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Author: Breure, Abraham S.H.

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Annotated type catalogue of the Orthalicoidea (Mollusca, Gastropoda, Stylommatophora) in the Muséum d'histoire naturelle, Geneva

Abraham S.H. Breure[1,2]

[1] *Naturalis Biodiversity Center, P.O. Box 9517, 2300RA Leiden, the Netherlands.*
[2] *Royal Belgian Institute of Natural Sciences, Vautierstraat 29, 1000 Brussels, Belgium. E-mail: ashbreure@gmail.com*

Abstract
The type status is described for 101 taxa classified within the superfamily Orthalicoidea and present in the Mollusca collection of the Muséum d'histoire naturelle in Geneva. A lectotype is designated for *Helix* (*Cochlogena*) *citrinovitrea* S. Moricand, 1836. *Bulimus fidaensis* J. Moricand, 1858 is now considered a junior subjective synonym of *Bulimus clouei* Pfeiffer, 1857. New combinations are: *Kuschelenia* (*Bocourtia*) *angrandi* (Morelet, 1860), *Leiostracus fidaensis* (J. Moricand, 1858), *Protoglyptus heterogrammus* (S. Moricand, 1836), *Protoglyptus longisetus* (S. Moricand, 1846), *Drymaeus* (*Mesembrinus*) *polygrammus* (S. Moricand, 1836), *Kara viriata* (Morelet, 1863).

Keywords: Amphibulimidae - Bulimulidae - Bothriembryontidae - Odontostomidae - Orthalicidae - Simpulopsidae - type material - biohistory.

INTRODUCTION

Annotated catalogues of type specimens are an important source of information on the primary types that constitute the basis of a stable taxonomy for a group. For the superfamily Orthalicoidea, with more than 1750 available taxa names, this has partly been achieved by the papers of Zilch (1971, 1972), Neubert & Janssen (2004), Köhler (2007), Breure (1975, 1976, 2011, 2012, 2013), Breure & Ablett (2011, 2012, 2014, 2015), and Breure & Whisson (2012). Breure (1979) and Breure & Schouten (1985) listed all the primary type material for this group, known at that time. During the course of an ongoing revision of the Orthalicoidea, which now also includes phylogenetic research (Breure *et al.,* 2010; Breure & Romero, 2012), it became evident that a re-study of types and a documentation with present-day standards were needed to ensure a stable taxonomy at the species level. The classification of the group at the family level has recently been revised by Breure & Romero (2012), who recognized in total seven families based on phylogenetic relatonships: the Neotropical families Amphibulimidae, Bulimulidae, Megaspiridae, Odontostomidae, Orthalicidae, and Simpulopsidae; the family Bothriembryontidae has a Gondwana distribution. Except the Megaspiridae, all families are represented in the Muséum d'histoire naturelle de Genève by type material, which will be documented in this paper. It must be emphasized, however, that the current systematic position under each taxon does not imply a revision, but generally follows the understanding of recent authors (e.g., Richardson, 1993, 1995; Simone, 2006; Neubert *et al.*, 2009; Thompson, 2011). To supplement the systematic data, a brief introduction is given to the collection and how the material found is interpreted in their historical context.

The collection

The museum, which was founded in 1820, has a rich historical collection. Cailliez (1983, 1995) has described its history in great detail, but some highlights are summarized herein. According to Cailliez (1995) the provenance of the oldest shells dates back to François Valentijn (1656-1727), who wrote a large compilation of Dutch natural history and 'rariteiten' cabinets and is considered as an eager collector himself (Smit *et al.,* 1986: 281). After his death his collection was probably auctioned, as usual in those days (van de Roemer, 2004: 50), and his shells came into possession of Christian H. Hwass (1731-1803). Another collection was those of the Dutch dealer in natural curiosities Nicolaas Anderson (16**-1746), who sold one of his cabinets to Pieter Lyonet (1706-1789) ca. 1750 (Hublard, 1910: 87); his collection in turn was publicly sold in the Hague in 1796 and parts were acquired by Hwass, Louis J.B.M. Sollier de la Touche (1757?-1819?), and Jean-Baptiste

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P.A. Lamarck (1744-1829). The collection of Sollier de la Touche, which contained the Hwass collection as well, was acquired by François V.N. Masséna (1799-1863), who also acquired that of Lamarck in 1831. In turn Masséna's collection ended up in 1840 in those of Benjamin Delessert (1773-1847). After his death the collection passed to the hands of his brother François and, finally after his death in 1868, was donated to the city of Geneva and incorporated in the museum. The importance of Delessert's collection has been elaborated by Cailliez & Finet (1997: 7-18).

For the context of this paper the specimens described by Lamarck are of importance, together with the collections of Alcide d'Orbigny (partially; see also Breure, 1975; Breure & Ablett, 2011, 2012, 2014, 2015), and Stéfano Moricand (1779-1854) and his son Jacques (1823-1877) (see also Breure & Tardy, 2016). Furthermore, the collections of Léonce Angrand (1808-1886), from which a number of Peruvian species were described by Arthur Morelet in 1863, and Auguste Brot (1821-1896) are rich sources of Neotropical material. The collection of Angrand was donated to the Geneva museum in 1881, and was partially curated by Brot (Anonymous, 1882: 35-36, 39). Brief biographies of some of the persons mentioned may be found in Cailliez (1995: 12-19, 22-25).

Labels, author's handwriting and matching specimens

Although in historical collections labels are mostly the sole source of information of work done by malacologists in the past, we can often obtain an impression of how they worked once we carefully research the context, i.e. the relationship between their labels and their published work, the presence (or absence) of original labels with material that they received from other sources, etc.

In this collection, the two main sources which are relevant for this study (viz. the Moricand and Angrand collections), provide some glimpses of the past. Both father and son Moricand have a similar handwriting, which sometimes may prove to be confusing (Breure & Tardy, 2016). Generally, the labels of S. Moricand follow the same scheme: the top line is for the taxon name, where applicable the name of a previous author (e.g., Spix or d'Orbigny) on the next line, followed by a reference to a source (mostly Pfeiffer's Monographia); at the bottom line the locality (as short as possible) at left, and the supplier of the material at right. However, it must be noted that Moricand has not always been consistent in the name on the labels versus the name published in his papers. This is especially evident with some of his varietal names, for which he seems to have changed his mind after his initial label had been written. On early labels from his hand several cases were found, related to material received from Blanchet, where a number seems to refer to a shipping list; these lists have not been found in the archive. J. Moricand's labels are more concise, with only the taxon name, locality, and supplier. Both father and son had the habit to copy the label they received from suppliers, and throw away the original (see Breure & Tardy, 2016 for a list of sources of material). In the case of other malacologists this is very unfortunate, as part of the information is destroyed. For this reason specimens originating from the Cuming collection and dealing with species described by e.g., Pfeiffer, have not been considered as possible type material as it is unclear when this material arrived in Geneva (cf. Neubert & Janssen, 2004: 196, who had evidence that Cuming material arrived in 1845 in the SMF, and thus could contain material of previously described taxa as type material). In the case of Blanchet's material, the published localities are generally a bit more extensive, and these may have been copied from the shipping lists. Since Blanchet sent material to Geneva over a prolonged time, it happened that S. Moricand first described a new species on the basis of scant material, and later received more specimens. These different sendings have been mixed by Moricand in most cases and are the reason why it proved to be difficult – or impossible – to recognise the original series by the failure to untangle the present-day lot. In those cases generally the whole lot has been considered as type material, although this violates a strict interpretation of 'original series'. Further details on the Moricand collection and its history can be found in Breure & Tardy (2016).

The second collection of primary interest, that of Angrand, posed a different challenge. While it is clear that it contains material used by Arthur Morelet for his publications on Peruvian material (Morelet, 1860, 1863), the labelling is partly problematic. On one hand, Angrand seems to have collected in a very organised way. Some shells were still found glued on sheets of paper, marked with a year and a number in print. It is possible that localities were listed according these numbers, but such lists have not been found. However, some labels have been encountered with year and number, followed by a locality and "Pérou"; judging by the handwriting (see below), the locality data may have been copied from the unlocated lists. These localities are very precise in the context of Angrand's time, although some of them cannot be traced with modern gazetteers. Other labels are clearly written by a later hand, but sometimes still carry the year or numbers that apparently were on the original sheets. Although no itinerary of Angrand could be traced, it is clear that all localities are trustworthy. In contrast, the labelling of taxon names is more problematic. The taxon names are clearly in different handwritings. Some labels have the taxon name written in pencil and likely in a later hand, some of them have a neat handwriting which seems to be identical with that of the locality data. It is now assumed that this is a handwriting of Morelet, and although it is different from that found in the London collection (Breure & Ablett, 2011: fig. 2E; 2014), there are also similarities (especially the way the abbreviation 'Morlt.' is used). Some unnamed varieties mentioned in Morelet (1863) have been disregarded.

The Brot collection is also worth mentioning here, as some data on its history are known and are detailed elsewhere (Breure & Tardy, 2016). Brot's labels are easily recognisable by his distinct handwriting, but he too had the unpleasant habit of mostly destroying the original labels. Finally, the Lamarck collection has not been integrated in the general collection of the MHNG, and his labels are also very characteristic.

The label photographs of all type specimens are available through the MHNG and in an early version of this manuscript on the author's publication internet site (breure.wordpress.com).

When searching for possible type material it is good practice to compare the label data of the lot to the original published data (e.g., locality, dimensions, collector). In historical collections like these one cannot always expect a perfect match and an interpretation has to be applied with a biohistorical time-frame in mind. Not only the dimensions were less precise than present-day techniques allow, also different ways of measuring may have been applied (Breure & Ablett, 2011: 9-10). Last, but not least, one has to be aware that during the 19th century barter of material was not uncommon among scientists, although this may not have been fully documented or the documention (e.g., in correspondence) has been lost.

METHODS

When assessing possible type material, the following criteria have been applied: (a) the authorship and the locality fit with the original description (but see above on the differences which may occur between published locality data and those on labels); (b) alleged type material is in accordance with the established understanding of the taxon. In order to fulfill the requirements of article 74 of the International Code of Zoological Nomenclature (ICZN), any lectotype designations herein are to be understood as to have the sole purpose to fix the status of these specimens as the sole name-bearing type of that nominal taxon, to ensure the name's proper and consistent application, even when this is not explicitly done in every single case but abbreviated as "lectotype designation". Lectotypes designated herein are made using the following criteria, in order of preference: (1) the relevant specimen was figured in the original description, or in subsequent revisionary works; (2) if no original figure was published, a specimen was selected that matches as closely as possible the measurements given in the original description.

Within type material, if (some) doubt exist, a further distinction is made between probable and possible type material. The first category has a provenance which makes it likely as type material, even when there is no original label. E.g., in the Brot collection some material was found of taxa described by S. or J. Moricand, the material is marked as coming from Moricand, but there is no evidence that it was really part of the original series (see remarks on 'original series' before); this material is considered as probable types. In the latter category falls material for which there is more doubt, but nevertheless some evidence exists that could qualify it for type status. E.g., material is from the same collector as mentioned in the original publication, but it is unknown whether the original author saw it or not.

For each taxon the original publication – in which the taxon was proposed – is mentioned, as well as papers in which reference is made to the type material. The type locality is quoted from the original publication in the original wording and language, with clarifying notes between square brackets. The name of the collector, if given in the original paper, is only mentioned (in italics) if it might give a clue about the type status of material present in the collection. The text of the original, or oldest, label is quoted, together with information from subsequent labels if containing information necessary for a correct interpretation. All labels have been photographed and are figured for future historic reference (see before). The original dimensions are quoted, if necessary transferred to mm (one Swiss 'ligne' = 2.2256 mm; see Rowlett 2004). Dimensions of the type specimens have been taken with a digital caliper, using the methods figured by Breure (1974a: figs 2-3); measurements up to 10 mm have an accuracy of 0.1 mm, those above 10 mm are accurate to 0.5 mm. Due to improvements in accuracy of calipers, the measurements given herein are in several cases slightly different from those reported by Breure (1978), and Breure & Eskens (1981). Comparing the current measurements to those quoted from the original publication, one should be aware that the diameter especially may have been measured differently. In the case of syntypes, only the largest specimen has been measured. Under type material the MHNG-INVE registration numbers are given; if specimens from different localities are present, the order of the lots corresponds to the information of the different labels. The number of specimens originally available, if quoted by the original author, are mentioned under remarks. Remarks are further given to describe any individual characteristics of the type specimens or any other details of the type lot. The current systematic position is given, following the generic scheme of Breure (1979) and the familiar arrangement of Breure & Romero (2012).

Abbreviations used for depositories of type material: ANSP, Academy of Natural Sciences, Philadelphia, U.S.A.; MHNG-INVE, Muséum d'histoire naturelle, Department of Invertebrates, Geneva, Switzerland; MCZ, Museum of Comparative Zoology, Harvard University, Cambridge (Mass.), U.S.A.; MNHN, Muséum national d'Histoire naturelle, Paris, France; NHMUK, Natural History Museum, London, U.K.; RBINS, Royal Belgian Institute of Natural Sciences, Brussels, Belgium; SMF, Senckenberg Natur-Museum, Frankfurt am Main, Germany; ZMB, Zoologische Museum des Humboldt Universität, Berlin, Germany.

SYSTEMATICS

Systematic list of taxa encountered in MHNG arranged in generic order

In this systematic list the generic classification has been adapted from Breure (1979), Breure & Schouten (1985), and unpublished data. The family classification follows Breure & Romero (2012), under the notice that some genera are tentatively placed within this framework and ongoing molecular research may alter this classification. Within the family, genus and species level taxa are presented in alphabetical order.

Family Amphibulimidae P. Fischer, 1873

***Amphibulima* Lamarck, 1805**
cucullata Lamarck, 1805.

***Dryptus* Albers, 1860**
pardalis Férussac, 1821.

***Gaeotis* Shuttleworth, 1854**
nigrolineata Shuttleworth, 1854.

***Plekocheilus (Eurytus)* Albers, 1850**
pseudopiperatus J. Moricand, 1858.

Family Bothriembryontidae Iredale, 1937

***Bothryembryon* Pilsbry, 1894**
costulatus 'Férussac' Lamarck, 1822; *inflatus* Lamarck, 1822.

***Euplacostylus* Crosse, 1875**
koroensis Garrett, 1872.

***Placostylus* Beck, 1837**
major Gassies, 1871.

Family Bulimulidae Tryon, 1867

***Auris* Spix, 1827**
chrysostoma S. Moricand, 1836; *illheocola* S. Moricand, 1836; *minor* S. Moricand, 1836; *vulgaris* S. Moricand, 1836.

***Bostryx* Troschel, 1847 sensu Breure, 1979**
acromelas Morelet, 1863; *albicolor* Morelet, 1863; *andoicus* Morelet, 1863; *angrandi* Morelet, 1860; *apodemeta* d'Orbigny, 1835; *balsanus* Morelet, 1863; *cactorum* d'Orbigny, 1835; *cercicola* Morelet, 1863; *cuspidatus* Morelet, 1863; *emaciatus* Morelet, 1863; *lesueureanus* Morelet, 1860; *longinquus* Morelet, 1863; *orophilus* Morelet, 1863; *papillatus* Morelet, 1860; *piuranus* Albers, 1854; *radiatus* Morelet, 1863; *rusticellus* Morelet, 1860; *scalaricosta* Morelet, 1860; *serotinus* Morelet, 1860; *spiculatus* Morelet, 1860; *torallyi* d'Orbigny, 1835 [partim]; *tubulatus* Morelet, 1860; *veruculum* Morelet, 1860; *virginalis* Morelet, 1860; *virgultorum* Morelet, 1863.

***Bulimulus* Leach, 1814**
heloica d'Orbigny, 1835; *petenensis* Morelet, 1851.

***Oxychona* Mörch, 1852**
blanchetiana S. Moricand, 1834.

***Pseudoxychona* Pilsbry, 1930**
pileiformis S. Moricand, 1834.

***Cochlorina* Jan, 1830**
aurismuris S. Moricand, 1838.

***Drymaeus* (*Drymaeus*) Albers, 1850**
abyssorum d'Orbigny, 1835; *ceciliae* J. Moricand, 1858; *delphinae* J. Moricand, 1858; *hygrohylaea* d'Orbigny, 1835; *mariae* J. Moricand, 1858; *mexicanus* Lamarck, 1822; *poecila* d'Orbigny, 1835; *sachsei* Albers, 1854; *similaris* J. Moricand, 1856; *torallyi* d'Orbigny, 1835 [partim].

***Drymaeus* (*Mesembrinus*) Albers, 1850**
caribaeorum Lamarck, 1822; *fragilis* Lamarck, 1822; *immaculatus* C.B. Adams in Reeve, 1850; *leucomelas* Albers, 1854; *multifasciatus* Lamarck, 1822; *oreades* d'Orbigny, 1835; *polygramma* S. Moricand, 1836; *sisalensis* Morelet, 1849; *tropicalis* Morelet, 1849.

***Kuschelenia* (*Kuschelenia*) Hylton Scott, 1951**
culminea d'Orbigny, 1835; *edwardsi* Morelet, 1863; *tupacii* d'Orbigny, 1835.

***Kuschelenia* (*Bocourtia*) Rochebrune, 1882**
angrandi Morelet, 1860; *ochraceus* Morelet, 1863.

***Naesiotus* Albers, 1850 sensu Breure, 1979**
crepundia d'Orbigny, 1835; *dentritis* Morelet, 1863; *montivaga* d'Orbigny, 1835; *snodgrassi* Dall, 1900; *trichoda* d'Orbigny, 1835; *vestalis* Albers, 1854.

***Protoglyptus* Pilsbry, 1897**
heterogramma S. Moricand, 1836; *longiseta* S. Moricand, 1846.

***Rabdotus* Albers, 1850**
jonesi Clench, 1937

Family Odontostomidae Pilsbry & Vanatta, 1894

***Bahiensis* Jousseaume, 1877**
bahiensis S. Moricand, 1834.

***Biotocus* Salgado & Leme, 1990**
tomogeroides S. Moricand, 1846.

***Burringtonia* Parodiz, 1944**
pantagruelina S. Moricand, 1834; *minor* S. Moricand, 1836.

***Plagiodontes* Döring, 1876**
patagonica d'Orbigny, 1835.

***Spixia* Pilsbry & Vanatta, 1898**
major d'Orbigny, 1837.

***Tomigerus* Spix, 1827**
tomigera S. Moricand, 1836.

Family Orthalicidae Martens in Albers, 1860

***Kara* Strebel, 1910**
viriatus Morelet, 1863; *yanamensis* Morelet, 1863.

***Liguus* Montfort, 1810**
archeri Clench, 1934; *barbouri* Clench, 1929; *viridis* Clench, 1934.

***Orthalicus* Beck, 1837**
phlogera d'Orbigny, 1835; *zigzag* Lamarck, 1822.

***Scholvienia* Strebel, 1910**
jaspideus Morelet, 1863.

Family Simpulopsidae Schileyko, 1999

***Leiostracus* Albers, 1850**
cinnamomeolineata S. Moricand, 1841; *coxeirana* S. Moricand, 1836; *fidaensis* J. Moricand, 1858; *manoelii* S. Moricand, 1841; *viminea* S. Moricand, 1834.

***Rhinus* Martens in Albers, 1860**
heterotricha S. Moricand, 1836; *pubescens* S. Moricand, 1846; *velutinohispida* S. Moricand, 1836.

***Simpulopsis* (*Eudioptus*) Albers, 1860**
boissieri S. Moricand, 1846; *citrinovitrea* S. Moricand, 1836; *pseudosuccinea* S. Moricand, 1836.

***Simpulopsis* (*Simpulopsis*) Beck, 1837**
atrovirens S. Moricand, 1836; *brasiliensis* S. Moricand, 1836; *rufovirens* S. Moricand, 1846.

Alphabetic list of taxa by species name

***Helix abyssorum* d'Orbigny, 1835**
Fig. 45

Helix abyssorum d'Orbigny, 1835: 17. – Breure & Ablett, 2014: 9, figs 27A-C, L1iii.
Bulimus abyssorum – d'Orbigny, 1837 [1834-1847]: 308, pl. 39 figs 7-8. – Gray, 1854: 21.
Drymaeus abyssorum – Pilsbry, 1898 [1897-1898]: 192, pl. 37 figs 3-4. – Breure, 1975: 1149, pl. 7 fig. 2 (lectotype designation).
Drymaeus (*Drymaeus*) *hygrohylaeus* – Miquel, 1989b: 77, fig. 1.

Type locality: [Bolivia] "provincia Lagunacensi (republica Boliviana)"; see Breure, 1973: 113.

Label: "Bolivie", in Moricand's handwriting.

Dimensions: "Longit. 52 mil., latit. 25 millim."; figured specimen herein H 46.9 D 24.6, W5.9.

Type material: MHNG-INVE-63420, one paralectotype (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny did not state on how many specimens his description was based. The type series appears to have been split between the MNHN and NHMUK collections (Breure, 1975b; Breure & Ablett, 2014), while one specimen was sent to S. Moricand (likely at an earlier stage before the final split was made). The lectotype is in the MNHN. None of the specimens in London match the original figures, while one of the specimens in Paris is close to the published dimensions. The current systematic position follows Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *abyssorum* (d'Orbigny, 1835).

***Bulimus acromela*s Morelet, 1863**
Fig. 92

Bulimus acromelas Morelet, 1863: 202, pl. 11 fig. 1.
Bulimulus (*Peronaeus*) *acromelas.* – Pilsbry, 1896 [1895-1896]: 144, pl. 45 fig. 31.

Type locality: [Peru] "dans la vallée d'Ayacucho et de l'Urubamba".

Label: "Urubamba" [60378], "Chupan" [60374].

Dimensions: "Longit. 17; diam. 5 mill.". Figured specimen H 19.8, D 5.04, W 10.7.

Type material: MHNG-INVE-60378, three syntypes; 60374, one syntype (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. One of the specimens from lot 60378 seems to fit his original figure.

Current systematic position: Bulimulidae, *Bostryx acromelas* (Morelet, 1863).

Bulimus albicolor Morelet, 1863
Fig. 69

Bulimus albicolor Morelet, 1863: 199, pl. 11 fig. 9. – Breure & Ablett, 2014: 15, figs 4F, L3vii.
Bulimulus (*Peronaeus*) *albicolor*. – Pilsbry, 1896 [1895-1896]: 148, pl. 46 figs 49-50.
Bostryx albicolor. – Breure, 1979: 51.

Type locality: [Peru, Dept. Ayacucho] "Huanta et de la vallée de l'Apurimac".

Label: "Hauteurs de Huanta", "Hauteurs de l'Apurimac", "Huanta", "Yzcuchaca", and "Curahuas".

Dimensions: "Longit 28, diam. 9 mm"; figured specimen herein H 25.4, D 9.68, W 7.4.

Type material: MHNG-INVE-60231, 11 syntypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. The largest specimen figured by Morelet is from Curahuas, but is partly damaged at the lip and on the last whorl. Further syntype material is present in the NHMUK and RBINS collections. See also Breure (2011) and Breure & Ablett (2014). The current systematic position follows the synonymization of Richardson (1995: 36) of *Bulimus albicolor*, *B. cercicola* Morelet, 1863, *B. lesueurianus* Morelet, 1860 and *B. orophilus* Morelet, 1863. However, the priority lies with *B. albicolor*, due to a lapsus of Richardson (1995) regarding the publication date of *B. orophilus*; this error was copied by Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Bostryx albicolor* (Morelet, 1860).

Bulimus andoicus Morelet, 1863
Fig. 73

Bulimus andoicus Morelet, 1863: 198, pl. 11 fig. 13. – Breure, 1979: 50. – Breure & Ablett, 2014: 18, figs 10G, L4v.
Bulimulus (*Lissoacme*) *andoicus* – Pilsbry, 1896 [1895-1896]: 147, pl. 46 figs 42-44.
Bostryx andoicus – Breure, 1978: 50 (lectotype designation).

Type locality: [Peru] "vallées (..) d'Ayacucho".

Label: "La laja de Cocharcas", "La balsa de Cocharcas", and "Cocharcas".

Dimensions: "Long. 26-30; diam. 9-10 mill."; largest figured specimen herein H 23.5, D 8.89, W 6.9.

Type material: MHNG-INVE-60235, nine paralectotypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based; he figured three specimens, none of which can be matched with certainty with the Geneva material. The type locality was broadly defined by Morelet and probably also covers adjacent parts of Dept. Apurimac. There are two places called "Cocharcas" in the valley of Río Apurimac, one in Dept. Ayacucho and the other in Dept. Apurimac. Given the range of the dimensions given by Morelet, it is clear that he had a larger type series at hand. There is an additional lot in the NHMUK collection, as described by Breure (1978) and Breure & Ablett (2014), including the lectotype. The current systematic position corresponds to Richardson (1995: 16).

Current systematic position: Bulimulidae, *Bostryx andoicus* (Morelet, 1863).

Bulimus angrandi Morelet, 1860
Fig. 83

Bulimus angrandi Morelet, 1860: 372. – Morelet, 1863: 173, pl. 9 fig. 3.
Bulimulus angrandi. – Pilsbry, 1897 [1897-1898]: 23, pl. 2 fig. 26.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Huancabelica".

Dimensions: "Longit. 51; diam. 19 mill."; figured specimen herein H 49.9, D 22.1, W 7+.

Type material: MHNG-INVE-60610, holotype (Angrand coll.).

Remarks: Morelet (1860) did not mention on how many specimens his description was based. In his 1863 paper he stated "Un seul individu a été recueilli sur les hautes terres d'Huancabelica [Huancavelica] à 3,752 mètres d'altitude". The specimen found is thus the holotype. The current systematic position follows the classification by Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Kuschelenia* (*Bocourtia*) *angrandi* (Morelet, 1860) (**comb. n.**).

Helix apodemeta d'Orbigny, 1835
Fig. 72

Helix apodemeta d'Orbigny, 1835: 10. – Breure, 1979: 61. – Breure & Ablett, 2014: 22, figs 9A-B, L5vi.
Bulimus apodemetes d'Orbigny, 1837 [1834-1847]: 279, pl. 30 figs 5-8. – Gray, 1854: 16.
Bulimulus (*Lissoacme*) *apodemetus*. – Pilsbry, 1896 [1895-1896]: 187, pl. 51 fig. 1-3.
Bulimulus (*Bulimulus*) *apodemetus*. – Breure, 1975: 1145.

Type locality: “republica Argentina; republica Boliviana”; see Breure, 1973: 114.

Label: “Bolivie” in Moricand’s handwriting.

Dimensions: “Assez variables; les plus alongés ont, de longueur, 28 millimètres sur 18 de largeur, tandis que les plus courts offrent 23 millimètres de longueur, sur 12 de largeur”; figured specimen herein H 25.5, D 13.5, W 6.3.

Type material: MHNG-INVE-60419, one syntype (ex d’Orbigny, Moricand coll.).

Remarks: d’Orbigny (1835) did not state on how many specimens his description was based. In d’Orbigny (1837 [1834-1847]: 280) the localities were specified as “sur les coteaux du Parna, province d’Entre-rios, près de Feliciano (...) près de San-Lorenzo, province de Santa-Fe. (...) la république de Bolivia (...) des provinces de Valle grande et de la Laguna (...); (...) des plaines de Santa-Cruz de la Sierra, (...) la province de Chiquitos”; see also Breure, 1973. The current systematic position follows Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Bostryx apodemetus* (d’Orbigny, 1835).

Liguus fasciatus archeri Clench, 1934
Fig. 139

Liguus fasciatus archeri Clench, 1934: 106, pl. 7 fig. 5. – Johnson, 2003: 4. – Neubert & Janssen, 2004: 236, pl. 24 fig. 291. – Breure, 2013: 10, figs 19B, 19i.

Type locality: “Mogote de Ramon Millo, Viñales, Pinar del Rio, Cuba”.

Label: “Viñales, Pinar / del Rio, Cuba / A. Archer leg.”.

Dimensions: “Length 55.5 / Width 25.0 (…) mm.”; figured specimen herein H 54.5, D 24.5, W 6+.

Type material: MHNG-INVE-64921, two paratypes (ex MCZ).

Remarks: The holotype is MCZ 80901. The data of the specimens correspond to the original publication. The current systematic position is after Richardson (1993).

Current systematic position: Orthalicidae, *Liguus fasciatus* (Müller, 1774).

Helix (*Cochlogena*) *atrovirens* S. Moricand, 1836
Figs 8-10

Helix (*Cochlogena*) *atrovirens* S. Moricand, 1836: 416, pl. 2 fig. 1.

Type locality: [Brazil, Bahia] “Portao”.

Label: “Bahia, M. Blanchet 100”, in Moricand’s handwriting [78487]; “Bahia, Moricand”, in Brot’s handwriting [64624].

Dimensions: “11 millimètres de hauteur et 21 millimètres de largeur”; figured specimen herein H 20.9, D 20.3, W 3.4.

Type material: MHNG-INVE-78487, six syntypes (Moricand coll.); 64624, two probable syntypes (ex Moricand, Brot coll.).

Remarks: Moricand did not state on how many specimens his description was based. The shell height as given by Moricand was probably measured with the aperture down on a surface, and is thus not comparable to the way modern dimensions are given. The specimens in Brot’s collection originate from Moricand and are considered as probable syntypes. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Simpulopsis* (*Simpulopsis*) *atrovirens* (S. Moricand, 1836).

Helix (*Cochlogena*) *aurismuris* S. Moricand, 1838
Fig. 44

Helix (*Cochlogena*) *aurismuris* S. Moricand, 1838: 140, pl. 3 figs 1-3. – Neubert & Janssen, 2004: 200, pl. 4 fig. 163.

Type locality: [Brazil] “la fazenda de Palmeirinha, entre Caxoeira et Jacobina, province de Bahia”.

Label: “à la fazenda de la Palmeirinha / prov. de la Jacobina, sur les vieux arbres / (…) M. Blanchet N° 104”, “Brésil, Jacobina, Blanchet”, in Moricand’s handwriting.

Dimensions: “sept lignes dans sa plus grande longueur, et cinq lignes et demie de large” [H 15.75, D 12.4 mm]; figured specimen herein H 31.5, D 17.1, W 6.0.

Type material: MHNG-INVE-60683, 44 syntypes; 60686, 48 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. His dimensions were given in “lignes”, which equals one Swiss ‘ligne’ = 2.2256 mm; see Rowlett, 2004; the difference between the published and actual dimensions are remarkable. The second lot (60686) has only an original label “N° 104 / Helix aurismuris / Nob.”, which may be matched to the other lot where the same number used by Blanchet was found on one of the labels. The “var. alba” as given on one of the labels is an unpublished name. The current systematic position follows Simone (2006).

Current systematic position: Bulimulidae, *Cochlorina aurismuris* (Moricand, 1838).

Helix (*Cochlogena*) *bahiensis* S. Moricand, 1834
Figs 113-114

Helix (*Cochlogena*) *bahiensis* S. Moricand, 1834: 541, pl. 1 fig. 6.

Type locality: [Brazil] "le Brésil dans les bois près de Bahia [Salvador]".

Label: "Bahia".

Dimensions: "Long. 2 cent. Larg. 6 mill."; figured specimen herein H 18.5, D 5.40, W 6.7.

Type material: MHNG-INVE-64638, 31 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. Most specimens in the lot are largely bleached or soiled, only a few show the typical dark stroke behind the lip. The figured specimen is relatively small, but adult. A database search revealed that four specimens ('paratypes' [syntypes]) are MCZ 26217. The current systematic position follows Simone (2006).

Current systematic position: Odontostomidae, *Bahiensis bahiensis* (S. Moricand, 1834).

Bulimus balsanus Morelet, 1863
Fig. 76

Bulimus balsanus Morelet, 1863: 192, pl. 9 fig. 8. – Breure, 1979: 51. – Breure & Ablett, 2014: 27, figs 5B, L7iv.
Bostryx balsanus. – Breure, 1978: 53 (lectotype designation).

Type locality: [Peru] "Balsa de Cocharcas".

Label: "Abancay".

Dimensions: "Long. 19, diam. 8 1/2 mill."; figured specimen herein H 17.9, D 8.10. W 6.3.

Type material: MHNG-INVE-60244, two possible paralectotypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based; other type material has been found in NHMUK, including the lectotype. The taxon name is written in pencil, and as the locality is somewhat different from the type locality (but in the same region), the material is considered as possible type material only. The current systematic position follows Richardson (1995: 35).

Current systematic position: Bulimulidae, *Bostryx nigropileatus* (Reeve, 1849).

Liguus crenatus barbouri Clench, 1929
Fig. 134

Liguus crenatus barbouri Clench, 1929: 18. – Neubert & Janssen, 2004: 236, pl. 24 fig. 295. – Breure, 2013: 12, figs 19C, 19ii.

Type locality: "Pinecrest region, central Everglades, Fla. Hammock no. 21 (Farnum number). J.N. Farnum, collector".

Label: "Hammock No. 7 / Everglades Pine / Crest region / Florida / J.N. Farnum leg.".

Dimensions: "Length 51.5 Width 27 (...) mm."; figured specimen herein H 43.2, D 22.8, W 6.9.

Type material: MHNG-INVE-64938, two paratypes (ex MCZ).

Remarks: In original publication only the holotype is mentioned; MCZ 84527. The type status of this material is, however, not disputed. See also Neubert & Janssen, 2004: 236, who accept Clench's statement "found in nearly all the hammocks of the Pinecrest region" as sufficient statement to warrant the status of paratypes.

Current systematic position: Orthalicidae, *Liguus faciatus* (Müller, 1774).

Helix (*Helicigona*) *blanchetiana* S. Moricand, 1834
Figs 38-39

Helix (*Helicigona*) *blanchetiana* S. Moricand, 1834: 539, pl. 1 fig. 3.
Helix (*Helicigona*) *pyramidella* Wagner in Spix. – S. Moricand, 1836: 418.

Type locality: "le Brésil, aux environs de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Long. 15 mill. Larg. 15 mill."; figured specimen herein H 15.6, D 17.4, W 6.4.

Type material: MHNG-INVE-60674, 63 syntypes (ex Blanchet, Moricand coll.); see remarks.

Remarks: Moricand did not state on how many specimens his description was based. In his second paper he placed this taxon in the synonymy of *Helix pyramidella* Wagner in Spix, 1827 (Moricand, 1836: 418), and – on the next page – as one of the several varieties (evidently colour forms) of this species. There he mentioned "Ayant reçu, depuis la publication de mon premier Mémoire (…), un grand nombre de variétés de cette coquille, j'ai reconnu que mon *H. Blanchetiana* rentre dans l'espèce de Spix, dont elle n'est qu'une des variétés que je classe ainsi". The current lot has 63 specimens altogether, which are thus a mixture of the original lot and shells received later and (partly) considered as varietal forms by Moricand (1836: 419). It is impossible to untangle this lot completely. One shell, which best approaches the original figure of Moricand, is figured herein. The current systematic position follows Simone (2006: 148).

Current systematic position: Bulimulidae, *Oxychona pyramidella* (Wagner in Spix, 1827).

Helix (*Bulimus*) *boissieri* S. Moricand, 1846
Figs 6-7

Helix (Bulimus) boissieri S. Moricand, 1846: 156, pl. 5 figs 24-25. – Neubert & Janssen, 2004: 202, pl. 17 fig. 207.

Type locality: [Brazil] "les environs des Bahia [Salvador]".

Label: "Bahia".

Dimensions: "12 à 13 millimètres de haut et 10 de large"; figured specimen herein H 13.1, D 10.6, W 3.8.

Type material: MHNG-INVE-64622, three probable syntypes (ex Moricand, Brot coll.).

Remarks: Moricand did not state on how many specimens his description was based; the material from the Brot collection originates from Moricand, but as it remains unsure whether they belonged to the original series or not, the specimens are regarded as probable type material. The current systematic position follows Richardson (1995).

Current systematic position: Simpulopsidae, *Simpulopsis* (*Eudioptus*) *boissieri* (S. Moricand, 1846).

Helix (*Cochlohydra*) *brasiliensis* S. Moricand, 1836
Figs 15-17

Helix (*Cochlohydra*) *brasiliensis* S. Moricand, 1836: 416.

Type locality: "[Brazil, Bahia] les forêts de S. Gonsalves".

Label: "Bahia", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 14.3, D 17.9, W 3.0.

Type material: MHNG-INVE-78488, nine syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. The label information shows that the material was collected by Blanchet; most specimens are subadults or juveniles. The current systematic position follows Richardson (1995).

Current systematic position: Simpulopsidae, *Simpulopsis* (*Simpulopsis*) *brasiliensis* (S. Moricand, 1836).

Helix cactorum d'Orbigny, 1835
Fig. 74

Helix cactorum d'Orbigny, 1835: 10. – Breure & Ablett, 2014: 36, figs 6D, L10i (lectotype designation).
Bulimus hennahi Gray. – d'Orbigny, 1837 [1834-1847]: 283, pl. 30 figs 3-4.

Type locality: "provincia Tacnacensi (rep. Peruviana)".

Label: "Pérou", in Moricand's handwriting.

Dimensions: "Longit. 25 millim., latit. 15 millim."; figured specimen herein H 28.8, D 15.8, W 7.0.

Type material: MHNG-INVE-20659, four paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: These specimens originated from d'Orbigny are considered as type material; the author did not state on how many specimens his description was based. Seven specimens are present in the d'Orbigny collection in NHMUK, of which one was designated lectotype by Breure & Ablett (2014). This taxon has been synonymized with *Bostryx hennahi* (J.E. Gray, 1830) by Richardson (1995: 27) following d'Orbigny (1837 [1834-1847]); however, doubt remains as Breure & Ablett (2014) explained. Only further morphological and molecular research may solve this issue.

Current systematic position: Bulimulidae, *Bostryx hennahi* (J.E. Gray, 1828)?

Bulimus caribaeorum Lamarck, 1822
Figs 56-58

Bulimus caribaeorum Lamarck, 1822: 124. – Mermod, 1951: 734, fig. 83.

Type locality: "les Antilles".

Label: Only taxon label in Lamarck's handwriting.

Dimensions: "Longueur, 9 lignes [H = 20.0 mm]"; figured specimen herein H 26.0, D 11.3, W 7.2.

Type material: MHNG-INVE-51169, 6 syntypes (Lamarck coll.).

Remarks: Lamarck mentioned "Mon cabinet", but did not remark how many specimens he had seen. He referred to *Helix virgulata* Férussac ("Daudeb. Hist. des Moll. no. 396"), of which this taxon is a junior subjective synonym. The material consists of three (sub) adult and three juvenile specimens, without locality data.

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *virgulatus* (Férussac, 1821).

Bulimus ceciliae J. Moricand, 1858
Fig. 49

Bulimus ceciliae J. Moricand, 1858: 452, pl. 14 fig. 4.
Drymaeus strigatus (Pfeiffer). – Pilsbry, 1899: 230, pl. 42 fig. 52.

Type locality: [Peru] "Tarapoto".
Label: "Tarapoto", in Moricand's handwriting.

Dimensions: “Haut., 22 à 17 mill.; long. 10 à 7”; figured specimen herein H 22.3, D 12.3, W 5.5.

Type material: MHNG-INVE-63436, nine syntypes (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. The specimens were collected by M. Porte. Two specimens appear to have been exchanged, and are registered as ‘paratypes’ [syntypes] in MCZ 160197. The current systematic position follows Richardson (1995: 180), but note the different opinion of Breure & Mogollón (2010: 26).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *strigatus* (Sowerby I, 1833).

Bulimus cercicola Morelet, 1863
Fig. 70

Bulimus cercicola Morelet, 1863: 192, pl. 9 fig. 7. – Breure & Ablett, 2014: 40, figs 4G, L12i.
Bulimulus (*Lissoacme*) *cercicola*. – Pilsbry, 1896 [1895-1896]: 184, pl. 46 fig. 63.
Bostryx cereicola [sic]. – Breure, 1978: 56. – Breure, 1979: 52.

Type locality: [Peru] “vallées chaudes d’Abancay et d’Acostambo, situées à l’ouest du Cuzco”.

Label: “Abancay”, “Cocharcas”.

Dimensions: “Long. 20; diam. 9 mill.”; figured specimen herein H 19.6, D 8.65, W 6.5.

Type material: MHNG-INVE-60260, one resp. two probable syntypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based; additional type material is present in NHMUK (Breure & Ablett, 2014). The taxon name is in pencil, by a later hand, therefore the material is considered as probable syntypes; the specimen from Abancay seems to be matching with Morelet’s figure. The current systematic position is as given by Richardson (1995: 36); see above under *Bulimus albicolor* Morelet, 1860.

Current systematic position: Bulimulidae, *Bostryx albicolor* (Morelet, 1860).

Helix (*Cochlogena*) *rhodospira chrysostoma* S. Moricand, 1836
Fig. 88

Helix (*Cochlogena*) *rhodospira* var. β *chrysostoma* S. Moricand, 1836: 428.

Type locality: [Brazil] “environs de Bahia [Salvador]”.

Label: “Bahia”, in Moricand’s handwriting.

Dimensions: Not given; figured specimen herein H 56.4, D 34.5, W 4.9.

Type material: MHNG-INVE-60161, five syntypes (Moricand coll.).

Remarks: Moricand did not indicate on how many specimens this variety was based, nor indicated the dimensions. His taxon label reads “Helix rhodospira M$^{d.}$ / var. peristomata lutea”, which corresponds to the description. The current systematic position follows Richardson (1995).

Current systematic position: Bulimulidae, *Auris melastoma* (Swainson, 1820).

Helix (*Cochlogena*) *cinnamomeolineata* S. Moricand, 1841
Fig. 18

Helix (*Cochlogena*) *cinnamomeolineata* S. Moricand, 1841: 60, pl. 4 figs 6-7. – Neubert & Janssen, 2004: 205, pl. 17 fig. 213.

Type locality: [Brazil] “la province de Bahia”.

Label: “Bahia”, in Moricand’s handwriting.

Dimensions: “24 millimètres de hauteur et 11 à 12 dans sa plus grande largeur”; figured specimen herein H 23.2, D 11.2, W 6.7.

Type material: MHNG-INVE-64546, ten syntypes; 64547, 14 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based, but the range in the diameter of the shell suggests he had several at hand. The taxon label of lot 64546 reads “Bulimus cinnamomeolineatus / Moric. / var. unicolor”, which is a manuscript name. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Leiostracus cinnamomeolineatus* (S. Moricand, 1841).

Helix (*Cochlogena*) *citrinovitrea* S. Moricand, 1836
Figs 4-5

Helix (*Cochlogena*) *citrinovitrea* S. Moricand, 1836: 436, pl. 2 fig. 19. – Breure, 1979: 135. – Neubert & Janssen, 2004: 205, pl. 17 fig. 208.

Type locality: “[Brazil] aux environs de Bahia”.

Label: “Bahia”, in Moricand’s handwriting [64617]; “Bahia”, in Brot’s handwriting [64616].

Dimensions: “Hauteur, 13 millim.; largeur, 10 millim.”; figured specimen herein H 16.0, D 11.7, W 4.4.

Type material: MHNG-INVE-64617, lectotype and 18 paralectotypes (ex Blanchet, Moricand coll.); 64616, four probable paralectotypes (ex Moricand, Brot coll.).

Remarks: Moricand did not state on how many specimens his description was based. Lot 64617 consists of one adult and many subadult specimens; the second lot (64616) from the Brot collection contains subadults only, but is herein considered as probable type material as uncertainty remains whether the specimens belonged to the original series or not. One specimen was found as 'paratype' [syntype] being registered MCZ 26283. Breure (1978: 235) has pointed out the disjunct distribution of this taxon (or, alternatively, the occurrence of morphologically convergent species; see Miquel, 1998); the designation of a lectotype (**design. n.**) should fixate this taxon until further morphological and molecular research has elucidated the relationships within the distribution range.

Current systematic position: Simpulopsidae, *Simpulopsis* (*Eudioptus*) *citrinovitrea* (S. Moricand, 1836).

Helix (*Cochlogena*) *coxeirana* S. Moricand, 1836

Figs 19-21

Helix (*Cochlogena*) *coxeirana* S. Moricand, 1836: 433, pl. 2 figs 7-11. – Neubert & Janssen, 2004: 206, pl. 17 fig. 216.
Helix caxoeirana S. Moricand, 1841: 59 [emendation].
Leiostracus (*Leiostracus*) *coxeiranus*. – Köhler, 2007: 154, fig. 140.

Type locality: [Brazil] "Caxoeira, dans la province de Bahia et dans les bois de St.-Gonzales".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Hauteur, 33 mill.; largeur, 15 mill."; largest figured specimen herein H 33.0, D 15.2, W 7.2.

Type material: MHNG-INVE-64548, five syntypes; 25410, two syntypes; 25416, one syntype (ex Blanchet, Moricand coll.).

Remarks: Moricand evidently had several specimens at hand, as he recognized five different colour variations (*trizona*, *dizona*, *nigrescens*, *purpurascens*, *unicolor*), partly on the basis of subadult or juvenile specimens. These names are considered as infrasubspecific, were not adopted as valid names before 1985, and are thus unavailable (Lingafelter & Yanega, 2012). Type material of this taxon is also present in ZMB (Köhler, 2007) and SMF (Neubert & Janssen, 2004).

Current systematic position: Simpulopsidae, *Leiostracus coxeiranus* (S. Moricand, 1836).

Helix crepundia d'Orbigny, 1835

Fig. 32

Helix crepundia d'Orbigny, 1835: 14. – Breure & Ablett, 2014: 52, figs 15H-I, L14vi.
Bulimus crepundia. – d'Orbigny, 1837 [1834-1847]: 275, pl. 33 figs 18-19.
Bulimulus crepundia. – Pilsbry, 1897 [1897-1898]: 90, pl. 11 figs 33-34.
Naesiotus crepundia. – Breure, 1975: 1146, pl. 8 fig. 5.

Type locality: "provincia Chiquitensi, republica Boliviana"; see Breure, 1973: 116.

Label: "Chiquito[s]", in Moricand's handwriting.

Dimensions: "Latit. 15 millim., long. 10 millim.", corrected to "Longueur totale, 25 millimètres" in d'Orbigny, 1837 [1834-1847]; figured specimen herein H 22.8, D 9.98, W 7.0.

Type material: MHNG-INVE-60497, three paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny did not state on how many specimens his description was based. Type material has been found in the NHMUK (Breure & Ablett, 2014) and MNHN collections; the lectotype is in MNHN (Breure, 1975).

Current systematic position: Bulimulidae, *Naesiotus crepundia* (d'Orbigny, 1835).

Amphibulima cucullata Lamarck, 1805

Figs 140-143

Amphibulima cucullata Lamarck, 1805: 305, pl. 55 figs 1a-c.
Succinea cucullata. – Lamarck, 1822: 134.

Type locality: Not given (see remarks).

Label: "Guadeloupe", in Lamarck's (?) handwriting.

Dimensions: "Sa longueur est de 32 millimètres (…), sur 22 millimètres (…) de largeur"; figured specimen herein H 31.0, D 20.2, W 3.7.

Type material: MHNG-INVE-51201, holotype (Lamarck coll.).

Remarks: Lamarck mentioned "Cette coquille est tellement rare, que je ne connois encore que l'individu (…) que je me suis procuré par la voie du commerce. (…) Très-vraisemblablement cette amphibulime n'est point indigène de la France". It is clear from this text that Lamarck only had one specimen, thus the material found is the holotype. Mermod noted in 1950 "1 échantillon de 31 mm de haut, avec un n° 145 et un "L" (Lamarck indiquait une longueur de 14 lignes = 31.5 mm, et une largeur de 9 lignes et demie = 20.2 mm); l'étiquette s'étant détachée et perdue en 1950, j'ai remis à l'encre de chine sur le même emplacement le n° 145 et refait le L". He has, however, not mentioned this shell in his papers about the Lamarckian types. On the back of the wooden tablet, holding the pill-box with the specimen, a label is gummed mentioning "Succinea cucullata / Ambrette

capuchon / Guadeloupe". These data correspond to those given by Lamarck (1822).

Current systematic position: Amphibulimidae, *Amphibulima patula* (Bruguière, 1789).

Helix culminea d'Orbigny, 1835

Fig. 106

Helix culminea d'Orbigny, 1835: 13. – Breure, 1979: 88. – Breure & Ablett, 2014: 54, figs 66F-H, L15v.
Bulimus culmineus. – d'Orbigny, 1837 [1834-1847]: 288, pl. 33 figs 8-9.
Bulimulus culmineus. – Pilsbry, 1897 [1897-1898]: 25, pl. 5 figs 74-75.
Scutalus culmineus culmineus. – Breure, 1975: 1143, pl. 1 fig. 3.

Type locality: "culminibus Andesensibus, republica Boliviana" (see remarks).

Label: "Bolivie, sommet des Andes", in Moricand's handwriting.

Dimensions: "Latit. 17 millim., longit. 13 millim."; figured specimen herein H 33.2, D 14.4, W 5.9.

Type material: MHNG-INVE-60575, three paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny did not state on how many specimens his description was based, but mentioned two localities (1837 [1834-1847]: 289): "les montagnes de la province de Carangas, à l'ouest d'Oruro, principalement sur celle du 'Pucara', à cinq lieues du bourg de Totora", and "sur toutes les îles et sur toutes les montagnes du lac de Titicaca". The specimens from the latter locality are those in the NHMUK collection (Breure & Ablett, 2014), while those from "Carangas" are in the MNHN collection (Breure, 1975); the lectotype has been selected from the latter collection. Moricand's label seems to be a translation of the locality given in d'Orbigny (1835).

Current systematic position: Bulimulidae, *Kuschelenia* (*Kuschelenia*) *culminea* (d'Orbigny, 1835).

Bulimus cuspidatus Morelet, 1863

Fig. 91

Bulimus cuspidatus Morelet, 1863: 210, pl. 11 fig. 7.
Bulimulus (*Geoceras*) *cuspidatus*. – Pilsbry, 1896 [1895-1896]: 137, pl. 45 fig. 7.

Type locality: [Peru] "Cocabambilla, sur les bords de l'Apurimac, et dans les gorges de Chachapoyas".

Label: "Cocabambilla (Choquequirao) / Pérou".

Dimensions: "Longit. 30, diam. 5 mill."; figured specimen herein H 30.2, D 5.42, W 15.0.

Type material: MHNG-INVE-60377, four syntypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. The current systematic position follows Richardson (1995).

Current systematic position: Bulimulidae, *Bostryx cuspidatus* (Morelet, 1863).

Bulimus delphinae J. Moricand, 1858

Fig. 50

Bulimus delphinae J. Moricand, 1858: 452, pl. 14 fig. 3.
Drymaeus strigatus (Pfeiffer). – Pilsbry, 1899: 229, pl. 42 fig. 50.

Type locality: [Peru] "Tarapoto".

Label: "Tarapoto", in Moricand's handwriting.

Dimensions: "Long., 20 à 22 mill.; larg. 8 à 9"; figured specimen herein H 22.4, D 11.6, W 6.0.

Type material: MHNG-INVE-63443, three syntypes (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based, but from the range in dimensions it is clear he had multiple specimens at hand. The material was collected by M. Porte. The current systematic position follows Richardson (1995).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *strigatus* (Sowerby I, 1833).

Bulimus dentritis Morelet, 1863

Fig. 33

Bulimus dentritis Morelet, 1863: 206, pl. 9 fig. 5. – Breure, 1979: 62. – Breure & Ablett, 2014: 59, figs 16G, L17ii.
Bulimulus dentritis. – Breure, 1978: 72 (lectotype designation).

Type locality: [Peru, Dept. Cuzco] "près de Huiro, vallée de Santa-Anna".

Label: "Huiro, Val de S^{t} Ana Pérou", "Vilcabamba Pérou", "Pont de Chahuillay (Valle de Santa Ana) Pérou".

Dimensions: "Longit. 20, diam. 8 mill."; figured specimen herein H 20.8, D 7.35, W 7.8.

Type material: MHNG-INVE-60432, lectotype, respectively two and two paralectotypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based, and part of the material has been found in the NHMUK collection. The material present in MHNG is from various localities, of which one specimen from the type locality was designated lectotype (Breure, 1978). The current

systematic position follows the classification given by Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Naesiotus dentritis* (Morelet, 1863).

Bulimus edwardsi **Morelet, 1863**
Figs 107-108

Bulimus edwardsi Morelet, 1863: 182, pl. 9 fig. 1. – Breure, 1979: 88. – Breure & Ablett, 2014: 65, figs 67C-D, L19vi.
Bulimulus edwardsi. – Pilsbry, 1897 [1897-1898]: 27, pl. 7 figs 11-13.

Type locality: [Peru, Dept. Huancavelica] "le type (...) Huancabelica; la variété, (...) vallée de Huanta" [Dept. Ayacucho].

Label: "Huancabelica Pérou" [60581, 60584], "Acobamba Pérou" [60584], "Parcos (Altos de Acobamba) Pérou" [60584].

Dimensions: "Longit. 29; diam. 12 mill."; figured specimen herein H 33.0, D 14.2, W 5.8.

Type material: MHNG-INVE-60581, two (1 + 1) syntypes; 60584, nine (3 + 3 + 3) syntypes (Angrand coll.).

Remarks: Morelet did not mention on how many specimens his description was based. He said this species "habite, dans des conditions différentes, les deux versant[s] de la chaîne de Paucara: le type, du côté d'Huancabelica"; this points to the region east of Huancavelica. One of the specimens from Parcos [60584] seems to fit the left-hand figure in Morelet (1863), one of the specimens from Huancavelica [60581] corresponds to his middle figure. This taxon is currently placed in the genus *Kuschelenia* Hylton Scott, 1951.

Current systematic position: Bulimulidae, *Kuschelenia* (*Kuschelenia*) *culminea edwardsi* (Morelet, 1863).

Bulimus emaciatus **Morelet, 1863**
Fig. 77

Bulimus emaciatus Morelet, 1863: 201, pl. 11 fig. 10. – Breure, 1979: 53. – Breure & Ablett, 2014: 67, figs 3E, L20iv.
Bulimulus (Peronaeus) emaciatus. – Pilsbry, 1896 [1895-1896]: 143, pl. 45 figs 27-28.
Bostryx emaciatus. – Breure, 1978: 74, fig. 101 (lectotype designation).

Type locality: [Peru] "les vallées et sur les plateaux de l'intérieur de la Sierra, depuis Ayacucho jusqu'au Cuzco" (see remarks).

Label: "Acobamba Pérou", "Pucra Pérou", "Ollantaitambo Pérou", "Andahuailas Pérou", "Paucara Pérou", "Cocharcas Pérou".

Dimensions: "Longit. 22, diam. 5 1/2 mill."; figured specimen herein H 21.0, D 5.55, W 7.0.

Type material: MHNG-INVE-60408, lectotype and two paralectotypes, respectively ten, three, two, two, and three paralectotypes (Angrand coll.).

Remarks: Breure (1978) upon selecting a lectotype from the MHNG collection, also fixated the type locality to Acobamba according to the label information of the specimen. The other localities are from the same general area, which is still of considerable extension. The current systematic position follows Richardson (1995: 23).

Current systematic position: Bulimulidae, *Bostryx emaciatus* (Morelet, 1863).

Bulimus fidaensis **J. Moricand, 1858**
Figs 23-24

Bulimus fidaensis J. Moricand, 1858: 451, pl. 14 fig. 1.
Drymaeus fidaensis. – Pilsbry, 1898 [1897-1898]: 232, pl. 41 fig. 21. – Simone, 2006: 137, fig. 450.

Type locality: [Brazil] "Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Alt., 30 mill.; diam. 11"; figured specimen herein H 29.6, D 13.5, W 7.0.

Type material: MHNG-INVE-63455, one syntype (Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based. Pilsbry suggested that this taxon might belong to the Odontostomidae, genus *Moricandia* Pilsbry & Vanatta, 1898. In a note accompanying the lot, Mermod wrote in 1937 "Il ne semble pas que ce Bulime soit un *Odontostomus*, ni un ... *Drymaeus* ?". The protoconch sculpture consists of fine spiral lines and the taxon is now placed in the genus *Leiostracus* Albers, 1850 (**comb. n.**). Moricand's taxon proves to be a junior subjective synonym of *Bulimus clouei* Pfeiffer, 1857 (**synon. n.**); the lectotype of this species is in the NHMUK (Breure & Ablett, 2015: 26, figs 21i-iii).

Current systematic position: Simpulopsidae, *Leiostracus clouei* (Pfeiffer, 1857) (**comb. n., synon. n.**).

Bulimus fragilis **Lamarck, 1822**
Figs 60-61

Bulimus fragilis Lamarck, 1822: 123. – Delessert, 1841: pl. 28 figs 2a-b. – Chenu, 1850 [1842-1854]: pl. 9 figs 2a-b. – Mermod, 1951: 729, fig. 79.

Type locality: "l'Angleterre", see remarks.

Label: No locality, but taxon label in Lamarck's handwriting.

Dimensions: "Longueur, 1 pouce"; figured specimen herein H 28.3, D 13.1, W 6.5.

Type material: MHNG-INVE-51164, five syntypes (Lamarck coll.).

Remarks: Lamarck described this species as British, having it received from Leach with the name *Helix fragilis* Montagu, 1803 (= *Lymnaea stagnalis* L., 1758). Pilsbry (1901 [1901-1902]: 171) was the first to realize that this taxon could be a *Drymaeus* species; he suggested "*Drymaeus stramineus*, *liliaceus*, *virginalis*, or their allies". Mermod (1951) confirmed the protoconch having the typical grating sculpture of *Drymaeus*. He compared the syntypes with specimens and figures in literature of the first two taxa mentioned by Pilsbry, and found them different from Lamarck's specimens. He also compared the specimens with Pfeiffer's description of *Bulimus virginalis* (Pfeiffer, 1856: 46), and suggested that these might be conspecific. However, comparing the specimens with the probable syntypes of Pfeiffer's taxon (Breure & Ablett, 2014: 207, fig. 24C), I disagree as *Bulimus virginalis* is more elongate and more slender than *B. fragilis*. Since the locality is unclear, it is preferred to keep this taxon as a distinct species until future research sheds more light on the systematic position.

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *fragilis* (Lamarck, 1822).

Helix heloica d'Orbigny, 1835
Fig. 42

Helix heloica d'Orbigny, 1835: 11. – Breure & Ablett, 2014: 87, figs 62E-F, L26v.
Bulimus heloicus. – d'Orbigny, 1837 [1834-1847]: 272, pl. 30 figs 9-11.
Bulimulus (*Lissoacme*) *heloicus*. – Pilsbry, 1896 [1895-1896]: 193, pl. 51 figs 12-13.

Type locality: [Bolivia] "provincia Chiquitensi, republica Boliviana".

Label: "Chiquito[s]", label in Moricand's handwriting.

Dimensions: "Longit. 28 millim., diam. 6 millim."; figured specimen herein H 22.4, D 10.5, W 5.9.

Type material: MHNG-INVE-79903, one syntype (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny (1835) did not state on how many specimens his description was based; the type locality was specified in d'Orbigny, 1837 [1834-1847]: 273 as "près de la Mission de Bibosi, province de Santa-Cruz de la Sierra, et dans la partie orientale de l'immense forêt (Monte grande) qui sépare Santa-Cruz de la province de Chiquitos, non loin du lieu nommé Potrero de la Cruz". The locality on the label probably refers to San Javier, Dept. Santa Cruz in Bolivia; see Breure, 1973: 119, 127. The current systematic position follows Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Bulimulus heloicus* (d'Orbigny, 1835).

Helix (*Cochlogena*) *heterogramma* S. Moricand, 1836
Figs 84-85

Helix (*Cochlogena*) *heterogramma* S. Moricand, 1836: 437, pl. 2 figs 15-17.
Bulimulus heterogrammus. – Pilsbry, 1898 [1897-1898]: 321, pl. 26 figs 81-82.
Rhinus heterogrammus. – Simone, 2006: 127, fig. 407.

Type locality: [Brazil, Bahia] "avec la précédente [les grand bois à la Caxoeira]".

Label: "Brésil, le bois de la Caxoeira", in Moricand's handwriting.

Dimensions: "Longueur, 13 mill.; largeur, 5 mill."; figured specimen herein H 12.5, D 5.95, W 6.2.

Type material: MHNG-INVE-64598, four syntypes (Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based. Pilsbry (1898 [1897-1898]) placed this taxon under the heading 'Species of uncertain subgeneric position', and suggested it might possibly be a *Protoglyptus* species. Simone (2006) classified this taxon as a *Rhinus* species, without further explanation. Upon examination of the type material, the protoconch sculpture appears consisting of axial riblets, spaced 1-2 times the width of the riblets, with very fine spiral striation in between the riblets. This places this taxon in the genus *Protoglyptus* Pilsbry, 1897.

Current systematic position: Bulimulidae, *Protoglyptus heterogrammus* (S. Moricand, 1836) (**comb. n.**).

Helix (*Cochlogena*) *heterotricha* S. Moricand, 1836
Fig. 26

Helix (*Cochlogena*) *heterotricha* S. Moricand, 1836: 430, pl. 2 figs 5-6.
Rhinus heterotricha. – Köhler, 2007: 154, fig. 143.

Type locality: Not given [Brazil, Bahia].

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Long. 55 mil., larg. 32 mil."; figured specimen herein H 53.4, D 32.3, W 7.2.

Type material: MHNG-INVE-64602, six syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Rhinus heterotricha* (S. Moricand, 1836).

Helix hygrohylaea d'Orbigny, 1835
Fig. 46

Helix hygrohylaea d'Orbigny, 1835: 18. – Breure & Ablett, 2014: 91, figs 27D-F, L27iv.
Bulimus hygrohylaeus d'Orbigny, 1837 [1834-1847]: 311, pl. 40 figs 3-5. – Gray, 1854: 21.
Drymaeus hygrohylaeus. – Pilsbry, 1898 [1897-1898]: 194, pl. 37 figs 9-10. – Breure, 1975: 1151.
Drymaeus (*Drymaeus*) *hygrohylaeus*. – Miquel 1989b: 77, figs 3-4.

Type locality: "provincia Chiquitensi (republica Boliviana)".

Label: "Chiquito[s]", in Moricand's handwriting.

Dimensions: "Longit. 41 millim., latit. 19 millim."; figured specimen herein H 43.9, D 19.5, W 7.3.

Type material: MHNG-INVE-63469, four para-lectotypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny did not state on how many specimens his description was based; additional type specimens are present in NHMUK and MNHN collections; the lectotype is housed in the latter collection. The current systematic position follows the synonymisation of this taxon with *Helix abyssorum* d'Orbigny, 1835, by Miquel (1989b: 77); see also Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *abyssorum* (d'Orbigny, 1835).

Helix (*Cochlogena*) *rhodospira illheocola* S. Moricand, 1836
Fig. 89

Helix (*Cochlogena*) *rhodospira* var. *illheocola* S. Moricand, 1836: 428.

Type locality: [Brazil, Bahia] "Illheos".

Label: "Brésil aux Illheos", "Bahia", "Brésil Illheos"; all in Moricand's handwriting.

Dimensions: Not given"; figured specimen herein H 66.7, D 37.5, W 4.9.

Type material: MHNG-INVE-60171, six syntypes (ex Blanchet, Moricand coll.); 60169, two probable syntypes (ex Moricand, Brot coll.).

Remarks: Moricand did not state on how many specimens his description was based, nor did he mention the dimensions of this taxon. Richardson (1995: 9) gave an erroneous reference to "1837 Moricand, Mem. Soc. Phys. Hist. Nat. Geneve 8: pl. 2 fig. 4". The current systematic position is according Simone (2006).

Current systematic position: Bulimulidae, *Auris illheocolus* (S. Moricand, 1836).

Bulimus immaculatus C.B. Adams in Reeve, 1850
Fig. 62

Bulimus immaculatus C.B. Adams in Reeve, 1850 [1848-1850]: pl. 85 fig. 631. – Breure, 1979: 120 (lectotype designation). – Neubert & Janssen, 2004: 213, pl. 16 fig. 188. – Breure & Ablett, 2014: 93, figs 17L-M, L28iii.
Drymaeus (Mesembrinus) immaculatus. – Breure & Eskens, 1981: 73, pl. 7 fig. 4.

Type locality: "Jamaica".

Label: "Jamaica".

Dimensions: Not given; figured specimen herein H 29.7, D 13.9, W 6.4.

Type material: MHNG-INVE-64442, three para-lectotypes (ex Adams, Moricand coll.).

Remarks: The specimen was described and figured on the basis of specimens received from Adams with a manuscript name. Breure (1979) selected as lectotype the specimen that best fitted the figure of Reeve. The current systematic position is according Rosenberg & Muratov (2005).

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *immaculatus* (C.B. Adams in Reeve, 1850).

Bulimus inflatus Lamarck, 1822
Fig. 30

Bulimus inflatus Lamarck, 1822: 122 (not Olivier, 1801). – Delessert, 1841: pl. 28 figs 1a-b. – Chenu, 1850 [1842-1854]: pl. 9 figs 1a-b. – Mermod, 1951: 728, fig. 78. – Kendrick & Wilson, 1975: 307, pl. 3 figs 4a-b. – Breure & Whisson, 2012: 66, fig. 5C.
Helix costulatus 'Férussac' Lamarck, 1822: 122 (in synonymy).

Type locality: [Australia] "la Nouvelle-Hollande".

Label: "?", taxon label in Lamarck's handwriting.

Dimensions: "Longueur, près d'un pouce [H ~ 27 mm]"; figured specimen herein H 26.0, D 15.6, W 5.4.

Type material: MHNG-INVE-51162 five syntypes (Lamarck coll.).

Remarks: Lamarck did not state on how many specimens his description was based. Kendrick & Wilson (1975) discussed at length the status of these two taxa and the confusion arisen in previous literature with *Bothriembryon onslowi* (Cox, 1864). They convincingly showed that both *Bulimus inflatus* and *Helix costulatus* share the same type material, and the latter name is applicable for this taxon.

Current systematic position: Bothriembryontidae, *Bothriembryon costulatus* (Lamarck, 1822).

Bulimus jaspideus Morelet, 1863
Fig. 129

Bulimus jaspideus Morelet, 1863: 180, pl. 7 fig. 7.
Strophocheilus jaspideus. – Pilsbry, 1895 [1895-1896]: 61, pl. 29 fig. 61.

Type locality: [Peru] "de la vallée tempérée de Yucaï", and "sur les murs des jardins, aux environs de Huancabelica".

Label: "Huancabelica", "Huillabamba", "Yucaï", "Paucara".

Dimensions: "Longit. 37-47; diam. 18-21 mill."; figured specimen herein H 47.2, D 21.4, W 6.9.

Type material: MHNG-INVE-60211, two syntypes; 60210, four (1 + 2 + 1) syntypes (all Angrand coll.).

Remarks: Morelet did not mention on how many specimens his description was based; judged from the range in dimensions he had multiple specimens at hand. He said the larger specimens were found in the surroundings of Huancavelica. The current systematic position is based on unpublished data.

Current systematic position: Orthalicidae, *Scholvienia jaspidea* (Morelet, 1863).

Bulimulus dealbatus jonesi Clench, 1937
Fig. 31

Bulimulus dealbatus jonesi Clench, 1937: 18. – Johnson, 2003: 14.

Type locality: [U.S.A.] "2 miles north of West Greene, Greene Co., Alabama".

Label: "2 miles west [sic] of West Greene, Greene Co., Alabama".

Dimensions: "Length 19.1, width 9.9 (…) mm"; figured specimen herein H 18.1, D 10.4, W 6.1.

Type material: MHNG-INVE-60529, six paratypes (ex MCZ).

Remarks: Although it is not clear how many specimens were in the type series, Clench (1937: 19) mentioned for the dimensions "average of five paratypes", which were said to be from the same locality and deposited in the MCZ collection [MCZ 75036]. The current systematic position follows Richardson (1995).

Current systematic position: Bulimulidae, *Rabdotus dealbatus* (Say, 1821).

Bulimus koroensis Garrett, 1872
Fig. 29

Bulimus koroensis Garrett, 1872: 236, pl. 18 fig. 9.

Type locality: [Fiji] "Koro Isl., Viti Isles".

Label: "Koro (Fidji)"; see remarks.

Dimensions: "Length 53 mill.; diam., 18 mill."; figured specimen herein H 47.7, D 18.4, W 5.1.

Type material: MHNG-INVE-64767, three probable paralectotypes (ex Garrett).

Remarks: Garrett did not state on how many specimens his description was based, but said type material was in "Coll. Garrett and Phila. Acad.". The latter is ANSP 8397 (lectotype) and 450748 (five paralectotypes). From the lot in Geneva only a modern label exists, stating the material originates from Garrett. It is therefore considered as probable type material.

Current systematic position: Bothriembryontidae, *Euplacostylus koroensis* (Garrett, 1872).

Bulimus lesueureanus Morelet, 1860
Fig. 68

Bulimus lesueureanus Morelet, 1860: 374. – Morelet, 1863: 200, pl. 9 fig. 4. – Breure, 1979: 55. – Breure & Ablett, 2014: 107, figs 1G-H, L33vi.
Bulimulus (*Peronaeus*) *lusueureanus*. – Pilsbry, 1896 [1895-1896]: 149, pl. 46 fig. 45.
Bostryx lesueureanus. – Breure, 1978: 97.

Type locality: "[in intimâ Peruvii regione]" (see remarks).

Label: "Pomacocha, Pérou", "La Laja de Cocharcas ".

Dimensions: "Longit. 21; diam. 7 mill."; figured specimen herein H 21.1, D 7.88, W 6.2.

Type material: MHNG-INVE-60380, three (1 + 2) syntypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. The type locality was specified in Morelet (1863: 201) "Il provient de Pomacocha et Cocharcas". The current systematic position follows Richardson (1995: 37), but see above under *Bulimus albicolor* Morelet, 1860.

Current systematic position: Bulimulidae, *Bostryx albicolor* (Morelet, 1860).

Bulimus leucomelas Albers, 1854
Fig. 65

Bulimus leucomelas Albers, 1854b: 219.
Drymaeus (*Mesembrinus*) *leucomelas*. – Köhler, 2007: 151, fig. 122 (lectotype designation).

Type locality: "Columbia [Peru] ad fluvium Maranhon".

Label: "Columbia", in Moricand's handwriting.

Dimensions: "Long. 29, diam. vix 10 mill."; figured specimen herein H 25.9, D 9.12, W 7.3.

Type material: MHNG-INVE-64455, one paralectotype (ex Albers, Moricand coll.).

Remarks: Albers did not state on how many specimens his description was based; the lectotype is in the ZMB (Köhler, 2007). The current systematic position follows this author.

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *leucomelas* (Albers, 1854).

Bulimus longinquus Morelet, 1863
Figs 100-101

Bulimus longinquus Morelet, 1863: 195, pl. 11 fig. 2. – Breure, 1979: 55. – Breure & Ablett, 2014: 112, figs 11A, L35iii.
Bostryx longinquus. – Breure, 1978: 98 (lectotype designation).

Type locality: [Peru, Dept. Cuzco] "Limatambo, Ollantaïtambo, Yucay et Piré".

Label: "Ollantaitambo Pérou", "Limatambo Pérou", "Yucaï (valle de Urubamba) Pérou", "Piré (Altos del Valle Silque) Pérou" [60284], "Yucaï (valle de Urubamba) Pérou", "Piré (Altos del Valle Silque) Pérou" [60283].

Dimensions: "Longit. 31, diam. 12 mill."; figured specimen herein H 29.9, D 13.4, W 7.1.

Type material: MHNG-INVE-60283, lectotype and one paralectotype; 60284, 20 (6 + 3 + 6 + 5) paralectotypes (Angrand coll.).

Remarks: Morelet did not mention on how many specimens his description was based. Breure (1978) designated a specimen from Yucay, figured by Morelet, as lectotype. Other paralectotypes are present in the NHMUK collection (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Bostryx longinquus* (Morelet, 1863).

Helix (*Bulimus*) *longiseta* S. Moricand, 1846
Figs 86-87

Helix (*Bulimus*) *longiseta* S. Moricand, 1846: 156, pl. 5 figs 18-20.
Bulimulus longiseta. – Pilsbry, 1897 [1897-1898]: 77, pl. 13 figs 22-23.

Type locality: [Brazil] "la province de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "7 millimètres de haut et autant de large"; figured specimen herein H 6.91, D 5.72, W 4.0.

Type material: MHNG-INVE-64605, six syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based. The material found are likely not adults. Protoconch sculpture consisting of oblique axial riblets, interstices ca. four times as wide as the riblets, becoming zigzag on lower 1/4 part of the first whorl; very fine spiral striae in between the riblets. Tentatively placed in the genus *Protoglyptus* Pilsbry, 1897.

Current systematic position: Bulimulidae, *Protoglyptus longisetus* (S. Moricand, 1846) (**comb. n.**).

Helix (*Cochlogena*) *manoelii* S. Moricand, 1841
Fig. 25

Helix (*Cochlogena*) *manoelii* S. Moricand, 1841: 59, pl. 4 figs 4-5. – Neubert & Janssen, 2004: 216, pl. 17 fig. 214.

Type locality: [Brazil] "la province de Bahia".

Label: "Bahia", in Moricand's handwriting [91244]; "Bahia", in Brot's handwriting [64551].

Dimensions: "20 à 24 millimètres de hauteur sur 12 de largeur"; figured specimen herein H 22.5, D 11.3, W 6.5.

Type material: MHNG-INVE-91244, 12 syntypes (ex Blanchet, Moricand coll.); 64551, eight probable syntypes (ex Moricand, Brot coll.).

Remarks: Moricand did not state on how many specimens his description was based. Material from the Brot collection is considered as probable type material, as it may or may not have been part of the original series. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Leiostracus manoelii* (S. Moricand, 1841).

Bulimus duplex major Gassies, 1871
Fig. 135

Bulimus duplex [var. β] *major* Gassies, 1871: 64.

Type locality: "Ile Acmène, Nouvelle-Caledonie (*Marie*)".

Label: "N. Cal."; "Nou, Caled.", in Brot's handwriting.

Dimensions: "Long. 77 mill.; diam. maj. 45"; figured specimen herein H 88.0, D 47.2, W 6.7.

Type material: MHNG-INVE-64837, one possible syntype (ex Marie, Brot coll.).

Remarks: Gassies did not state on how many specimens his description was based, but described this taxon on the basis of material collected by Marie. According to Neubert *et al.* (2009: 86) the taxon was based on an undetermined number of specimens, and they showed that Gassies' name is a junior homonym of *Bulimus hindsi major* L. Pfeiffer, 1841. The specimen in the Brot collection is, according to the label in Brot's hand, originating from E. Marie. It is, however, possible that this material reached Geneva via Crosse, as the original label seems to bear his handwriting. The specimen is thus considered as possible type material. The current systematic position follows Neubert *et al.* (2009).

Current systematic position: Bothriembryontidae, *Placostylus porphyrostomus monackensis* (Crosse, 1888).

Pupa spixii major d'Orbigny, 1837

Fig. 122

Helix spixii [var.] *major* d'Orbigny, 1835: 21 [nomen nudum].
Pupa spixii [var. α] *major* d'Orbigny, 1837 [1834-1847]: 320. – Breure & Ablettt, 2012: 25, figs 22A-E, 22i.
Pupa spixii (d'Orbigny). – Gray, 1854: 23 [partim].
Spixia striata (Spix). – Breure, 1975: 1158 [partim].

Type locality: "... pays habité par les Guarayos, au sein des forêts humides des frontières nord de la province de Chiquitos (république de Bolivia), et dans la province de Corrientes (république Argentine), en un bois voisin de la rivière de Santa-Lucia, au lieu dit 'Pasto reito'"; see Breure, 1973: 122.

Label: "Corrientes", in Moricand's handwriting.

Dimensions: "Long. var. A, 35 millim., (...) Lat. var. A, 12 millim."; figured specimen herein H 34.6, D 9.66, W 12.1.

Type material: MHNG-INVE-64662, 11 paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: In d'Orbigny (1835) only the name of this taxon is mentioned, together with a locality, thus it was invalidly published. The first valid publication is in d'Orbigny, 1837 [1834-1847], where only a brief description was given but no figures of the ventral view of the shell (only a side view of a living snail). There is no explicit mentioning of "var. *major*" on the label, as d'Orbigny has done with varieties of other taxa; the only link are the localities quoted in his original paper. The lectotype is in NHMUK (Breure & Ablett, 2012).

Current systematic position: Odontostomidae, *Spixia striata* (Spix, 1827).

Bulimus mariae J. Moricand, 1858

Figs 47-48

Bulimus mariae J. Moricand, 1858: 453, pl. 14 fig. 5.

Type locality: [Peru] "Tarapoto".

Label: "Tarapoto", in Moricand's handwriting.

Dimensions: "Haut., 24 mill.; larg. 9 à 10"; figured specimen herein H 23.3, D 12.3, W 6.0.

Type material: MHNG-INVE-64389, seven syntypes (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. One additional specimen was found in the MCZ collection database, registered as MCZ 160196 ('paratype' [syntype]). The name is a junior homonym of *Bulimus mariae* Albers, 1850. In literature (e.g. Richardson, 1995), this taxon has been considered a junior synonym of *Bulimus strigatus* Pfeiffer, 1841, but this taxon should be ascribed to Sowerby I. Compared to that species this taxon has a narrower aperture, and the suture is more strongly ascending in front. The classification of earlier authors, however, is tentatively retained until further studies have shown the variation within this species.

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *strigatus* (Sowerby I, 1833).

Bulimus mexicanus Lamarck, 1822

Fig. 54

Bulimus mexicanus Lamarck, 1822: 123. – Delessert, 1841: pl. 27 figs 9a-b. – Chenu, 1850 [1842-1854]: pl. 8 figs 1a-b. – Mermod, 1951: 730, fig. 80.

Type locality: "le Mexique", see remarks.

Label: No locality given.

Dimensions: "Longueur, 14 lignes [H = 31.1 mm]"; figured specimen herein H 30.9, D 17.2, W 6.2.

Type material: MHNG-INVE-51166, two syntypes (Lamarck coll.).

Remarks: Lamarck used material collected by Humboldt and Bonpland, but did not state how many specimens he examined. Mermod (1951) confirmed that the protoconch sculpture is characteristic for *Drymaeus* and repeated the opinion of earlier authors (e.g. Pilsbry, 1898 [1897-1898]: 292) that is taxon is in fact a species

from northern Peru. The material has no taxon label in Lamarck's hand, but the type status of the material is not disputed herein.

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *mexicanus* (Lamarck, 1822).

Helix (*Cochlogena*) *maximiliana minor* S. Moricand, 1836

Fig. 90

Helix (*Cochlogena*) *maximiliana* [var. γ] *minor* S. Moricand, 1836: 431. – S. Moricand, 1838: 141, pl. 3 fig. 4.

Type locality: [Brazil, Bahia] "Illheos".

Label: "Bahia", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 38.2, D 25.6, W 4.5.

Type material: MHNG-INVE-60152, 11 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. He wrote "bouche blanc", but three specimens have a black lip. The specimen figured by Moricand (1838: pl. 4 fig. 3; a living specimen, seen from the left-hand side) is difficult to recognize among the specimens, because the colors have faded, and none of the specimens with a white lip show the notch visible in Moricand's figure. The current systematic position is according Richardson (1995).

Current systematic position: Bulimulidae, *Auris egregia* (Jay, 1836).

Helix (*Cochlodina*) *pantagruelina minor* S. Moricand, 1836

Fig. 124

Helix (*Cochlodina*) *pantagruelina* [var. γ] *minor* S. Moricand, 1836: 441.

Type locality: Not given.

Label: "Bahia", in Moricand's handwriting.

Dimensions: "45 millimètres de hauteur"; figured specimen herein H 45.1, D 18.7, W 6+.

Type material: MHNG-INVE-64698, three syntypes (ex Blanchet, Moricand coll.).

Remarks: See the note under the nominate taxon below. This is the only variety of which the name is available from the three which Moricand mentioned in his paper. The specimen that matches his dimensions is figured now, its top is damaged. The current systematic position follows Simone (2006).

Current systematic position: Odontostomidae, *Burringtonia pantagruelina* (S. Moricand, 1834).

Helix montivaga d'Orbigny, 1835

Fig. 34

Helix montivaga d'Orbigny, 1835: 14. – Breure & Ablett, 2014: 124, figs 15J, L38iv.
Bulimus montivagus d'Orbigny, 1837 [1834-1847]: 275, pl. 34 figs 1-3. – Gray, 1854: 15.
Naesiotus montivagus. – Breure, 1975: 1146.

Type locality: [Bolivia] "provincia Lagunensis (republica Boliviana)"; see remarks.

Label: "Rep. Argentina" in Moricand's handwriting.

Dimensions: "Longit. 16 millim.; latit. 7 millim."; figured specimen herein H 19.4, D 7.20, W 7.4.

Type material: MHNG-INVE-60505, two paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: Orbigny (1835) originally also mentioned "et provincia Entre-Rios (republica Argentina)" as type locality. The type locality was later restricted to "Bolivia, Dept. Santa Cruz" by Breure (1975: 1146); see also Breure, 1973. Miquel (1989a: 62) concluded that this species does not occur in Argentina.

Current systematic position: Bulimulidae, *Naesiotus montivagus* (d'Orbigny, 1835).

Bulimus multifasciatus Lamarck, 1822

Figs 66-67

Bulimus multifasciatus Lamarck, 1822: 123. – Delessert, 1841: pl. 28 figs 3a-c. – Chenu, 1850 [1842-1854]: pl. 9 figs 3a-b. – Mermod, 1951: 732, fig. 81.

Type locality: "les Antilles".

Label: No locality.

Dimensions: "1 pouce de longueur [H = 26.7 mm]"; figured specimen herein H 25.7, D 12.0, W 5+.

Type material: MHNG-INVE-51167, one syntype (Lamarck coll.).

Remarks: Lamarck did not state on how many specimens his description was based. Although there is no taxon label in Lamarck's hand, the type status of the specimen is not disputed herein.

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *multifasciatus* (Lamarck, 1822).

Gaeotis nigrolineata Shuttleworth, 1854
Figs 111-112

Gaeotis nigrolineata Shuttleworth, 1854: 35. – Breure, 1974b: 239, figs 4, 8, pl. 1 figs 1-3 (lectotype designation). – Neubert & Gosteli, 2003: 39, pl. 7 fig. 3.

Type locality: [Puerto Rico] "Sierra de Luquillo".

Label: "Luquillo / Portorico".

Dimensions: "Diam. maj. 12; Alt. circa 3 1/2 mill."; figured specimen herein H 6.0, D 9.0, W 2.0.

Type material: MHNG-INVE-64746, three possible paralectotypes (ex Shuttleworth, Brot coll.).

Remarks: Shuttleworth did not state on how many specimens his description was based; the lectotype is in the NMBE (Neubert & Gosteli, 2003). One of the labels accompanying the specimens shows two handwritings, of which the lower left text (in brownish ink) is in the handwriting of Brot, the other is not in Shuttleworth's hand (E. Neubert, pers. commun.), but as the material is ex Shuttleworth it is here considered as possible type material.

Current systematic position: Amphibulimidae, *Gaeotis nigrolineata* Shuttleworth, 1854.

Bulimus ochraceus Morelet, 1863
Fig. 109

Bulimus ochraceus Morelet, 1863: 176, pl. 7 fig. 6. – Breure, 1979: 86. – Breure & Ablett, 2014: 138, figs 71E-F, 71J, L42viii.
Scutalus (*Vermiculatus*) *ochraceus*. – Breure, 1978: 180 (lectotype designation).

Type locality: [Peru, Dept. Cuzco] "à Soraï et à Salcantaï".

Label: "Soraï Pérou", "Salcantai Pérou".

Dimensions: "Long. 37-40; diam. 17-18 mill."; figured specimen herein H 38.5, D 20.9, W 4.5.

Type material: MHNG-INVE-60615, lectotype and seven (1 + 2 + 4) paralectotypes (Angrand coll.).

Remarks: Morelet remarked that this taxon occurs in the lower part of 'puna brava', i.e. at high elevations. The type locality is thus at the slopes of Nevado Salcantay and near Soray, which is at ca. 4100 m elevation, in Dept. Cuzco. Breure (1978) selected one of the specimens from Salcantay as the lectotype. The current systematic position follows Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Kuschelenia* (*Bocourtia*) *ochracea* (Morelet, 1863).

Helix oreades d'Orbigny, 1835
Fig. 59

Helix oreades d'Orbigny, 1835: 11. – Breure & Ablett, 2014: 140, figs 54L-M, L43ii.
Bulimus oreades. – d'Orbigny, 1837 [1834-1847]: 270, pl. 31 figs 11-12. – Gray, 1854: 15.
Mesembrinus oreades. – Simone, 2006: 146, fig. 489.

Type locality: "provinvia Corrientes (republica Argentina)".

Label: "Corrientes", in Moricand's handwriting.

Dimensions: "Longit. 32 millim.; latit. 7 millim."; figured specimen herein H 31.4, D 14.3, W 5.9.

Type material: MHNG-INVE-64483, one paralectotype (Moricand coll.).

Remarks: The type locality has been specified in d'Orbigny, 1837 [1834-1847]: 270 as "la rive sud du Rio de Santa-Lucia, dans les environs de San-Roque" (see Breure, 1973: 120, fig. 8). According to Miquel (1989b: 76) this taxon does not occur in Argentina, but in Brasil. The lectotype is in the NHMUK (see Breure & Ablett, 2014, also for other comments).

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *oreades* (d'Orbigny, 1835).

Bulimus orophilus Morelet, 1863
Fig. 71

Bulimus orophilus Morelet, 1863: 189, pl. 9 fig. 6. – Breure, 1979: 56. – Breure & Ablett, 2014: 140, figs 4H, L43iii.
Bostryx orophilus. – Breure, 1978: 107 (lectotype designation).

Type locality: "les vallées tempérées des plateaux de Cuzco; (..) notablement à Talavera, Silque, Incahuasi et Mollepata" (restricted to Peru, Dept. Cuzco, Prov. Anta, Distr. Limatambo, Mollepata; Breure, 1978).

Label: "Incahuasi Pérou", "Mollepata Pérou", "Silque Pérou", "Andahuaylillas Pérou", "Curahuasi Pérou", "Talavera Pérou", "Quiquijana Pérou".

Dimensions: "Long. 22; diam. 9 mill."; figured specimen herein H 23.3, D 9.78, W 6.9.

Type material: MHNG-INVE-60289, 21 (3 + 4 + 2 + 5 + 3 + 2 + 2) paralectotypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. The lectotype was chosen by Breure (1978) from the material labelled 'Mollepata'. Additional type material is in NHMUK (Breure & Ablett, 2014). The current systematic position follows Richardson (1995: 37), but see above under *Bulimus albicolor* Morelet, 1860.

Current systematic position: Bulimulidae, *Bostryx albicolor* (Morelet, 1860).

Helix (*Cochlodina*) *pantagruelina* S. Moricand, 1834
Fig. 123

Helix (*Cochlodina*) *pantagruelina* S. Moricand, 1834: 542, pl. 1 fig. 7. – S. Moricand, 1836: 440. – Breure, 2013: 37, figs 30F, 30iii.

Type locality: [Brazil] "le Brésil".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Long 6 cent. 5 mill."; figured specimen herein H 52.9, D 21.2, W 7.3.

Type material: MHNG-INVE-64695, 15 syntypes; 64700, two syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand wrote in his original paper "les deux [individus] que j'ai reçus moi-même", suggesting that this lot is the original series. Compare to Moricand (1836: 440), where he wrote "je n'avais alors qu'un seul exemplaire à ma disposition", which seems in contrast with his earlier text; however, from his text it is clear that some errors were made during type setting of his original paper, which he corrected in his 1836 paper. If there originally was only one specimen it may either have been lost or mixed up with the others, which were apparently received at a later stage. Evidence for this is the distinction of three varieties in his second paper, of which only one (γ *minor*) is an available name (see above). The labels, possibly in J. Moricand's hand, show descriptive terms (*peristomate albo*, *peristomate carneo*), which have not been used by S. Moricand in his description. As the lot cannot be untangled all specimens are considered as syntypes. Three syntypes ('paratypes') were found in the database of MCZ, registered as MCZ 26235.

Current systematic position: Odontostomidae, *Burringtonia pantagruelina* (S. Moricand, 1834).

Bulimus papillatus Morelet, 1860
Fig. 79

Bulimus papillatus Morelet, 1860: 372. – Morelet, 1863: 186, pl. 8 fig. 2. – Breure & Ablett, 2014: 143, figs 8E, L44ii.
Neopetraeus papillatus. – Pilsbry, 1898 [1897-1898]: 169, pl. 31 figs 28-29.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Vilcas Huaman", "Parcos", "Pucra (Plateau de Vilcas Huaman)", "Hauteurs de la Laja de Cocharcas" [60388], "La laja de Cocharcas" [60387, 60390].

Dimensions: "Longit. 25; diam. 14 mill."; figured specimen herein H 24.8, D 20.2, W 5.7.

Type material: MHNG-INVE-60387, three syntypes; 60388, 23 (1 + 4 + 4 + 14) syntypes; 60390, three syntypes (all Angrand coll.).

Remarks: Morelet did not mention on how many specimens his description was based. In his 1863 paper he specified the type locality as "notamment à Pucra". Some taxon labels are presumably in Morelet's hand. The current systematic position follows Breure & Ablett (2014), who listed additional type material in the London collection.

Current systematic position: Bulimulidae, *Bostryx papillatus* (Morelet, 1860).

Helix (*Cochlostyla*) *pardalis* Férussac, 1821
Fig. 138

Helix (*Cochlostyla*) *pardalis* Férussac, 1821 in Férussac & Deshayes, 1819-1851: pl. 112 figs 7-8 [6 April 1821]. – Férussac, 1821 [1821-1822]: 48 [26 May 1821].

Type locality: "?".

Label: Not given; see remarks.

Dimensions: Not given; figured specimen herein H 70.2, D 34.3, W 5.0.

Type material: MHNG-INVE-60142, one syntype (ex Férussac).

Remarks: Férussac mentioned in his Tableau systématique (1821: 48) "No. 332 pardalis, nobis, pl. CXII, fig. 7, 8 / Habit. ? Collect. D. Sollier de la Touche", which explains why this specimen was associated with type material by P. Godet. Férussac did not state on how many specimens his description was based, so this specimen is a syntype. The dates of publication of both works by Férussac have been taken from Welter Schultes (2015). The label has clearly been written is a later hand, and the locality "Venezuela ?" has probably been added on account of the literature.

Current systematic position: Amphibulimidae, *Dryptus pardalis* (Férussac, 1821).

Helix patagonica d'Orbigny, 1835
Fig. 126

Helix patagonica d'Orbigny, 1835: 22. – Breure & Ablett, 2012: 31, figs 25E-G, 25ii.
Bulimus patagonicus. – d'Orbigny, 1837 [1834-1847]: 321, pl. 41 figs 17-18.
Plagiodontes patagonicus (d'Orbigny). – Breure, 1975: 1159, pl. 5 fig. 4, pl. 10 fig. 4.

Type locality: [Argentina] "Patagonia".

Label: "Patagonie", in Moricand's handwriting.

Dimensions: "Longit. 22 1/2 millim., latit. 11 millim."; figured specimen H 22.2, D 11.1, W 6.5.

Type material: MHNG-INVE-64708, five paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny did not state on how many specimens his description was based. The lectotype is in the Paris museum (Breure, 1975), paralectotypes are in London (Breure & Ablett, 2012).

Current systematic position: Odontostomidae, *Plagiodontes patagonicus* (d'Orbigny, 1835).

Bulimus petenensis Morelet, 1851
Fig. 43

Bulimus petenensis Morelet, 1851: 10. – Breure, 1979: 64 (lectotype designation). – Neubert & Janssen, 2004: 222, pl. 10 fig. 108. – Breure & Ablett, 2014: 149, figs 63M-N, L45vii.
Bulimulus unicolor petenensis. – Breure, 1978: 149.
Bulimulus unicolor (Sowerby I). – Thompson, 2011: 107.

Type locality: [Guatemala] "campos Petenensis".

Label: "Savanes du Peten", in Moricand's handwriting.

Dimensions: "Longit. 19.–Diam. 8"; figured specimen herein H 16.2, D 7.91, W 5.9.

Type material: MHNG-INVE-60291, two paralectotypes (ex Morelet).

Remarks: Morelet did not mention on how many specimens his description was based. According to the label, Moricand received the material in 1850 from Morelet. One of the specimens is broken. The lectotype is in the NHMUK collection. The current systematic position follows Thompson (2011).

Current systematic position: Bulimulidae, *Bulimulus unicolor* (Sowerby I, 1833).

Helix phlogera d'Orbigny, 1835
Fig. 130

Helix phlogera d'Orbigny, 1835: 8. – Breure & Ablett, 2015: 44, figs 13iii-iv, L15iii.
Bulimus phlogerus. – d'Orbigny, 1837 [1834-1847]: 259, pl. 29 figs 6-8 [text 30 March 1838]. – Gray, 1854: 12.

Type locality: "provincia Chiquitensi (republica Boliviana)".

Label: "Chiquitos", in Moricand's handwriting.

Dimensions: "Longit. 55 millim.; latit. 24 millim.". Figured specimen H 47.5, D 24.2, W 5.9.

Type material: MHNG-INVE-64982, two syntypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny (1835) did not state on how many specimens his description was based. In d'Orbigny (1838 [1834-1847]: 260) the locality was specified as "environs des Missions de San-Xavier et de Concepcion"; see Breure, 1973. Of the material found, none of the shells corresponds exactly to d'Orbigny's figure. Additional material is in NHMUK (Breure & Ablett, 2015). The current systematic position is according to Richardson (1993: 108).

Current systematic position: Orthalicidae, *Orthalicus phlogerus* (d'Orbigny, 1835).

Helix (*Helicigona*) *pileiformis* S. Moricand, 1836
Figs 40-41

Helix (*Helicigona*) *pileiformis* S. Moricand, 1836: 420, pl. 2 fig. 2.

Type locality: [Brazil, Bahia] "Illheos".

Label: "Illheos", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 19.5, D 12.8, W 7.1.

Type material: MHNG-INVE-64567, four syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand wrote: "Cette espèce, que je crois fort rare, puisque je n'en ai reçu qu'un seul individu", suggesting that the original series was only one shell; Moricand did not mention the dimensions of his specimen. The present four specimens are accompanied by a label that confirms the material originating from Blanchet and locality Illheos. Therefore it is likely that either the original specimen was mixed with three specimens later received from Blanchet, or the holotype was lost and all specimens were subsequently sent by Blanchet. As this cannot be determined ex post, and the source and locality of the material are not disputed herein, these specimens are now considered as syntypes. The current systematic position follows Simone (2006).

Current systematic position: Bulimulidae, *Pseudoxychona pileiformis* (S. Moricand, 1834).

Bulimus piuranus Albers, 1854
Fig. 81

Bulimus piuranus Albers, 1854a: 31.
Bostryx piuranus. – Köhler, 2007: 133, fig. 30 (lectotype designation).

Type locality: "Peruvia septentrionalis, propre oppidium Piura".

Label: "Columbie", in Moricand's handwriting.

Dimensions: "Long. 20, diam. 9 millim."; figured specimen herein H 23.7, D 10.9, W 7.0.

Type material: MHNG-INVE-60294, one paralectotype (ex Albers, Moricand coll.).

Remarks: Albers did not mention on how many specimens his description was based. Köhler (2007)

located 11 specimens in the ZMB collection, from which he designated one as the lectotype.

Current systematic position: Bulimulidae, *Bostryx piuranus* (Albers, 1854).

Helix poecila d'Orbigny, 1835
Fig. 53

Helix poecila d'Orbigny, 1835: 11. – Breure & Ablett, 2014: 153, figs 45M-N, L47iii.
Bulimus poecilus. – d'Orbigny, 1837 [1834-1847]: 268, pl. 21 figs 1-10. – Gray, 1854: 15.
Drymaeus cf. *draparnaudi* (Pfeiffer). – Breure, 1975: 1150, pl. 8 fig. 2 (partim).
Drymaeus poecilus. – Breure, 1975: 1152 (partim).

Type locality: "provincia Chiquitensi (republica Boliviana)"; see remarks.

Label: "Chiquitos", in Moricand's handwriting.

Dimensions: "Longit 22 1/2 mil.; latit. a 15 ad 16 millim."; figured specimen herein H 26.8, D 13.0, W 6.0.

Type material: MHNG-INVE-63506, five para-lectotypes (ex d'Orbigny, Moricand coll.).

Remarks: In d'Orbigny (1837 [1834-1847]) the type locality is specified for two varieties, var. *major* and var. *minor*. Var. *major* was found especially at "la porte de Tasajos et du bourg de Pampa grande". Var. *minor* occurs in the forests bordering the "Rio grande", the forests bordering "Rio de Tacabaca, entre San-Juan et Santo-Corazon de Chiquitos et aux environs de cette première Mission [San Juan]". See also Breure (1973). The lot in MHNG belongs to the latter mentioned. All material belongs to the same species, contrasting the findings of Breure (1975) for the material in the MNHN; additional specimens are in the NHMUK (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *poecilus* (d'Orbigny, 1835).

Helix (*Cochlogena*) *polygramma* S. Moricand, 1836
Figs 136-137

Helix (*Cochlogena*) *polygramma* S. Moricand, 1836: 436, pl. 2 figs 12-14.

Type locality: [Brazil, Bahia] "les grand bois à Caxoeira".

Label: "Bahia, Caxoeira", in Moricand's handwriting.

Dimensions: "Hauteur, 13 mill.; largeur, 5 mill."; figured specimen herein H 14.0, D 5.83, W 5.8.

Type material: MHNG-INVE-64561, four syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. This species was hitherto considered as belonging to *Leiostracus* Albers, 1850 (Simone, 2006: 123), but this small-sized species with its fine, axial riblets which superficially appear as colour streaks, and the dark patch around the umbilicus is here placed in the genus *Drymaeus* Albers, 1850.

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *polygrammus* (S. Moricand, 1834) (**comb. n.**).

Bulimus pseudopiperatus J. Moricand, 1858
Figs 1-3

Bulimus pseudopiperatus J. Moricand, 1858: 451, pl. 14 fig. 2.

Type locality: [Peru] "Moyobamba".

Label: "Moyobamba", in Moricand's handwriting.

Dimensions: "Haut., 40 mill.; larg., 30"; figured specimen herein H 59.1, D 33.4, W 5.8.

Type material: MHNG-INVE-55493, one syntype (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based; the specimen found corresponds to his figure.

Current systematic position: Amphibulimidae, *Plekocheilus* (*Eurytus*) *pseudopiperatus* (J. Moricand, 1858).

Helix (*Cochlogena*) *pseudosuccinea* S. Moricand, 1836
Fig. 11

Helix (*Cochlogena*) *pseudosuccinea* S. Moricand, 1836: 435, pl. 2 fig. 18. – Neubert & Janssen, 2004: 225, pl. 17 fig. 206.

Type locality: [Brazil] "environs de Bahia [Salvador]".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Hauteur, 21 mill.; largeur, 10 mill."; figured specimen herein H 21.8, D 9.81, W 4.9.

Type material: MHNG-INVE-64619, 42 (2 + 7 + 33) syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based, but from his text it is clear that at first he had only a juvenile shell, and only later he received "un très grand nombre d'individus", but remarked "pendant deux années, M. Blanchet n'eût pas rencontré quelques adultes". Three lots in MHNG are considered as type material, one without any label and consisting of 33 mostly subadult specimens, one with only a taxon label and consisting of seven subadult and juvenile specimens, and one lot of two specimens

with a locality and taxon label. One additional syntype is present in the MCZ collection, registered as MCZ 26190 as 'paratype' [syntype]. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Simpulopsis* (*Eudioptus*) *pseudosuccinea* (S. Moricand, 1836).

Helix (*Bulimus*) *pubescens* S. Moricand, 1846
Fig. 27

Helix (*Bulimus*) *pubescens* S. Moricand, 1846: 157, pl. 5 figs 21-23. – Neubert & Janssen, 2004: 225, pl. 17 fig. 205.

Type locality: [Brazil] "les environs de Bahia [Salvador]".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "16 à 17 millimètres de long et 7 à 8 de large"; figured specimen herein H 15.6, D 7.25, W 6.2.

Type material: MHNG-INVE-64606, 68 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. According to the label the material was received from Blanchet in 1843. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Rhinus pubescens* (S. Moricand, 1846).

Bulimus radiatus Morelet, 1863
Fig. 78

Bulimus radiatus Morelet, 1863: 188, pl. 9 fig. 2. – Breure, 1979: 57 (lectotype designation). – Breure & Ablett, 2014: 164, figs 12A-C, L51ii.

Bulimulus angrandianus Pilsbry, 1897 [1897-1898]: 19 (new name for *Bulimus radiatus* Morelet not Bruguière, 1789).

Type locality: [Peru, Dept. Junín/Cuzco] "la vallée de Jauja et des pentes du Cuzco".

Label: "Agama, Pérou", "Cuzco, Pérou", "Huayocachi Pérou", "Mito Pérou".

Dimensions: "Longit. 24-29; diam. 10-10 1/2 mill."; figured specimen herein H 23.9, D 11.4, W 6.5.

Type material: MHNG-INVE-60295, eight (1 + 1 + 2 + 1 + 3) paralectotypes (Angrand coll.).

Remarks: According to Pilsbry (1897-1898: 19) this taxon is a junior homonym of *Bulimus radiatus* Bruguière, 1789. Richardson (1995: 35, 167) placed this taxon in the synonymy of *Bulimus nigropileatus* Reeve, 1849, which is not endorsed. It is clear from the dimensions quoted by Morelet, that he had ample material at hand. The localities on the labels are from central (Mito) and southern Peru (Cuzco); the other localities could not be located. The mixture of material from two widely separated regions in Peru, and the lack of a precise location for the type material, makes this taxon a nomen inquirendum as likely a species complex or morphologically convergent species are involved. The lectotype is in NHMUK collection (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Bostryx angrandianus* (Pilsbry, 1897). Nomen inquirendum.

Helix (*Succinea*) *rufovirens* S. Moricand, 1846
Figs 12-14

Helix (*Succinea*) *rufovirens* S. Moricand, 1846: 147, pl. 5 fig. 4. – Breure, 1979: 134. – Neubert & Janssen, 2004: 227, pl. 17 fig. 209.

Type locality: [Brazil] "le Brésil, dans la province de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: Not given. Figured specimen H 11.8, D 14.2, W 3.3.

Type material: MHNG-INVE-64632, 50+ syntypes; 78493, 13 syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. Although he did not provide precise dimensions, he stated in the comparison with other species (S. Moricand, 1846: 148) "*S. rufovirens* (…) à quatre tours et par sa hauteur égale à sa largeur". The type material covers the whole range from juvenile to adult. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Simpulopsis* (*Simpulopsis*) *rufovirens* (S. Moricand, 1846).

Bulimus rusticellus Morelet, 1860
Fig. 80

Bulimus rusticellus Morelet, 1860: 373. – Morelet, 1863: 185, pl. 8 fig. 5. – Breure & Ablett, 2014: 172, figs 7D, L52ix.

Bulimulus (Lissoacme) rusticellus. – Pilsbry, 1896 [1895-1896]: 170, pl. 49 figs 23-24.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Ruines de Tunumarca. Pérou", "Orcoluna Pérou", "Ruines de Sausa Pérou", "Pomacocha Pérou", taxon label presumably in Morelet's handwriting.

Dimensions: "Longit. 20; diam 10 1/1 mill."; figured specimen herein H 20.1, D 13.6, W 5.0.

Type material: MHNG-INVE-60304, nine (2 + 2 + 3 + 2) paralectotypes (Angrand coll.).

Remarks: Morelet (1860) did not state on how many specimens his description was based. In Morelet (1863) the locality is specified as "la vallée de Jauja". The lectotype is in the NHMUK (Breure & Ablett, 2014). The current systematic position is according to Richardson (1995).

Current systematic position: Bulimulidae, *Bostryx rusticellus* (Morelet, 1860).

Bulimus sachsei Albers, 1854
Fig. 52

Bulimus sachsei Albers, 1854a: 30. – Breure, 1979: 114.
Drymaeus sachsei. – Köhler, 2007: 148, fig. 108 (lectotype designation).

Type locality: "Columbia australi [Peru] ad fluvium Maranhon".

Label: "Columbie", in Moricand's handwriting.

Dimensions: "Long. 30, diam. 12 millim.". Figured specimen H 31.9, D 13.9, W 6.8.

Type material: MHNG-INVE-63524, one paralectotype (ex Albers, Moricand coll.).

Remarks: Albers did not state on how many specimens his description was based. Köhler (2007) designated a specimen from the ZMB as lectotype. The current systematic position follows his classification.

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *sachsei* (Albers, 1854).

Bulimus scabrellus 'Anthony' Dohrn, 1882
Fig. 125

Bulimus scabrellus 'Anthony' Dohrn, 1882: 106, pl. 3 fig. 14 [sic, 9] (in synonymy). – Neubert & Janssen, 2004: 228, pl. 19 fig. 249.

Type locality: "Brasilien".

Label: "Brésil", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 19.7, D 6.86, W 8.4.

Type material: MHNG-INVE-64686, two specimens (ex Anthony, Moricand coll.).

Remarks: The material was sent directly by Anthony and, analogous to Neubert & Janssen (2004), is here considered as belonging to the original series, of which Anthony sent one or more specimen(s) with his manuscript to Dohrn.

Current systematic position: Odontostomidae, *Cyclodontina inflata* (Wagner in Spix, 1827).

Bulimus scalaricosta Morelet, 1860
Fig. 98

Bulimus scalaricosta Morelet, 1860: 375. – Morelet, 1863: 205, pl. 11 fig. 8. – Breure, 1979: 58. – Breure & Ablett, 2014: 174, figs 1E, L53iv.
Bostryx tubulatus scalaricostus. – Breure, 1978: 132 (lectotype designation).

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Chincheras Pérou", "Andamarca Pérou".

Dimensions: "Longit. 15; diam. 5 mill.". Figured specimen H 15.5, D 5.08, W 7.2.

Type material: MHNG-INVE-60405, 20+ paralectotypes; 60407, five paralectotypes (Angrand coll.).

Remarks: Morelet (1860) did not state on how many specimens his description was based. In Morelet (1863) the locality is specified as "sur le plateau d'Andamarca"; as there are several places with that name in the region where Angrand travelled, it is not clear which one was meant. The lectotype, from Yucay in the Vilcanota valley, is in the NHMUK collection (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Bostryx tubulatus scalaricostus* (Morelet, 1860).

Bulimus serotinus Morelet, 1860
Fig. 82

Bulimus serotinus Morelet, 1860: 374. – Morelet, 1863: 207, pl. 11 fig. 5. – Breure, 1979: 58 (lectotype designation). – Breure & Ablett, 2014: 178, figs 12E, L54v.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Andahuaylas. Pérou", "Chupan Pérou", "Chahullay (valle de Sta Ana) Pérou", "Abancay Pérou".

Dimensions: "Longit. 26; diam. 10 1/2 mil."; figured specimen herein H 29.8, D 12.4, W 7.7.

Type material: MHNG-INVE-60313, 16 (2 + 1 + 12 + 1) paralectotypes (Angrand coll.).

Remarks: Morelet (1860) did not state on how many specimens his description was based. In Morelet (1863) the locality is specified as "notammant à Andahuyalas, Abancay et Chupan". The lectotype is in the NHMUK (Breure & Ablett, 2014). The current systematic position follows Richardson (1995: 44).

Current systematic position: Bulimulidae, *Bostryx serotinus* (Morelet, 1860).

Bulimus similaris J. Moricand, 1856
Fig. 51

Bulimus similaris J. Moricand, 1856: 177, pl. 6 fig. 8.
Drymaeus similaris. – Pilsbry, 1898 [1897-1898]: 233, pl. 42 fig. 60.

Type locality: [Peru] "Moyobamba".

Label: "Moyobamba", in Moricand's handwriting.

Dimensions: "Haut. 23 à 25 mill. / Larg. 10 mill.". Figured specimen H 23.6, D 12.8, W 5.3.

Type material: MHNG-INVE-63531, seven syntypes (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. According to the label the material was collected by M. Porte. The current systematic position accords with Richardson (1995).

Current systematic position: Bulimulidae, *Drymaeus* (*Drymaeus*) *similaris* (J. Moricand, 1856).

Bulimus sisalensis Morelet, 1849
Fig. 63

Bulimus sisalensis Morelet, 1849: 9. – Breure, 1975b: 1152 (lectotype designation). – Breure, 1979: 123. – Neubert & Janssen, 2004: 230, pl. 16 fig. 193. – Breure & Ablett, 2014: 180, figs 24G, L55iii.

Type locality: "cum precedente [circa Sisalensem pagum Yucatanorum]".

Label: "Yucatan, près de Sisal", in Moricand's handwriting.

Dimensions: "Longit. 24.–Diam. 9 1/2"; figured specimen herein H 21.4, D 9.83, W 6.3.

Type material: MHNG-INVE-64471, one paralectotype (ex Morelet, Moricand coll.).

Remarks: Morelet did not state on how many specimens his description was based; additional type material is in NHMUK (lectotype; Breure & Ablett, 2014) and SMF (Neubert & Janssen, 2004). The current systematic position follows Thompson (2011: 120).

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *multilineatus* (Say, 1825).

Bulimulus snodgrassi Dall, 1900
Fig. 35

Bulimulus snodgrassi Dall, 1900: 90, pl. 8 fig. 2. – Pilsbry, 1901 [1901-1902]: 150, pl 24 fig. 2.

Type locality: [Galápagos Islands] "Hood Island".

Label: "Galapagos Ins.".

Dimensions: "Alt. of shell 17, diam. of shell 6 [mm]"; figured specimen herein H 17.3, D 7.29, W 7.1.

Type material: MHNG-INVE-60518, two paratypes (Schade coll.).

Remarks: Dall said he had "numerous specimens" at hand during the description. The material comes from the collection of F.H. Schade (1904-1977), formerly of Villarica, Paraguay. There is no original label providing evidence that this material once belonged to the original series, hence some doubt remains on the type status.

Current systematic position: Bulimulidae, *Naesiotus snodgrassi* (Dall, 1900).

Bulimus spiculatus Morelet, 1860
Fig. 93

Bulimus spiculatus Morelet, 1860: 375. – Morelet, 1863: 203, pl. 11 fig. 3. – Breure, 1979: 58. – Breure & Ablett, 2014: 183, figs 3B-C, L56iii.
Bulimulus (Peronaeus) spiculatus. – Pilsbry, 1896 [1895-1896]: 144, pl. 45 fig. 29.
Bostryx spiculatus spiculatus. – Breure, 1978: 122 (lectotype designation).

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Ollantaïtambo Pérou", "Moyabamba Pérou", "Urquillos Pérou".

Dimensions: "Longit. 20; diam. 5 mill."; figured specimen herein H 23.3, D 4.97, W 11.2.

Type material: MHNG-INVE-60411, three paralectotypes; 60414, five paralectotypes; 60415, five paralectotypes (all Angrand coll.).

Remarks: Morelet (1860) did not state on how many specimens his description was based. In Morelet (1863) the locality is specified as "la vallée d'Ollantaïtambo". The lectotype is in the NHMUK (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Bostryx spiculatus spiculatus* (Morelet, 1860).

Helix (*Cochlodonta*) *tomigera* S. Moricand, 1836
Figs 115-117

Helix (*Cochlodonta*) *tomigera* S. Moricand, 1836: 439. – S. Moricand, 1841: 152, pl. 5 figs 13-15.

Type locality: [Brazil, Bahia] "les bois de la Caxoeira".

Label: "Brésil", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 10.1, D 13.5, W 4.2.

Type material: MHNG-INVE-64717, one syntype (Moricand coll.).

Remarks: Moricand (1836) wrote "le très-petit nombre d'individus que M. Blanchet en a pu recueillir", without specifying the number of specimens. The current systematic position follows Simone (2006).

Current systematic position: Odontostomidae, *Tomigerus clausus* (Spix, 1827).

Helix tomigeroides S. Moricand, 1846
Figs 118-121

Helix tomigeroides S. Moricand, 1846: 153, pl. 5 figs 10-12.

Type locality: [Brazil] "la province de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: Not given; figured specimen herein H 11.4, D 12.1, W 4.7.

Type material: MHNG-INVE-64718, 16 syntypes (Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. The current systematic position follows Simone (2006).

Current systematic position: Odontostomidae, *Biotocus turbinatus* (Pfeiffer, 1845).

Helix torallyi d'Orbigny, 1835
Figs 55, 97

Helix torallyi d'Orbigny, 1835: 11. – Breure & Ablett, 2014: 194, figs 11D, L60iii.
Bulimus torallyi d'Orbigny, 1837: 285, pl. 32 figs 1-4.
Bulimulus (?) *torallyi* (d'Orbigny). – Breure, 1975: 1146, pl. 8 fig. 4 [corresponding to d'Orbigny, 1837: pl. 32 figs 1-2].
Drymaeus cf. *draparnaudi* (Pfeiffer). – Breure, 1975: 1150, pl. 8 fig. 2 [corresponding to d'Orbigny, 1837: pl. 32 figs 3-4].
Bostryx torallyi (d'Orbigny). – Breure, 1979: 59.

Type locality: "provincia Valle-Grande, republica Boliviana" [Bolivia, Dept. Santa Cruz, Prov. Valle Grande].

Label: "Bolivia"; in Moricand's handwriting.

Dimensions: "Long. 31 millim.; lat. 11 millim."; largest figured specimen herein H 27.9, D 10.5, W 7.5.

Type material: MHNG-INVE-60326, two paralectotypes (ex d'Orbigny, Moricand coll.).

Remarks: Breure (1975) found type material in the Paris museum and concluded that it belonged to two different species, one lot corresponding to pl. 32 figs 1-2 (this is d'Orbigny's var. A) and one lot to figs 3-4 (var. B). The material found in MHNG also belongs to two different taxa, in contrast to the material in the NHMUK (Breure & Ablett, 2014). The lectotype is in the MHNH.

Current systematic position: Bulimulidae, *Bostryx torallyi* (d'Orbigny, 1835) and *Drymaeus* (*Drymaeus*) *draparnaudi* (Pfeiffer, 1847).

Helix trichoda d'Orbigny, 1835
Fig. 36

Helix trichoda d'Orbigny, 1835: 12. – Breure & Ablett, 2014: 195, figs 16D-F, L60vi (lectotype designation).
Bulimus trichodes. – d'Orbigny, 1837 [1834-1847]: 277, pl. 33 figs 1-5 [19 June / 7 Aug 1837; text 23 April 1838]. – Gray, 1854: 16.
Naesiotus trichodes.– Breure, 1975: 1147.

Type locality: "provincia Santa Cruz de la Sierra (republica Boliviana)".

Label: "Bolivia", in Moricand's handwriting.

Dimensions: "Longit. 20 millim.; latit. 10 millim."; figured specimen herein H 18.5, D 8.04, W 7.7.

Type material: MHNG-INVE-60513, one paralectotype (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny (1837 [1834-1847]: 277) specified this species to be found in gardens of Santa Cruz de la Sierra city. Breure (1975) mentioned four syntypes in the MNHN collection; the lectotype is in the NHMUK (Breure & Ablett, 2014).

Current systematic position: Bulimulidae, *Naesiotus trichodes* (d'Orbigny, 1835).

Bulimus tropicalis Morelet, 1849
Fig. 64

Bulimus tropicalis Morelet, 1849: 9. – Breure, 1979: 124 . – Neubert & Janssen, 2004: 233, pl. 16 fig. 194. – Breure & Ablett, 2014: 198, figs 21K, L62ii.
Drymaeus (Mesembrinus) tropicalis. – Breure & Eskens, 1981: 89. – Thompson, 2011: 121.

Type locality: "ad plagam civitas Campeche".

Label: "Campeche", in Moricand's handwriting.

Dimensions: "Long. 28–Diam. 11 [mm]"; figured specimen herein H 24.3, D 11.0, W 5.9.

Type material: MHNG-INVE-64519, one paralectotype (ex Morelet, Moricand coll.).

Remarks: Morelet did not state on how many specimens his description was based. The lectotype is in the NHMUK (Breure & Ablett, 2014). This sinistral species may prove to be identical with one of the other, dextral, *Drymaeus* species occurring in its distribution

range as enantiomorphy within this group may be more commonly found than currently thought (Breure, unpublished data). The current systematic position follows Thompson (2011).

Current systematic position: Bulimulidae, *Drymaeus* (*Mesembrinus*) *tropicalis* (Morelet, 1849).

Bulimus tubulatus Morelet, 1860

Fig. 99

Bulimus tubulatus Morelet, 1860: 375. – Morelet, 1863: 204, pl. 11 fig. 4.
Bulimulus tubulatus. – Pilsbry, 1896 [1895-1896]: 132, pl. 44 figs 95-96.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Andahuaylas Pérou".

Dimensions: "Longit. 19; diam. 6 mill."; figured specimen herein H 18.5, D 7.14, W 9.0.

Type material: MHNG-INVE-60329, two syntypes (Angrand coll.).

Remarks: Morelet (1860) did not mention on how many specimens his description was based. In his 1863 paper the type locality was specified as "la value d'Andahuaylas". The current systematic position is according to Richardson (1995).

Current systematic position: Bulimulidae, *Bostryx tubulatus* (Morelet, 1860).

Helix tupacii d'Orbigny, 1835

Fig. 110

Helix tupacii d'Orbigny, 1835: 16. – Breure & Ablett, 2014: 199, figs 68D-E, L62iv.
Bulimus tupacii. – d'Orbigny, 1837 [1834-1847]: 292, pl. 38 figs 1-5 [19 June / 7 Aug 1837; text 6 May 1838]. – Gray, 1854: 18.
Scutalus tupacii. – Breure, 1975: 1144, pl. 2 fig. 3 (lectotype designation).

Type locality: "provincia Yungasensi (republica Boliviana)"; restricted to Dept. La Paz, Yanacachi (Breure, 1975b).

Label: "Bolivia", in Moricand's handwriting.

Dimensions: "Longit. 4 centim.; latit. 2 centim."; figured specimen herein H 48.4, D 23.6, W 6+.

Type material: MHNG-INVE-60808, three para-lectotypes (ex d'Orbigny, Moricand coll.).

Remarks: d'Orbigny (1835) did not state on how many specimens his description was based. In d'Orbigny 1838 [1834-1847]: 292 he corrected the measurements as "Long. ex 40 ad 75 millim.; lat. ex 12 ad 35 millim.". In this paper he also specified the localities as "principalement à Yanacache et à Chupé, dans la province de Yungas, et dans celles de Sicasica et d'Ayapaya"; see also Breure (1973: 133, fig. 7). Breure (1975) selected a lectotype from among the syntypes present in the MNHN collection without locality data; further type material is in the NHMUK (Breure & Ablett, 2014). The current systematic position is according to these authors.

Current systematic position: Bulimulidae, *Kuschelenia* (*Kuschelenia*) *tupacii* (d'Orbigny, 1835).

Helix (*Cochlogena*) *velutinohispida* S. Moricand, 1836

Fig. 28

Helix (*Cochlogena*) *velutinohispida* S. Moricand, 1836: 429, pl. 2 fig. 4. – Neubert & Janssen, 2004: 234, pl. 17 fig. 203.
Rhinus velutinohispida. – Köhler, 2007: 155, fig. 144.

Type locality: Not given [Brazil, Bahia].

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Hauteur, 27 millimètres; largeur, 22 millimètres"; figured specimen herein H 33.0, D 24.0, W 5.3.

Type material: MHNG-INVE-64611, seven syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not mention on how many specimens his description was based. The current systematic position follows Simone (2006).

Current systematic position: Simpulopsidae, *Rhinus velutinohispida* (S. Moricand, 1836).

Bulimus veruculum Morelet, 1860

Fig. 94

Bulimus veruculum Morelet, 1860: 376. – Morelet, 1863: 211, pl. 11 fig. 11. – Breure & Ablett, 2014: 204, figs 3A, L64ii.
Bulimulus (Geoceras) veruculum. – Pilsbry, 1896 [1895-1896]: 137, pl. 45 fig. 8.

Type locality: [Peru] "[intimâ Peruviii regionae]"; see remarks.

Label: "Pérou, Ayacucho", in Morelet's handwriting.

Dimensions: "Long. 24; diam. 4 1/2 millim."; figured specimen herein H 25.2, D 5.10, W 18.6.

Type material: MHNG-INVE-60384, five syntypes; 60383, four syntypes (Angrand coll.).

Remarks: Morelet (1860) did not state on how many specimens his description was based. In Morelet (1863)

the locality is specified as "Balsa de Cocharcas", which might be Dept. Ayacucho, Cocharcas. The current systematic position follows Richardson (1995: 50).

Current systematic position: Bulimulidae, *Bostryx veruculum* (Morelet, 1860).

***Bulimus vestalis* Albers, 1854**
Fig. 37

Bulimus vestalis Albers, 1854b: 218.
Naesiotus vestalis. – Köhler, 2007: 139, fig. 80 (lectotype designation).

Type locality: "Columbia [Peru], ad fluvium Maranhon".

Label: "Columbie", in Moricand's handwriting.

Dimensions: "Long. 21, diam. 10 mill."; figured specimen herein H 16.4, D 8.10, W 6.4.

Type material: MHNG-INVE-60515, two paralectotypes (ex Albers, Moricand coll.).

Remarks: Albers did not state on how many specimens his description was based. The current systematic position accords with that of Köhler (2007), who selected a lectotype from ZMB.

Current systematic position: Bulimulidae, *Naesiotus vestalis* (Albers, 1854).

***Helix* (*Cochlogena*) *viminea* S. Moricand, 1834**
Fig. 22

Helix (*Cochlogena*) *viminea* S. Moricand, 1834: 540, pl. 1 fig. 5. – S. Moricand, 1836: 432. – Neubert & Janssen, 2004: 234, pl. 17 fig. 215.
*Leiostracu*s (*Leiostracus*) *vimineus*. – Köhler, 2007: 154, fig. 141.

Type locality: [Brazil] "le Brésil, dans la province de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: "Long. 3 centim. Larg. 15 millim."; figured specimen herein H 28.8, D 13.7, W 6.9.

Type material: MHNG-INVE-64563, nine syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not state on how many specimens his description was based. Other type material is in the SMF (Neubert & Janssen, 2004) and the ZMB (Köhler, 2007). The current systematic position follows Simone (2006).

Current systematic position: Bulimulidae, *Leiostracus vimineus* (S. Moricand, 1834).

***Bulimus virginalis* Morelet, 1860**
Fig. 75

Bulimus virginalis Morelet, 1860: 372.

Type locality: [Peru] "[intimâ Peruvii regione]"; see remarks.

Label: "Tacna".

Dimensions: "Longit. 28; diam. 14 mill.". Figured specimen H 27.3, D 15.5, W 5+.

Type material: MHNG-INVE-60272, holotype (Angrand coll.).

Remarks: Morelet (1860) did not mention on how many specimens his description was based. This taxon has been synonymized with *Bostryx hennahi* (J.E. Gray, 1828) by Morelet (1863), who stated "[u]n seul individu de cette espèce a été rencontré sur la côte sablonneuse de Tacna". The specimen found is thus the holotype. It should be noted that this material is from the same locality as *Helix cactorum* d'Orbigny, 1835; see remarks under that taxon.

Current systematic position: Bulimulidae, *Bostryx hennahi* (J.E. Gray, 1828)?

***Bulimus virgultorum* Morelet, 1863**
Figs 95-96, 102-105

Bulimus virgultorum Morelet, 1863: 194, pl. 10 fig. 1. – Breure, 1979: 59. – Breure & Ablett, 2014: 207, figs 10E, L65ii.
Bulimulus (Lissoacme) virgultorum. – Pilsbry, 1896 [1895-1896]: 168, pl. 10 fig. 1.
Bostryx virgultorum. – Breure, 1978: 139 (lectotype designation).

Type locality: "les vallées chaudes du versant oriental de la Cordillère, notammant celle de Santa-Anna".

Label: "Ollantaitambo Pérou", "Cameras del Val de Sta Ana Pérou", "Sichuan Pérou", "Ccorihuairachina Pérou", "Sicuani Pérou" [60340], "Urubamba Pérou", "Cchorihuairachina Pérou", "Puneta del Rey, Valle de Talavera Pérou", "Pérou" [60341].

Dimensions: "Long. 31; diam. 14 mill."; figured specimen herein H 30.5, D 15.3, W 7.3.

Type material: MHNG-INVE-60340, nine (1 + 1 + 1 + 5 + 1) paralectotypes; 60341, lectotype and 35 (12 + 2 + 1 + 20) paralectotypes (Angrand coll.).

Remarks: Morelet did not mention on how many specimens his description was based; he figured eight specimens to show the considerable variation within this taxon. Breure (1978) selected a specimen from 'Urubamba' and figured by Morelet as lectotype. The classification follows Breure & Ablett (2014).

Current systematic position: Bulimulidae, *Bostryx virgultorum* (Morelet, 1863).

Bulimus viriatus Morelet, 1863
Fig. 127

Bulimus viriatus Morelet, 1863: 170, pl. 7 fig. 4.
Strophocheilus viriatus. – Pilsbry, 1895 [1895-1896]: 54, pl. 27 fig. 99.

Type locality: [Peru] "Niguapata (…) la vallée de Santa-Anna".

Label: "Niguapata".

Dimensions: "Longit. 57; diam. 28 mill."; figured specimen herein H 58.7, D 31.8, W 4.7.

Type material: MHNG-INVE-78772, two syntypes (Angrand coll.).

Remarks: Morelet described this taxon with two specimens at hand; the two specimens were deprived of their epidermis. The original label has been lost. The type locality could not be located with modern gazetteers. The current systematic position is based on similar data from Breure & Romero (2012).

Current systematic position: Orthalicidae, *Kara viriata* (Morelet, 1863) (**comb. n.**).

Liguus fasciatus viridis Clench, 1934
Fig. 133

Liguus fasciatus viridis Clench, 1934: 105, pl. 6 fig. 11. – Johnson, 2003: 25.

Type locality: "La Caoba, near Dolores, Central Soledad, Cienfuegos, Santa Clara, Cuba".

Label: "2 miles E of Dolores / Soledad, Cienfuegos / Cuba".

Dimensions: "Length 48.0 / Width 23.0 (…) mm."; figured specimen herein H 55.8, D 26.7, W 7+.

Type material: MHNG-INVE-64933, one paratype (ex Fairchild, ex MCZ).

Remarks: Clench presented dimensions of the holotype and five paratypes (in the MCZ collection), but did not mention how many specimens were in the type series. However, besides the type locality, he mentioned eight localities under paratypes, "[a]ll (…) localities in the vicinity of Central Soledad".

Current systematic position: Orthalicidae, *Liguus fasciatus* (Müller, 1774).

Helix (*Cochlogena*) *rhodospira vulgaris* S. Moricand, 1836

Helix (*Cochlogena*) *rhodospira* [var. α] *vulgaris* S. Moricand, 1836: 428.

Type locality: [Brazil] "aux environs de Bahia".

Label: "Bahia", in Moricand's handwriting.

Dimensions: Not given.

Type material: MHNG-INVE-60163, four syntypes (ex Blanchet, Moricand coll.).

Remarks: Moricand did not mention on how many specimens this variety was based. The label reads "var. major", but it is assumed that this was altered in the final manuscript to 'vulgaris'. The current systematic position follows Richardson (1995).

Current systematic position: Bulimulidae, *Auris melastoma* (Swainson, 1820).

Bulimus yanamensis Morelet, 1863
Fig. 128

Bulimus yanamensis Morelet, 1863: 171, pl. 8 fig. 3. – Breure, 1979: 40. – Breure & Ablett, 2015: 53, figs 8v-vi, L18ii.
Strophocheilus yanamensis. – Pilsbry, 1895 [1895-1896]: 54, pl. 27 fig. 97.
Thaumastus (*Kara*) *yanamensis*. – Breure, 1978: 34 (lectotype designation).

Type locality: [Peru] "Yanama".

Label: "Yanama Pérou".

Dimensions: "Longit. 58; diam. 25 (…) mill."; figured specimen herein H 55.4, D 29.5, W 4.7.

Type material: MHNG-INVE-60202, two syntypes (Angrand coll.).

Remarks: Morelet did not state on how many specimens his description was based. This taxon has been associated with *Kara* Strebel, 1910. On the basis of data published by Breure & Romero (2012), this taxon has been placed in the Orthalicidae.

Current systematic position: Orthalicidae, *Kara yanamensis* (Morelet, 1863).

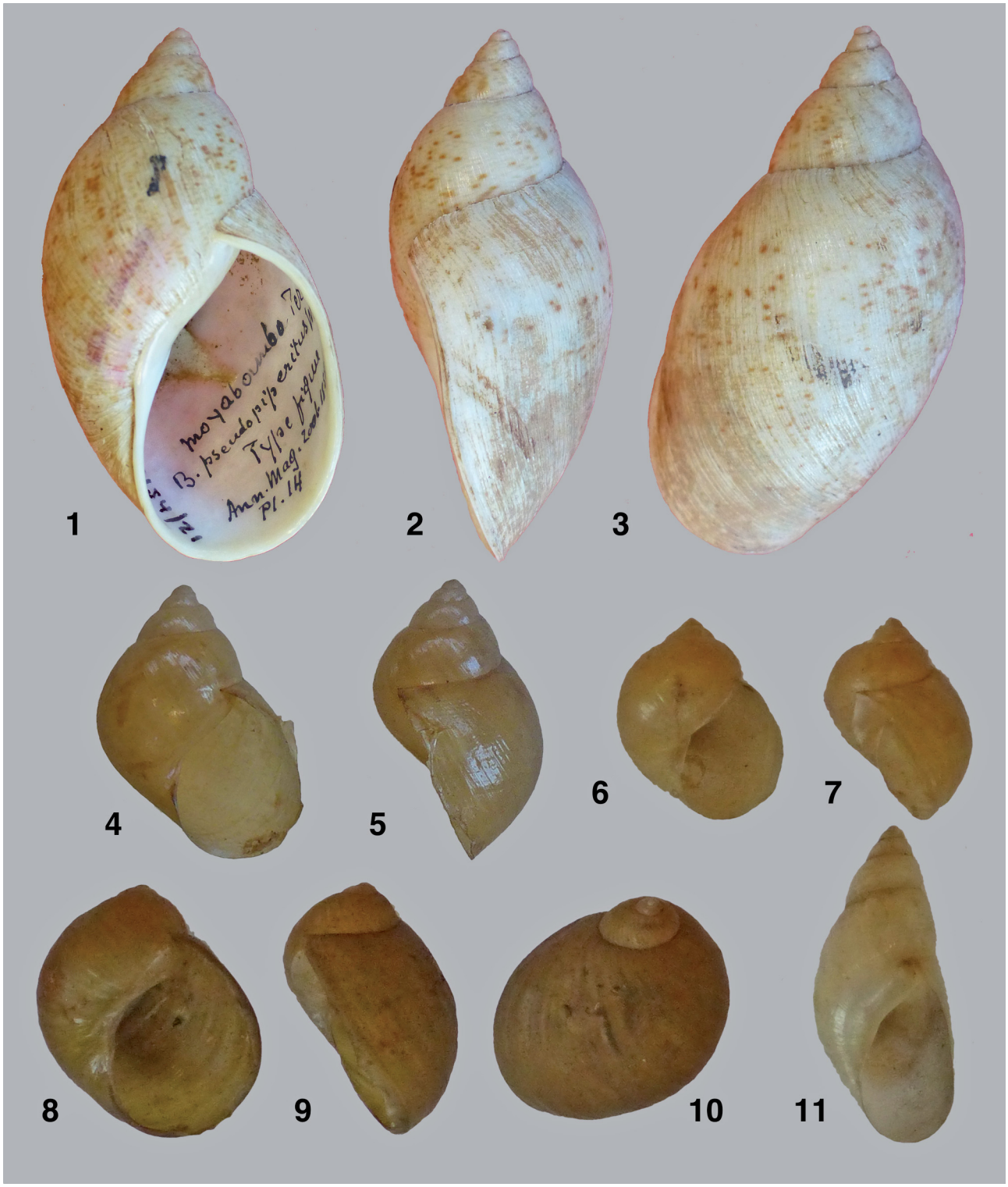
Bulimus zigzag Lamarck, 1822
Figs 131-132

Bulimus zigzag Lamarck, 1822: 118. – Lamarck *et al.,* 1838: 223. – Mermod, 1951: 721, fig. 74.

Type locality: "…".

Label: No locality.

Dimensions: "Longueur, 22 lignes [H = 49 mm]"; figured specimen herein H 50.1, D 31.0, W 5+.



Figs 1-3. Amphibulimidae. (1-3) *Plekocheilus* (*Eurytus*) *pseudopiperatus* (J. Moricand, 1858), syntype, MHNG-INVE-55493 (H = 59.1).

Figs 4-11. Simpulopsidae. (4-5) *Simpulopsis* (*Eudioptus*) *citrinovitrea* (S. Moricand, 1836), lectotype, MHNG-INVE-64617 (H = 16.0). (6-7) *Simpulopsis* (*Eudioptus*) *boissieri* (S. Moricand, 1846), probable syntype, MHNG-INVE-64622 (H = 13.1). (8-10) *Simpulopsis* (*Simpulopsis*) *atrovirens* (S. Moricand, 1836), syntype, MHNG-INVE-78487 (H = 20.9). (11) *Simpulopsis* (*Eudioptus*) *pseudosuccinea* (S. Moricand, 1836), syntype, MHNG-INVE-64619 (H = 21.8).

Type material: MHNG-INVE-51144, two syntypes (Lamarck coll.).

Remarks: Lamarck did not mention on how many specimens his description was based; one of the shells found is subadult. Deshayes & Milne Edwards (in Lamarck *et al.,* 1838) considered this taxon "qu'une jolie variété de la suivante, le *Bulimus undatus*". Pilsbry (1899: 136) doubtully referred this taxon to *Achatina pulchella* Spix, 1827 (= *Orthalicus pulchellus*). Mermod (1951) suggested that one of the two specimens he found was likely not originating from the Lamark collection, as it has a "S" inscribed on it, denoting it came from the collection of L. du Sollier, Comte de la Touche. Upon checking, none of the shells in the current lot is marked with "S". On the label of Lamarck it appears, moreover, that two shells were once glued; therefore both specimens are considered as syntypes. The smallest specimen is figured herein as it best matches the dimensions given in the original publication. When comparing the specimens to other known taxa, Mermod noticed that they were very similar to those of *Orthalicus obductus* Shuttleworth, 1856 (see Neubert & Gosteli 2003: 40, pl. 6 fig. 3, who illustrated one of the syntypes). Compared to their figure, the shape of the aperture is somewhat different and the last whorl of Shuttleworth's shell seems slightly more globose, but this needs further study of the variation within these two taxa.

Current systematic position: Orthalicidae, *Orthalicus zigzag* (Lamarck, 1819).

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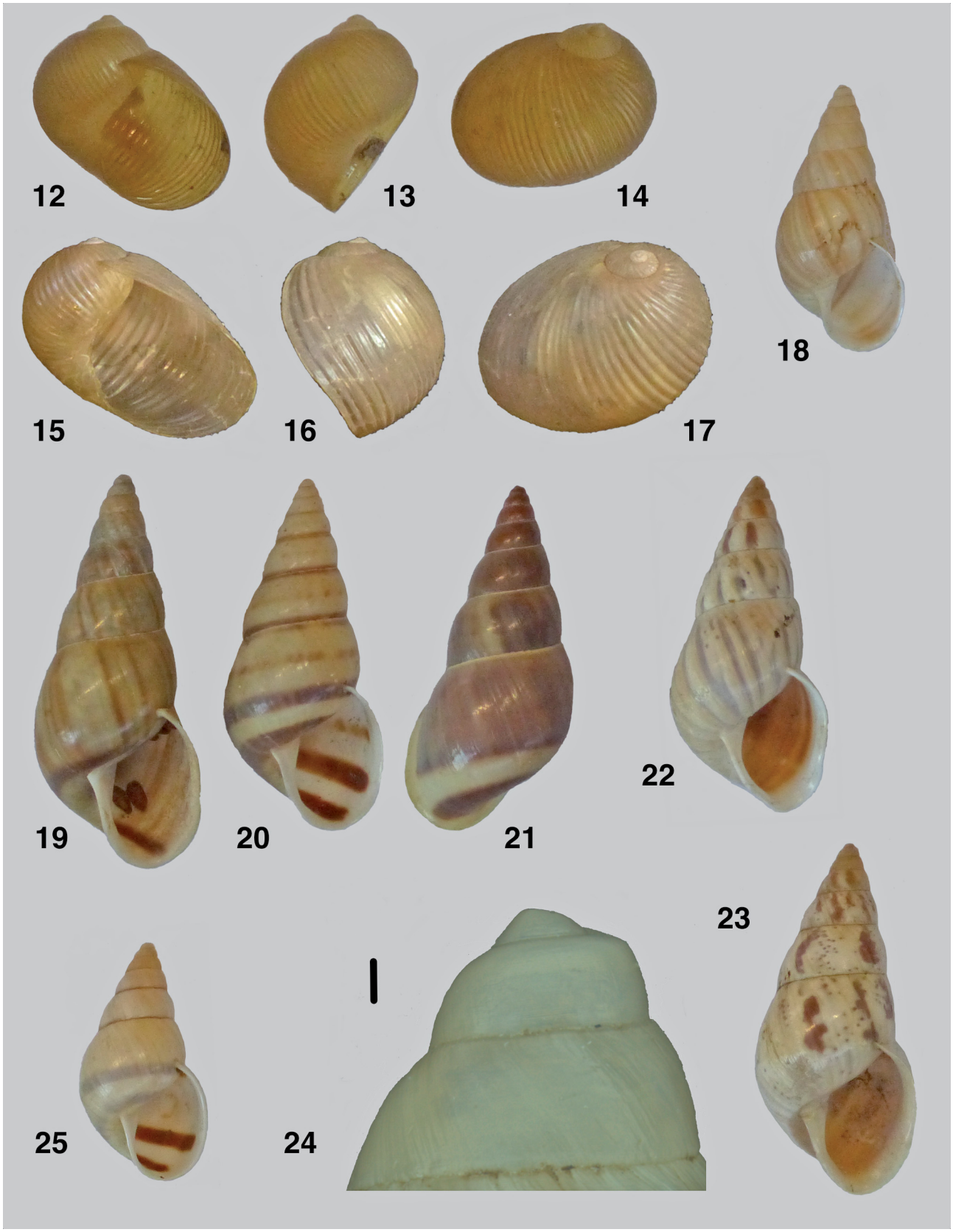
Figs 12-25. Simpulopsidae. (12-14) *Simpulopsis* (*Simpulopsis*) *rufovirens* (S. Moricand, 1846), syntype, MHNG-INVE-78493 (H = 15.1). (15-17) *Simpulopsis* (*Simpulopsis*) *brasiliensis* (S. Moricand, 1836), syntype, MHNG-INVE-78488 (H = 14.3). (18) *Leiostracus cinnamomeolineatus* (S. Moricand, 1841), syntype, MHNG-INVE-64547 (H = 23.2). (19-21) *Leiostracus coxeiranus* (S. Moricand, 1836), syntypes, MHNG-INVE-64548 (H = 33.0). (22) *Leiostracus vimineus* (S. Moricand, 1834), syntype, MHNG-INVE-64563 (H = 28.8). (23-24) *Leiostracus clouei* (Pfeiffer, 1857), syntype of *Bulimus fidaensis* J. Moricand, 1858, MHNG-INVE-63455 (H = 29.6), scale 1 mm. (25) *Leiostracus manoelii* (S. Moricand, 1841), probable syntype, MHNG-INVE-64551 (H = 22.5). ►



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Figs 26-28. Simpulopsidae. (26) *Rhinus heterotricha* (S. Moricand, 1836), syntype, MHNG-INVE-64602 (H = 53.4). (27) *Rhinus pubescens* (S. Moricand, 1846), syntype, MHNG-INVE-64606 (H = 15.6). (28) *Rhinus velutinohispida* (S. Moricand, 1836), syntype, MHNG-INVE-64611 (H = 33.0).

Figs 29-30. Bothriembryontidae. (29) *Euplacostylus koroensis* (Garrett, 1872), probable paralectotype, MHNG-INVE-64767 (H = 47.7). (30) *Bothriembryon costulatus* (Lamarck, 1822), syntype, MHNG-INVE-51162 (H = 26.0).

Figs 31-41. Bulimulidae. (31) *Rabdotus dealbatus* (Say, 1821), paratype of *Bulimulus dealbatus jonesi* Clench, 1937, MHNG-INVE-60529 (H = 18.1). (32) *Naesiotus crepundia* (d'Orbigny, 1835), paralectotype, MHNG-INVE-60497 (H = 22.8). (33) *Naesiotus dentritis* (Morelet, 1863), lectotype, MHNG-INVE-60432 (H = 20.8). (34) *Naesiotus montivagus* (d'Orbigny, 1835), paralectotype, MHNG-INVE-60505 (H = 19.4). (35) *Naesiotus snodgrassi* (Dall, 1900), paratype, MHNG-INVE-60518 (H = 17.3). (36) *Naesiotus trichodes* (d'Orbigny, 1835), paralectotype, MHNG-INVE-60513 (H = 18.5). (37) *Naesiotus vestalis* (Albers, 1854), paralectotype, MHNG-INVE-60515 (H = 16.4). (38-39) *Oxychona pyramidella* (Wagner in Spix, 1827), syntype of *Helix (Helicigona) blanchetiana* S. Moricand, 1834, MHNG-INVE-60674 (H = 15.6). (40-41) *Pseudoxychona pileiformis* (S. Moricand, 1836), syntype, MHNG-INVE-64567 (H = 19.5). ►

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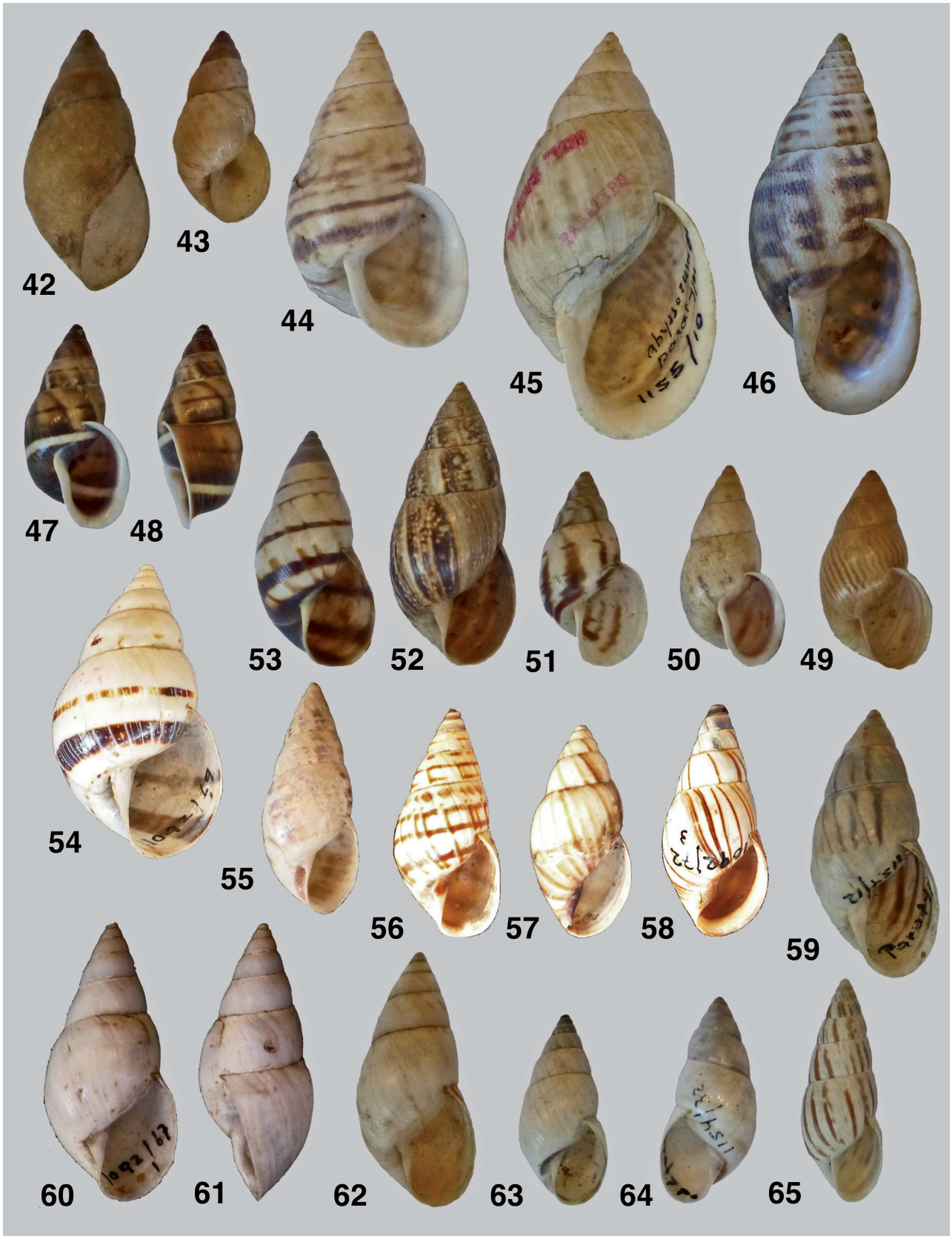
Figs 42-65. Bulimulidae. (42) *Bulimulus heloicus* (d'Orbigny, 1835), syntype, MHNG-INVE-79903 (H = 22.4). (43) *Bulimulus unicolor* (Sowerby I, 1833), paralectotype of *Bulimus petenensis* Morelet, 1851, MHNG-INVE-60291 (H = 16.2). (44) *Cochlorina aurismuris* (Moricand, 1838), syntype, MHNG-INVE-60683 (H = 31.5). (45-46) *Drymaeus* (*Drymaeus*) *abyssorum* (d'Orbigny, 1835), respectively paralectotype of *Helix abyssorum* d'Orbigny, 1835, MHNG-INVE-63420 (H = 46.9), and paralectotype of *Helix hygrohylaea* d'Orbigny, 1835, MHNG-INVE-63469 (H = 43.9). (47-50) *Drymaeus* (*Drymaeus*) *strigatus* (Sowerby I, 1833), (47-48) syntype of *Bulimus mariae* J. Moricand, 1858, MHNG-INVE-64389 (H = 23.3), (49) syntype of *Bulimus ceciliae* J. Moricand, 1858, MHNG-INVE-63436 (H = 22.3), (50) syntype of *Bulimus delphinae* J. Moricand, 1858, MHNG-INVE-63443 (H = 22.4). (51) *Drymaeus* (*Drymaeus*) *similaris* (J. Moricand, 1856), syntype, MHNG-INVE-63531 (H = 23.6). (52) *Drymaeus* (*Drymaeus*) *sachsei* (Albers, 1854), syntype, MHNG-INVE-63524 (H = 31.9). (53) *Drymaeus* (*Drymaeus*) *poecilus* (d'Orbigny, 1835), paralectotype, MHNG-INVE-63506 (H = 26.8). (54) *Drymaeus* (*Drymaeus*) *mexicanus* (Lamarck, 1822), syntype, MHNG-INVE-51166 (H = 30.9). (55) *Drymaeus* (*Drymaeus*) *draparnaudi* (Pfeiffer, 1847), paralectotype of *Helix torallyi* d'Orbigny, 1835 [partim], MHNG-INVE-60326 (H = 24.9). (56-58) *Drymaeus* (*Mesembrinus*) *virgulatus* (Férussac, 1821), syntypes of *Bulimus caribaeorum* Lamarck, 1822, MHNG-INVE-51169 (H = 26.0). (59) *Drymaeus* (*Mesembrinus*) *oreades* (d'Orbigny, 1835), paralectotype, MHNG-INVE-64483 (H = 31.4). (60-61) *Drymaeus* (*Mesembrinus*) *fragilis* (Lamarck, 1822), syntype (H = 28.3). (62) *Drymaeus* (*Mesembrinus*) *immaculatus* (C.B. Adams in Reeve, 1850), paralectotype, MHNG-INVE-64442 (H = 29.7). (63) *Drymaeus* (*Mesembrinus*) *multilineatus* (Say, 1825), paralectotype of *Bulimus sisalensis* Morelet, 1849, MHNG-INVE-64471 (H = 21.4). (64) *Drymaeus* (*Mesembrinus*) *tropicalis* (Morelet, 1849), paralectotype, MHNG-INVE-64519 (H = 24.3). (65) *Drymaeus* (*Mesembrinus*) *leucomelas* (Albers, 1854), paralectotype, MHNG-INVE-64455 (H = 25.9).

►



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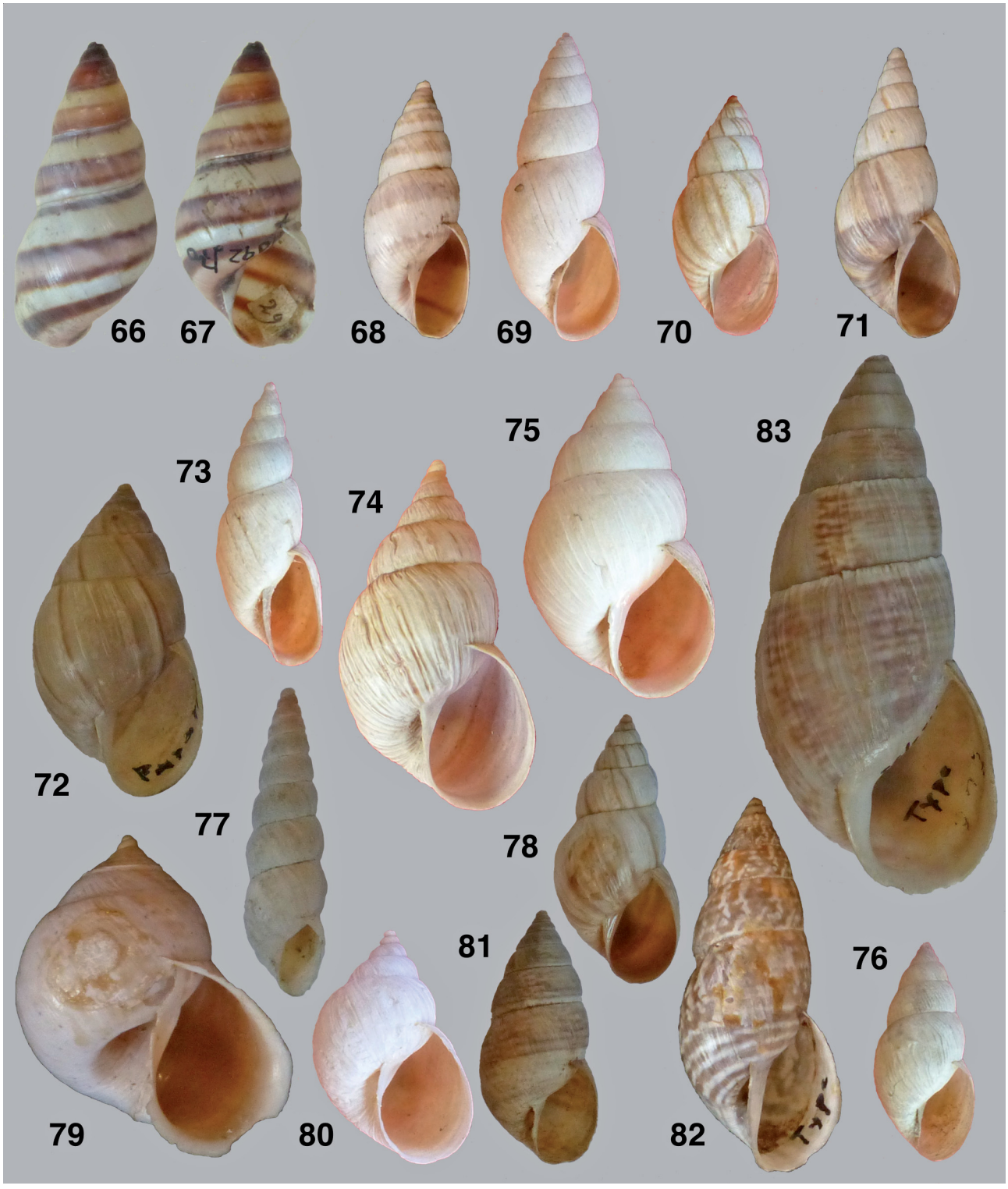
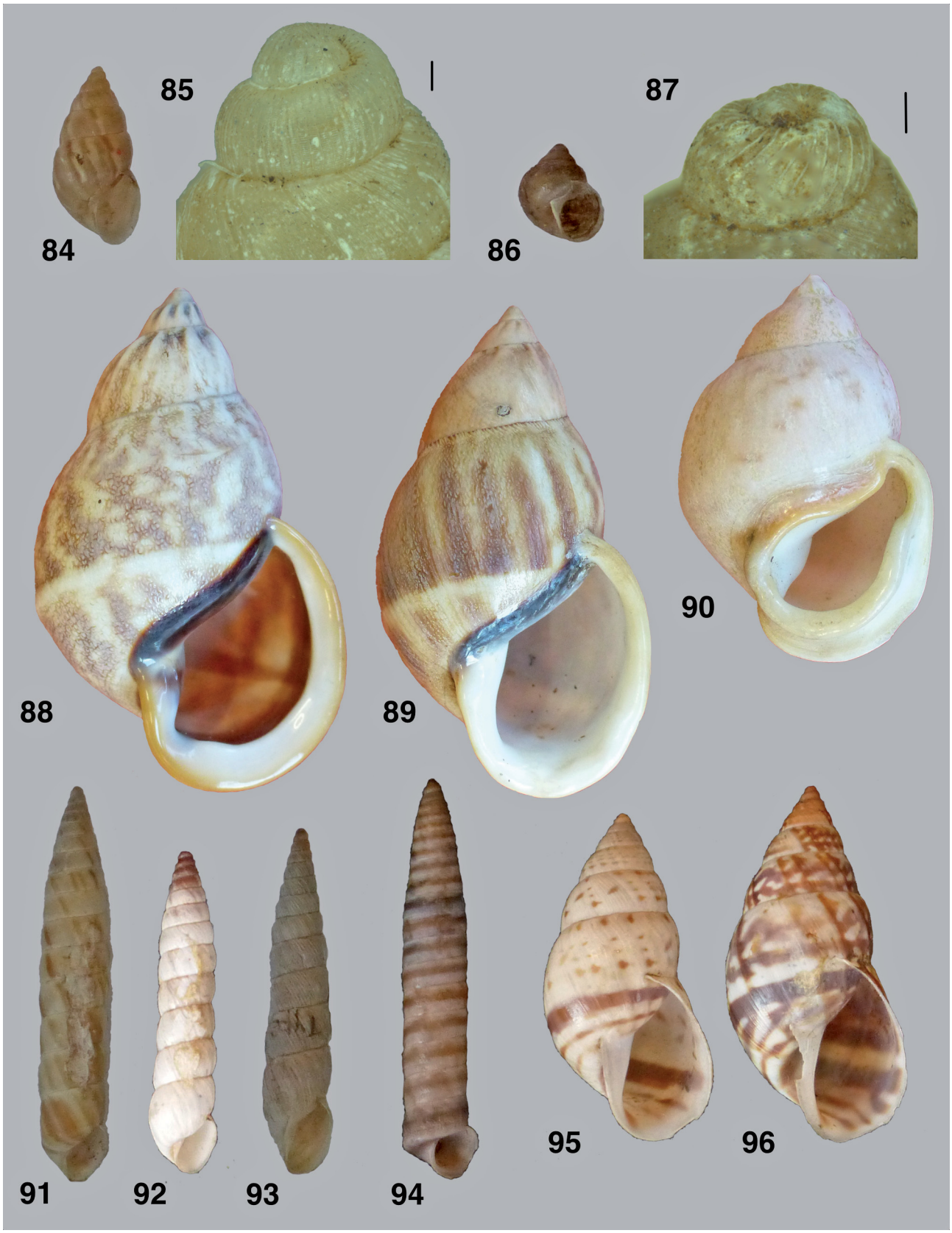
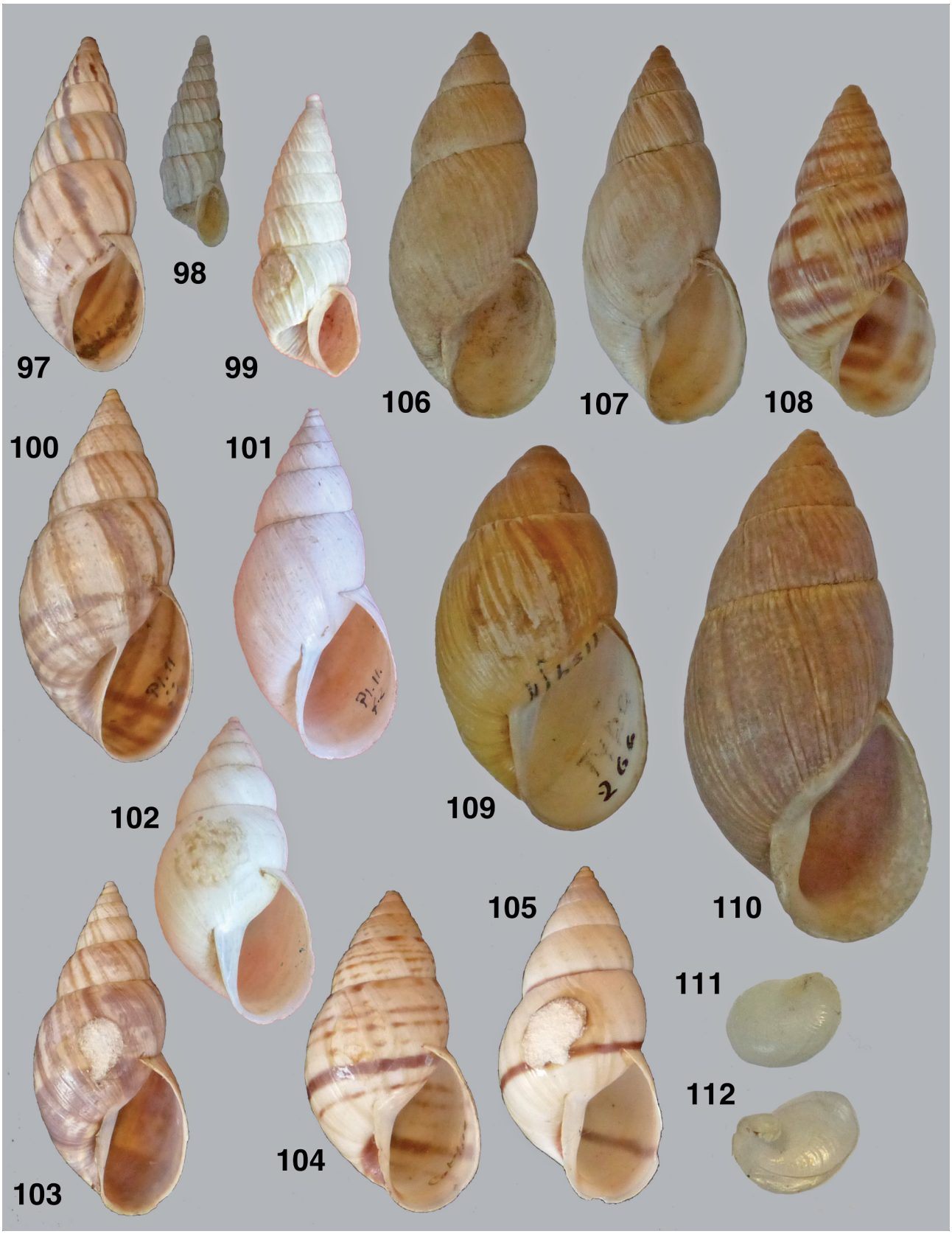
Figs 66-83. Bulimulidae. (66-67) *Drymaeus* (*Mesembrinus*) *multifasciatus* (Lamarck, 1822), syntype, MHNG-INVE-51167 (H = 25.7). (68-71) *Bostryx albicolor* (Morelet, 1860), (68) syntype of *Bulimus lesueureanus* Morelet, 1860, MHNG-INVE-60380 (H = 21.1), (69) syntype of *Bulimus albicolor* Morelet, 1863, MHNG-INVE-60231 (H = 25.4), (70) probable syntype of *Bulimus cercicola* Morelet, 1863, MHNG-INVE-60260 (H = 19.6), (71) paralectotype of *Bulimus orophilus* Morelet, 1863, MHNG-INVE-60289 (H = 23.3). (72) *Bostryx apodemetus* (d'Orbigny, 1835), syntype, MHNG-INVE-60419 (H = 25.5). (73) *Bostryx andoicus* (Morelet, 1863), paralectotype, MHNG-INVE-60235 (H = 23.5). (74-75) *Bostryx hennahi* (J.E. Gray, 1830), (74) paralectotype of *Helix cactorum* d'Orbigny, 1835, MHNG-INVE-20659 (H = 28.8), (75) holotype of *Bulimus virginalis* Morelet, 1860, MHNG-INVE-60272 (H = 27.3). (76) *Bostryx nigropileatus* (Reeve, 1849), possible paralectotype of *Bulimus balsanus* Morelet, 1863, MHNG-INVE-60244 (H = 17.9), (77) *Bostryx emaciatus* (Morelet, 1863), lectotype, MHNG-INVE-60408 (H = 21.0). (78) *Bostryx angrandianus* (Pilsbry, 1897), paralectotype of *Bulimus radiatus* Morelet, 1863, MHNG-INVE-60295 (H = 23.9). (79) *Bostryx papillatus* (Morelet, 1860), syntype, MHNG-INVE-60388 (H = 24.8). (80) *Bostryx rusticellus* (Morelet, 1860), paralectotype, MHNG-INVE-60304 (H = 20.1). (81) *Bostryx piuranus* (Albers, 1854), paralectotype, MHNG-INVE-60294 (H = 23.7). (82) *Bostryx serotinus* (Morelet, 1860), paralectotype, MHNG-INVE-60313 (H = 29.8). (83) *Kuschelenia* (*Bocourtia*) *angrandi* (Morelet, 1860), holotype, MHNG-INVE-60610 (H = 49.9). ►

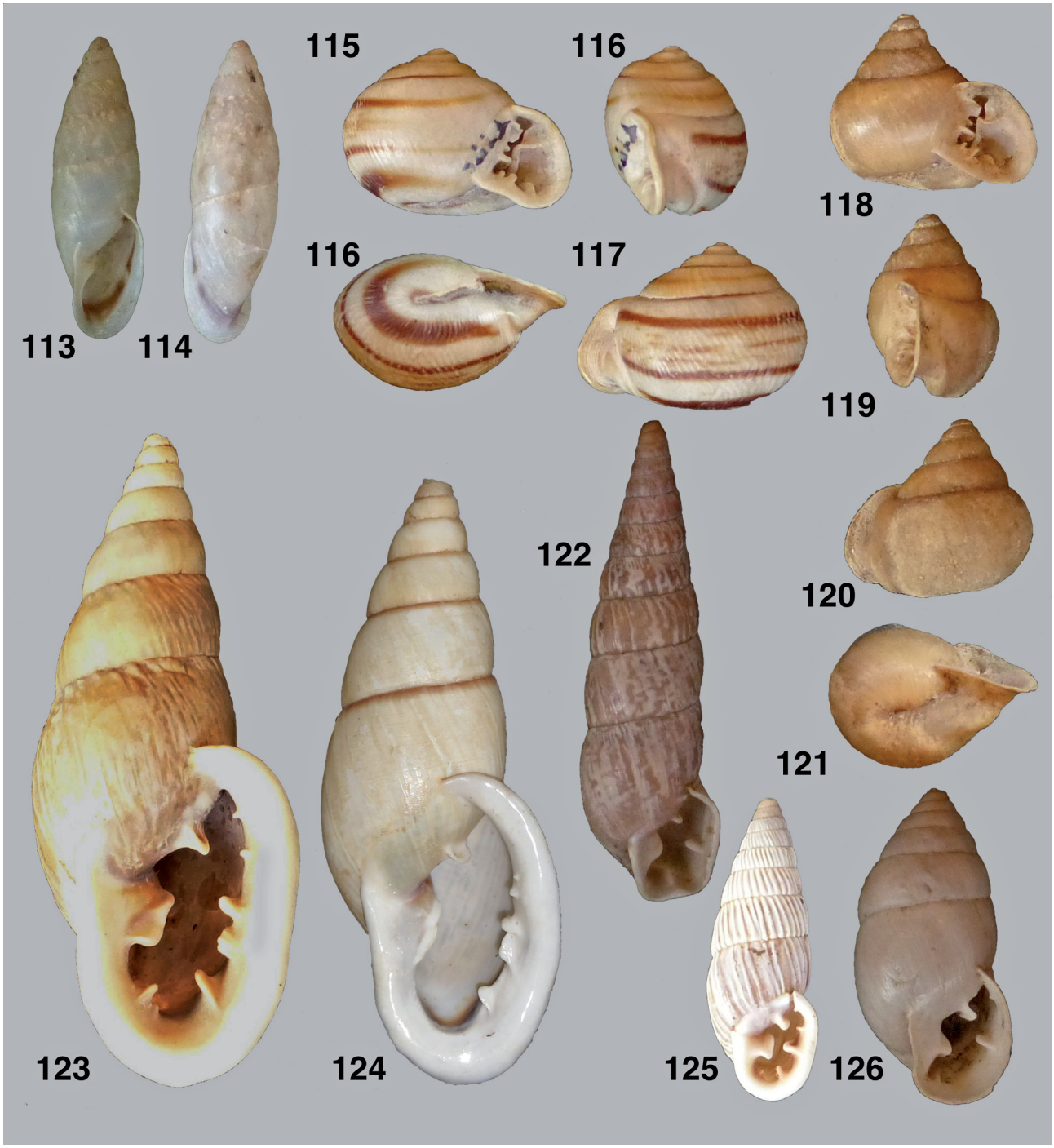


Figs 84-96. Bulimulidae. (84-85) *Protoglyptus heterogrammus* (S. Moricand, 1836), syntype, MHNG-INVE-64598 (H = 12.5), scale 0.5 mm. (86-87) *Protoglyptus longisetus* (S. Moricand, 1846), syntype, MHNG-INVE-64605 (H = 6.91), scale 0.5 mm. (88) *Auris melastoma* (Swainson, 1820), syntype of *Helix* (*Cochlogena*) *rhodospira chrysostoma* S. Moricand, 1836, MHNG-INVE-60161 (H = 56.4). (89) *Auris illheocolus* (S. Moricand, 1836), syntype, MHNG-INVE-60171 (H = 66.7). (90) *Auris egregia* (Jay, 1836), syntype of *Helix* (*Cochlogena*) *maximiliana minor* S. Moricand, 1836, MHNG-INVE-60152 (H = 38.2). (91) *Bostryx cuspidatus* (Morelet, 1863), syntype, MHNG-INVE-60377 (H = 30.2). (92) *Bostryx acromelas* (Morelet, 1863), syntype, MHNG-INVE-60378 (H = 19.8). (93) *Bostryx spiculatus spiculatus* (Morelet, 1860), paralectotype, MHNG-INVE-60411 (H = 23.3). (94) *Bostryx veruculum* (Morelet, 1860), syntype, MHNG-INVE-60384 (H = 25.2). (95-96) *Bostryx virgultorum* (Morelet, 1863), paralectotype respectively lectotype, MHNG-INVE-60341 (H = 30.5). ►

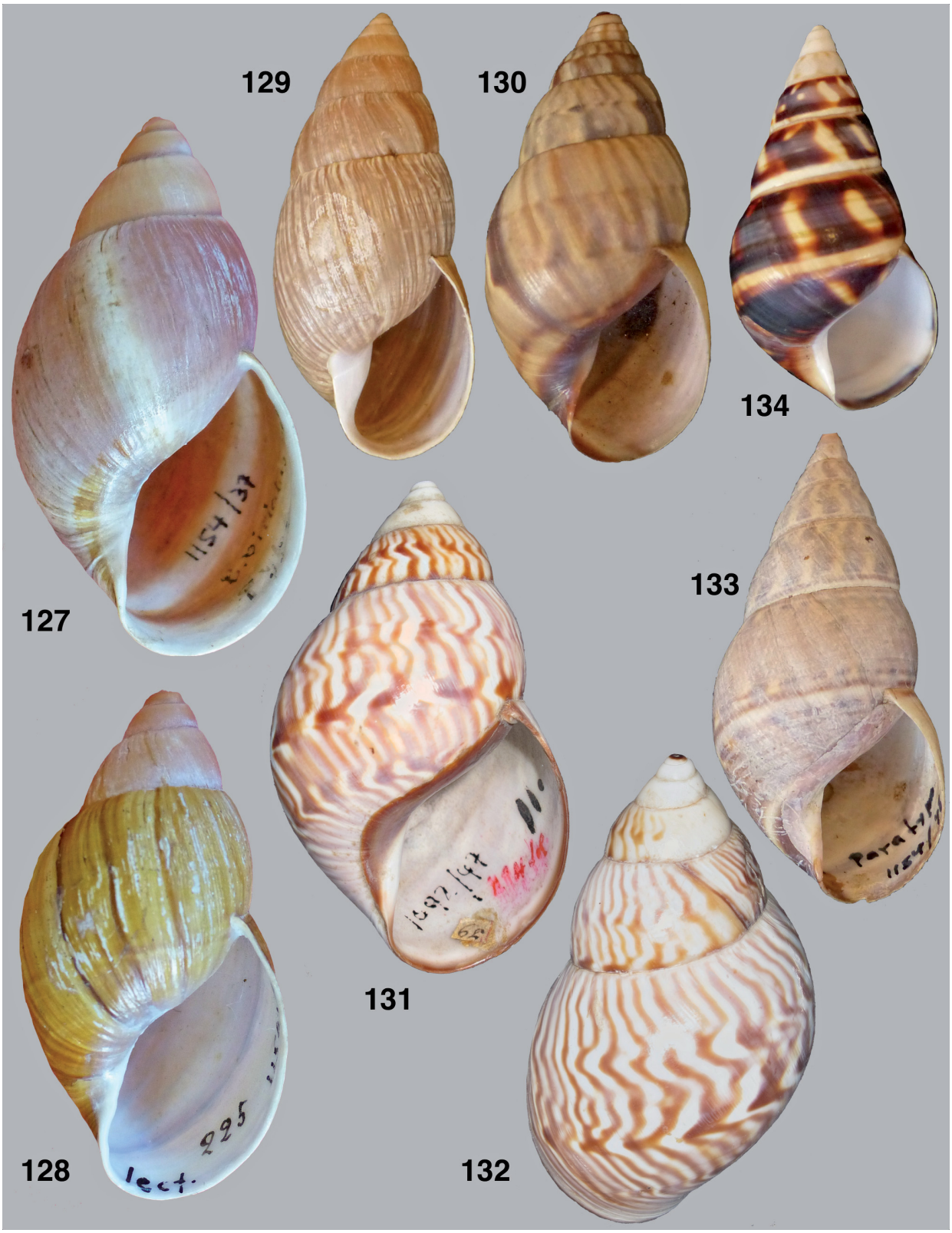


Figs 97-112. Bulimulidae. (97) *Bostryx torallyi* (d'Orbigny, 1835). Paralectotype, MHNG-INVE-60326 (H = 27.9). (98) *Bostryx tubulatus scalaricostus* (Morelet, 1860), paralectotype, MHNG-INVE-60407 (H = 15.5). (99) *Bostryx tubulatus tubulatus* (Morelet, 1860), syntype, MHNG-INVE-60329 (H = 18.5). (100-101) *Bostryx longinquus* (Morelet, 1863), lectotype respectively paralectotype, MHNG-INVE-60283 (H = 29.9). (102-105) *Bostryx virgultorum* (Morelet, 1863), paralectotype, MHNG-INVE-60341 (H = 30.4). (106) *Kuschelenia* (*Kuschelenia*) *culminea culminea* (d'Orbigny, 1835), paralectotype, MHNG-INVE-60575 (H = 33.2). (107-108) *Kuschelenia* (*Kuschelenia*) *culminea edwardsi* (Morelet, 1863), syntype, MHNG-INVE-60581 (H = 33.0). (109) *Kuschelenia* (*Bocourtia*) *ochracea* (Morelet, 1863), lectotype, MHNG-INVE-60615 (H = 38.5). (110) *Kuschelenia* (*Kuschelenia*) *tupacii* (d'Orbigny, 1835), paralectotype, MHNG-INVE-60808 (H = 48.4). Figs 111-112. Amphibulimidae. (111-112) *Gaeotis nigrolineata* Shuttleworth, 1854, possible syntype, MHNG-INVE-64746 (D = 9.0). ►





Figs 113-126. Odontostomidae. (113-114) *Bahiensis bahiensis* (S. Moricand, 1834), syntype, MHNG-INVE-64638 (H = 18.5). (115-117) *Tomigerus clausus* (Spix, 1827), syntype of *Helix* (*Cochlodonta*) *tomigera* S. Moricand, 1836, MHNG-INVE-64717 (H = 10.1). (118-121) *Biotocus turbinatus* (Pfeiffer, 1845), syntype of *Helix tomigeroides* S. Moricand, 1846, MHNG-INVE-64718 (H = 11.4). (122) *Spixia striata* (Spix, 1827), paralectotype of *Pupa spixii major* d'Orbigny, 1837, MHNG-INVE-64662 (H = 34.6). (123-124) *Burringtonia pantagruelina* (S. Moricand, 1834), (123) syntype, MHNG-INVE-64695 (H = 52.9), (124) syntype of *Helix* (*Cochlodina*) *pantagruelina minor* S. Moricand, 1836, MHNG-INVE-64698 (H = 45.1). (125) *Cyclodontina inflata* (Wagner in Spix, 1827), specimen from original series of *Bulimus scabrellus* 'Anthony' Dohrn, 1882, MHNG-INVE-64686 (H = 19.7). (126) *Plagiodontes patagonicus* (d'Orbigny, 1835), paralectotype, MHNG-INVE-64708 (H = 22.2).



Figs 127-134. Orthalicidae. (127) *Kara viriata* (Morelet, 1863), syntype, MHNG-INVE-78772 (H = 58.7). (128) *Kara yanamensis* (Morelet, 1863), syntype, MHNG-INVE-60202 (H = 55.4). (129) *Scholvienia jaspidea* (Morelet, 1863), syntype, MHNG-INVE-60211 (H = 47.2). (130) *Orthalicus phlogerus* (d'Orbigny, 1835), syntype, MHNG-INVE-64982 (H = 47.2). (131-132) *Orthalicus zigzag* (Lamarck, 1822), syntype, MHNG-INVE-51144 (H = 50.1). (133-134) *Liguus fasciatus* (Müller, 1774), (133) paratype of *Liguus fasciatus viridis* Clench, 1934, MHNG-INVE-64933 (H = 55.8), (134) paratype of *Liguus crenatus barbouri* Clench, 1929, MHNG-INVE-64938 (H = 43.2).

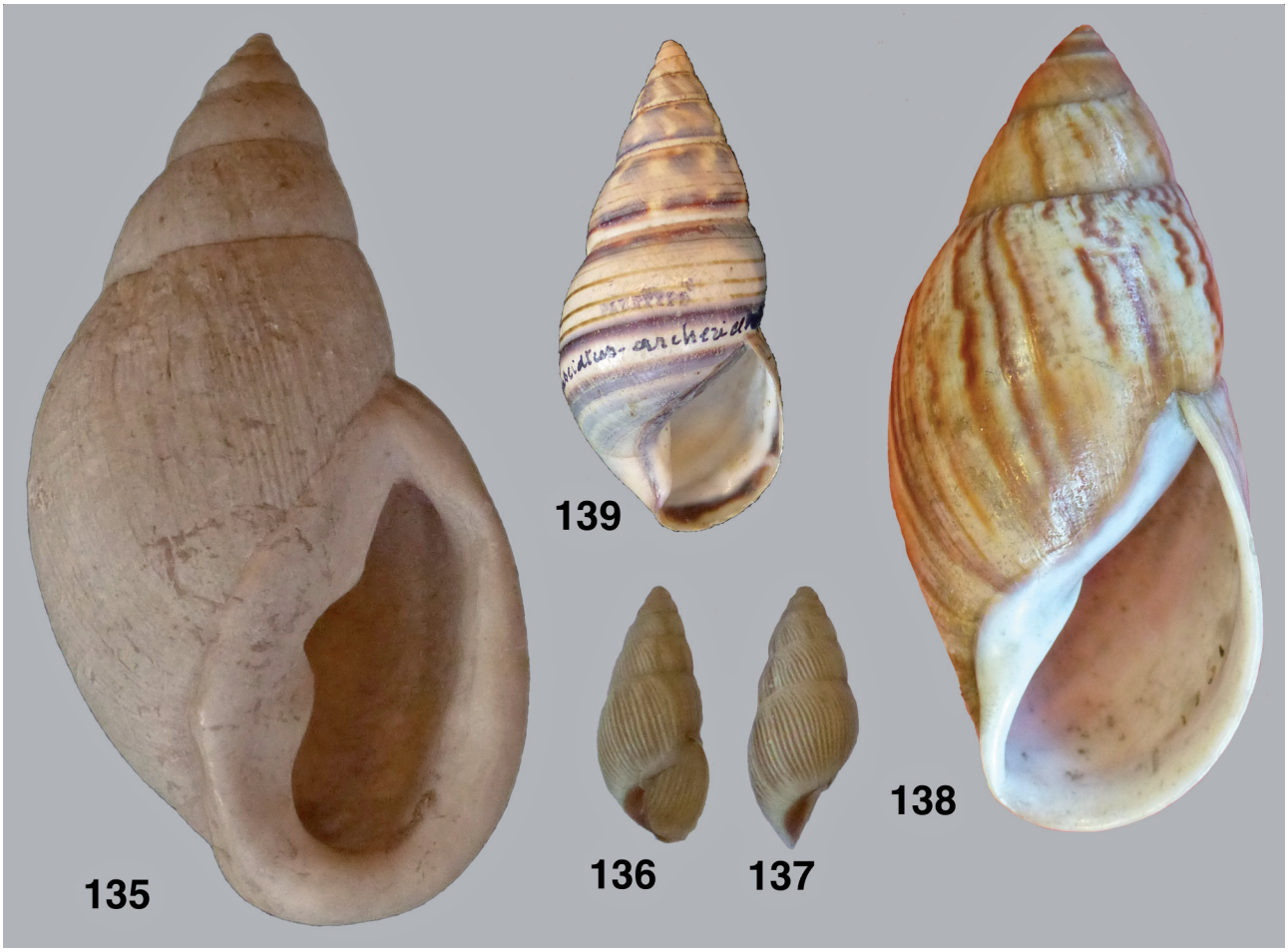


Fig. 135. Bothriembryontidae. *Placostylus porphyrostomus monackensis* (Crosse, 1888), possible syntype of *Bulimus duplex major* Gassies, 1871, MHNG-INVE-64837 (H = 88.0).

Figs 136-137. Bulimulidae. (136-137) *Drymaeus* (*Mesembrinus*) *polygrammus* (S. Moricand, 1836), syntype, MHNG-INVE-64561 (H = 14.0).

Fig. 138. Amphibulimidae. *Dryptus pardalis* (Férussac, 1821), syntype, MHNG-INVE-60142 (H = 70.2).

Fig. 139. Orthalicidae. *Liguus fasciatus* (Müller, 1774), paratype of *Liguus fasciatus archeri* Clench, 1934, MHNG-INVE-64921 (H = 54.5).

Figs 140-143. Amphibulimidae. *Amphibulima patula* (Bruguière, 1789), holotype of *A. cucullata* Lamarck, 1805, MHNG-INVE-51201 (H = 31.0).