Type material unknown. Sitnikova (2018: fig. 2B) figured a toptype and further specimens from various localities from Lake Baikal.

† “Tropidina ? bellireticulata” mentioned in Youluo (1978) (Nom: 23)
Remarks: Not available from there (see above) or from Ye et al. (1996: 37; nomen nudum, no reference). I could not find a subsequent full reference on this species that would validate the name.

Valvata beltrani Contreras-Arquieta, 1993 (Nom: 23)
Remarks: Contreras-Balderas and Lozano-Vilano (1996) reported that this species, which lived in isolated springs in North Mexico, had become extinct at the time of discovery by the drying of the springs due to agricultural needs.

† Valvata beysehirensis Gliöer & Girod, 2013 (Nom: 23)
Type material: Holotype deposited in Zoological Museum Hamburg (ZMH 79381). Paratypes: 3 shells in Museo Civico di Storia Naturale, Milano, Italy (MSNM Mo-36591), numerous shells in the collection of Alberto Girod (AGMal 3595), 3 shells in collection Gliöer (Hettlingen, Germany).

† “Valvata heidemariae bicornata” Willmann, 1981” (Nom: 24)
Type material: According to Neubauer et al. (2014b: 22) deposited in the Geological-Paleontological Institute, University of Kiel, no number indicated.
Remarks: As outlined, the name is a junior homonym of Valvata bicarinata Lea 1841. Accordingly, the species has been renamed as Valvata heidemariae willmanni Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014.

Valvata (Cincinna) biwaensis Preston, 1916 (Nom: 25)
Remarks: Saito et al. (2018) provided molecular data from specimens from the type locality, Lake Biwa, Japan.

Valvata (Cincinna) brandti Westerlund, 1897 (Nom: 26)
Type material: Walther and Gliöer (2019: 4) checked the taxonomy of the species and although they did not have contact to type material, they concluded that “The original description of V. brandti is based on two lots. One was collected by A. Brandt in Lake Sevan, while the other was found by L. Młokosiewicz near Lagodekhi in Georgia. Between both localities is a distance of more than 150 km. The Lagodekhi record belongs to Caspicyclotus sieversi .... (Cyclophoridae).....The other lot, however, seems to belong to Valvata piscinalis, which is known to occur in Lake Sevan (e.g., Mashkova et al. 2018)”.

Dr Pavel Kaijashko (pers. comm. 22 Feb 2022) provided the following additional valuable information: “Indeed, the original description of V. brandti is based on two lots ... [mentioned by Walther and Gliöer (2019)]. In 1912 W. Lindholm [Lindholm 1912] redefined the Lagodekhi finds and placed them to Cycloptus sieversi.
(now *Caspicyclotus sieversi*). The other lot he attributed to the genus *Valvata*. There is a handwritten entry by W. Lindholm in the ZIN RAS catalogue about this. The specimens of *V. brandti* collected by A. Brandt are poorly preserved. Nevertheless, their conchological features (shell size, shape and sculpture of the whorls, diameter of the umbilicus) indicate belonging to *Valvata* (*Tropidina*), but not to *V. piscinalis*.”

**Valvata (Cincinna) aliena** var. *brevicula* Kozhov, 1936 (Nom: 26)

Type material: Sitnikova et al. (2004) designated a lectotype, which was later illustrated by Sitnikova et al. (2015: fig. 1D). However, Vinarski and Kantor (2016: 274) reported that only syntypes but no lectotype could be found at the Zoological Institute, Academy of Sciences, St. Petersburg (ZIN). Thus, it remains unclear whether or not the designated lectotype has been lost.

Remarks: Clewing et al. (2014, supplementary material) provided molecular data (as RU05/1). Sitnikova et al. (2015: 13–15) provided photographs of specimens from several localities as well as an extensive and annotated citation record in particular of the Russian literature. Recently, Andreeva et al. (2021: fig. 3B) added excellent photographs from specimens of the Taz River basin (western Siberia).

“**Valvata californiensis** Mss.” [manuscript] mentioned in Schmeltz (1869, IV: 75) (NEW)

Remarks: A nomen nudum like many other similar cases in the catalogue of the Godeffroy Museum (Bieler and Petit 2012: 46; #5353). Interestingly, a specimen with this name and “from California” was offered ten years later for 30 Pfennig in the “Tausch-Catalog” of the Nachrichtsblatt der Deutschen Malakozoologischen Gesellschaft (1879, Vol. 11: 102).

**Valvata piscinalis** var. *cancellata* Baudon, 1884 (NEW)

Original source: Baudon 1884: 293, pl. 10: fig. 5.

Type locality: Département de l Oise, France.

† **Valvata cangshanensis** Pan, 1982 (Nom: 28)

Original source: Pan 1982: 430–431, pl. 1: figs 24–27.

† “**Valvata carinata**” Fuchs, 1870” (Nom: 28–29)

Remarks: As stated in Haszprunar (2014), a junior homonym of *Valvata carinata* Sowerby, 1834. Accordingly, the name has been meanwhile replaced by Neubauer et al. (2014a) by *Muellerpalia pseudovalvatoides* Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014 (Hydrobiidae).

“**Cincinna (Sibirovalvata) chankensis**” Prozorova, 1988” (NEW)

mentioned in Prozorova 1992: 106–107 (fig. 8 legend).

Remarks: Misspelling of *Cincinna (Sibirovalvata) bancensis* Prozorova, 1988.
**Cincinna chersonica** Chernogorenko & Starobogatov, 1987 (Nom: 29)

Type material: Vinarski and Kantor (2016: 270) stated that the “holotype” in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN 1/41-1974) mentioned by Kantor et al. (2011: 66) is in fact a paratype and that the holotype is missing.

† **“Valvata unicarinifera chiknaformis”** (NEW)  
mentioned in Bingle-Davis (2012: 104)  
Horizon: Upper Cretaceous.  
Locality: near the villages of Butera and Machhaghoda (Chhindwara District: Madhya Pradesh) ca. 160 km north of Nagpur (22.11 N, 79.14 E), eastern Dekkan Plateau, India.  
Material: “Holotype”: InS1199 (Appendix 2 (Nom: 137), fig. N; 6.8 mm × 7.6 mm), deposited at University of North Dakota, Grand Forks, North Dakota, USA.  
Remarks: This subspecies name was mentioned in an unpublished PhD thesis (no ISBN or ISSN numbering) and thus is not formally described as required by ICZN Art. 8.1.3 and 8.6.

† **“Valvata (Cincinna) circinata** (Greppin, 1855) mentioned in Wenz (1928: 2427) (NEW / Nom. 30)  
Original source: Greppin 1855: 29, 71, pl. 3: fig. 11a–c (as *Paludina circinata*)  
Type locality: Limestone banks von Sornetan and Tramelan, Val de Délemont/Bezirk Delsberg, Kanton Jura, Switzerland.  
Type horizon: Lower to middle Miocene.  
Remarks: Referred to Merian (1849: 34, mentioned there as *Paludina circinata*, a nomen nudum). ICZN Art. 50.1.1. states clearly that “If the identity of that other person is not explicit in the work itself, then the author is deemed to be the person who publishes the work”, making Greppin the author of *Paludina circinata*. However, contrary to the classification by Wenz (1928: 2427) this taxon with an extended large whorl and a broad apertural lip is certainly not a valvatid, but much more likely a *Lithoglyphus*. It is also not identical to those specimens from a nearby locality, which are illustrated and described by Sandberger (1870–1875: 324, pl. 18: fig. 5a–c) as *Valvata circinata* (and also referred to Merian). Accordingly, both *Paludina circinata* Greppin, 1855 and *Valvata circinata* Sandberger, 1871 remain valid taxa.

† **“Valvata piscinalis var. cistopolitana** G.I. Popov” (NEW)  
cited as “cistopolitana nov.”, a nomen nudum in Goretsky (1964: 55) and secondarily by Balabanov et al. (2010: 196).  
Remarks: I could not find any trace of this name in the papers of G.I. Popov or in subsequent papers, accordingly a “taxon inquirendum”, probably a nomen nudum, not available.
Valvata (Cincinna) confusa (Westerlund, 1879) (Nom: 31)

Remarks: Clewing et al. (2014: supplementary material) provided molecular data (as RU08/1). Saito et al. (2018) provided additional molecular data from specimens from Delga River, Khuvsugul, Mongolia. Andreeva et al. (2021: fig. 1B) added excellent photographs from specimens of the Taz River basin (western Siberia).

Valvata bicarinata var. connectans B. Walker, 1906 (NEW)

Original source: Walker 1906: 30 (not figured, described as unicarinate).

Type location: Lake Michigan, New Buffal0, Michigan, USA.

Type material: No. 24142 of coll. Walker (presumably now in University of Michigan Museum of Zoology). Alan Kabat (pers. comm. 30 Jan 2022) could not find it in the UMMZ database, but the sample may not yet be catalogued online.

Nerita contorta Müller, 1774 (Nom: 32)

Type material: Nekhaev et al. (2015) and Vinarski and Kantor (2016: 271) stated that they could not find type material in the Zoological Museum of Copenhagen, where Kantor et al. (2011: 66) had suggested it might exist.

† Valvata cosinensis Stache, 1889 (NEW)

Type locality: In old coalmines, north of Cosina (today Hrpelje-Kozina) [5 km east of Trieste, Italy], Slovenia.

Type horizon: Stomatopsis horizon, Paleocene (see Jurkovšek et al. 2016: 358).

Remarks: Stache himself noted the high similarity with Valvata pupoidea Gould, 1961, currently considered as Lyogyrus pupoideus (Gould, 1841) (Amnicolidae).

“Valvata cupensis” mentioned in Bogachev (1961: 73) (NEW)

Remarks: misspelling of Valvata kupensis Fuchs, 1870.

† Aphanotylus dakangensis Pan, 1982 (Nom: 35)

Original source: Pan 1982: 432, pl. 2: figs 5–8.

† Valvata? dalaziensis Zhu G.-X., 1980 (Nom: 35)

Original source: Zhu 1980: 38, pl. 14: figs 24–26.

Type locality: Yanji, Jilin, Northeast [not northwest as stated in Haszprunar 2014] China.

Type horizon: Dalazi Formation, Lower Cretaceous.

† Valvata decollata Hislop, 1859 (Nom: 36)

Type horizon: Upper Cretaceous (not Tertiary as stated by Hislop).

Type material: Lectotype designated and figured by Hartman et al. (2008: fig. 18A–C), reprinted by Bingle-Davis (2012: 132), deposited under PIMG 1188 (Palaeo Invertebrate Mesozoic Gastropod) at the Natural History Museum of the United Kingdom (NHMUK), the original Latin description was translated to English.
† *Amplovalvata deformis* Pan, 1980 (in Yu & Pan, 1980) (Nom: 36)
   Original source: Yu and Pan 1980: 149, pl. 2: figs 25, 26.

† *Valvata (Cincinna) delaunayi* Cossmann, 1907 (Nom: 36)
   Type material: Museum national d’Histoire naturelle, Paris (MNHN F-J08320 (holotype) and F-J08321 (paratype).

*Valvata (Liratina) baicalensis* var. *demersa* Lindholm, 1909 (Nom: 37)
   Remarks: Sitnikova (1991: 64, fig. 3) described and figured the egg capsules. Sitnikova (2018: fig. 6G) illustrated the lectotype and specimens from various localities in Lake Baikal (fig. 8A–F, H).

† “*Valvata densistriata*” mentioned in Henderson (1935: 296) (NEW)
   Remarks: Misspelling of *Valvata densestriata* Pilsbry, 1934 (Nom: 37).

“*Valvata bicarinata depressa* Walker” mentioned by Sterki (1907: 387) (NEW)
   Remarks: Misspelling of *Valvata bicarinata perdepressa* Walker, 1906.

† *Valvata (Tropidina) donghucensis* Pan, 1977 (Nom: 38)
   Type locality: YH 5033, Donghucun, Lufeng County, Yunnan, China.
   Type horizon: Fengjiahe Formation, Jurassic (201.6 to 175.6 Mya).

† *Valvata dromica* Fontannes, 1881 (Nom. 39)
   Remarks: Currently considered as *Pseudamnicola dromica* (Fontannes, 1881) (Hydrobiidae) (Neubauer et al. 2014c).

† *Valvata ducati* Esu & Girotti, 2015 (NEW)
   Original source: Esu and Girotti 2015b: 151–152, figs 3–5. Previously mentioned and illustrated as “Valvata sp. nov.” by Ciangherotti et al. (1997: 307, pl. 1: fig. 3).
   Type locality: Stironc River section, between Laurano and San Nicomede, Emilia, northern Italy.
   Type horizon: Lower Middle Pleistocene.
   Type material: stored in Senckenberg Museum Frankfurt (Holotype SMF 345836, paratypes SMF 345837/2).

† *Valvata egregia* Noulet, 1857 (NEW)
   Original source: Noulet 1857: 12 (no figure).
   Type locality: Calcaire de Villeneuve-la-Comtal et du Mas-Saintes-Puelles (Département Aude), southwest France.
   Type horizon: Upper Eocene.
   Remarks: Currently considered as *Physotrema egregia* (Noulet, 1857), a terrestrial species of the architaenioglossan family Craspedopomatidae.
“Valvata euzonia” Ziegler” mentioned in Baudon (1884: 293) (NEW)
Remarks: one of the many unavailable names created by the Viennese shell dealer Franz Andreas Ziegler (see Rossmässler 1837: 32, legend to pl. 26: fig. 356, footnote; Schmidt 1846).

† Liratina fabaniuensis Zhu G.-X., 1980 [non Youluo 1978] (Nom: 41)
Original source: Zhu 1980: 39, pl. 19: fig. 4, referred to Youluo (1978).
Remarks: Not available from Youluo 1978 (see above), but Zhu (1980) fulfils all requirements of validation (description and figure).
Type locality: Xinmin, northeast China.
Type horizon: The lower part of the first section of the Eocene–Oligocene Shahejie Formation.

Cincinna falsifluviatilis Starobogatov in Anistratenko V.V. and Anistratenko O.Yu., 2001 (Nom: 41)
Original source: Anistratenko V.V. and Anistratenko O.Yu. 2001: 139–140, fig. 110 (as Cincinna falsifluviatilis; description by Starobogatov pro Valvata fluviatilis sensu Westerlund, 1886: 34 (actually, 134); non Colbeau, 1859) [see Sitnikova et al. (2017: 260)].
Type locality: The locality of the lectotype is unfortunately not provided by Vinarski and Kantor (2016: 268).
Type material: Lectotype in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN), #1 in the systematic catalogue under the name.
Remarks: Originally the name was erected to replace “Valvata fluviatilis sensu Westerlund, 1886”. However, as outlined by Haszprunar (2014) a “sensu” name is not available, thus cannot be replaced. On the other hand, Vinarski and Kantor (2016: 268) recently found the original material of Westerlund mentioned by Anistratenko and Anistratenko (2001) and designated a lectotype. Accordingly, the requirements of ICZN Art. 16.4 are fulfilled to name this species.

† Valvata faujasii Dumas, 1876 (NEW)
Original source: Dumas 1876: 462, referred to: “Mém. De Faujas, etc. …., t. xiv, pl. 19: figs 13–17” (i.e., Faujas de Saint Fond 1809).
Type locality: coal mine near Saint-Paulet (de-Caisson), Département du Gard, south France.
Type horizon: Paulétien, Upper Cretaceous.
Remarks: Faujas de Saint Fond (1809) did not provide a name. According to Repelin (1902: 89, as V. faujasi) the taxon is a junior synonym of Valvata minuta Draparnaud, 1805, currently considered as Islamia minuta (Draparnaud, 1805) (Hydrobiidae).

Valvata (Tropidina) fezi Altimira, 1960 (Nom: 42)
Remarks: Arconada and Ramos (2002) designated this hydrobiid species as the type species of their newly erected genus Spathogyna and provided SEM
photographs of the shell, protoconch, radula, and body surface as well as anatomical data.

**Valvata frigida** Westerlund, 1873 (Nom: 43)
Remarks: Andreeva et al. (2021: fig. 5B–D) added excellent photos from specimens of the Ratta river and Taz River basin (western Siberia).

† “**Valvata (Cincinna)** fuiensis” mentioned in Wan et al. (2013: 464) (NEW)
Remarks: Misspelling of **Valvata (Cincinna)** fuxinensis.

**Valvata (Cincinna) gafurovi** Izzatulläev, 1977 (Nom: 44)
Type material: Holotype and 1 paratype in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN), ##1, 2 in the systematic catalogue under the name. Nineteen further paratypes are listed by Vinarski and Kantor (2016: 271). Holotype figured by Shirokaya et al. (2019: fig. 13C).
Remarks: Sitnikova (1983) described in detail the reproductive system and placed the species in the subgenus *Pamirocincinna* Sitnikova & Starobogatov in Sitnikova, 1983. Shirokaya et al. (2019: 238) followed this replacement and provided a detailed bibliography of the species.

† “**Valvata antiqua** var. gigas” mentioned by Goretsky (1956a: 33) (Nom: 45)
Remarks: mentioned as “sp. nov.”, but is a nomen nudum like several other species names in the same paper. Also mentioned some years later by Bogachev (1961: 85, 91, 93: **Valvata antiqua** - morpha gigas), again without any description or image.

“**Valvata (Jekeliusiana) oecsensis halavatsi**” Gozhik, 2002” (Nom: 49)
Type locality: in Ukraine.
Remarks: Neubauer et al. (2014b: 20) pointed out that the original name “öcsensis” (Soós, 1934: 189) was erroneously emended to “oecsensis”. However, the correct emendation following ICZN rules is “ocsensis”, since it is not derived from a German but a Hungarian expression (ICZN 32.5.2.1). Current status: **Valvata (Jekeliusiana) ocsensis halavatsi** Gozhik, 2002.

**Cincinna (Sibirovalvata) bankensis** Prozorova, 1988 (Nom: 49)
Original source: Prozorova 1988: 1936–1938, figs 1 (shell), 2 (spawn).
Type material: Holotype (ZIN 1/514-1986) and 6 paratypes (ZIN 2/514-1986) are deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN).

† “**Liratina bedobia**” mentioned in Youluo 1978 (Nom: 50)
Remarks: Not available from there (see above) or from Ye et al. (1996: 48; misspelled as **Liratina** ? *helobia*; nomen nudum, no reference). I could not find a subsequent full reference on this species that would validate the name.
**Valvata lewisi** var. *helicoidea* Dall, 1905 (Nom: 50)

Remarks: Andreeva et al. (2021: 13, figs 1C, 2) confirmed the presence of this species in Siberia and added excellent photographs from specimens of the Taz River basin (western Siberia).

**Valvata cristata hokkaidoensis** Miyadi, 1935 (Nom: 52)

Remarks: Saito et al. (2018) provided molecular data from specimens from the type locality, Lake Toro, Hokkaido Prefecture, and from Doba River, Aomori Prefecture, Japan. These data suggest that this species name actually encompasses multiple species. A short live movie of this species by Akira Ooyagi is presented at www.youtube.com/watch?v=f6p3w4WwgG4.

† **Valvata homalogyra** Brusina, 1874 (Nom: 52)

Type material: According to Neubauer et al. (2016: 18, fig. 2A–C) “The syntype series includes 14 specimens [Croatian Natural History Museum in Zagreb] (NHMZ #1613 and NHMZ #1625.1–13) from Goručica SW Sinj (= Ruduša) described by Brusina (1874) but not illustrated due to bad preservation. Brusina (1897) subsequently illustrated only one specimen from Miočič. This misled Milan et al. (1974) to regard Miočič as the type locality and the specimen, which was available for the present study, as the “holotype” [fig. 2A–C]. Yet, surprisingly, the latter is apparently not even the specimen documented by Brusina (1897)”.

Remarks: Brusina (1874: 90) himself regarded *Valvata homalogyra* as closely related to the extant *Valvata erythropomatia* Hauffen, 1856. As outlined (Haszprunar 2014: 39), the latter species became type of *Erythropomatiana* Radoman, 1978, a genus name currently considered as a junior synonym of *Hauffenia* Pollonera, 1898 (Hydrobiidae). Accordingly, it is also likely that *Valvata homalogyra* is in fact a hydrobiid.

† **Aphanotylus humeratus**” mentioned in Youluo 1978 (Nom: 53)

Remarks: Not available from there (see above) or from Ye et al. (1996: 49; nomen nudum, no reference). I could not find a subsequent full reference on this species that would validate the name.

“**V. [i.e., Valvata] impressa**” (NEW) Mentioned by Bogachev (1961: 91) and as “**V. impressa** Pfeff.” [Pfeffer?] by Goretsky (1964: 55) in the chapter Конхиллофауна кинельских отложений [Conchiliofauna of the Kinel-Lagerstätten] available at http://www.bibliotekar.ru/5-prareki-chetvertichnyi-period/7.htm

Remarks: I could not find any description of a “*Valvata impressa*”. The malacologist Georg Pfeffer (1854–1931) did not describe any *Valvata* species. The name is likely a double misspelling of *Valvata depressa* Pfeiffer, 1821.

**Valvata inconspicua** C.B. Adams, 1851 (Nom. 55)

Remarks: currently considered as *Nanivitrea inconspicua* (C.B. Adams, 1851) (Cochliopidae) (Jaume and Abbott 1948).
† *Borysthenia intermedia* Konrashov, 2007 (Nom: 56)
   Type material: Holotype deposited at Paleontological Institute, Russian Academy of Sciences (PIN) #5148/1.

† *Borysthenia jalpuchense* Gozhik, 2002 (Nom: 57)
   Type locality: near Vinogradovka village, Odesa oblast, Bolhrads’kyi district, Ukraine.
   Type horizon: Miocene, Middle Pontian.
   Type material: Holotype (coll. Gozhik, #3162) figured by Osipova et al. (2021: fig. 3H).
   Remarks: The species name should be *jalpuchensis*, since *Borysthenia* is feminine. Morphometric data of the shell compared with *Borysthenia menkeana* (Jelski, 1863) were provided by Osipova et al. (2021).

*Valvata japonica* Martens, 1877 (Nom: 57)
   Type material: 1 syntype (of 2) from the Museum für Naturkunde, Berlin (ZSM # 38883 from the type locality, i.e., Hakone Lake) is figured by Vinarski (2016: 7, fig. 4E, F).
   Remarks: Saito et al. (2018) provided molecular data of specimens from Doba River (Amori Prefecture) and Sagami-gawa River (Nagano Prefecture), Japan. These data suggest that this species name actually encompasses several biological species.

† *Valvata jiaolaiensis* Yu, Salvador, Wang, Fang, Neubauer, Li, Zhang & Wan, 2021 (NEW)
   Original source: Yu et al. 2021: 5, fig. 3M–P.
   Type locality. LK-1 borehole (36°15'55"N, 119°57'04"E), northern part of Ji-aozhou City, Shandong Province, China.
   Type horizon: Uppermost Cretaceous, Jiaozhou Formation; sample taken at a depth of 370.5 m.
   Type material deposited in Nanjing Institute of Geology & Palaeontology: Holotype: NIGP #168642, paratype: NIGP #16864.

† *Amplovalvata jingguensis* Pan, 1977 (Nom: 57)
   Original source: Pan 1977: 118, pl. 5: fig. 18.
   Type locality: YHS492, Heping township, Jinggu County, Yunnan Province, China.
   Type horizon: Bajocian/Bathonian fluvial-lacustrine horizon in the Hepingxiang Formation of China, Middle Jurassic (171.6–164.7 Mya).
   Type material: Holotype deposited at Nanjing Institute of Geology & Paleontology NIGP #24247.

† “*Valvata (Cincinna) joncheryacensis*” Wenz, 1923” (NEW)
   Mentioned in Le Renard and Pacaud (1995: 98) and in Worldwide Mollusc Species Data Base (WMSDB).
Remarks: Misspelling of †Valvata joncheryensis Wenz, 1930. Wenz (1923) only included pulmonate species.

†Aphanotylus jurassicus Pan, 1980 (in Yü & Pan, 1980) (Nom: 58)
Original source: Yü and Pan 1980: 150, pl. 3: figs 15, 16.

Cincinna kamchatica Prozorova & Starobogatov, 1998 (Nom. 58)
Type material: Holotype (ZIN 1/97-1911) and 21 paratypes (ZIN 2/97-911) in Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN).

†Valvata (Mesovalvata) karameilica Wei, 1984 (Nom: 58)
Original source: Wei in Xinjiang Dizhi Ju 1984, 84, pl. 49: figs 1, 2.
Type locality: Yandi’s booth: Qitai Jubei Yingxun, Xinjiang province, China.
Type horizon: Quishan Street, Upper Triassic.

Valvata (Tropidina) kebapcii Odabasi, Glöer & Yıldırım, 2015 (NEW)
Original source: Odabaşi et al. 2015: 137, figs 2–4, 11 (shell), 5 (head), 6 (operculum).
Type locality: Turkey, northwestern Anatolia, Ayvabik town, Tuzla Stream, 39°31’30.8264”N, 26°17’9.57”E, 81 m altitude.
Type material: Holotype COMULM-G 0050 (also figured by Walther and Glöer 2019: fig. 2.7, 2.8 and by Glöer 2019: 210, fig. 264), 5 paratypes COMULM-G 0051, Limnology Museum of Çanakkale Onsekiz Mart University, Turkey (COMULM).

Cincinna kizakikoensis Fujita & Habe, 1991 (Nom: 59)
Remarks: Saito et al. (2018) provided molecular data of specimens from Lake Nakatsuna, Nagano Prefecture, Japan.

Valvata (Costovalvata) klemmi Schütt, 1962 (Nom: 59).
Type material: A paratype (FS/8894) is stored in the Biologiezentrum Linz (Austria) (Aescht 2003).

Valvata fluviatilis var. kliniensis Milachevich/Milaschewitsch, 1881 (Nom: 59)
Type locality: According to Vinarski and Kantor (2016: 267), the type locality “Moujevo” near Moscow is currently named “Muzhevo” and is at approx. 56°27’14”N, 36°50’54”E.
Type material: 56 syntypes in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN), #1 in systematic catalogue.

Cincinna (Sibirovalvata) klucharevae Starobogatov, 1985 (Nom: 60)
Type material: There are no type specimens in the collection of the Zoological Institute of the Russian Academy of Sciences (ZIN). The specimen with number ZIN 1/523-2014 is a toptype that is not included in the type series.
† *Valvata koehleri* Harzhauser, Neubauer & Hoşgör, 2018 (NEW)

Original source: Harzhauser et al. 2018: 362–364, fig. 4 (shell and protoconch SEM).
Type locality: Kömürlü (40°46'14.74"N, 42°18'21.05"E, WGS84), Oltu-Narman Basin, northeastern Turkey.
Type horizon: Marly silt and sand of the upper Susuz Formation; Upper Oligocene or Lower Miocene.
Type material: Holotype (NHMW 2018/0019/0015) and paratypes (NHMW 2018/0019/0016-0019), all from type locality and horizon, are deposited at the Naturhistorisches Museum Wien (NHMW).

*Valvata (Cincinna) korotnevi* Lindholm, 1909 (Nom: 60)

Remarks: Sitnikova et al. (2015: 3–9, fig. 1C) provided photographs of the lectotype and of specimens from several localities as well as an extensive and annotated citation record of the Russian literature in particular. Recently, Andreeva et al. (2021: fig. 3A) added excellent photographs from specimens of the Taz River basin (western Siberia).

“*Valvata (Cincinna) aliena var. korotnewi*” mentioned in Kozhov (1936: 17, 18). (NEW)

Remarks: Misspelling of *Valvata (Cincinna) korotnevi* Lindholm, 1909, correctly listed by Sitnikova et al. (2015: 11).

*Valvata kournasi* Glöer & Hirschfelder, 2019 (NEW)

Original source: Glöer and Hirschfelder 2019: 18–21, figs 40–42 (shell), fig. 43 (maps), figs 44–46 (type locality).
Type locality: Nómos Chaniá, outflow of Lake Kournas, 3 km southeast of Georgioúpoli, Crete, Greece.
Type material: Holotype (ZMH 140040: also figured by Glöer 2019: 211, fig. 265) and 1 paratype (ZMH 140041) are stored in the Zoological Museum of Hamburg, Germany (ZMH), remaining paratypes (9 + 1 juv.) in coll. Hirschfelder (Kelheim, Germany).
Remarks: The anatomy of this species is unknown because only subrecent (fossil or dead) shells have been found.

*Megalovalvata kozbovi* Sitnikova, 1983 (Nom: 60)

Remarks: Sitnikova (2018) illustrated the holotype (fig. 6H) and paratypes (fig. 10G–J) from various localities of Lake Baikal.

† *Valvata vanciana var. kubanica* Krestovnikov, 1931 (NEW)

Original source: Krestovnikov 1931: 20, pl. 2: figs 19–25. Redescribed and figured by Yakhimovich et al. (2000: 65, pl. 4: figs 7–10) as *Valvata kubanica* Krestovnikov, 1929
Type locality: Sediments of Estuary of Velykyi Kuyalnik River near Odessa, northwest Black Sea, Ukraine.
Type horizon: Pleistocene.
“Valvata kurrensis” mentioned in Bogachev (1961: 73) (NEW)
Remarks: Misspelling of Valvata kupensis Fuchs, 1870.

Valvata (Pseudomegalova) laethmophila Bekman & Starobogatov, 1975 (Nom: 61)
Remarks: Sitnikova (2018: fig. 2D) figured the holotype.

“Valvata lanta” mentioned in Bogachev (1961: 152) (NEW)
Remarks: Misspelling of Valvata lauta Lindholm, 1909.

† Valvata (Cincinna) andreana var. latior Menzel, 1904 (Nom: 62)
Type horizon: Quaternary.
Type material (more than 20 specimens without designation as types) is stored in the Geozentrum Hannover (originally from Geowissenschaftliche Sammlungen Berlin, BGR) starting with # BGR-B-ORIG-000181564 to # BGR-B-ORIG-000181888.

Valvata lietuvensis Chernogorenko & Starobogatov, 1987 (Nom: 64)
Type material: Holotype (ZIN 1/601-1986) and 10 paratypes (ZIN 2/601-1986 and ZIN 3/601-1986) in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN). The type series includes the holotype and 10 paratypes. Holotype figured by Sitnikova et al. (2017: 257, fig. 3A–C). Additional data by Vinarski and Kantor (2016: 264).

“Valvata luguensis” mentioned by Du et al. (2017: 871) (NEW)
Locality: Lake Lugu (alpine, 2690 m above sea level), with the middle of the lake forming the border between the Ninglang County of Yunnan Province and the Yanyuan County of Sichuan Province, China.
Remarks: Not described or figured by the authors or subsequently, thus a nomen nudum. According to Wiese et al. (2020: 1101) this species might be endemic to Lake Lugu. Clewing et al. (2014) have previously provided molecular data of this lineage as “Valvata sp. from Lake Lugu”, resp. “clade CN07/1”. According to their analysis the species belongs to the subgenus Tropidina.

† Amplovalvata magna Pan, 1980 (in Yu & Pan, 1980) (Nom: 65)
Original source: Yu and Pan 1980: 150, pl. 2: figs 5, 6.

† “Valvata magniumbilicata” mentioned in Youluo 1978 (Nom: 65)
Remarks: Not available from there (see above). I could not find a subsequent reference on this species that would validate the name.

† Provalvata maior Cataldo, Lazo, Luci & Aguirre-Urreta, 2019 (NEW)
Original source: Cataldo et al. 2019: 453–455, figs 6 (9–12), 7 (9–12).
Type locality: Quebrada del Gastrópodo, Mendoza Province, Argentina.
Type horizon: La Tosca Member, Huitrín Formation, facies D1, Barremian, Lower Cretaceous.

Type material: Holotype deposited in Museo de Ciencias Naturales y Antropológicas Juan Cornelio Moyano, Colección de Paleontología de Invertebrados, Mendoza, Argentina (MCNAM-PI) 24524.3; paratypes MCNAM-PI 24524.1, 24524.5, and 24524.6; Colección de Paleontología, Universidad de Buenos Aires, Ciudad Autónoma de Buenos Aires, Argentina (CPBA) 23706.1.

Remarks: Cataldo et al. (2019: 451) placed the species “not without hesitation” in Provalvatidae.

† Amplovalvata mansueta Pan, 1982 (Nom: 66)
  Original source: Pan 1982: 431–432, pl. 2: figs 3, 4.

† Valvata mathiasi Esu & Girotti, 2018 (NEW)
  Original source: Esu & Girotti, 2018: 49–54, figs 2, 3.
  Type locality: Sambuca Lago Piccolo, Tavarnelle Val di Pesa, Tuscany, Italy.
  Type horizon: Lower Pliocene.
  Type material. Holotype Senckenberg Museum Frankfurt (SMF) 349126, from SLP3;
  paratypes SMF 349127/3 and 349128/1, also Museo di Scienze della Terra of Sapienza Universita (formerly Museo di Paleontologia), Roma, Italy, MPUR7-3959/50, 3960/80, 4153/20.
  Remarks: the largest true Valvata known.

† “Valvata (Cincinna) menginensis” mentioned in Kobayashi (1983: 57) (NEW)
  Remarks: probably an error for Bithynia menginensis Grabau, 1923, which is shown in the same figure as Valvata suturesis by Grabau (1923: 161, fig. 7a–d (Bithynia menginensis), fig. 7e–g (Valvata suturalis)).

Valvata microscopica Nevill, 1889 (Nom: 68)
  Type material: According to Ponder et al. (2014: 139) the holotype, originally deposited in Calcutta Museum, India, is apparently lost. Annandale and Kemp (1916: 347, text fig. 3) figured a “co-type” labelled as Cyclostrema microscopica, which was reproduced by Ponder et al. (2014: 140, fig. 27).
  Remarks: Ponder et al. (2014: 139ff) tentatively treated this species as Coliracemata microscopica (Nevill, 1877) (Truncatelloidea, Clenchiellidae).

Cincinna (Sibirovalvata) sibirica middendorffi Starobogatov & Zatravkin, 1985 (Nom: 69)
  Remarks: Saito et al. (2018) provided molecular data from specimens from Nadezhdinsky District, Primorsky region, Russia.
† Valvata minima Hislop, 1859 (non Fuchs, 1877) (Nom: 69)

Type horizon: Upper Cretaceous (not Tertiary).

Type material: Lectotype designated and figured by Hartman et al. (2008: fig. 15A, B), reprinted by Bingle-Davis (2012: 132), deposited under PIMG 1251 (Palaeo Invertebrate Mesozoic Gastropod) at the Natural History Museum of the United Kingdom (NHMUK); the original Latin description was translated to English.

† “Valvata minima” Fuchs, 1877” (Nom: 69)

Remarks: As outlined this name is a junior homonym of Valvata minima Hislop, 1859. Accordingly, the name was replaced by Pseudamnicola welterschultesi Neubauer, Harzhauer, Kroh, Georgopoulou & Mandic, 2014 (Hydrobiidae: Pseudamniocolinae). Neubauer et al. (2014b: 19) did not agree with Wenz (1928: 2439), who considered synonymy of Valvata minima Fuchs, 1877 with Valvata serbica Brusina, 1902 (an available name).

† Provalvata minor Cataldo, Lazo, Luci & Aguirre-Urreta, 2019 (NEW)

= Provalvata sp. in Lazo et al. (2017: 32, fig. 5k, l).

Original source: Cataldo et al. 2019: 451–453, figs 6 (1–8), 7 (1–8).

Type locality: Quebrada del Gastrópodo, Mendoza Province, Argentina.

Type horizon: La Tosca Member, Huitrín Formation, facies D1, Barremian, Lower Cretaceous.

Type material: Holotype deposited in Museo de Ciencias Naturales y Antropológicas Juan Cornelio Moyano, Colección de Paleontología de Invertebrados, Mendoza, Argentina (MCNAM-PI) 24523.3, paratypes MCNAM-PI 24523.2, 24523.4 and 24523.5; Colección de Paleontología, Universidad de Buenos Aires, Ciudad Autónoma de Buenos Aires, Argentina (CPBA) 23704.1.

Remarks: Cataldo et al. (2019: 451) placed the species “not without hesitation” in Provalvatidae.

† “Costovalvata minuta” mentioned in Youluo, 1978 (Nom: 70)

Original source: Youluo 1978 (not available from there, see above).

Type locality: Qingjiang Basin, Jiangxi, China.

Type horizon: Linjiang Formation, Eocene.

Type material: Nanjing Institute of Paleontology and Geology, sample # 93414.

Valvata minutissima Wattebled, 1884 (Nom: 70).

Type material: Ponder et al. (2014: fig. 2A–C) figured the holotype, which is stored in the Muséum national d’Histoire naturelle, Paris (MNHN-IM-2000-33594).

Remarks: Ponder et al. (2014: 126ff, figs 2, 4, 15, 33) confirmed synonymy with Clenchiella papuensis Benthem Jutting, 1963 and provided details on morphology, SEM photographs of the operculum (fig. 4E, F), radula (fig. 5C, D), anatomy (fig. 15), and COI sequences (fig. 33) of this species, which is now treated as Clenchiella minutissima (Wattebled, 1884) (Truncatelloidea, Clenchiellidae).
† Valvata montanaensis Meek, 1876 (Nom: 71)
Remarks: In a published abstract of a conference, Canoy Illies and Hartmann (2018) designated a lectotype (USNM-PAL 2177a) and proposed (but not named) a new genus with this species as type species. Also, the type horizon is specified as the upper part of the Judith River Formation in Upper Missouri, Montana (Coal Ridge Member, Rogers et al. 2016).

Valvata montenegrina Glöer & Pešić, 2008 (Nom: 71)
Remarks: The holotype of V. montenegrina is figured by Glöer (2019: 203, fig. 254). Barcoding sequences of the COI gene are deposited by Falniowski et al. (2021) in GenBank with the numbers MZ027632 and MZ027633.

“Valvata montenegrinus” Glöer & Pešić, 2008” in Glöer (2019: 203) (NEW)
Remarks: Misspelling of Valvata montenegrina Glöer & Pešić, 2008 (no reason given for gender change).

† Valvata multicarinata Hislop, 1859 (non Yen, 1946) (Nom: 73)
Type horizon: Upper Cretaceous (not Tertiary).
Type material: Lectotype designated and figured by Hartman et al. (2008: fig. 17A–D), reprinted by Bingle-Davis (2012: 132), stored under PIMG 1190 (Palaeo Invertebrate Mesozoic Gastropod) at the Natural History Museum of the United Kingdom (NHMUK); the original Latin description was translated to English.

Valvata nowshahrensis Glöer & Pešić, 2012 (Nom: 75)
Holotype also figured by Glöer (2019: 213, fig. 267).

† “Valvata nikosi” mentioned in Esu and Girotti (2015: 78) (NEW)
Remarks: Mismatch of Pyrgula nikosi Esu & Girotti, 2015 and Valvata pyramidula Esu & Girotti, 2015, both described in the same paper.

Cyclostoma obtusum Draparnaud, 1801 (Nom: 76)
Type material (10 syntypes, most of them juveniles or subadults) have been located by Vinarski and Kantor (2016: 269) in the Naturhistorisches Museum Wien (NHM), # 14704.
Remarks: Several Russian authors regard this species as valid, whereas most European authors consider this to be a synonym of Valvata piscinalis O.F. Müller, 1774.

† Valvata octonaria Brusina, 1902 (Nom: 76)
Remarks: The taxon was ranked as subspecies of Valvata simplex Fuchs, 1870 (non Gould 1847) by Wenz (1928: 2476). According to Neubauer et al. (2014b: 20) its generic affiliation is currently uncertain and needs revision; the current status is Muellerpalia octonaria (Brusina, 1902) (Hydrobiidae).
† “Valvata oecsensis” Soós, 1934” mentioned in Papp (1953: 109), Schlickum (1978: 246, pl. 18: fig. 1), Stojaspal (1990: 651, pl. 1: fig. 2), and Harzhauser and Binder (2004: 10, pl. 3: figs 9–11). [NEW]

Remarks: Neubauer et al. (2014b: 20) pointed out that the original name “öcsensis” in the cited publications was erroneously emended to “oecsensis”. However, the correct emendation following ICZN rules is “ocsensis”, since it is not derived from a German word (ICZN 32.5.2.1). Current status: Valvata ocsensis Soós, 1934.

Valvata (Pseudomegalovalvata) olkbonica Bekman & Starobogatov, 1975 (Nom: 77)

Remarks: Sitnikova (2018: fig. 2C) figured the holotype.

Valvata lewisi var. ontariensis Baker, 1931 (Nom: 77)

Remarks: Recently, Hinchliffe et al. (2019) confirmed by DNA barcoding that, despite the open coiling of the shell, this taxon is genetically identical to and thus a junior synonym of Valvata lewisi Currier, 1868. The authors also provided good photographs of the shells of both taxa.

† “Valvata oregonensis” mentioned in Hanna (1922: 11) (Nom: 78)

Remarks: As already outlined by Henderson (1935: 190), this name has been introduced in express synonymy by Hanna (1922: 12: “This species was briefly described under two names [V. whitei and V. calli] in 1910 by Hannibal”). Since the two names previously published are both available, the name Valvata oregonensis is not valid.

“Valvata cristata palustris” Kormos twice mentioned in Motuz 1975: 57), also listed in the Global Names Index GNI (Nom. 79)

Remarks: As assumed in Haszprunar (2014) this is a confusion between Valvata cristata Müller, 1774 and Lymnaea palustris Müller, 1774, both listed in Kormos (1912).

Valvata (Cincinna) pamirensis Starobogatov, 1972 (Nom: 79)

Type material: Type data were provided by Sitnikova et al. (2017: 259), who also figured the holotype (fig. 3G–I) (ZIN 1/241-1955) and paratype (ZIN 10/241-1955) from the type locality (# 10, fig. 3J–L) in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN).

† “Valvata panagilae” [sic! not panagile] mentioned in Siodiropóulou (2003: 41–42) (Nom: 79)

Remarks: This and four other fossil species (V. catariane, V. olgae, V. mariae, V. theocleti) from Pliocene – Pleistocene sediments of the Ptolemaida Basin (west Macedonia, Greece) are all extensively described and figured by Siodiropóulou (2003). However, this PhD thesis never has been formally published, and thus the names are not available. I have also failed to detect any secondary reference using the name with a diagnosis or figure, which would make any of these names available.
Valvata (Megalovalvata) lauta var. parvula Kozhov, 1936 (Nom: 79)
   Remarks: Sitnikova (2018: fig. 6D) illustrated the lectotype.

† Cincinna penglaizhenensis Pan, 1982 (Nom: 81)
   Original source: Pan 1982: 431, pl. 1: figs 22–23, pl. 2: figs 1, 2.

† “Valvata (Atropidina) pileiformis” mentioned in Youluo 1978 (Nom: 83)
   Remarks: Not available from there (see above) or from Ye et al. (1996: 49; nomen nudum, no reference). I could not find a subsequent full reference on this species that would validate the name.

Valvata (Liratina) baicalensis var. piligera Lindholm, 1909 (Nom: 83)
   Remarks: Sitnikova (1991: figs 1.1, 2.1–4,) figured spawn and embryos [as Megalovalvata piligera piligera]. Vinarski and Kantor (2016: 282) provided data on types, type locality with coordinates, distribution, and bionomics. Saito et al. (2018) added molecular data from specimens from Lake Baikal (Listvyanka), Oblast Irkutsk, Russia. Sitnikova (2018) illustrated the lectotype (fig. 6E) and specimens of morphs nudicarinata (fig. 6F) and minor (fig. 8D).

Nerita piscinalis O.F. Müller, 1774 (Nom: 83)
   Type material: Vinarski and Kantor (2016: 268) stated that they could not find type material in the Zoological Museum of Copenhagen as assumed by Kantor et al. (2011: 70).

† Valvata (Valvata) platispira Szőts, 1953 (NEW)
   Original source: Szőts, 1953: 33, 145, pl. 2: figs 13–15.
   Type locality: “Hosszúharasztos” (Harasztos quarry), Gánt, District Fejér, Hungary.
   Type horizon: Eocene.

† Valvata (Cincinna) polita A.A. Ali-Zade, 1973 (NEW)
   Original Source: A.A. Ali-Zade 1973: 155–156, pl. 45: figs 1a, 1b.
   Type locality: Bozdag (hill), Lower Absheron Peninsula of Azerbaijan.
   Type horizon: Lower Akchagylian, uppermost Pliocene.
   Type material: Dr Pavel Frolov (pers. comm. via Dr. Paval Kijashko, 22 Feb 2022) provided information that the fossil molluscs described by A.A. Ali-Zade in 1973 are all stored in the Museum of Earth Sciences of Moscow State University (MES MSU). The holotype has inventory number (MES MSU # 28/308).
   Remarks: judged from the figures, which show a non-circular aperture, this taxon is not a valvatid and is in need of revision.

† Valvata (Cincinna) pontica Pană, 1990 (NEW)
   Original source: Pană, 1990: 63, pl. 1: figs 3–10.
   Type locality: Valley Croitorului, village Sibiciul de Jos, district Buzău, Romania.
Type horizon: Upper Miocene, lower Pontium.
Type material: Holotype No. 674, Collection Laboratoire de Paléontologie III g, Bucarest, Romania.

† Valvata simplex var. polycincta Lörenthey, 1906 (Nom: 85)
Remarks: The name was synonymized with V. simplex octonaria by Wenz (1928: 2476), a view shared by Neubauer et al. (2014b: 21). Since the parent species name is not available and has been replaced (see below under Vatributarylvata simplex), the current status is Muellerpalia haszprunari octonaria Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014 (Hydrobiidae).

Valvata (Pseudovalvata) profundicola Bekman & Starobogatov, 1975 (Nom: 87)
Remarks: Sitnikova (2018: fig. 12F) figured the reticulate pattern of the shell by SEM and provided photographs (fig. 2A) and measurements of paratypes.

† Valvata (Borysthenia) pronaticina Lindholm, 1932 (NEW)
Original source: Lindholm 1932: 17, pl. 3: fig. 8a–h.
Type locality: East border of creek Betekei, a tributary of river Ischim near Selim-Dzhevar; district Petropavlovsk, province Akmolinsk (now Astana), North Kazakhstan.
Type horizon: Lower Pliocene.
Type material: stored in the Central Scientific Research Geological Exploration Museum named after F.N. Chernyshev (CNIGR) # 412–419/3355 (see Malchevskoya 1985: 211). 21 syntypes are deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN 1/359-1935).

† “Valvata cristata psilustris” [sic] mentioned in Ye et al. (1996: 166) (NEW)
Remarks: probably misspelled and confused with Stagnicola palustris (O.F. Müller, 1774).

“Costovalvata pulchra” mentioned in Ye et al. (1996: 47) (NEW)
Remarks: nomen nudum, not available.

Nerita pusilla Müller, 1774 (Nom: 88)
Original source: Müller 1774: 171 (# 357) referring to “Berl(in) Magaz(in) [Berlinisches Magazin: 4. B(and) p(agina) 268, t(abula) 8, f(igura) 26”, published 1769].
Type material: Not mentioned by Nekhaev et al. (2015). Vinarski and Kantor (2016: 265) failed to find type material in the Zoological Museum of Copenhagen.
Remarks, The figures (25 and 26)) in the article “Berlinisches Magazin” (an author is not identified) certainly refers to a species of Valvatidae and not to a neritid.

“Valvata pygrncea” mentioned at many webpages, e.g., https://commons.wikimedia.org/wiki/File:The_Quarterly_journal_of_the_Geological_Society_of_London_(1867)_(14595069379).jpg (NEW)
Remarks: Misspelling of Valvata pygmaea C.B. Adams, 1849 because of erroneous text recognition.
† *Valvata pyramidula* Esu & Girotti, 2015 (NEW)

Original source: Esu and Girotti 2015a: 76–78, figs 29–32.

Type locality: S-SW of Neos Erineos, Greece (GPS w66 = 38°16’45.22”N, 21°59’46.33”E).

Type horizon: Upper Lower Pleistocene, grey-yellow silty clays of the Synania Formation.

Type material in Senckenberg Museum Frankfurt (holotype SMF 345727, paratypes SMF 345728/3).

† “Liratina qikouensis” mentioned in Youluo 1978 (Nom: 89)

Remarks: Not available from there (see above) or from Ye et al. (1996: 49; nomen nudum, no reference). I could not find a full reference on this species that would validate the name.

† *Valvata* (*Cincinna*) *racovetzae* Popova & Starobogatov (in Popova, Devyatkin & Starobogatov, 1970) (NEW)

Original source: Popova et al. 1970: 23 (pl. 1: fig. 3), 26.

Type locality: The Chuya Basin (or Chuya Steppe), southeastern part of the Altai Mountains, Russia.

Type horizon: Kyzylgir formation, Middle to Upper Pliocene.

Type material: Holotype deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN 1/533-1968).

Remarks: Unfortunately this fossil species is not included in the review of freshwater gastropod taxa created by Starobogatov (Sitnikova et al. 2017).

† “Valvata* (*Cincinna*) *rakovetzae*” mentioned in Popova et al. 1970: 26

Remarks: Probably a misspelling of † *Valvata* (*Cincinna*) *racovetzae*. (1) The figure legend at page 23 (first mention in the paper) states “racovetzae”. (2) The same paper includes the description of *Anisus* (*Pseudocarinogyraulus*) *racovetzae* (Hygrophila: Planorbidae; pp. 43, 44) and *Odhneripisidium racovetzae* (Bivalvia: Pisidiidae; pp. 72, 74), showing the general preference of the authors for the latter spelling. (3) The second author, Bogachkin (1981: 33) listed a similar species as “Valvata cf. racovetzae Pop. Et Starob.”. On the other hand, Dr Pavel Kijashko (pers. comm. 22 Feb 2022) stated that “I believe that the name “rakovetzae” is a priority. It is indicated in the original description and on the original identification label by the hand of Starobogatov it is written: “V. rakovetzae, holotype”. Perhaps it is Starobogatov’s typo (it cannot be clarified now), but it does not contradict ICZN.” The matter may be decided by the Commission of Zoological Nomenclature.

† *Valvata* (*Cineinna*) *rebetaiensis* Zhu G.-X., 1980 [non Youluo 1978] (Nom: 90)

Original source: Zhu 1980: 38, pl. 19: fig. 3, referred to Youluo (1978).

Remarks: Not available from Youluo 1978 (see above), but Zhu (1980) fulfils all requirements of validation (description and figure). The subgenus *Cineinna* is misspelled as *Cineinna*. 
Type locality: Coastal region of Bohai, northeast China.
Type horizon: The lower part of the first section of the Eocene–Oligocene Shahejie Formation.

† “Valvata ringentis” mentioned in Youluo 1978 (Nom: 91)
Remarks: Not available from there (see above). I could not find a subsequent full reference on this species, which would validate the name. The name “A. [Amnicola] ringentis Youluo” mentioned in Qu et al. (2006: 361) refers to another (likewise not available) name and species (Youluo 1978: 49, pl. 6: figs 29, 30, pl. 7: figs 19, 20).

† Valvata robusta Martinson, 1882 (Nom: 91)
Original source: Martinson 1982: 70, pl. 16: figs 23, 24.
Type locality: Tsogt-Ovoo of Gobi desert, southeastern Mongolia.
Type horizon: Upper Cretaceous, Albian, Khukhtyk Formation.
Type material: Holotype No. 5577/4 deposited at Limnological Institute, Siberian Branch of the Russian Academy of Sciences. Paratypes: 10 in good condition, 8 in satisfactory condition.

† Valvata sayni Delafond & Deperet, 1893 (Nom: 93)
Remarks: Also listed as “Valvata sibinensis Neum. Var. sayni Font.” by Jodot (1955: 601). As previously noted, Fontannes (1883: 440) only published a nomen nudum, which was later made available by Delafond and Depéret (1893: 47).

† Valvata serbica Brusina, 1902 (Nom: 94)
Remarks: As previously noted, Brusina’s name is a junior synonym of Valvata minima Fuchs, 1877, the latter is a junior homonym of Valvata minima Hislop, 1859. Accordingly, the Brusina/Fuchs name has been replaced by Neubauer et al. (2014b: 19) as Pseudamnicola welterschultesi Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014 (Hydrobiidae).

Valvata cristata var. sibirica Middendorff, 1851 (Nom: 95)
Type material: Vinarski and Kantor (2016: 277) explained that Bogatov and Zatravkin (1992: 33) did not designate a lectotype as assumed by Prozorova and Starobogatov (1998: 56) but only listed a syntype (collected in Barnaul). This syntype is kept in Zoological Institute of the Academy of Sciences, St. Peterburg (ZIN), as # 1 under the name. Glöer (2019: 213, fig. 268: 5–7) also figured syntypes from the Naturalhistoriska Museet Goteborg (GNHM 4677).
Remarks: Andreeva et al. (2021: fig. 5A) published excellent photographs of specimens of the Taz River basin (western Siberia).

† “Valvata (Valvata) simplex” Fuchs, 1870” (Nom: 95–96)
Remarks: As outlined in Haszprunar (2014: 95), the taxon is a junior homonym of Valvata tricarinata var. simplex Gould, 1841 and is in fact a hydrobiid. Accordingly, the name has been replaced by Neubauer et al. (2014b: 19–20) with Muellerpalia haszprunari
Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014 (Hydrobiidae). The same authors also renamed †Valvata octonaria Brusina, 1902 (although only tentatively: “needs revision”) as Muellerpalia haszprunari octonaria (Brusina, 1902).

“Valvata skniadica” mentioned in Ye et al. (1996: 166) (NEW)
Remarks: Misspelling of Valvata (Aphanotylus) skhiadica Bukowski, 1895.

**Valvata (Cincinna) sorensis** Dybowski, 1886 (Nom: 97)
Type material: According to Sitnikova et al. (2015: 10) type material may be stored in the Collection of the Benedict Dybowski Zoological Museum, Ivan Franko National University, Lviv (Ukraine).
Remarks: Clewing et al. (2014: supplementary material) provided molecular data (as RU02/2). Sitnikova et al. (2015: 10–19, figs. 4C, D) considered Valvata (Cincinna) sorensis var. abbreviata Lindholm, 1909 as a junior synonym, provided photographs of syntypes and from specimens of several localities as well as an extensive and annotated citation record in the Russian literature in particular. Andreeva et al. (2021: fig. 3C) added excellent photographs from specimens of the Taz River basin (western Siberia).

**Valvata spirorbis** Draparnaud, 1897 (Nom: 98)
Type material: According to Vinarski and Kantor (2016: 263) a single shell (syntype) is stored in the Naturhistorisches Museum Wien (NHM #14717).

† **Valvata (Cincinna) splendida** Szőts, 1953 (NEW)
Original source: Szőts, 1953: 33, 145–146, pl. 2: fig. 16.
Type locality: “Hosszúharasztos” (Harasztos quarry), Gánt, District Fejér, Hungary.
Type horizon: Upper Lutetian to lower Bartonian, Middle to upper Eocene.

† **Valvata stevanovici** Ilyina (in Stevanovich & Ilyina, 1982) (Iljina in Global Names Index GNI and Index of Organism Names ION) (Nom: 98)
Type material: Holotype stored in the Paleontological Institute, Russian Academy of Sciences (PIN 2220/587).

“**Valvata radiatula subnaticina**” (NEW) mentioned at GBIF, Catalogue of Life, World Register of Marine Species, and at Mineralienatlas https://www.mineralienatlas.de/lexikon/index.php/FossilData?fossil=Valvata%20radiatula%20subnaticina.
Remarks: The name is a mistake based on the description of Valvata subnaticina Łomnicki, 1886 (Nom: 100). There it is stated that fossils of forms similar to Valvata radiatula Sandberger, 1875 also occur at the type locality; the latter are clearly different from V. subnaticina, however.

“**Valvata cristata monstr. subscalaris**” mentioned in Baudon (1884: 294, pl. 9: fig. 19) (NEW)
Remarks: Obviously considered as a monstrosity, therefore not available.
† *Liratina subtilostrata* Pan, 1980 (in Yü & Pan, 1980) (Nom: 102)
Original source: Yü and Pan 1980: 148, pl. 2: figs 7–10.

† “*Planorbis symmetricus*” Ludwig, 1865” mentioned in Haszprunar (2014: 103) (NEW)
Remarks: Misspelling for *Planorbis symmetrus* Ludwig, 1865; the current name is *Valvata symmetra* (Ludwig, 1865).

† *Valvata tanaiticus* Sanko, 2007 (NEW)
Original source: Sanko 2007: 75–76, text fig. 52.
Type locality: Korotoyak section at the Upper Don river, District of Voronezh Oblast, Russia.
Type horizon: Deeper than Alexandrian Interglacial, Middle Pleistocene.

*Valvata (Pseudomegalovalvata) tenagobia* Bekman & Starobogatov, 1975 (Nom: 104)
Type material: According to Vinarski and Kantor (2016: 273) holotype and 15 paratypes in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN 1/122-1976 and ZIN 2/122-1976). The holotype is figured by Sitnikova (2018: fig. 2E).

“*Valvata theotokii*” mentioned in Haszprunar (2014: 105) and Glöer and Hirschfelder (2019: 10) (NEW)
Remarks: Misspelling of *Valvata theodokii* Locard, 1889.

“*Liratina tongbinzhenensis*” mentioned in Ye et al. (1996: 49, 50) (NEW)
Remarks: nomen nudum – not available.

† *Valvata transbaicalensis* Martinson, 1956 [non 1961] (Nom: 105)
Original source: Martinson 1956: 21, text fig. 16; pl. 2: fig. 14.
Type locality: Mordoy area, east Siberia (Transbaikalia), Russia.
Type horizon: Lower Cretaceous (Valanginian – Hauterivian).

*Cyclostoma tricarinata* Say, 1817 (Nom: 105)
Remarks: Yurco and Keeney (2018) provided microsatellite data to enable analyses of population genetics of this widespread species.

† *Valvata tuostaiensis* Wei, 1984 (Nom: 107)
Original source: Wei in Xinjiang Dizhi Ju 1984, 84, pl. 49: figs 3, 4.
Type locality: Wuyiju Tostai, Xinjiang Province, China.
Type horizon: Taxihe Formation, Miocene.

† “*Liratina tuozhuangensis*” [not *Valvata tuozhuangensis* as stated] mentioned in Youluo 1978 (Nom: 107)
Remarks: Not available from there (see above), nor from Meyerhoff et al. (1991: 102), Ye et al. (1996: 47, 160, 285), Ryo et al. (2000: 11), or Lin et al. (2005: 56): all
these citations are nomina nuda lacking descriptions, figures, or detailed reference. I could not find any full reference on this species that would validate the name.

† Valvata turbinata Stache, 1889 (NEW)
   Original source: Stache 1889: 117, pl. 2: fig. 24.
   Type locality: Caracaea-oogones, north of Cosina (today Hrpelje-Kozina), (5 km east of Trieste) Slovenia.
   Type horizon: Stomatopsis horizon, Eocene.
   Remarks: Because of the Conus-like shell, a very doubtful member of Valvatidae.

† Valvata turbinoides K.A. Ali-Zade, 1936 (NEW)
   Original source: K.A. Ali-Zade 1936: 17, pl. 1: figs 28–30 (not seen, according to MolluscaBase (2022: see references).
   Type locality: near Naftalan, west Azerbaijan.
   Type horizon: Akchagylian, uppermost Pliocene and lower Pleistocene.
   Remarks: Replacement name for Valvata alta K.A. Ali-Zade, 1932, a junior homonym of Valvata alta Deshayes, 1862 (now considered as Bythinella alta (Deshayes, 1862), Bythinellidae). Not treated in the last 50 years.

“Valvata turkmena” mentioned in A.A. Ali-Zade (1967: 225) (NEW)
   Remarks: Probably a misattribution of Pyrgula turkmena A.A. Ali-Zade, 1967, described in the same volume.

“Valvata piscinalis” (Müll.) var. uistopolitana Pop[ov]” (NEW) mentioned in Petrova and Linkina (2014: 113) (NEW)
   Remarks: A misspelling of Valvata cistopolitana (see above).

“Valvata umbilicata” Parreyss” is also mentioned in Baudon (1884: 293) (Nom: 108)

† Valvata uncarinifera Hislop, 1859 (Nom: 108)
   Type horizon: Upper Cretaceous (not Tertiary as stated by Hislop).
   Type material: Lectotype designated and figured by Hartman et al. (2008: fig. 16A, B), reprinted by Bingle-Davis (2012: 132), deposited under PIMG 1239 (Palaeo Invertebrate Mesozoic Gastropod) at the Natural History Museum of the United Kingdom (NHMUK); the original Latin description was translated to English.

† “Valvata uncarinifera uncarinifera” mentioned in Bingle-Davis (2012: 104) (NEW)
   Locality: near Kalmeshwar (station InL0096b), west of Nagpur, Savner Subdivision of Nagpur district in the state of Maharashtra, India.
   Horizon: Cretaceous.
   Material: ”Holotype”: InS1159 (Appendix 2 (Nom: 137), fig. O; 1.5 mm x 1.7 mm) stored at University of North Dakota, Grand Forks, North Dakota, USA.
Remarks: Although freely available online, this PhD dissertation lacks ISBN or ISSN numbering, thus is not formally published. Moreover, in erecting a second subspecies of *Valvata uncarinifera* Hislop, 1859 by Bingle-Davis in the same work (see above for “*V. u. chiknaformis*”), the original taxon becomes the nominal subspecies and cannot be replaced. Thus, the specimens of Bingle-Davis are formally not named and remain to be described in accordance with the rules of ICZN.

**Valvata simplex** var. *unicincta* Lörenthey, 1906 (Nom: 109)

Remarks: As outlined above (see under *Valvata simplex*) the parent species name is not available and has been replaced by Neubauer et al. (2014b: 21). The current status of this taxon, which needs revision, is *Muellerpalia octonaria unicincta* (Lörenthey, 1906) (Hydrobiidae).

† **Valvata uralica** Popov, 1965 (NEW)

Original source: Popov 1965: 227, pl. 5: figs 25–29.
Type locality: Kama tributary of the Middle Volga, Russia.
Type horizon: Pleistocene, Sokol Suite of the Kinel Formation.
Type material: unknown.
Remarks: also mentioned by Danukalova and Morozova (2003: 80) and Matoshko et al. (2004: 21).

“**Valvata vaciani**” mentioned in Yahimovich et al. (2000: 65) (NEW)

Remarks: misspelling of *Valvata vanciana* Tournoër, 1875.

“**Valvata venciana**” mentioned in Bogachev (1961: 74) (NEW)

Remarks: misspelling of *Valvata vanciana* Tournoër, 1875.

† **Cincinna (Cincinna) vinogradovskaense** [sic] Gozhik, 2002 (Nom: 110)

Type locality: near Vinogradovka village, Odesa oblast, Bolhrads’kyi district, Ukraine.
Type horizon: Miocene, Middle Pontian.
Type material: Holotype (coll. Gozhik, #3163) figured by Osipova et al. (2021: fig. 3D).
Remarks: The species name should be *vinoigradovskaensis*, since both *Cincinna* and *Borysthenia* are feminine. “**Cincinna (Cincinna) vinogradovskaense**” mentioned in Haszprunar (2014: 110) is a misspelling. Currently considered a species of *Borysthenia* Lindholm, 1914.

**Valvata (Microcincinna) vystitiensis** Chernogorenko & Starobogatov, 1987 (Nom: 111)

Type material: Type data provided and holotype figured by Sitnikova et al. (2017: 257, fig. 3D–F).
† *Valvata heidemariae willmanni* Neubauer, Harzhauser, Kroh, Georgopoulou & Mandic, 2014 (NEW).

   Original source: Neubauer et al. 2014b: 22
   Type locality: Vokasia-Tal, Kos, Greece.
   Type horizon: Lower Pleistocene, Middle Iraki-Formation.
   Type material: According to Neubauer et al. (2014b: 22) deposited in the Geological-Paleontological Institute, University of Kiel, no number provided.
   Remarks: Replacement name for *Valvata heidemariae bicarinata* Willmann, 1981, a junior homonym of *Valvata bicarinata* Lea 1841.

† *Valvata windhauseni* Parodiz, 1961 (Nom: 112)
   Remarks: Parodiz (1969: 110) himself later assigned this species to the freshwater genus *Potamolithus* Pilsbry, 1896 (Truncatelloidea, Tateidae).

† *Valvata yongkangensis* Yü, 1980 (Nom: 112)
   Original source: Yü and Pan 1980: 147–148, pl. 2: figs 3, 4.
   Type horizon: Middle Jurassic.

† *Valvata zhongjiangensis* Pan, 1982 (Nom: 113)
   Original source: Pan 1982: 430, pl. 1: figs 18–21.

† “*Valvata zhouqingzhuangensis*” mentioned in Youluo 1978 (Nom: 113)
   Remarks: Not available from there (see above) or from Ye et al. (1996: 48; nomen nudum, no reference). I could not find any full reference on this species that would validate the name.

**Acknowledgements**

I would like to thank many colleagues who provided me with previously non-digitized literature, in particular Gert Wörheide (GeoBio-Center, Ludwig-Maximilians-University of Munich), who made the book of Youluo (1978) available, and Thomas A. Neubauer (Justus-Liebig-University of Gießen), who provided copies of the papers of the Ali-Zade family and several other important taxonomic works of the former Soviet area. Also, Dr Neubauer’s substantial work to update MolluscaBase and his comments as editor of ZooKeys were a significant help during the preparation of this work. I am indebted to the reviewers of the typescript, Mathias Harzhauser (Natural History Museum of Vienna), Alan Kabat (Harvard Museum of Comparative Zoology), and Pavel Kijaskho (Russian Academy of Sciences, St. Petersburg), who all provided significant help and data in order to improve the paper.
References

Aescht E (2003) Typen-Liste der Sammlung „Wirbellose Tiere“ (ohne Insekten) am Biologiezentrum. Linzer Beiträge zur Naturkunde Oberösterreich 12: 377–406. https://www.zobodat.at/pdf/BNO_0012_0377-0406.pdf

Ali-Zade [Али-Заде, Alizadeh] AA (1967) Akchagyl Turkmenistana / Akchagyl Turkmenistana [The Akchagylian layer of Turkmenistan]. Vol. 2. Izdatel'stvo “Nedra”, Moskva, 407 pp. [84 pls]

Ali-Zade [Али-Заде, Alizadeh] AA (1973) Абшерон Азербайджана / Apsheron Azerbaydzhana [Apsheronian of Azerbaijan]. Moskva: Nedra, 228 pp. [47 pls]

Ali-Zade [Али-Заде, Alizadeh] KA (1932) Некоторые новые виды из акчагыльской фауны Нафталана / Nekotorye novye vidy iz Akchagyl'skoi fauny Naftalana [Some new species from the Akchagylian fauna of Naftalan]. Izvestiya Azerbaydzhanskogo Neftyanogo Instituta Azizbekova, Baku 1(2): 1–44. [pls 1–7]

Ali-Zade [Али-Заде, Alizadeh] KA (1936) Фауна акчагыльских слоев Нафталана / Fauna akchagylskikh sloyev Naftalana [Fauna of the Akchagylian layers of Naftalan]. Trudy Azerbaydzhanskogo nauchno-issledovatel'skogo instituta 32: 1–36. [pls 1–6]

Andreeva SI, Andreev NI, Babushkin ES [Andreeva СИ, Андреев НИ, Бабушкин ЕС] (2021) Моллюски семейства Valvatidae Gray, 1840 (Gastropoda, Heterobranchia) бассейна реки Таз (Западная Сибирь) / Mollyuski semeystva Valvatidae Gray, 1840 (Gastropoda, Heterobranchia) basseyna reki Taz (Zapadnaya Sibir’). Ruthenica: Rossiiskii Malakologicheskii Zhurnal = Russian Malacological Journal 31(1): 7–19. [Mollusks of the family Valvatidae Gray, 1840 (Gastropoda, Heterobranchia) of the Taz River basin (Western Siberia)] https://doi.org/10.35885/ruthenica.2021.31(1).2

Anistratenko VV, Anistratenko OYu [Анистратенко ВВ, Анистратенко ОЮ] (2001) Fauna Украины в сорока томах. Том 29. Моллюски. Выпуск 1. Книга 1. Класс панцирные или хитоны, класс брюхоногие / Fauna Ukrainy v soroka tomakh. Tom 29. Mollyuski. Vypusk 1. Kniga 1. Klass pantsirnyye ili khitony, klass bryukhonogie [Fauna Ukraine: Vol. 29: Mollusca. Fas 1, book 1: Class Polyplacophora or Chitons, Class Gastropoda – Cyclobranchia, Scutibranchia i Pectinibranchia taschast]. National Academy of Sciences of the Ukraine. Institute of Zoology, Kiev 29(1): 1–240.

Annandale N, Kemp S (1916) Fauna of the Chilka Lake: Mollusca Gastropoda and Lamelibranchia. Memoirs of the Indian Museum 5: 329–366. [pls 14–16] [including appendix and tables] https://www.biodiversitylibrary.org/page/36674785

Arconada B, Ramos MA (2002) Spathogyna, a new genus for Valvata (? Tropidina) fezi Altimira, 1960 from eastern Spain: Another case of pseudohermaphroditism in the Hydrobiidae (Gastropoda). The Journal of Molluscan Studies 68(4): 319–327. https://doi.org/10.1093/mollus/68.4.319

Balabanov YuP, Linkina LI, Petrova EV [Балабанов Ю П, Линкина ЛИ, Петрова ЕВ] (2010) Неогеновые отложения Среднего Поволжья / Neogenovyе otlozheniya Srednego Povolzh'ya [Neogene deposits of the Middle Volga Region]. Scientific Notes of Kazan State University 152(1): 192–214. https://cyberleninka.ru/article/n/neogenovyе-otlozheniya-srednego-povolzh'ya
Update of nomenclator of Valvatidae

Baudon A (1884) [1st July] Troisième catalogue des Mollusques vivants de département de l’Oise. Journal de Conchyliologie 32: 193–325. [pls 8–10] https://www.biodiversitylibrary.org/page/16071982 [text] https://www.biodiversitylibrary.org/page/16072246 [plates]

Berlinisches Magazin [oder gesammelte Schriften und Nachrichten für die Liebhaber der Arzneywissenschaft, Naturgeschichte und der angenehmen Wissenschaften überhaupt] (1769) 4. Band. Arnold Wever, Berlin. http://resolver.sub.uni-goettingen.de/purl:PPN484874233_0004

Bieler R, Petit RE (2012) Molluscan taxa in the publications of the Museum Godeffroy of Hamburg, with a discussion of the Godeffroy Sales Catalogs (1864–1884), the Journal des Museum Godeffroy (1873–1910), and a history of the museum. Zootaxa 3511(1): 1–80. https://doi.org/10.11646/zootaxa.3511.1.1

Bingle-Davis MJ (2012) Systematics, diversity, and origins of Upper Cretaceous continental molluscan fauna in the infra- and intertrappean strata of the Deccan Plateau, Central India. Unpublished Thesis, University of North Dakota, UMI Number: 3541377: [xiii +] 254 pp. https://commons.und.edu/cgi/viewcontent.cgi?article=1023&context=theses

Boeters H-D, Falkner G (1998) Valvata pulchella S. Studer and Valvata studeri n.sp. (Gastropoda, Ectobranchia: Valvatidae). Heldia 2(5/6): 113–122. [pls 14–16]

Bogachev VV [Богачев ВВ] (1961) Materialy k istorii presnovodnoi fauny Evrazii / Materialy k istorii presnovodnoi fauny Evrazii [Material on the history of freshwater fauna in Eurasia], Izdatel’stvo Akademii Nauk Ukrainskoi SSR, Kiev, 341 pp. [58 pls.] https://books.google.co.uk/books?id=ac5499&redir=137597755

Bogachkin BM [Богачкин БМ] (1981) Istoriya tektonicheskogo razvitiya Gornogo Altaya v kaynozoye. [History of tectonic development of Gorny Altai in the Cenozoic]. Nauka, Moscow, 132 pp. https://www.geokniga.org/bookfiles/geokniga-istoriya-tektonicheskogo-razvitiya.pdf

Bogatov VV, Zattravkin MN [Богатов BB, Затравкин МН] (1992) (“1990“) Брюхоногие моллюски пресных и солоноватых вод Дальнего Востока СССР. / Bryukhonogie mollyuski presnykh i solonovatykh vod Dalnego Vostoka SSSR [Fresh and brackish water gastropods of the Soviet Far East]. Biologo-pochvennyi institut, Vladivostok / Academy of Science of the USSR, Vladivostok (Far East Branch), 172 pp.

Bouchet P, Rocroi J-P, Hausdorf B, Kaim A, Kano Y, Nützel A, Parkhaev P, Schrödl M, Strong EE (2017) Revised classification, nomenclator and typification of gastropod and monoplacophoran families. Malacologia 61(1–2): 1–516. https://doi.org/10.4002/040.061.0201

Brusina S (1874) Fossile Binnen-Mollusken aus Dalmatien, Kroatien und Slavonien nebst einem Anhange. Deutsche vermehrte Ausgabe der kroatischen im “Rad” der südslavischen Akademie der Wissenschaften und Künste in Agram (28. Band, 1874) erschienenen Abhandlung. Actienbuchdruckerei, Agram, 144 pp. [7 pls] https://www.biodiversitylibrary.org/page/58097400

Brusina S (1897) Gragja za neogensku malakošku faunu Dalmacije, Hrvatske i Slavonije uz neke vrste iz Bosne, Hercegovine i Srbije / Materiaux pour la faune malacologique neogene 122 de la Dalmatie, de la Croatie, et de la Slavonie avec des especes de la Bosnie et de l Herzegowine et de la Serbie (Croatian/French). Djela Jugoslavenske akademije znanosti i umjetnosti 18. Actienbuchdruckerei, Zagreb-Agram, 21 + 43 pp.
Canoy Illies MM, Hartmann JH (2018) Re-evaluation of *Valvatae montanaensis* Meek and the overburdened *Valvata* Müller. Abstracts of the GSA Annual Meeting Indianapolis, Indiana, Geological Society of America Abstracts with Programs 50(6): paper #39–10. https://doi.org/10.1130/abs/2018AM-317673

Cataldo CS, Lazo DG, Luci L, Aguirre-Urreta B (2019) New Barremian macroinvertebrates from the Huitrín Formation, Mendoza Province (Argentina) and their paleoecological implications. Ameghiniana 56(6): 441–470. https://doi.org/10.5710/AMGH.04.09.2019.3244

Ciangherotti AD, Crispino P, Esu D (1997) Paleocology of the non-marine molluscs of the Pleistocene Stirone River sequence (Emilia, Northern Italy). Bollettino della Società Paleontologica Italiana 36: 303–310.

Clewing C, von Oheimb PV, Vinarski M, Wilke T, Albrecht C (2014) Freshwater mollusc diversity at the roof of the world: phylogenetic and biogeographical affinities of Tibetan Plateau *Valvata*. Journal of Molluscan Studies 80(4): 452–455. [and supplementary data] http://doi.org/10.1093/mollus/eyu016

Contreras-Arquieta A (1993) *Valvata beltrani* n. sp. (Gastropoda: Valvatidae) de Charco Azul, San Juan de Aviles, Aramberri, Nuevo León, México. Publicaciones Biológicas, Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo León, Supl 1, 1–6, figs 1–2.

Contreras-Balderas S, Lozano-Vilano M de L (1996) Extinction of most Sandia and Potosí valleys (Nuevo León, México) endemic pupfishes, crayfishes and snails. Ichthyological Exploration of Freshwaters 7(1): 33–40.

Danukalova GA, Morozova EM [Данукалова ГА, Морозова ЕМ] (2003) Состояние изученности плиоцен-четвертичных моллюсков Южно-Уральского региона / Sostoyaniye izucheniya pliocen-chetvertichnykh mollyuskov Yuzhno-Uralskogo Regiona [State of study of Pliocene-Quaternary Molluscs of the South-Ural region]. Геологический сборник № 3. Информационные материалы / Geologicheskiy sbornik N° 3. Informatsionnyye materialy [Geological collection 2003(3). Information materials], 79–91. http://ig.ufaras.ru/File/E2003/01701_03.pdf

Delafond F, Deperet CJJ (1893–94) Les terrains Tertiaires de la Bresse et leur gites de lignites et de minerais de Fer. 2me Volume. Etudes des gites mineraux de la France. Imprimerie nationale, Paris, 332 pp. [58 figs, 19 pls, 1 map] http://gallica.bnf.fr/ark:/12148/bpt6k62272678

Du L-N, Jiang Y-E, Chen X-Y, Yang J-X, Aldridge D, Du Li-Na (2017) A family-level macroinvertebrate biotic index for ecological assessment of lakes in Yunnan, China. Water Resources 44(6): 864–874. https://doi.org/10.1134/S0097807817090020

Dumas E (1875–1877) Statistique géologique, minéralogique, métallurgique et paléontologique du département du Gard. Troi parties. Arthus Bertrand/Peyrot-Tinel/Bruguièrrole; Paris/Nîmes/Alais. Première partie (1875: 264 pp): https://gallica.bnf.fr/ark:/12148/bpt6k930656d.image Deuxième partie (1876: 735 pp): https://gallica.bnf.fr/ark:/12148/bpt6k930654n.image Troisième partie (1877: 515 pp): https://gallica.bnf.fr/ark:/12148/bpt6k930640s.image
Update of nomenclator of Valvatidae

Eichwald E [Эйхвалд Э] (1851) Палеонтология России. Описание моллассовой и намывной формаций / Palaeontologiya Rossii. Opisanie mollassovoy i namyvnoy formatsiy [Paleontology of Russia. Descriptions of marine and alluvial formations of Russia]. Eduard Pratsa, Sanktpeterburg, 284 pp. https://play.google.com/store/books/details?id=IblYAAAAIAAJ&rdid=book–IblYAAAAIAAJ&rdot=1

Eichwald E (1852) Lethaia Russica ou le monde primitive de la Russie. Atlas. Schweizerbart, Stuttgart, 14 pls. https://www.biodiversitylibrary.org/page/39452524 [According to Janssen (1984: 197) the atlas was published in 1859, but this is incorrect, see Nosowska (2020: 455)]

Eichwald E (1853) Lethaia Russica ou Paleontologie de la Russie écrite et figurée. Troisième volume. Dernière période. Schweizerbart, Stuttgart 3: [xix +] 533 pp. https://www.biodiversitylibrary.org/page/36423437

Esu D, Girotti O (2015a) The late Early Pleistocene non-marine molluscan fauna from the Synania Formation (Achaia, Greece), with description of nine new species (Mollusca: Gastropoda). Archiv für Molluskenkunde 144(1): 65–81. https://doi.org/10.1127/arch.moll/1869-0963/144/065-081

Esu D, Girotti O (2015b) Melanopsis wilhelmi n. sp. and Valvata ducati n. sp., two new Pleistocene gastropods from a section of the Strione River (Emilia, North Italy). Archiv für Molluskenkunde 144(2): 149–154. https://doi.org/10.1127/arch.moll/1869-0963/144/149-154

Esu D, Girotti O (2018) Valvata mathiasi n. sp. (Gastropoda: Heterobranchia: Valvatidae) from the Lower Pliocene of the Val di Pesa (Tuscany, Central Italy). Archiv für Molluskenkunde 147(1): 49–54. https://doi.org/10.1127/arch.moll/147/049-054

Falniowski A, Lewarne B, Rysiewska A, Osikowski A, Hofman S (2021) Crenobiont, stygophile and stygobiont molluscs in the hydrographic area of the Trebišnjica River Basin. ZooKeys 1047: 61–89. https://doi.org/10.3897/zookeys.1047.64034

Faujas de Saint Fond B (1809) Notice sur une mine de carbon fossile de département du Gart, dans laquelle on trouve du succin et de coquilles marins. Annales du Muséum d’Histoire naturelle 14: 314–324. [pl. 19] https://www.biodiversitylibrary.org/page/3498968

Fontannes F (1883) Diagones especes et de varietes nouvelles des terrains tertiaries du Bassin du Rhone. Bulletin de la Societe Geologique de France (ser. 3) 11: 440–441. https://www.biodiversitylibrary.org/page/47193802

Frauenfeld Gv (1864) Verzeichniss der Namen der fossilen und lebenden Arten der Gattung Paludina Lam., nebst jenen der nachstehenden und Einreihung derselben in die verschiedenen neuerenGattungen. Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien 14: 561–672. https://www.zobodat.at/pdf/VZBG_14_0561-0672.pdf

Fuchs T (1870) Beitrage zur Kenntnis fossiler Binnenfauna IV und V. Die Fauna der Congerien Schichten von Tihany am Plattensee und Kup bei Papa in Ungarn. Jahrbuch der kaiserlich königlichen Geologischen Reichsanstalt 20(4): 531–547. [pls 20–22] http://opac.geologie.ac.at/wwwopacx/wwwopac.ashx?command=getcontent&server=images&value=JB0204_531_A.pdf

Glöer P (2019) The Freshwater Gastropods of the West Palaearctic, Volume I: Fresh- and brackish waters except spring and subterranean snails. Identification Key, Anatomy, Ecology, Distribution, 399 pp. [S. Muchow, Neustadt/Holstein, Germany]
Glöer P, Hirschfelder H-J (2019) New freshwater molluscs from Crete, Greece (Gastropoda: Hydrobiidae, Bythinellidae, Valvatidae). Ecologica Montenegrina 20: 10–23. https://doi.org/10.37828/em.2019.20.2

Goretsky / Goretiskii GI [Горецкий ГИ] (1956a) O нижней границе четвертичного периода / O nizhney granitse chetvertichnogo perioda [About the lower border of the Quaternary period]. Бюллетен Московского общества испытателей природы. Отдел Геологический / Buulleten Moskovskogo obshchestva ispytatelei prirody. Otdel geologicheskii. [Bulletin de la Société des Naturalistes de Moscou, Section géologique] 31(4): 29–43.

Goretsky / Goretiskii GI [Горецкий ГИ] (1956b) О гирканском этапе в истории Прикаспия / O girkanskom etape v istorii Prikaspiya [About the Hyrcan stage in the history of the Caspian region]. Новости нефтяной техники. Серия Геология / Novosti neftyanoy tehniki. Seriya Geologiya. [News of Petroleum Engineering. Series Geology.] 1956(6): 3–5.

Goretsky / Goretiskii GI [Горецкий ГИ] (1964) Аллювий великого антропогенного прарек / Russkoy ravniny / Allyuviy velikogo antropogennogo prapek Russkoy ravniny [The alluvium of the great anthropogenous preek of the Russian Plain]. Nauka, Moscow, 415 pp. http://www.geokniga.org/books/5412

Gozhik / Gožyk / Gozhyk PF, Datsenko LN [Гожик ПФ, Даценко ЛН] (2007) Пресноводные моллюски позднего кайнозоя юга Восточной Европы [в 2 ч.] / Presnovodnye molluski pozdnego kainozoika yuga Vostochnoy Evropy [v 2 ch.] [Fresh-water molluscs from the Late Cenozoic in the south of Eastern Europe. Part II: Family Sphaeridae, Pisidiidae, Corbiculoidae, Neritidae, Viviparidae, Valvatidae, Bithyniidae, Lithoglyphidae, Melanopsidae. Национальная академия наук Украины, Институт геологических наук / Natsional'naya akademiya nauk Ukrainy, Institut geologicheskikh nauk. National Academy of Sciences of Ukraine, Institute of Geological Science, Kiev, 2007: 1–255. [97 pls.

Grabau AW (1923) Cretaceous fossils from Shantung. Jing ji bu zhong yang di zhi diao cha suo/ Bulletin of the Geological Survey of China 5(2): 143–181. [2 pls] https://molluscabase.org/aphia.php?p=sourcedetails&id=353589

Greppin J-B (1855) Notes géologiques sur les terrains modernes, quaternaires et tertiaires du Jura bernois et en particulier du Val de Delémont. Nouveaux Mémoires de la Société Helvétique des Sciences Naturelles 14(5): 1–71. [4 pls - plates 1, 2, and 4 are geological maps, plate 3 illustrates the species] https://www.biodiversitylibrary.org/page/13246941

Hanna GD (1922) Fossil freshwater mollusks from Oregon contained in the Condon Museum of the University of Oregon. University of Oregon Publication 1(12), 23 pp. [4 pls] https://www.biodiversitylibrary.org/page/20825593

Hartman JH, Erickson DN, Bakken A (2008) Stephen Hislop and his 1860 Cretaceous continental molluscan new species descriptions in Latin from the Deccan Plateau, India. Palaeontology 51(6): 1225–1252. https://doi.org/10.1111/j.1475-4983.2008.00807.x

Harzhauser M, Binder H (2004) Synopsis of the Late Miocene mollusc fauna of the classical sections Richardhof and Eichkogel in the Vienna Basin. Archiv für Molluskenkunde 133(1/2): 1–57. [11 pls] https://doi.org/10.1127/arch.moll/133/2004/109

Harzhauser M, Neubauer TA, Hoşgör I (2018) Oligocene-Miocene freshwater gastropods from the Oltu-Narman Basin in eastern Turkey. Acta Palaeontologica Polonica 63(2): 357–369. https://doi.org/10.4202/app.00469.2018
Haszprunar G (2014) A nomenclator of extant and fossil taxa of the Valvatidae (Gastropoda, Ectobranchia). ZooKeys 377: 1–172. https://doi.org/10.3897/zookeys.377.6032

Hauswald A-K, Albrecht C, Wilke T (2008) Testing two contrasting evolutionary patterns in ancient lakes: Species flock versus species scatter in valvatid gastropods of Lake Ohrid. Hydrobiologia 615(1): 169–179. https://doi.org/10.1007/s10750-008-9556-0

Henderson J (1935) Fossil Non-Marine Mollusca of North America. Geological Society of America Special Papers 3: 1–290. https://doi.org/10.1130/SPE3-p1

Hinchliffe RP, Tebby C, Cobb TP (2019) First recorded co-occurrence of Valvata lewisi Currier, 1868 and Valvata lewisi ontariensis Baker, 1931 (Gastropoda: Valvatidae) from Alberta, Canada, with notes on morphometric and genetic variability. Canadian Field Naturalist 133(3): 189–192. https://doi.org/10.22621/cfn.v133i3.2237

Janssen AW (1984) Mollusken uit het Mioceen van Winterswijk-Miste. Een inventarisatie, met beschrijvingen en afbeeldingen van alle aangetroffen soorten. KNNV, NGV & RGM, Amsterdam, 451 pp.

Jaume ML, Abbott RT (1948) A new Cuban species of the amnicolid genus Nanivitrea. Revista de la Sociedad Malacologica. Carlos de la Torre 6: 5–8.

Jodot P (1955) Sur la classification du Miocene supérieur continental de la vallée du Rhône. Bulletin de la Société Géologique de France (ser. 6) 5: 597–604. [1 table] https://doi.org/10.2113/gssgbull.S6-V.7-9.597

Jurkovšek B, Biolchi S, Furlani S, Kolar-Jurkovšek T, Zini L, Jež J, Tunis G, Bavec M, Cucchi F (2016) Geology of the Classical Karst Region (SW Slovenia-NE Italy). Journal of Maps 12(sup1, supplement 1): 352–362. https://doi.org/10.1080/17445647.2016.1215941

Kabat AR, Hershler R (1993) The prosobranch snail family Hydrobiidae (Gastropoda: Rissooidea): Review of classification and supraspecific taxa. Smithsonian Contributions to Zoology 547(547): [i–iii,] 1–94. https://doi.org/10.5479/si.00810282.547

Kantor YI, Vinarski MV, Schileyko AA, Sysoev AV (2011) Catalogue of the continental mollusks of Russia and adjacent territories. Version 2.3.1., 330 pp. www.kz-snailhome.narod.ru/books/kantor_2010.pdf

Kobayashi T (1983) [Studies on the Mesozoic non-marine facies in Japan and Eastern Asia, Part II] (in Japanese). Journal of Geography 92(3): 193–214 (53–74). https://www.jstage.jst.go.jp/article/jgeography1889/92/3/92_3_193/_pdf

Kormos T (1912) Die pleistocäne Molluskenfauna des Kalktuffes von Konto (Komitat Bihar) in Ungarn. Centralblatt für Mineralogie. Geologie und Paläontologie 1912: 152–158. https://www.zobodat.at/pdf/Centralblatt-Mineral-Geol-Palaont_1912_0152-0158.pdf

Kozhov [Кожов] MM (1936) Моллюски озера Байкал – систематика, распределение, экология, некоторые данные о генезисе и истории / Mollyuski ozero Baykal – sistematika, raspredeleniye, ekologiya, nekotoryye dannyye o genezise i istorii [Mollusks of Lake Baikal – systematic, distribution, ecology, some data on genesis and history]. Trudy Baikal skoy limnologicheskoy Stantsii / Travaux de la Station Limnologique du Lac Baikal / Works of the Baikal Limnological Station 8: 1–350. [in Russian, German summary]

Krestovnikov VN [Крестовников ВН] (1931) Куйльницкий ярус. Архангельский А.Д., Давиташвили Л.С. (ред.): Руководящие ископаемые нефтеносных районов Крымско-Кавказской области / Kuyal’nitskiy yarus. Arkhangel’skiy AD, Davitashvili LS (red.): Rukovodящие ископаемые нефтеносных районов Крымско-Кавказской области
iskopayemyye neftenosnykh rayonov Krymsko-Kavkazskoy oblasti. [Fossils of the Kuyalnik Estuary. In: Archangelsky AD, Davitaschvili LS (Eds): Characteristic fossils of the oil districts of the Crimea and Caucasus]. Сделки Государственного нефтяного научно-исследовательского института / Sdelki Gosudarstvennogo neftyanogo nauchno-issledovatel'skogo instituta [Transactions of the State Petroleum Research-Institute] 10: 1–24. [12 pls]

Кюстер HC (1852–1853) Die Gattungen Paludina, Hydrocaena und Valvata. Systematisches Conchylien-Cabinet von Martini und Chemnitz (1)21. Bauer und Raspe, Nürnberg, 1–96. [pls 1–77] [for bibliography see Welter-Schultes 1999: 170] https://www.biodiversitylibrary.org/page/52395484

Lazo DG, Cataldo CS, Luci L, Aguirre-Urreta MB (2017) Groeber y los invertebrados fósiles del Miembro La Tosca, Cretáceo Inferior de la Cuenca Neuquina: Una historia de controversias paleontológicas. Revista de la Asociación Geológica Argentina 74(1): 19–39. https://revista.geologica.org.ar/raga/article/view/261

Le Renard J, Pacaud J-M (1995) Révision des Mollusques Paléogènes du Bassin de Paris. II II Liste des Références Primaires des Espèces. Cossmanniana 3(3): 65–132.

Lee HG (2015) An ersatz Valvata from Bernheim Forest, Kentucky. Shell-O-Gram, Jackson-ville Shell Club (Florida) 56(1): 2–4. http://www.jaxshells.org/pdfs/janfeb15.pdf

Lin H, Yan J, Yuan W, Chen S (2005) Shiyou Shiyan Dizhi 27(1): 55–61. https://doi.org/10.11781/sysydz200501055 [Sedimentary facies types of the third member of the Shahejie Formation in the Paleogene of the DongYing Depression, the Bohaiwan Basin and their distribution characters on plane] [in Chinese, English abstract]

Lindholm WA (1909) Die Mollusken des Baikal-Sees (Gastropoda et Pelecypoda) systematisch und zoogeographisch bearbeitet. Wissenschaftliche Ergebnisse einer Zoologischen Expedition nach dem Baikal-See unter Leitung des Professors Alexis Korotneff in den Jahren 1900–1902. Vierte Lieferung. Verlag August Hopfer, Burg b. M. [bei Magdeburg], 104 pp. [2 pls] https://www.biodiversitylibrary.org/page/13074710

Lindholm WA (1912) (“1911”) Über Mollusken aus dem Ladogasee und der Nevabucht. Annaire du Musée Zoologique de l’Académie Impériale des Sciences de St.-Pétersbourg, 16: 285–310. https://www.biodiversitylibrary.org/page/8484744

Lindholm WA [Линдхольм ВА] (1932) Molluski iz srednepliotsenovykh presnovodnykh otnozheniy yugo-zapadnoy Sibiri / Mollyuski iz srednepliotsenovykh presnovodnykh otnozheniy yugo-zapadnoy Sibiri / Mollusks from the Middle Pliocene freshwater deposits of southwestern Siberia / Mollusken aus mittelpliozänen Süßwasserablagerungen Südwest-Sibiriens. Труда Всесоюзного геологоразведочного объединения НКТП СССР / Trudy Vsesoyuznogo geologorazvedchogo obyedineniya NKTP SSSR [Transactions of the United Geological and Prospecting Service of the USSR] 238: 50 pp, 6 pls. [in Russian, with extensive German summary pp 37–46]. Reviewed 1933 in the “Literaturübersicht” of the Archiv für Molluskenkunde 65: 1–31. [p. 23] https://www.zobodat.at/pdf/Archiv-fuer-Molluskenkunde_65__0001-0031.pdf

Łomnicki AM (1886) Die tertiäre Süßwasserbildung in Ostgalizien. Verhandlungen der kaiserl. königlichen Geologischen Reichsanstalt 1886: 412–431. http://www.landesmuseum.at/pdf_frei_remote/VerhGeolBundesanstalt_1886_0412-0431.pdf https://www.biodiversitylibrary.org/page/39142866
Lörenthey I (1906) Beiträge zur Fauna und stratigraphischen Lage der pannonischen Schichten in der Umgebung des Balatonsees. Resultate der wissenschaftlichen Erforschung des Balatonsees. Bd. 1, Teil 1. Anhang 4: 1–216. [pls 1–3] https://www.biodiversitylibrary.org/page/58433652

Ludwig R (1865) Fossile Conchylien aus den tertiären Süßwasser- und Meerwasser-Ablagerungen in Kurhessen, Grossherzogtum Hessen und der Bayer’schen Rhön. Palaeontographica 14: 40–97. https://www.biodiversitylibrary.org/page/12204687

Malchevskoya [Мальчевская] TM (1985) Katalog golotipovвидов фауны и флоры, хранящихся в ЦНИГР музее. Выпуск 2 Часть II: Мезо-кайнозой / Katalog golotipov vidov fauny i flory, khranyashchikhsya v TSNIGR muzeye. Vypusk 2, Chast’ II: Mezo-kaynozoy [Catalogue of holotypes of the fauna and flora species stored in CNIGR Museum] (MV Kulikov [М.В.Куликов] editor): Issue 2, Part II: Meso-Cenozoic. Leningradskaya kartograficheskaya fabrika VSEGEI / Leningrad Cartographic Factory VSEGIEI, 255 pp. http://cretaceous.ru/files/pub/cnigr_holotypes_mz_cz_1985.pdf

Martinson GG [Мартинсон ГГ] (1956) Определитель мезозойских и кайнозойских пресноводных моллюсков Восточной Сибири / Opredelitel’ mezozoyskikh i kainozoyskikh presnovodnykh molluskov Vostochnoy Sibiri [Manual of Mesozoic and Cenozoic freshwater mussels of the Eastern Siberia]. Akademia nauk CCCP, Vostochno-Sibirskiy filial, Bajkal’skaya limnologicheskaya stantsiya / Akademiya nauk SSSR, Vostochno-Sibirskiy filial / Baykal’skaya limnologicheskaya stantsiya [Academy of Sciences, East Siberian Branch, Baikal Limnological Station], Moscow, 92 pp. http://www.geokniga.org/bookfiles/geokniga-martinson1956mzkzfreshwaterbivsiberia.pdf

Martinson GG [Мартинсон ГГ] (1982) Совместная Советско-Монгольская палеонтологическая экспедиция. Выпуск 17. Позднемеловые моллюски Монголии: систематика, стратиграфия, тафономия / Sovmestnaya Sovetsko-Mongol’skaya paleontologicheskaya ekspeditsiya. Vypusk 17. Pozdnemelovye molluski Mongolii: sistematika, stratigrafiya, tafonomiya [The Upper/Late Cretaceous mollusks of Mongolia (systematics, stratigraphy, taphonomy)]. Совместная советско-монгольская палеонтологическая экспедиция / Sovmestnaya Sovetsko-Mongol’skaya Paleontologicheskaya Ekspeditsiya [Transactions of the Joint Soviet Mongolian Paleontological Expedition] 17: 1–82. [pls. 1–16] [Izdatstvo “Nauka”, Moscow] http://www.geokniga.org/books/10159

Mashkova IV, Krupnova TG, Kostryukova A, Harutyunova LJ, Varuzhan HS, Vlasov NE (2018) Mollusks biodiversity of Lake Sevan, Armenia. Biodiversitas (Surakarta) 19(4): 1509–1513. https://doi.org/10.13057/biodiv/d190442

Matoshko AV, Gozhik PF, Ivchenko AS (2002) The fluvial archive of the Middle and Lower Dniepr (a review). Netherlands Journal of Geosciences. Geologie & Mijnbouw 81(3–4): 339–355. https://doi.org/10.1017/S00167774600022642

Merian P (1849) Ueber die im Süßwasserkalke der Umgebungen von Mülhausen aufgefundenen Schalthiere. Bericht über die Verhandlungen der naturforschenden Gesellschaft in Basel 8: 33–35. https://www.biodiversitylibrary.org/page/33655786

Meyerhoff AA, Kamen-Kaye M, Chen C, Tâner I (1991) China – Stratigraphy, Paleogeography and Tectonics. Springer-Science + Business-Media, Dordrecht, [xi +] 188 pp. https://doi.org/10.1007/978-94-011-3770-6
Milan A, Sakač K, Žagar-Sakač A (1974) Katalog originala tipova vrsta pohranjenih u Geološko-paleontološkom muzeju u Zagrebu. Geološko-paleontološki muzej u Zagrebu, Zagreb, 186 pp.

MolluscaBase [Eds] (2022) MolluscaBase. Valvata turbinoides K. Ali-Zade, 1936 †. https://www.molluscabase.org/aphia.php?p=taxdetails&id=1426430 [accessed 22 Feb 2022]

Motuz VM [Мотуз ВМ] (1975) Четвертичные моллюски долины Днепра в пределах БССР / Chetvertichnye mollyuski doliny Dnepra v predelakh BSSR [Quaternary Mollusks of the Dnepr Valley within the BSSR] Бюллетень Комиссии по изучению четвертичного периода / Byulleten’ Komissii po izucheniyu chetvertichnogo perioda [Bulletin of the Commission of the Study of the Quaternary Period] 43: 54–62. http://www.ginras.ru/library/pdf/43_1975_bull_quatern_comission.pdf

Müller OF (1774) Vermium terrestrium et fluviatilium, seu animalium infusoriorum, helminthicorum et testaceorum, non marinorum, succincta historia. Vol. 2. Heinbeck et Faber, Havnia et Lipsia, 36 + 214 + 10 pp. https://www.biodiversitylibrary.org/page/32096857

Neiber MT, Glaubrecht M (2019) Annotated nomenclator of extant and fossil taxa of the Paludomidae (Caenogastropoda, Cerithioidea). ZooKeys 850: 1–132. https://doi.org/10.3897/zookeys.850.34238

Nekhaev IO, Schiotte T, Vinarski MV (2015) Type materials of European freshwater moluscs described by Otto Friedrich Müller. Archiv für Molluskenkunde 144(1): 51–64. https://doi.org/10.1127/arch.moll/1869-0963/144/051-064

Neubauer TA (2016) A nomenclator of extant and fossil taxa of the Melanopsisidae (Gastropoda, Cerithioidea). ZooKeys 602: 1–358. https://doi.org/10.3897/zookeys.602.8136

Neubauer TA, Harzhauser M, Georgopoulou E, Mandic O, Kroh A (2014a) Replacement names and nomenclatural comments for problematic species group names in Europe’s Neogene freshwater Gastropoda. Zootaxa 3785(3): 453–468. https://doi.org/10.11646/zootaxa.3785.3.7

Neubauer TA, Harzhauser M, Kroh A, Georgopoulou E, Mandic O (2014b) Replacement names and nomenclatural comments for problematic species group names in Europe’s Neogene freshwater Gastropoda. Part 2. ZooKeys 429: 13–46. https://doi.org/10.3897/zookeys.429.7420

Neubauer TA, Kroh A, Harzhauser M, Georgopoulou E, Mandic O (2014c) Synopsis of valid species group taxa for freshwater Gastropoda recorded from the European Neogene. ZooKeys 435: 1–6[, supplement]. http://doi.org/10.3897/zookeys.435.8193

Neubauer TA, Mandic O, Harzhauser M (2016) The freshwater mollusk fauna of the Middle Miocene Lake Drniš (Dinaride Lake System, Croatia): A taxonomic and systematic revision. Mitteilungen der Österreichischen Geologischen Gesellschaft 108(2): 15–67. https://doi.org/10.17738/ajes.2015.0013

Nosowska E (2020) Gastropods [Trochoidea: Trochidae Rafinesque, 1815 and Calliostomidae Thiele, 1924 (1847)] from the middle Miocene of Ukraine, Central Paratethys. Acta Geologica Polonica 70(4): 453–528. https://doi.org/10.24425/agp.2019.126462

Noulet J-B (1857) Coquilles fossiles nouvelles des terrains d’eau douce du Sud-Ouest de la France. Victor Masson, Paris, 24 pp. https://books.google.ca/books?id=2q0lU59quZ0C&printsec=frontcover&hl=de&source=gbs_ge_summary_r#v=onepage&q&f=false
Odabaşı DA, Glöer P, Yildirim Z (2015) *The Valvata* species of Turkey with a description of *Valvata kebapci* n. sp. (Mollusca: Valvatidae). Ecologia Montenegrina 2(2): 135–142. https://biotaxa.org/em/article/view/10869/12270

Osipova DS, Anistratenko OYu, Anistratenko VV (2021) Variability of shell in gastropods of the genus *Borysthenia* Lindholm, 1914: Testing the statistical approach in search of traits for the Recent and fossil species delimitation. Collection of Scientific Works of the Institute of Geological Sciences of the NAS of Ukraine 14(1): 110–116. https://doi.org/10.30836/igs.2522-9753.2021.227603

Pan HZ (1977) 云南中、新生代腹足纲化石. In: 中生代和 云南新生代化石- pinyin transcription: Yúnnán zhōng, xīnshēng dà fù zú gāng huàshí. Zài: Zhōngshēngdàì dà yún-nán xīnshēng dà fù huàshí [Mesozoic and Cenozoic fossil Gastropoda from Yunnan]. In: Mesozoic and Cenozoic Fossils from Yunnan. Academia Sinica, Beijing Science Press. 2: 83–152. [pls 1–9]

Pan HZ (1982) 四川侏罗纪淡水腹足类化石 - pinyin transcription: Sìchuān zhū luò ji dànfú zǔ lèi huashi. [Sichuan Jurassic freshwater gastropod fossils]. In: Bureau of Geology and Mineral Resources of Sichuan Province (Ed.) Continental Mesozoic Stratigraphy and Paleontology in Sichuan Basin of China. Sichuan People's Publishing House, Chengdu, 425–439.

Pană I (1990) Nouvelles espéces des nannogastropodes pontiens. Revue Roumaine de Géologie, Géophysique et Géographie, series Géologie 34: 61–69. [including 4 pls] http://www.marinespecies.org/aphia.php?p=sourcereq&id=194210

Papp A (1953) "1951"] Die Molluskenfauna des Pannon im Wiener Becken. Mitteilungen der Geologischen Gesellschaft von Wien 44: 85–222. [pls 1–25] https://www.zobodat.at/pdf/MittGeolGes_44_0085-0222.pdf

Parodiz JJ (1969) The Tertiary non-marine Mollusca of South America. Annals of the Carnegie Museum 40: 1–242. [incl. 18 pls] https://www.biodiversitylibrary.org/page/54645902

Petrova E, Linkina L (2014) To the question of boundaries and composition of Gelasian stratum in the Middle Volga Region, 113–115. In: Borodin AV, Markova EA, Strukov TV (Eds) INQUA-SECS 2014: The Quaternary of the Urals: Global Trends and Pan-European Quaternary Records. Ekaterinburg, Russia. https://www.inqua_seqs.org/files/SEQS2014_Abstracts_Ekaterinburg.pdf

Ponder WF, Fukuda H, Hallan A (2014) A review of the family Clenchiellidae (Mollusca: Caenogastropoda: Truncatelloidea). Zootaxa 3872(2): 101–153. https://doi.org/10.11646/zootaxa.3872.2.1

Popov GI [Попов ГИ] (1965) Плиоценовые пресноводные моллюски Башкирского Предуралья и их. Яхимович В.Р.: Антропоген Южного Урала / Pliotsenovye presnovodnye mollyuski Bashkirskogo Predural’ya i ikh. Yakhimovich BP: Antropogen Yuzhnogo Urala [Pliocene freshwater molluscs of the Bashkir Pre-Duralia and their stratigraphic significance. In: Yakhimovich VP (Ed.): Anthropogene of the Southern Urals. Science]. Moscow, Nauka, 210–229, 270–272, tables 1–7.

Popova SM, Devyatkin EV, Starobogatov Yal [Попова СМ, Девяткин ЕВ, Старобогатов ЯИ] (1970) Моллюски кызылгирской свиты Горного Алтая / Mollyuski kyzylgirskoi svity Gornogo Altaya [Molluscs of the Kyzylgir Formation of the Mountain Altay. Nauka
Prozorova LA (1736–1738) [Прозорова Л.А.] (1988) Новый вид рода Cincinna (Gastropoda, Pectinibranchia) с юга Приморского края / Novyy vid roda Cincinna (Gastropoda, Pectinibranchia) s yuga Primorskogo kraja. [A new species of the genus Cincinna (Gastropoda, Pectinibranchia from the south of the Primorye territory]. Зоологический журнал 67(16).

Prozorova LA [Прозорова Л.А.] (1992) (“1991”) Морфология кладок брюхоногих моллюсков Приморского края СССР. Старобогатов Я.И. (ред.): Размножение и кладки яиц моллюсков / Morfologiya kladok bruukhonogikh mollyuskov Primorskogo kraja SSSR. [Morphology of gastropodan egg-clusters from Primorje region of the USSR. In: Starobogatov YaI (Ed.): Reproduction and egg mass of the Molluscs]. Труды Зоологического института АН СССР / Trudy Zoologicheskogo Instituta Akademii Nauk SSSR [Proceedings of the Zoological Institute of USSR Academy of Sciences] 228: 74–110.

Qu R, Yang J, Qang Q, Chang G (2006) Stratigraphic division and correlation of the Guanzhuang group in Southwest Shandong. Journal of Stratigraphy 30(4): 356–366. http://www.docin.com/p_479153014.html [in Chinese with English abstract] [Online only]

Rogers RR, Kidwell SM, Deino AL, Mitchell JP, Nelson K, Thole JT (2016) Age, correlation, and lithostratigraphic revision of the Upper Cretaceous (Campanian) Judith River Formation in its type area (north-central Montana), with a comparison of low- and high-accommodation alluvial records. The Journal of Geology 124(1): 99–135. https://doi.org/10.1086/684289
Update of nomenclator of Valvatidae

Sanko AF [Санько АФ] (2007) Четвертичные пресноводные моллюски Беларуси и сопредельных регионов России, Литвы, Польши (полевой определитель) / Chetvertichnyye presnovodnyye molluski Belarusi i smezhnykh regionov Rossii, Litvy i Pol'shi (atlas-opredelitel') [Quaternary freshwater mollusks of Belarus and neighboring regions of Russia, Lithuania, Poland (field guide)]. Institute of Geochemistry and Geophysics, National Academy of Sciences, Belarus, Minsk, 155 pp.

Sitnikova TY (2018) Review of Valvatidae (Gastropoda: Heterobranchia) endemic to Lake Baikal, with taxonomic and morphological notes. Archiv für Molluskenkunde 147(2): 181–202. https://doi.org/10.1127/arch.moll/147/181-201

Sitnikova TYa, Starobogatov YaI, Shirokaya AA, Shibanova IV, Korobkova NV, Adov FV [Ситникова ТЯ, Старобогатов ЯИ, Широкая АА, Шибанова ИВ, Коробкова НВ, Адов ФВ] (2004) Брюхоногие Моллюски (Gastropoda). Тимошкин ОА и мульт. (ред.): Аннотированный Список Фауны Озера Байкал и его Водосборного Бассейна: 2 тома / Bryukhonogie Mollyuski (Gastropoda). Timoshkin OA i mult. (red.): Annotirovannyj Slico Fauzy Ozyera Baykal i ego Bodosbornogo Bassyejn: 2 toma [Gastropoda - Mollusca. In: Timoshkin OA et mult. (Eds): Index of Animal Species Inhabiting Lake Baikal and Ist Catchment Area: 2 volumes. Vol. I: Lake Baikal, Book 2]. Новосибирск: Наука / [Nauka, Novosibirsk], Vol. I, Book 2: 937–1002.

Sitnikova TY, Prozorova L, Sharyi-ool M, Kiyashko P, Kupchinsky A (2015) The Cincinna aliena (Westerlund 1877) species group in Russian water bodies (Heterobranchia: Valvati-dae). Archiv fur Molluskenkunde 144(1): 1–22. https://doi.org/10.1127/arch.moll/1869-0963/144/001-022

Sitnikova TY, Sysoev AV, Kijashko PV (2017) Species of freshwater gastropods described by Ya.I. Starobogatov: Pulmonata (Acroloxidae), Heterobranchia (Valvatidae) and Caenogastropoda
Sitnikova TYa [Ситникова ТЯ] (1983) Система байкальских эндемичных видов рода *Megalovalvata* и некоторые вопросы систематики семейства Valvatidae (Gastropoda, Pectinibranchia) / Sistema baykal’skikh endemichnykh vidov roda Megalovalvata i nekotoryye voprosy sistematiki semeystva Valvatidae Valvatidae (Gastropoda, Pectinibranchia) [The system of Baical endemic species of the genus *Megalovalvata* and some problems of taxonomy of the family Valvatidae (Gastropoda, Pectinibranchia)]. Зоологический журнал / Zoologicheskii Zhurnal 62(1): 32–44.

Sitnikova TYa [Ситникова ТЯ] (1991) Результаты исследований кладок эндемичных байкальских моллюсков / Rezul’taty issledoaniy kladok endemichnykh baykal’skikh mollyuskov [Results of study of egg-clusters of endemic Baicalian molluscs]. Труды Зоологического института Академии наук СССР / Trudy Zoologicheskogo Instituta Akademii Nauk SSSR 128: 61–73.

Stache G (1889) Die Liburnische Stufe und deren Grenzhorizonte. Eine Studie über die Schichtenfolgen der cretacisch-eocänen oder protocänen Landbildungsperiode im Bereiche der Küstenländer von Österreich-Ungarn mit einer einleitenden Uebersicht der geologischen Verhältnisse dieses Gebietes. Erste Abtheilung: Geologische Uebersicht und Beschreibung der Faunen und Floren-Reste. Abhandlungen der k. k. Geologischen Reichsanstalt 13: 1–170. [pls 1–6] https://www.zobodat.at/pdf/AbhGeolBA_13_0001-0170.pdf

Stiny J (1924) Neue Fundorte tertärer Mollusken in der Umgebung von Feldbach (Steiermark). Jahrbuch der Geologischen Bundesanstalt 1924: 75–96. https://opac.geologie.ac.at/www-opacx/wwwopac.ashx?command=getcontent&server=images&value=JB0741_075_A.pdf

Stojaspal F (1990) Die Molluskenfauna des Pontien in Österreich: 651–667. In: Stevanovic P, Nevesskaja A, Marinescu F, Sokac A, Jámbor Á (Eds) Chronostratigraphie und Neostratotypen. Neogen der Westlichen („Zentrale”) Paratethys, 8: Pontien plate1. Serbische Akademie der Wissenschaften und Künste (JAZU, SANU), Zagreb-Beograd.
Szőts E (1953) Mollusques éocènes de la Hongrie. I. Les mollusques éocènes des environs de Gánt. Geologica Hungarica, Series Palaeontologica 22: 113–248. [10 pls] http://epa.oszk.hu/02900/02989/00019/pdf/EPA02989_geologica_hungarica_ser_paleo_22_1953_113-238.pdf [text] https://epa.oszk.hu/02900/02989/00019/pdf/EPA02989_geologica_hungarica_ser_paleo_22_1953_239-241.pdf [Russian summary and plates]

Vinarski MV (2016) Eduard von Martens’s contribution to the knowledge of the Russian continental malacofauna (with examination of type materials of aquatic species accepted by Russian taxonomists). Ruthenica : Rossiiskii Malakologicheskii Zhurnal = Russian Malacological Journal 26(1): 1–16. https://www.biotaxa.org/Ruthenica/article/view/20101

Vinarski MV, Kantor YI [Винарский МВ, Кантор ЮИ] (2016) Аналитический каталог пресноводных и солоноватоводных моллюсков России и сопредельных стран / Analiticheskii katalog presnovodnykh i solonovatovodnykh molluskov Rossii i sopredel’ynych stran. [Analytical Catalogue of Fresh and Brackish Water Molluscs of Russia and Adjacent Countries]. KMK Scientific Press, Moscow, 544 pp.

Walker B (1906) Notes on *Valvata*. The Nautilus 20(3): 25–32. [pl 1] https://www.biodiversitylibrary.org/page/42789665

Walther F, Glöer P (2019) A description of a new *Valvata* (Mollusca: Valvatidae) from Armenia. Ecologica Montenegrina 24: 1–5. https://doi.org/10.37828/em.2019.24.1

Wan X-Q, Li G, Huang Q-H, Xi D-P (2013) Division and correlation of terrestrial Cretaceous stages in China. J Stratigraphy 37(4): 457–471.

Welter-Schultes FW (1999) Systematisches Conchylien-Cabinet von Martini und Chemnitz (1837–1920), bibliography of the volumes in Gottingen. Archives of Natural History 26(2): 157–203. https://doi.org/10.3366/anh.1999.26.2.157

Wenz W (1923) Gastropoda extramarina Tertiaria. In: Diener C (Ed.) Fossilium Catalogus, I: Animalia. published in 11 parts. W. Jung, Berlin., Vol. 8, Pars 17, 352 pp. [see Bouchet et al. (2017: 492) for exact dates of the parts] http://archive.org/stream/Fossiliumcatalo17n#page/n1/mode/2up

Wenz W (1928) Gastropoda extramarina Tertiaria, Vol. 8, Pars 38. In: Diener C (Ed.) Fossilium Catalogus, I: Animalia. 3387 pp., published in 11 parts. W. Jung, Berlin, 2231–2502. [see Bouchet et al. (2017: 492) for exact dates of the parts]

Wiese R, Clewing C, Albrecht C, Raberthge C, Zhang H, Riedel F (2020) How ancient is Lake Lugu (Yunnan, China)? The gastropods’ viewpoint with focus on *Radix* (Lymnaeidae). Journal of Great Lakes Research 46(5): 1099–1112. https://doi.org/10.1016/j.jglr.2020.06.003

Xinjiang Dizhi Ju (1984) [Geology of Xinjiang Province. Atlas of fossils in Xinjiang Province. Volume 3. Mesozoic and Cenozoic part] Dizhi Chuban She, Beijing, [i–vii +] 211 pp. [pls 1–81]

Yakhimovich VL, Danukalova GA, Popova-Lyova MG, Alimbekova LI, Yakovlev AG [Яхимович ВЛ, Данукалова ГА, Попова-Льва МГ, Алимбекова ЛИ, Яковлев АГ] (2000) Опорные стратиграфические разрезы верхнего плиоцена и плейстоцена в Башкирском Предурале / Opornyye stratigrافические разрезы верхнего плиоцена и плейстоцена в Bashkirском Predural’e. [Supporting stratigraphic sections of Upper Pliocene and Pleistocene in the Bashkir Preditural] Издательство Гиллем, УФА / Publishing House Guillelm, UFA, 72 pp. [4 pls]

Xinjiang Dizhi Ju (1984) [Geology of Xinjiang Province. Atlas of fossils in Xinjiang Province. Volume 3. Mesozoic and Cenozoic part] Dizhi Chuban She, Beijing, [i–vii +] 211 pp. [pls 1–81]
Ye D., Zhong X., Yao Y., Yang F., Zhang S., Jiang Z., Wang Y., Sun Z., Yang S., Zhao X., Shen H., Liang H., Tang W., Guan X., Zhao C., et al. (1996) Tertiary in petroliferous regions of China. Petroleum Industry Press, Beijing, 375 pp.

Youluo (1978) Bohai yan an di qu zao disan ji fuzulei [as spelled in World Catalogue: Early Tertiary gastropod fossils from the coastal region of Bohai]. Geological Publishing House, Nanjing, China, [6+] 157 pp. [33 pls] [in Chinese, English summary]

Yü W., Pan HZ. (1980) [Nonmarine Mesozoic Gastropoda in Zhejiang and southern Anhui]. In: Divisions and correlation of the Mesozoic volcano-sedimentary rocks in Zhejiang and Anhui provinces, China. Academia Sinica, Nanking Institute of Geology and Paleontology, Nanking, China, 135–172. [pls 1–5] [in Chinese]

Yü T., Salvador RB., Wang H., Fang Y., Neubauer TA., Li S., Zhang H., Wan X. (2021) A latest Cretaceous gastropod fauna from the Jiaolai Basin of East Asia. Cretaceous Research 121(104736): 1–8. https://doi.org/10.1016/j.cretres.2020.104736

Yurco P., Keeney DB. (2018) Characterization of tri- and tetra-nucleotide microsatellite loci for the freshwater snails Promenetus exacuous (Planorbidae) and Valvata tricarinata (Valvati dae) and their utility in population genetic studies. BMC Research Notes 11(204): 1–6. https://doi.org/10.1186/s13104-018-3301-1

Zhu G-X. (1980) [Phylum Mollusca] [in Chinese]. In: Xian Institute of Geology and Mineral Resources (Ed.) Paleontological Atlas of Northeast China. Vol 2: Mesozoic and Cenozoic. Geol Publ House, Beijing, 8–59.

Zhu X. (1995) Chapter 2.7. Gastropoda. pp. 69–81, pls 18–23. In: Sha Jingeng (Ed.) Palaeontology of the Hoh Xil Region, Qinghai (In Chinese with English abstract). Science Press, Beijing, 10 + 170 pp. [50 pls]