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From the shadows of the past: Moricand senior and junior, two 19th century naturalists from Geneva, with their newly described taxa and molluscan types

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Abstract: Stéfano Moricand (1779-1854) and his son Jacques (1823-1877) were amateur scientists active in Geneva. Moricand senior was interested in botany, mineralogy, entomology, and malacology. Between 1820-1847 he published 11 papers on botany, in which he described 110 taxa (including three genera). From 1834-1851 six papers appeared from his hand in which he introduced 72 malacological taxa. Moricand junior published only four malacological papers within a relatively short time (1853-1860), with 16 new species. Biographies and a bibliography, together with a list of their newly introduced taxa, are given for both. The history of their malacological collection and their contacts with other contemporary malacologists are presented, including brief data on J. S. Blanchet (1807-1875) and A. Brot (1821-1896) who were closely linked to this collection, which covered both terrestrial and freshwater molluscs. The type material present in the Muséum d'histoire naturelle in Geneva, of the molluscan, non-Orthalicoid taxa of S. and J. Moricand is figured, complementary to Breure, 2016 (Mollusca, Orthalicoidea).

Keywords: biography - bibliography - Bivalvia - Gastropoda - Mollusca - Plantae.

INTRODUCTION

The 'golden age' for collecting of natural history objects started soon after the last of the Napoleonic Wars and ended a century later with the outbreak of the First World War (Dance, 1966; Pearce, 1995). It was also the era in which natural history museums were founded in different European countries (e.g., Gijzen, 1938; Bennet, 1995; Cailliez, 1995; Holthuis, 1995; Kazubski, 1996; Alexander & Alexander, 2008). Nevertheless, the collections of quite a number of naturalists from this era have subsequently been lost. Other collections were dispersed through auction sales, e.g., at the auction house of Stevens in London (Dance, 1986), or through dealers like Gêret in Paris (Rowson & Wood, 2015). Sometimes (parts of) collections are re-discovered after authenticating handwriting on labels with letters in archives (e.g., Audibert, 2011). While working in the Muséum d'histoire naturelle in Genève, it became apparent that its collections have several historically important components, which have partly been documented (e.g., Mermod, 1947, 1950, 1951, 1952; Mermod & Binder, 1963; Cailliez & Finet, 1997). However, regarding Stéfano Moricand (Moricand senior), one of the founding fathers of the museum,

hardly anything was known (but see Cailliez, 1995), and his work, and that of his son Jacques Moricand (Moricand junior), remained in the shadows of the past. The aim of this paper is to present new biographical data, their bibliographies, a list of new taxa described by them, and a list of eponyms, together with some data on personalities linked to Moricand senior and junior.

METHODS

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; NMB, Naturhistorisches Museum Basel, Basel, Switzerland; SMF, Senckenberg Natur-Museum, Frankfurt am Main, Germany; USNM, Smithsonian Museum, Washington, U.S.A.

BIOGRAPHIES

Moïse Etienne (Stéfano) Moricand (1779-1854)

Moïse Etienne, better known as Stéfano (Fig. 1), was born on 18 December 1779 in Geneva as the eldest son of Christ Moricand and Jeanne Alexandrine Maudry. The Moricand family may be traced back in Geneva at least five generations backwards to the early 17th century. At the age of 12 Stéfano was sent by his father to Italy and became involved in the watches commerce. He travelled throughout Italy, in particular the regions of Tuscany, Naples and Venice, where he started to collect plants, butterflies, shells, minerals, and made contact with several Italian scientists. When he returned to Geneva in 1814, he was an early member of the Société des Naturalistes, which later became the Société helvétique des sciences naturelles. In Geneva he continued his friendship (*teste* Beaujean, 2008: 9) with the well-known botanist A.P. de Candolle (1778-1841), who stimulated him to pursue his botanical studies, which resulted in Moricand's *Flora Veneta* (see bibliography below), of which only the first volume appeared. Later he financed, together with De Candolle, Ph. Mercier and Ph. Dunant, two collecting journeys to respectively Puerto Rico (executed by Heinrich Wydler) and Mexico (by the Belgian explorer Jean Louis Berlandier) (Ritter, 1855: vi; see also Bennicoff, 2014; Anonymous, 2015c). Berlandier not only collected plants but also shells and other animals. Moricand was also author of the *Plantes Nouvelles d'Amérique* (Moricand 1834-1847), in which he described many plants new to science and for which he largely benefited of the collections purchased to the Spanish botanist José Antonio Pavón (plants from Peru and Chili), Jean Louis Berlandier (plants from Mexico and USA) and the Swiss botanist Jacques Samuel Blanchet (plants from Brazil).

In daily life he was probably active as businessman in the watch and jewellery industry (see e.g. Archinard Bovy, 1848), and it is assumed that all natural history related work was done in his spare time (Stafleu & Cowan, 1981: 583).

Moricand was one of the founding members of the Muséum d'histoire naturelle in 1818, for which he was active on the administrative board and acted a few years as treasurer and secretary (Ritter, 1855: vii). He also became a 'membre ordinaire' of the Société de Physique et d'Histoire Naturelle de Genève in 1818 (Anonymous, 1821: viii); he was listed as 'horloger et naturaliste' (Wartmann, 1890: 17). His first contribution to the scientific papers published in the society's 'Mémoires' appeared in the first volume (Moricand & Soret, 1822), dealing with minerals stored in his own collection. From then on, his name can be found quite regularly as a contributing author to this journal. Each volume of this journal consisted of two parts, which, however, appeared irregularly. Also, there was sometimes considerable time lag between the moment the paper was read during one

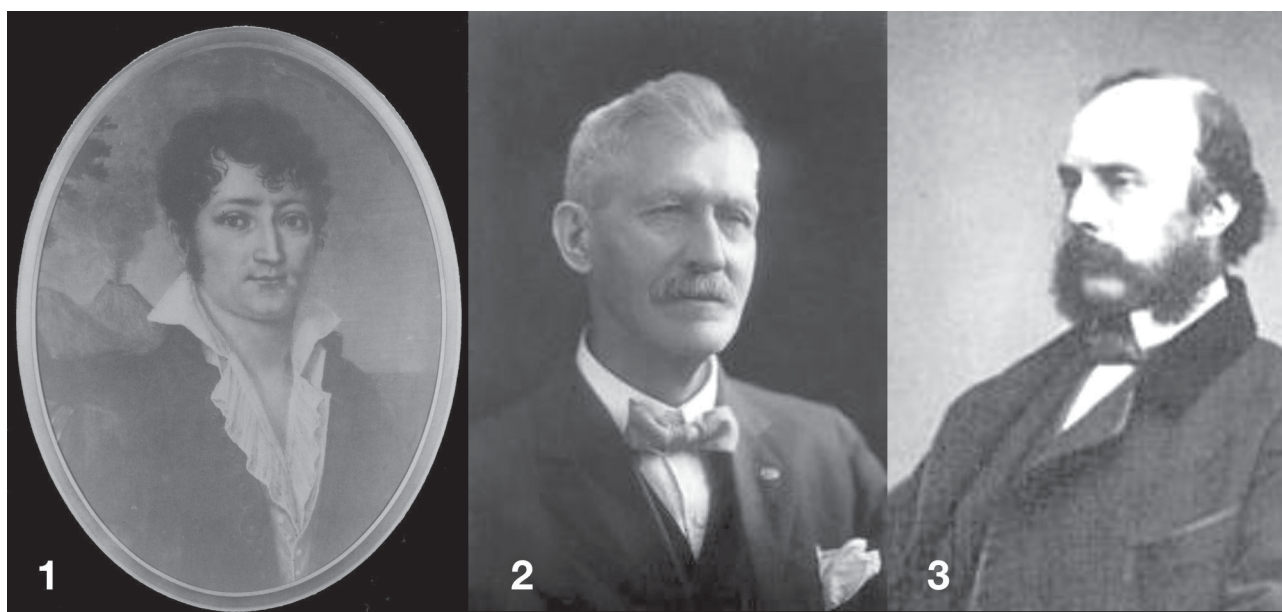
of the meetings of the society and the moment it appeared in print.

Probably Moricand's collection was based to a great extent on material he received from the Swiss collector Jacques Samuel Blanchet (*8 May 1807, Moudon - †20 March 1875, Vevey; Fig. 2), who became interested in botany during his early education in Vevey. In 1828 he decided to emigrate to Brazil, where he started to work for the Swiss in- and export firm Gex & Decosterd, who had established a branch in [San Salvador de] Bahia (see also Veyrassat, 1993: 144). In his spare time he made excursions in the surroundings of the city and soon began shipping collections of plants, fungi, bryophytes, mammals and molluscs to different naturalists in Geneva. From several of Moricand's papers it might be concluded that he received living molluscs from Blanchet, or alternatively that the latter was a keen observer sending Moricand notes on e.g. the colours of the living animal. It cannot be excluded that the majority of the material was not collected by Blanchet himself, but rather by paid collectors (Anonymous, 2015b), which was a common practice in several of the 19th century field missions. Between 1833 and 1847 Blanchet employed a local man, a 'gaucho' named Manoel, who collected for him on the south coast of the state Bahia, but also in some other places, e.g. the Serra Jacobina and along the Río São Francisco (Anonymous, 2015a). Not only Moricand described new species of plants and molluscs based on material sent by Blanchet. Other researchers in Geneva (e.g., Pictet, 1843) also based descriptions of new taxa on the collections gathered in Brazil. Moricand was a corresponding member of different scientific societies in Italy, France, Russia, Germany, etc. He also established personal contacts with various contemporary scientists. Most of them sent part of their type material to him, thus eventually enriching the collection of the Geneva museum (see below and Breure, 2016).

In his private life, he married on 17 July 1822 with Caroline Jacquet (*31 January 1799, Geneva - †17 December 1869, Chouigny). They had four children, two sons and two daughters. Stéfano Moricand died on 26 June 1854 at his home in Chouigny, near Geneva. Obituaries were published by e.g. Anonymous (1854: 106-107), and Ritter (1855: v-vii); a partial bibliography was given by F. Cavillier in Briquet (1940: 487-490).

Jacques André Moricand (1823-1877)

Born as the eldest son on 15 December 1823 in Geneva, he seems to be the only member of the family who showed some interest in natural history. Only few data are known of him, viz. he finished education in 1843 to become a merchant; in 1860 he became a stockbroker (Stelling-Michaud, 1975: 593). He may have actively curated his father's collection, and he published some papers on South American land and freshwater molluscs



Figs 1-3. Portraits. (1) S. Moricand, at unknown but probably young age (coll. MHNG). (2) J.S. Blanchet (after García Polo, 2015). (3) A. Brot (modified from Campos, 2013: 255).

(see below). Likely he was in contact with persons who supplied him with some new material, e.g. Marius Porte (?-1866), who travelled in South America and send him material from Peru, evidenced from his labels (Crosse, 1866; Breure, 2016). In his private life he remained unmarried and died 10 July 1877 in Chouigny.

BIBLIOGRAPHIES

S. Moricand

Remarks: The publication dates of the botanical publications have been taken from Stafleu & Cowan (1981: 583). See otherwise the notes in the Appendix.

- 1816 – Réflexions sur l’opinion de Mr. De Luc relativement à la matière première des laves. *Bibliothèque universelle (Genève)* 2: 57-62.
- 1817 – Lettre à Mr. F. Soret Duval, sur quelques substances volcaniques nouvelles. *Bibliothèque universelle (Genève)* 6: 193-198.
- 1819 – Notice sur une éruption récente de l’Etna adressée à Mr. le Prof. Jurine. *Bibliothèque universelle (Genève)* 11: 191-199.
- 1820a – Flora Veneta, seu enumeratio plantarum circa Venetiam nascentium, secundum methodum Linneanum disposita, 1. *Pascoud, Geneva/Paris*, 439 pp. [July].
- 1820b – Die geognostische Beschaffenheit Siciliens. *Annalen der Physik und der physikalischen Chemie (Leipzig)* 66: 200-212.
- 1820c – Quelques observations faites en Sicile: extrait. *Bibliothèque universelle (Genève)* 13: 267-279.

- 1822 – [Moricand S. & Soret L.] Mémoire sur plusieurs cristallisations nouvelles de Strontiane sulfatée. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 1(2): 309-327, pl.
- 1828 – Note sur quelques monstruosité de becs d’oiseaux indigènes. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 4(1): 67-69, pl.
- 1830 – Plantae americanae rariores: descriptae et iconibus illustratae. *Barbezat, Genève*, 12 pp. – Remarks. See Stafleu & Cowan, 1981: 583 for details about this publication and the validity of the new names introduced.
- 1834a [1834-1847, part 1] – Plantes nouvelles d’Amérique. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 6(2): 529-536, pls 1-6. – Remarks. See remarks sub 1836c.
- 1834b – Note sur quelques espèces nouvelles de coquilles terrestres. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 6(2): 537-543, pl. 1.
- 1835 [1834-1847, part 2] – Plantes nouvelles d’Amérique. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 7(1): 249-264, pls 7-16.
- 1836a – Mémoire sur les coquilles terrestres et fluviatiles, envoyées de Bahia par M.J. Blanchet. *Mémoires de la Société de physique et d’histoire naturelle de Genève* 7(2): 415-446, pl. 2.
- 1836b [1834-1847, part 1 + 2] – Plantes nouvelles d’Amérique: 1-24, pls 1-16. *Fick, Genève*. – Remarks. These two parts were probably issued together, consisting of 1834a, 1835 and set from fresh type; see Stafleu & Cowan, 1981: 583.
- 1837a [1834-1847, part 3] – Plantes nouvelles d’Amérique: 25-40, pls 17-26. *Fick, Genève*.

- 1837b [1834-1847, part 4] – Plantes nouvelles d'Amérique: 41-56, pls 27-38. *Fick, Genève*.
- 1838 – Premier supplément au mémoire sur les coquilles terrestres et fluviatiles, envoyées de Bahia par M. J. Blanchet. *Mémoires de la Société de physique et d'histoire naturelle de Genève* 8(1): 139-148, pl. 3.
- 1839 [1834-1847, part 5] – Plantes nouvelles d'Amérique: 57-76, pls 39-50. *Fick, Genève*.
- 1840 [1834-1847, part 6] – Plantes nouvelles d'Amérique: 77-96, pls 51-60. *Fick, Genève*.
- 1841a – Second supplément au mémoire sur les coquilles terrestres et fluviatiles, envoyées de Bahia par M. J. Blanchet. *Mémoires de la Société de physique et d'histoire naturelle de Genève* 9(1): 57-64, pl. 4.
- 1841b [1834-1847, part 7] – Plantes nouvelles d'Amérique: 97-116, pls 61-70. *Fick, Genève*.
- 1844 [1834-1847, part 8] – Plantes nouvelles d'Amérique: 117-140, pls 71-84. *Fick, Genève*.
- 1846 – Troisième supplément au mémoire sur les coquilles terrestres et fluviatiles de la province de Bahia, envoyées par M. Blanchet. *Mémoires de la Société de physique et d'histoire naturelle de Genève* 11(1): 147-160, pl. 5.
- 1847 [1834-1847, part 9] – Plantes nouvelles d'Amérique: i-iv, 141-176, pls 85-100. *Fick, Genève*.
- 1851 – Description de deux espèces d'Hélices (S.G. *Streptaxis*). *Journal de Conchyliologie* 2: 369-371, pl. 10.

J. Moricand

- 1853 – Description d'une espèce du genre *Planorbis*. *Journal de Conchyliologie* 4: 37-38.
- 1856 – Description de quelques nouvelles espèces de coquilles du Pérou. *Journal de Conchyliologie* 5: 175-181, pl. 6-7.
- 1858 – Description de quelques coquilles nouvelles. *Revue et magasin de zoologie pure et appliquée* (2) 10: 449-455, pls 13-15.
- 1860 – Note sur la *Melanopsis Brasiliensis*. *Journal de Conchyliologie* 8: 301-304, pl. 12.

NEW TAXA INTRODUCED

In the section on Moricand names taxa are listed alphabetically following their specific name, or their varietal name in case of varieties. Plants and animals are listed separately. For the latter the availability of the names has been checked with the key provided by Lingafelter & Yanega (2012) as clarification for ICZN Art. 31.2 juncto 45.6 (ICZN, 1999). The collector, or supplier of specimens, is given between square brackets after the type locality. The current classification at family level (for plants taken from IPNI, 2014) is given between brackets. For the molluscan taxa depositories of type material are listed as far as known, but only the material in

Geneva has been examined during this study; the number of specimens is given between parentheses, followed by references to figures between square brackets (taxa belonging to the superfamily Orthalicoidea are dealt with in Breure, 2016 and referred to as [B:]). The classification of molluscan taxa was quite unstable in the early 19th century, and Moricand senior often listed e.g. alternative taxon names; in such cases only the first mentioned has been listed.

Plantae

- abruptum*, *Commilobium*, S. Moricand, 1841: 98, pl. 62. Type locality: [Brazil] serra Acurua, provincia Bahiensis [Blanchet] (Fabaceae).
- aculeatissima*, *Argemone mexicana* var., S. Moricand ex Prain, 1895: 367. No type locality (Papaveraceae).
- acuminata*, *Serronia*, S. Moricand, 1840: 86, pl. 57. Type locality: [Brazil] circa Bahiam [Blanchet] (Piperaceae).
- acuminatum*, *Cynanchum*, S. Moricand, 1820a: 128. Type locality: [Italy] inter Mestre e la Mira (Apocynaceae).
- acuruana*, *Bauhinia (Pauletia)*, S. Moricand, 1840: 77, pl. 51. Type locality: [Brazil] Serra Acurua, provincia Bahiensis [Blanchet] (Fabaceae).
- agastachya*, *Dalea*, S. Moricand, 1839: 65, pl. 44. Type locality: [U.S.A.] Texas [Berlandier] (Fabaceae).
- albiflora*, *Ipomoea*, S. Moricand, 1841b: 114, pl. 70. Type locality: [Brazil] in provincia Bahiensis, prope Igreja Vehlha [sic, Velha] [Blanchet] (Convolvulaceae).
- alopecurus*, *Dalea*, S. Moricand, 1836a: 250, pl. 8. Type locality: in Mexico, in las Cordilleras de Guchilapa (Fabaceae).
- australis*, *Saxifraga*, S. Moricand, 1820a: 431. Type locality: [Italy] prope Neapoli (Saxifragaceae).
- bahiensis*, *Hiraea*, S. Moricand, 1841b: 107. Type locality: [Brazil] Nazareth das Farinhas, prope Bahiam [Blanchet] (Malpighiaceae).
- bahiensis*, *Alsodeia*, S. Moricand, 1839: 68, pl. 46. Type locality: [Brazil] circa Bahiam [Blanchet] (Violaceae).
- bahiensis*, *Patagonula*, S. Moricand, 1847: 144, pl. 86. Type locality: [Brazil] serra Acurua [sic], provincia Bahiensis [Blanchet] (Boraginaceae).
- bahiensis*, *Simaba*, S. Moricand, 1836a: 251, pl. 9. Type locality: [Brazil] circa Bahiam [Blanchet] (Simaroubaceae).
- barbinervis*, *Laplacea*, S. Moricand, 1830: 3, pl. 2. Type locality: [Ecuador] in Peruvia prope Guayaquil (Theaceae). – Remarks. Re-published in S. Moricand, 1836a: 256, pl. 11.
- bejariense*, *Trifolium*, S. Moricand, 1834a: 530, pl. 2. Type locality: in mexio [Mexico] circa Bejar [Berlandier] (Fabaceae).
- berlandierianus*, *Hibiscus*, S. Moricand, 1830: 8, pl. 6. Type locality: in Republica Mexicana, prope Tampico

- de las Tamaulipas [Berlandier] (Malvaceae). – Remarks. Re-published in S. Moricand, 1836a: 262, pl. 15.
- bierosa*, *Hiraea*, S. Moricand ex Jussieu, 1840: 260. Type locality: Brasilia (Malpighiaceae).
- blanchetiana*, *Hiraea*, S. Moricand, 1841b: 104. Type locality: Guiana gallica [French Guiana] (Malpighiaceae).
- blanchetiana*, *Eichleria*, S. Moricand ex Progel in Martius & Eichler, 1877 [1872-1877]: 518. Type locality: in prov. Bahiensis [Blanchet] (Oxalidaceae).
- blanchetianus*, *Dipteracanthus*, S. Moricand, 1847: 163. Type locality: [Brazil, Bahia] Iregia Velha [Blanchet] (Acanthaceae).
- blanchetii*, *Jacquemontia*, S. Moricand, 1837b: 41, pl. 27. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Convolvulaceae).
- blanchetii*, *Ottonia*, S. Moricand, 1840: 86. Type locality: [Brazil] circa Bahiam [Blanchet] (Piperaceae).
- brasiliana*, *Luziola*, S. Moricand, 1840: 94. Type locality: [Brazil] ripas flumine S. Francisco, prope Utinga (Poaceae).
- cernua*, *Aniseia*, S. Moricand, 1837a: 56, pl. 38. Type locality: [Brazil] circa Bahiam [Blanchet] (Convolvulaceae).
- cordatus*, *Evolvulus*, S. Moricand, 1847: 137, pl. 87. Type locality: Brasilia [Gardner] (Convolvulaceae).
- cordifolia*, *Heteropterys*, S. Moricand, 1841b: 108, pl. 66. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Malpighiaceae).
- cordifolius*, *Cryptocarpus*, S. Moricand, 1838: 75, pl. 50. Type locality: [Ecuador] in Peruvia prope Huyaquil [Guayaquil] [Pavon] (Nyctaginaceae).
- curvifolia*, *Ichthyothere*, S. Moricand, 1847: 150, pl. 89. Type locality: in Brasilia ad Iregia velha [Blanchet] (Asteraceae).
- daphnoides*, *Evolvulus*, S. Moricand, 1839: 59, pl. 40. Type locality: [Brazil] in paludibus Ithabira dictis in provincia Bahiensis [Blanchet] (Convolvulaceae).
- diffusa*, *Dalea*, S. Moricand, 1834a: 536, pl. 6. Type locality: in nova Hispania [Pavon] (Fabaceae).
- echioides*, *Evolvulus*, S. Moricand, 1837b: 55, pl. 37. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).
- elegans*, *Evolvulus*, S. Moricand, 1837b: 53, pl. 36. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).
- eriocephala*, *Ipomoea*, S. Moricand, 1837b: 43, pl. 29. Type locality: [Brazil] circa Bahiam [Blanchet] (Convolvulaceae).
- evolvuloides*, *Ipomoea*, S. Moricand, 1837b: 47, pl. 32. Type locality: [Brazil] circa Bahiam [Blanchet] (Convolvulaceae).
- excentrica*, *Dorstenia*, S. Moricand, 1840: 92: pl. 59. Type locality: in Mexico circa Tampico de Tamaulipas [Berlandier] (Moraceae).
- filiformis*, *Sida*, S. Moricand, 1830: 10, pl. 8. Type locality: [Mexico] circa Tampico de Tamaulipas (Malvaceae).
- flemmingioides*, *Zornia*, S. Moricand, 1844: 127, pl. 76. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Fabaceae).
- floribunda*, *Ipomoea*, S. Moricand, 1837b: 46, pl. 31. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Convolvulaceae).
- flexuosa*, *Bauhinia* (*Caulotretus*), S. Moricand, 1840: 80, pl. 53. Type locality: [Brazil] Serra Acurua, provincia Bahiensis [Blanchet] (Fabaceae).
- floribunda*, *Alsodeia*, S. Moricand, 1839: 70, pl. 47. Type locality: [Brazil] circa Bahiam [Blanchet] (Violaceae).
- frankeniioides*, *Evolvulus*, S. Moricand, 1837b: 49, pl. 33. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Convolvulaceae).
- gardneriana*, *Zornia*, S. Moricand, 1844: 129, pl. 77. Type locality: in Brasilia, prov. Piaui [Gardner] (Fabaceae).
- geminiflora*, *Pavonia*, S. Moricand, 1844: 120, pl. 73. Type locality: [Brazil] circa Bahiam [Blanchet] (Malvaceae).
- gnaphaloides*, *Evolvulus*, S. Moricand, 1839: 61, pl. 41. Type locality: [Brazil, Bahia] Serra Acurua [Blanchet] (Convolvulaceae).
- gypsophiloides*, *Evolvulus*, S. Moricand, 1837b: 52, pl. 35. Type locality: [Brazil] in deserto (Sertao) Bahiense [Blanchet] (Convolvulaceae).
- hebeclada*, *Hirtella*, S. Moricand in A.P. de Candolle, 1825: 529. Type locality: in Brasilia (Chrysobalanaceae).
- helichrysoides*, *Evolvulus*, S. Moricand, 1844: 134, pl. 80. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).
- heptaphyllum*, *Centrosema*, S. Moricand, 1840: 96, pl. 61 [1841]. Type locality: [Brazil] ad ripas flumine S. Francisco, prope Utinga [Blanchet] (Leguminosae).
- Herpetacanthus* S. Moricand, 1847: 159. (Acanthaceae).
- hymenaeifolia*, *Copaifera*, S. Moricand, 1834a: 529, pl. 1. Type locality: in insula Cubae [Ramon de la Sagra] (Fabaceae).
- intermedia*, *Brongniartia*, S. Moricand, 1830: 1, pl. 1. Type locality: in montibus circa Mexico (Fabaceae). – Remarks. Re-published in S. Moricand, 1836a: 254, pl. 10.
- intermedius*, *Physostemon*, S. Moricand, 1839: 62, pl. 42. Type locality: in Brasilia prope villa di Barra et (...) prope Itapuam [Blanchet] (Capparaceae).
- involucrata*, *Helicteres*, S. Moricand, 1841b: 100, pl. 63. Type locality: [Brazil, Bahia] circa villa di Barra [Blanchet] (Sterculiaceae).
- italicum*, *Verbascum*, S. Moricand, 1820a: 116. Type locality: [Italy] Fusine (Scrophulariaceae).
- Jacobinia* S. Moricand, 1847: 156. (Acanthaceae).
- jacobinus*, *Evolvulus*, S. Moricand, 1844: 135, pl. 81. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).

- latifolia*, *Krameria*, S. Moricand, 1839: 63, pl. 43. Type locality: in Brasilia prope villa di Barra [Blanchet] (Krameriaceae).
- lavateroides*, *Hibiscus*, S. Moricand, 1830: 9, pl. 7. Type locality: [Mexico] prope Tampico de las Tamaulipas [Berlandier] (Malvaceae). – Remarks. Re-published in S. Moricand, 1836a: 263, pl. 16.
- lepida*, *Jacobinia*, S. Moricand, 1847: 157, pl. 92. Type locality: in Brasilia, prov. Bahiensis [Blanchet] (Acanthaceae).
- leucocephala*, *Cordia*, S. Moricand, 1847: 148, pl. 88. Type locality: [Brazil, Bahia] serra Acuará [Blanchet] (Boraginaceae).
- linoides*, *Evolvulus*, S. Moricand, 1844: 139, pl. 83. Type locality: [Brazil] prov. Bahiensis loco dicto Pouço d'Areia [Blanchet] (Convolvulaceae).
- longiflorus*, *Herpetacanthus*, S. Moricand, 1847: 159, pl. 93. Type locality: [Brazil] prov. Bahiensis [Blanchet] (Acanthaceae).
- longifolia*, *Dorstenia*, S. Moricand, 1840: 90, pl. 58. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Moraceae).
- lucidum*, *Solanum*, S. Moricand, 1837a: 26, pl. 18. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Solanaceae).
- luxurians*, *Ipomoea*, S. Moricand, 1839: 58, pl. 39. Type locality: Serra Açurua, provinc. Bahien. [Blanchet] (Convolvulaceae).
- macrostachya*, *Dalea*, S. Moricand, 1834a: 534, pl. 5. Type locality: [Mexico] in nova Hispania (Fabaceae).
- macrostachya*, *Salicornia*, S. Moricand, 1820a: 2. Type locality: [Italy] Malamocco (Amaranthaceae).
- manoelii*, *Solanum*, S. Moricand, 1837a: 27. Type locality: [Brazil] in provincia Bahiensis [Blanchet] (Solanaceae).
- maritimus*, *Juncus*, S. Moricand, 1820a: 172. Type locality: [Veneto] in paludosis maritimus (Juncaceae).
- mexicana*, *Larrea*, S. Moricand, 1839: 71, pl. 48. Type locality: [Mexico] prope St. Louis di Potosi [Berlandier] (Zygophyllaceae).
- mexicana*, *Platanus*, S. Moricand, 1830: 12, pl. 10. Type locality: circa Mexico [Berlandier] (Platanaceae). – Remarks. Re-published in S. Moricand, 1837a: 39, pl. 26.
- mexicana*, *Sida anomala* [var.], S. Moricand, 1830: 11, pl. 9. Type locality: [Mexico, circa Tampico de Tamaulipas] (Malvaceae).
- micrantha*, *Glechoma hederacea* [var.], S. Moricand, 1820a: 433. Type locality: [Italy] Foro Juliensi prope Montisfalconem (Lamiaceae).
- montana*, *Ipomoea*, S. Moricand, 1837b: 44, pl. 30. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).
- odoratissima*, *Bauhinia (Pauletia)*, S. Moricand, 1840: 78, pl. 52. Type locality: in Brasilia, prope Nagê, provincia Bahiensis [Blanchet] (Fabaceae).
- paludosum*, *Solanum*, S. Moricand, 1837a: 29, pl. 20. Type locality: [Brazil] circa Bahiam [Blanchet] (Solanaceae).
- pavoniana*, *Ternstroemia*, S. Moricand, 1830: 5, pl. 4. Type locality: in Peruvia (Theaceae). – Remarks. Re-published in S. Moricand, 1836a: 258, pl. 13.
- penicillata*, *Dalea*, S. Moricand, 1839: 66, pl. 45. Type locality: [U.S.A.] Texas, inter Rio della Trinidad et Bexar [Berlandier] (Fabaceae).
- peruviana*, *Malpighia*, S. Moricand, 1841b: 109. Type locality: in Peruvia (Malpighiaceae).
- phyllanthoides*, *Evolvulus*, S. Moricand, 1840: 82, pl. 54. Type locality: [Brazil] in sylvis paludibus Olhos d'água dictis, provincia Bahiensis [Blanchet] (Convolvulaceae).
- pogogenum*, *Solanum*, S. Moricand, 1837a: 25. Type locality: in Brasilia, provincia Bahiensis [Blanchet] (Solanaceae).
- polytrichum*, *Solanum*, S. Moricand, 1837a: 32. Type locality: [Brazil] circa Bahiam [Blanchet] (Solanaceae).
- prostrata*, *Pavonia*, S. Moricand, 1844: 119, pl. 72. Type locality: [Brazil] circa Japira [Blanchet] et in prov. Alagoas [Gardner] (Malvaceae).
- pseudocordigfra*, *Serapias*, S. Moricand, 1820a: 374. Type locality: [Italy, Venice] Lido e a Treporti (Orchidaceae).
- psoraleoides*, *Dalea*, S. Moricand, 1834a: 533, pl. 4. Type locality: in Mexico prope Cuernavaca (Fabaceae).
- pteroaulon*, *Evolvulus*, S. Moricand, 1844: 140, pl. 84. Type locality: [Brazil] prov. Bahiensis, prope Tamandua [Blanchet] (Convolvulaceae).
- pteropoda*, *Ottonia*, S. Moricand, 1840: 88. Type locality: [Brazil] circa Bahiam [Blanchet] (Piperaceae).
- pulchella*, *Dalea*, S. Moricand, 1836a: 249, pl. 7. Type locality: [Mexico] circa St. Louis de Potosi (Fabaceae).
- pulchra*, *Cuphea*, S. Moricand, 1847: 168, pl. 89. Type locality: [Brazil, Bahia] serra Jacobina [Blanchet] (Lythraceae).
- ramosissimus*, *Thyrsacanthus*, S. Moricand, 1847: 165, pl. 96. Type locality: [Brazil, Bahia] serra Acuará [Blanchet] (Acanthaceae).
- reticulata*, *Lavoisiera*, S. Moricand, 1847: 170, pl. 99. Type locality: [Brazil, Bahia] ad Igreja Velha [Blanchet] (Melastomataceae).
- rosea*, *Salvia pratensis* [var. β], S. Moricand, 1820a: 5. Type locality: [Italy] Cherignago (Labiatae).
- ruiziana*, *Ternstroemia*, S. Moricand, 1830: 4, pl. 3. Type locality: [Ecuador] in Peruvia prope Guayaquil (Theaceae). – Remarks. Re-published in S. Moricand, 1836a: 257, pl. 12.
- sericea*, *Zornia*, S. Moricand, 1844: 126, pl. 75. Type locality: [Brazil, Bahia] serra Jacobina [Blanchet] (Fabaceae).
- setosa*, *Dorstenia*, Moricand, 1841b: 103, pl. 64. Type locality: [Brazil] provincia Bahiensis [Blanchet] (Moraceae).

- speciosus*, *Evolvulus*, S. Moricand, 1837b: 50, pl. 34. Type locality: [Brazil, Bahia] Serra Jacobina [Blanchet] (Convolvulaceae).
- sphaerocarpum*, *Solanum*, S. Moricand, 1837a: 31. Type locality: [Brazil] provincia Bahiensis [Blanchet] (Solanaceae).
- stagnale*, *Solanum*, S. Moricand, 1837a: 34, pl. 23. Type locality: [Brazil] circa Bahiam [Blanchet] (Solanaceae).
- strictissimus*, *Heliotropium*, S. Moricand, 1847: 146, pl. 87. Type locality: [Brazil, Bahia] serra Jacobina [Blanchet] (Boraginaceae).
- subordinatus*, *Styrax*, S. Moricand, 1844: 117, pl. 71. Type locality: in Brasilia prov. Bahiensis [Blanchet] (Styracaceae).
- subsessilis*, *Jacquemontia*, S. Moricand, 1837b: 42, pl. 28. Type locality: [Brazil] provincia Bahiensis [Blanchet] (Convolvulaceae).
- subulata*, *Glechoma*, S. Moricand, 1820a: 432. Type locality: [Veneto] Foro Juliensi prope Montisfalconem (Lamiaceae).
- tampicensis*, *Hibiscus*, S. Moricand, 1830: 7, pl. 5. Type locality: in Republica Mexicana, prope Tampico de las Tamaulipas [Berlandier] (Malvaceae). – Remarks. Re-published in S. Moricand, 1836a: 260, pl. 14.
- tenuifolia*, *Zornia*, S. Moricand, 1844: 132, pl. 79. Type locality: in Brasilia prope S. Thomé prov. Bahiensis [Blanchet] (Fabaceae).
- thomesiana*, *Roupala*, S. Moricand, 1847: 172, pl. 100. Type locality: [Brazil, Bahia] prope S. Thomé [Blanchet] (Proteaceae).
- thomesianus*, *Siphocampylus*, S. Moricand, 1847: 142, pl. 85. Type locality: in Brasilia prope S. Thomé prov. Bahiensis [Blanchet] (Campanulaceae).
- Thyrsacanthus* S. Moricand, 1847: 165. (Acanthaceae).
- trifoliolata*, *Berberis*, S. Moricand, 1841b: 113, pl. 69. Type locality: in Respublica [sic] mexicana, inter Laredo et Bejar [Berlandier] (Berberidaceae).
- trifoliolata*, *Dalea*, S. Moricand, 1834a: 531, pl. 3. Type locality: in Mexico, la vallée de Toluca [Aleman, Berlandier, Pavon] (Fabaceae).
- varians*, *Pavonia*, S. Moricand, 1844: 122, pl. 74. Type locality: in Brasilia prope Japira [Blanchet] (Malvaceae).
- villosa*, *Prockia*, S. Moricand, 1839: 167, pl. 97. Type locality: in Brasilia prope Tamandua [Blanchet] (Tiliaceae).
- virgata*, *Zornia*, S. Moricand, 1844: 131, pl. 78. Type locality: in Brasilia (...) locus natalis incertus [Gardner] (Fabaceae).
- MHNG-INVE-78487 (6) (Simpulopsidae) [B: figs 8-10]. – Remarks. Additional syntypes are NMB 1576a (2), 1576b (4).
- aurismuris*, *Helix* (*Cochlogena*), S. Moricand, 1838: 141, pl. 3 figs 1-3. Type locality: [Brazil] fazenda de Palmeirinha, entre Caxoeira et Jacobine, province de Bahia [Blanchet]. Syntypes: MHNG-INVE-60683 (44), MHNG-INVE 60686 (48) (Bulimulidae) [B: fig. 44]. – Remarks. Material present as NMB 1404a (10), and NMB 1404b (7) is listed as ‘paratypes’ [syntypes].
- bahiensis*, *Ancylus*, S. Moricand, 1836b: 442. Nomen nudum.
- bahiensis*, *Helix* (*Cochlogena*), S. Moricand, 1834b: 541, pl. 1 fig. 6. Type locality: le Brésil dans les bois près de Bahia [Blanchet]. Syntypes: MHNG-INVE-64638 (31) (Odontostomidae) [B: figs 113-114]. – Remarks. Additional syntypes NMB 9612a (9), 9612b (8).
- barilensis*, *Ancylus*, S. Moricand, 1846: 159, pl. 5 figs 30-32. Type locality: [Brazil] lac Baril près de Bahia [Blanchet]. Syntypes: MHNG-INVE-87402 (10) (Ancyliidae) [Figs 17-19]. – Remarks. An additional label in a later hand mentions “type / B. H-ck [Hubendick]” but it remains unsure which specimen was selected and we have been unable to find any published lectotype designation. Additional syntypes NMB 6906a (2).
- berlandieriana*, *Helix* (*Helocogena*), S. Moricand, 1834b: 537, pl. 1 fig. 1. Type locality: le Mexique, dans la province de Texas [Berlandier]. Syntypes: MHNG-INVE-37027 (7) (Polygyridae) [Figs 41-43]. – Etymology. Named after Jean Louis Berlandier (see also Bennicoff, 2014).
- bilineata*, *Melanopsis crenocarina* [var. γ], S. Moricand, 1841a: 62. Type locality: [Brazil] le Rio de Pedra Branca, province de Bahia [Blanchet]. Syntypes: MHNG-INVE-91240 (3) (Thiaridae) [Fig. 8].
- bipunctata*, *Helix* (*Helicigona*) *pyramidella* [var. β], Moricand, 1836b: 419. – Remarks. Not available name (infrasubspecific).
- blanchetiana*, *Helix* (*Helicigona*), S. Moricand, 1834b: 539, pl. 1 fig. 3. Type locality: le Brésil, aux environs de Bahia [Blanchet]. Possible syntypes: MHNG-INVE-60674 (16) (Bulimulidae) [B: figs 38-39]. – Remarks. S. Moricand, 1836b: 418 considered this taxon as a variety of *Helix pyramidella* Wagner in Spix, 1827. Additional syntypes NMB 97a (15), NMB 97a' (10). – Etymology. Named after Jacques Samuel Blanchet.
- blanchetianum*, *Cyclostoma*, S. Moricand, 1836b: 442, pl. 2 figs 21-23. Type locality: [Brazil, Bahia] Caxoeira [Blanchet]. Syntypes: MHNG-INVE-91233 (3) (Megalostomidae) [Figs 47-49]. – Remarks. Additional syntypes NMB 597a (7), NMB 597c (6). – Etymology. See above.
- boissieri*, *Helix* (*Bulimus*), S. Moricand, 1846: 156, pl. 5 figs 24-25. Type locality: [Brazil] les environs de

Mollusca

- atrovirens*, *Helix* (*Cochlohydra*), S. Moricand, 1836b: 416, pl. 2 fig. 1. Type locality: [Brazil, Bahia] Portao [Blanchet]. Syntypes: MHNG-INVE-64624 (2),

- Bahia [Blanchet]. Syntypes: MHNG-INVE-64622 (3) (Simpulopsidae) [B: figs 6-7]. – Remarks. Additional material as syntypes in NMB 1433a (2), 1433b (6). – Etymology. Named after Pierre Edmond Boissier (see Anonymous, 2015d).
- brasiliensis*, *Helix* (*Cochlodonta*) *comboides* [var.], S. Moricand, 1836b: 417; 1841: pl. 5 fig. 5. Type locality: [Brazil, Bahia; Blanchet]. Syntypes: MHNG-INVE-68684 (41) (Streptaxidae) [Figs 58-60]. – Remarks. This is a junior primary homonym of *Helix brasiliensis* Férussac, 1821, see Hausdorf, 2013: 499. Additional syntypes NMB 1523b (7).
- brasiliensis*, *Helix* (*Cochlohydra*), S. Moricand, 1836b: 416. Type locality: [Brazil, Bahia] les forêts de S. Gonsalves [Blanchet]. Syntypes: MHNG-INVE-78488 (9) (Simpulopsidae) [B: figs 15-17]. – Remarks. Other syntypes are present in NMB 8259a (9).
- brasiliensis*, *Melanopsis*, S. Moricand, 1838: 144, pl. 3 figs 12-13. Type locality: [Brazil, Bahia] Villa de Barra [Blanchet]. Syntypes: MHNG-INVE-91238 (2 + subadults) (Pleuroceridae) [Fig. 11]. – Remarks. Some specimens, presumably from the original series, were apparently sent to J.C. Anthony, and are now in the MCZ collection (MCZ 74780). NMB 1171a (5) and NMB 1171b (5) are additional syntypes.
- candidum*, *Helix*, S. Moricand, 1841a: 57, pl. 4 fig. 1. – Remarks. New name for *Helix perspectiva* Wagner in Spix, 1827 non Megerle, 1816; junior homonym of *Solarium candidum* Spix, 1827 (Streptaxidae).
- caracolla*, *Helicina*, S. Moricand, 1836b: 444, pl. 2 figs 24-25. Type locality: [Brazil, Bahia] Almada [Blanchet]. Syntypes: MHNG-INVE-91246 (3) (Helicinidae) [Figs 24-27]. – Remarks. Six specimens are registered as ‘paratypes’ [syntypes] in MCZ 142973; also in ANSP 14600 (6), ANSP 14622 (2), as syntypes, and NMB 3850a (14) as ‘Paratypen’ [syntypes].
- caxapregana*, *Helix*, S. Moricand, 1836b: 426. – Remarks. New name for *Columna maritima* Wagner in Spix, 1827 not *Helix maritima* Draparnaud, 1805; “c’est pourquoi le nom de *H. maritima* ayant été appliqué depuis longtemps à une espèce du midi de la France” (Subulinidae).
- cecileae*, *Bulimus*, J. Moricand, 1858: 452, pl. 14 fig. 4. Type locality: [Peru] Tarapoto. Syntypes: MHNG-INVE-63436 (9) (Bulimulidae) [B: fig. 49].
- chrysostoma*, *Helix* (*Cochlogena*) *rhodospira* [var. β], S. Moricand, 1836b: 428. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-60161 (5) (Bulimulidae) [B: fig. 88]. – Additional syntypes NMB 1387b (2), NMB 9616a (4), NMB 9616b (3).
- cimex*, *Planorbis*, S. Moricand, 1838: 143, pl. 3 figs 8-9. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-86802 (16) (Planorbidae) [Fig. 14]. – Other material as syntypes in NMB 6892b (3).
- cingulata*, *Melania*, J. Moricand, 1860: 303, pl. 12 fig. 6. Type locality: [Brazil] Rivière Jaguaripe, près Bahia. Syntypes: MHNG-INVE-91245 (8) (Pleuroceridae) [Fig. 13]. – Remarks. Fischer-Piette (1950: 18) recorded “un spécimen, 35 mm.” (syntype) in the MHNH collection.
- cinnamomeolineata*, *Helix* (*Cochlogena*), S. Moricand, 1841a: 60, pl. 4 figs 6-7. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-64546 (10), MHNG-INVE-64547 (6 + 8 subadults) (Simpulopsidae) [B: fig. 18].
- citrinovitrea*, *Helix* (*Cochlogena*), S. Moricand, 1836b: 436, pl. 2 fig. 19. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Lectotype and paralectotypes: MHNG-INVE-64616 (4 subadults), MHNG-INVE-64617 (1 + 18 subadults) (Simpulopsidae) [B: figs 4-5]. – Additional material as ‘Syntypen’ [paralectotypes] in NMB 1434a (9), NMB 1434b (22).
- coffreana*, *Helix*, S. Moricand, 1841a: 58, pl. 4 figs 2-3. Type locality: [Brazil] la province de Bahia [Blanchet]. (Systrophiidae). – Remarks. Material that could be attributed as type material of this taxon was not found during this study. However, material in NMB 1525a (10) is listed as ‘Paratypen’ [syntypes].
- costulata*, *Unio* (*Monocondylea*), J. Moricand, 1858: 453, pl. 15 fig. 1. Type locality: Brésil. Syntypes: MHNG-INVE-91234 (1) (Unionidae) [Figs 50-53]. – Remarks. Moricand junior wrote “j’en ai reçu seulement deux individus”, which is interpreted as two doublets. Only one specimen (doublet), however, could be found in the collection. The specimen was labelled as having been revised by Haas in 1930.
- coxeirana*, *Helix* (*Cochlogena*), S. Moricand, 1836b: 433, pl. 2 figs 7-11. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. Syntypes: MHNG-INVE-64548 (3 + 2 subadults) (Bulimulidae) [B: figs 19-21]. – Remarks. See also under *dizona*, *negrescens*, and *trizona*. Additional syntypes NMB 1420a (8), NMB 1420c (7).
- crenocarina*, *Melanopsis*, S. Moricand, 1841a: 61, pl. 4 figs 10-11. Type locality: [Brazil] Rio de Pedra Branca, province de Bahia [Blanchet]. (Thiaridae). – Remarks. Material of this nominate taxon has not been found in the collection during this study; see also under the varieties *bilineata*, *leucostoma*, and *melanostoma*. Material listed as ‘Paratypen’ [syntypes] in NMB 1201a (6), NMB 1201c (7).
- cryptodon*, *Helix* (*Streptaxis*), S. Moricand, 1851: 370, pl. 10 figs 2a-d. Type locality: [Brazil] La province de Bahia. Syntypes: MHNG-INVE-68687 (5) (Streptaxidae) [Figs 80-82].
- decussata*, *Ampullaria*, S. Moricand, 1836b: 445, pl. 2 figs 26-27. Type locality: [Brazil, la province de Bahia. Blanchet]. Syntypes: MHNG-INVE-33485 (2) (Ampullariidae) [Figs 32-33]. – The largest specimen

- (here figured) corresponds to the original figure. “Many (> 10)” specimens are in the MCZ collection, catalogued as ‘paratypes’ [syntypes] and registered MCZ 141866. Other material as syntypes in NMB 1219a (8), NMB 1219b (4).
- dejecta*, *Helix*, S. Moricand, 1836b: 418. – Published as synonym of *Helix* (*Cochlodonta*) *comboides brasiliensis* S. Moricand, 1836, valid under Art. 11.6.1 ICZN; see Hausdorf, 2013: 499.
- delphinae*, *Bulimus*, J. Moricand, 1858: 452, pl. 14 fig. 3. Type locality: [Peru] Tarapoto. Syntypes: MHNG-INVE-63443 (3) (Bulimulidae) [B: fig. 50]. – Etymology. Named after his sister, Delphine Moricand (1826-1907).
- dentifer*, *Planorbis*, J. Moricand, 1853: 37. Type locality: [Brazil] le lac Baril, près Bahia [Blanchet]. Syntypes: MHNG-INVE-86932 (3) (Planorbidae) [Figs 34-36].
- depressissimus*, *Planorbis*, S. Moricand, 1838: 143, pl. 3 figs 10-11. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-86940 (many) (Planorbidae) [Figs 15-16]. – Additional syntypes NMB 6891a (3).
- disjunctum*, *Cyclostoma*, S. Moricand, 1846: 158, pl. 5 figs 26-29. Type locality: [Brazil] la province de Bahia [Blanchet]. (Megalostomatidae). – Remarks. Type material of this taxon could not be traced during our study.
- dizona*, *Helix* (*Cochlogena*) *coxeiranus* [var. β], S. Moricand, 1836b: 433, pl. 2 fig. 8. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. – Remarks. Not available name (infrasubspecific).
- edentula*, *Helix comboides* [var.], S. Moricand, 1846: 154. No type locality. Syntypes: MHNG-INVE-68683 (37, partly subadult) (Streptaxidae) [Figs 61-63]. – Remarks. The specimens are accompanied by a label that states “Bahia, Blanchet”. Additional syntypes in NMB 5262a (4), NMB 5262e (11).
- elata*, *Helix comboides* [var.], S. Moricand, 1846: 155. No type locality. (Streptaxidae). – Remarks. No type material of this taxon found during our study.
- equestrata*, *Helix*, J. Moricand, 1858: 449, pl. 13 fig. 1. Type locality: [Peru] Moyobamba. Syntypes: MHNG-INVE-72607 (2) (Pleurodontidae) [Figs 69-72]. – Remarks. This material originated from M. Porte, and arrived via Moricand junior in the Brot collection. There is a second lot, MHNG-INVE-72606, which despite a label written in J. Moricand’s hand is doubtful to belong to the original series, and is herein not considered as type material.
- fidaensis*, *Bulimus*, J. Moricand, 1858: 451, pl. 14 fig. 1. Type locality: [Brazil] Bahia. Syntypes: MHNG-INVE-63455 (1) (Bulimulidae) [B: figs 23-24].
- franciscana*, *Unio* (*Monocondylea*), S. Moricand, 1838: 145, pl. 3 figs 14-17. Type locality: [Brazil, Bahia] le fleuve S. Francisco [Blanchet]. Holotype: MHNG-INVE-91235 (1) (Unionidae) [Figs 20-23].
- Remarks. Moricand senior wrote “je n’en ai reçu qu’un seul individu”, thus the pair of shells found is the holotype. One valve in the USNM collection (USNM 86333), although with a label written by Moricand senior, appears to have been sent at a later date, originating from a further shipment that Moricand received from Blanchet; this material is thus not considered as type material.
- haematostoma*, *Helicina*, S. Moricand, 1838: 142, pl. 3 figs 6-7. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-91253 (2) (Helicinidae) [Figs 28-31]. – Remarks. These specimens were found in the Brot collection, but originate from the Moricands. Four ‘Paratypes’ [syntypes] are in NMB 3842a.
- heterogramma*, *Helix* (*Cochlogena*), S. Moricand, 1836b: 437, pl. 2 figs 15-17. Type locality: [Brazil, Bahia] Caxoeira [Blanchet]. Syntypes: MHNG-INVE-64598 (4) (Bulimulidae) [B: figs 84-85].
- heterotricha*, *Helix* (*Cochlogena*), S. Moricand, 1836b: 430, pl. 2 figs 5-6. Type locality: not given (“M. Blanchet ne m’indique pas où il l’a trouvée; mais vraisemblablement elle habite les grands bois” [Brazil, Bahia]). Syntypes: MHNG-INVE-64602 (6) (Simpulopsidae) [B: fig. 26]. – Remarks. Four additional syntypes in NMB 4929b.
- illheocola*, *Helix* (*Cochlogena*) *rhodospira* [var. γ], S. Moricand, 1836b: 428. Type locality: [Brazil, Bahia] Illheos [Blanchet]. Syntypes: MHNG-INVE-60171 (6), MHNG-INVE-60169 (2) (Bulimulidae) [B: fig. 89]. – Remarks. Additional material is in NMB 4924a (4), as ‘Paratypes’ [syntypes].
- immaculata*, *Helix* (*Helicigona*) *pyramidella* [var. α], Moricand, 1836b: 419. – Remarks. Not available name (infrasubspecific).
- leucostoma*, *Helix* (*Cochlogena*) *pubica* [var. α], S. Moricand, 1836b: 438. No type locality given. (Strophocheilidae). – Remarks. No material was found that could be unambiguously attributed as type material. Lot MHNG-INVE-65479 has a label “peristomate albo”; another label in Mermod’s hand reveals that 11 specimens have been sent to Bequaert in 1947. In his revision of this group Bequaert considered this variety as a synonym of the nominate taxon (Bequaert, 1948: 19, 29).
- leucostoma*, *Melanopsis crenocarina* [var. β], S. Moricand, 1841a: 62. Type locality: [Brazil] Rio de Pedra Branca, province de Bahia [Blanchet]. Syntypes: MHNG-INVE-91241 (2) (Thiaridae) [Fig. 9].
- longiseta*, *Helix* (*Bulimus*), S. Moricand, 1846: 156, pl. 5 fig. 18-20. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-64605 (7) (Bulimulidae) [B: figs 86-87].
- macapa*, *Melania*, J. Moricand, 1856: 176, pl. 6 fig. 7. Type locality: Pérou, Macapa. Paratypes: MHNG-INVE-91239 (3) (Pleuroceridae) [Fig. 12]. – Remarks. According to Fischer-Piette (1950: 16) the

- holotype is in MHNH; it is figured in Simone (2006: fig. 169).
- major dentata*, *Helix* (*Cochlodina*) *pantagruelina* [var. α], S. Moricand, 1836b: 441. – Remarks. Not an available name (this combination of words does not fulfil the requirements of Art. 11.9.5 ICZN Code, because they are a descriptive phrase not based on the name of a single entity).
- major edentula*, *Helix* (*Cochlodina*) *pantagruelina* [var. β], S. Moricand, 1836b: 441. – Remarks. Not an available name (see above).
- manoelii*, *Helix* (*Cochlogena*), S. Moricand, 1841a: 59, pl. 4 figs 4-5. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-64551 (8), MHNG-INVE-91244 (12) (Bulimulidae) [B: fig. 25]. – Etymology. Named after the ‘gaucho’ Manoel, one of the assistants of J.S. Blanchet.
- mariae*, *Bulimus*, J. Moricand, 1858: 453, pl. 14 fig. 5. Type locality: [Peru] Tarapoto. Syntypes: MHNG-INVE-64389 (7) (Bulimulidae) [B: figs 47-48].
- melanostoma*, *Helix* (*Cochlogena*) *maximiliana* [var. β], S. Moricand, 1836b: 431. Type locality: [Brazil, Bahia] Illheos [Blanchet]. (Bulimulidae). – Remarks. No material was found that unambiguously can be attributed as type material. Two syntypes labeled as this variety in NMB 1376c.
- melanostoma*, *Melanopsis* *crenocarina* [var. α], S. Moricand, 1841a: 62. Type locality: [Brazil] Rio de Pedra Branca, province de Bahia [Blanchet]. Syntypes: MHNG-INVE-91242 (3) (Thiaridae) [Fig. 7].
- minor*, *Helix* (*Cochlogena*) *maximiliana* [var. γ], S. Moricand, 1836b: 431. Type locality: [Brazil, Bahia] Illheos [Blanchet]. Syntypes: MHNG-INVE-60152 (11) (Bulimulidae) [B: fig. 90]. – Remarks. Additional material as syntypes NMB 8510a (3).
- minor*, *Helix* (*Cochlodina*) *pantagruelina* [var. γ], S. Moricand, 1836b: 441. No type locality [Blanchet]. Syntypes: MHNG-INVE-64698 (3) (Odontostomidae) [B: fig. 124].
- moyobambensis*, *Helix*, J. Moricand, 1858: 450, pl. 13 fig. 3. Type locality: [Peru] Moyobamba. Syntypes: MHNG-INVE-68036 (1), MHNG-INVE-68666 (1) (Haplotrematidae) [Figs 77-79]. – Remarks. Moricand junior did not mention on how many specimens his description was based. Lot 68036 appears to have been collected by M. Porte and was part of the Moricand collection. Lot 68666 was part of the Brot collection, but originates from Moricand junior, and is here considered as belonging to the original series.
- nigrescens*, *Helix* (*Cochlogena*) *coxeiranus* [var. γ], S. Moricand, 1836b: 433, pl. 2 fig. 9. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. – Remarks. Not available name (infrasubspecific).
- obeliscus*, *Helix* (*Cochlicella*), S. Moricand, 1834b: 540, pl. 1 fig. 4. Type locality: Brésil, près de Caravelhas [Blanchet]. Holotype: MHNG-INVE-66256 (1) (Subulinidae) [Fig. 68]. – Remarks. In the original paper Moricand stated “je n’en connais qu’un seul individu”. The lot found consists of nine specimens, but seems to be a mixture of specimens obtained at different times, as Moricand (1836b: 424) wrote “L’individu que j’ai figuré [in Moricand, 1834b] n’était pas adulte, j’en ai reçu depuis lors qui ont 16 tours de spire, et un autre plus grand encore”. The specimen closely matching the original dimensions has been figured and is considered the holotype.
- pantagruelina*, *Helix* (*Cochlodina*), S. Moricand, 1834b: 542, pl. 1 fig. 7. Type locality: le Brésil [Blanchet]. Syntypes: MHNG-INVE-64695 (1 + 14) (Odontostomidae) [B: fig. 123]. – Remarks. Additional syntypes are NMB 4934a (4), NMB 4934b (1).
- pileiformis*, *Helix* (*Helicodonta*), S. Moricand, 1836b: 420, pl. 2 fig. 2. Type locality: [Brazil] Illheos [Blanchet]. Neotype: MHNG-INVE-64567 (1) (Simpulopsidae) [B: figs 40-41]. – Remarks. Additional material is listed as syntypes in NMB 1482a (3), NMB 1482a’ (2).
- pleurophora*, *Helix*, S. Moricand, 1846: 150, pl. 5 figs 6-9. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-69077 (18) (Charopidae) [Figs 86-88].
- polygramma*, *Helix* (*Cochlogena*), S. Moricand 1836b: 436, pl. 2 figs 12-14. Type locality: [Brazil, Bahia] Caxoeira [Blanchet]. Syntypes: MHNG-INVE-64561 (4) (Bulimulidae) [B: figs 136-137]. – Remarks. Additional material in NMB 1478a (3) as ‘Paratypen’ [syntypes].
- pseudopiperatus*, *Bulimus*, J. Moricand, 1858: 451, pl. 14 fig. 2. Type locality: [Peru] Moyobamba. Syntypes: MHNG-INVE-55493 (1) (Amphibulimidae) [B: figs 1-3].
- pseudosuccinea*, *Helix* (*Cochlogena*), S. Moricand, 1836b: 435, pl. 2 fig. 18. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-64619 (2 + 7) (Simpulopsidae) [B: fig. 11]. – Remarks. Other syntypes in NMB 1413a (8), NMB 1413b (19).
- pubescens*, *Helix* (*Bulimus*), S. Moricand, 1846: 157, pl. 5 figs 21-25. Type locality: [Brazil] les environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-64606 (68) (Simpulopsidae) [B: fig. 27]. – Remarks. Additional syntypes in NMB 1429a (2), NMB 1429b (11).
- purpurascens*, *Helix* (*Cochlogena*) *coxeiranus* [var. δ], S. Moricand, 1836b: 433, pl. 2 fig. 10. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. – Remarks. Not available name (infrasubspecific).
- reticulata*, *Unio* (*Monocondylea*), J. Moricand, 1858: 454, pl. 15 fig. 2. Type locality: Amazone. Syntypes: MHNG-INVE-91236 (2) (Unionidae) [Figs 37-40]. –

The specimens were accompanied by a label stating “Revised Haas 1930”.

rhodospira, *Helix* (*Cochlogena*), S. Moricand, 1836b: 428. New name for *Helix melanostoma* Férussac, 1821 not Draparnaud, 1801. (Bulimulidae). – Remarks. Currently considered as a junior subjective synonym of *Auris melanostoma* Spix, 1827.

rhodostoma, *Helix* (*Cochlogena*) *pudica* [var. β], S. Moricand, 1836b: 438. No type locality given. (Strophocheilidae). – Remarks. No material was found that could be unambiguously attributed as type material. According to Bequaert (1948: 35) five specimens were sent by Mermoud that are considered ‘cotypes’ (now MCZ 475520). NMB 8045a contains two specimens listed as syntypes.

rosea, *Helix* (*Helicigona*) *pyramidella* [var. β], S. Moricand, 1836b: 419. – Remarks. Not available name (infrasubspecific).

rosea immaculata, *Helix* (*Helicigona*) *pyramidella* [var. α], S. Moricand, 1836b: 419. – Remarks. Not an available name (this combination of words does not fulfil the requirements of Art. 11.9.5 ICZN Code, because they are a descriptive phrase not based on the name of a single entity, and the name has not been used as valid before 1985).

rufovirens, *Helix* (*Succinea*), S. Moricand, 1846: 147, pl. 5 fig. 4. Type locality: le Brésil, dans la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-64632 (50+), MHNG-INVE-78493 (13) (Simpulopsidae) [B: figs 12-14].

seminini, *Helix*, S. Moricand, 1846: 149, pl. 5 fig. 17. Type locality: [Brazil] les environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-70933 (7) (Euconulidae) [Figs 83-85]. – Remarks. There are five additional specimens separated in tubes without labels, of which it is unclear if they belong to the original series or not. Additional syntypes in NMB 7517a (2).

similaris, *Bulimus*, J. Moricand, 1856: 177, pl. 6 fig. 8. Type locality: [Peru] Moyobamba. Syntypes: MHNG-INVE-63531 (7) (Bulimulidae) [B: fig. 51].

spixiana, *Helix* (*Helicigona*) *pyramidella* [var. ζ], Moricand, 1836b: 419. – Remarks. Not available name (infrasubspecific).

stefanensis, *Etheria*, J. Moricand, 1856: 178, pl. 7 fig. 10. Type locality: Haut Amazone. Syntypes: MHNG-INVE-91237 (1) (Unionidae) [Figs 54-57]. – Etymology. Named after Stéfano Moricand.

streptodon, *Helix* (*Streptaxis*), S. Moricand, 1851: 369, pl. 10 figs 1a-c. Type locality: La province de Bahia (Brésil). Syntypes: MHNG-INVE-68696 (1) (Streptaxidae) [Figs 64-66].

subuliformis, *Helix* (*Cochlicella*), S. Moricand, 1836b: 427, pl. 2 fig. 3. Type locality: [Brazil] St. Gonsalves, non loin de Bahia [Blanchet]. Probable syntypes: MHNG-INVE-66259 (7) (Subulinidae) [Fig. 67]. – Remarks. The material is labelled “Bahia” in J.

Moricand’s hand, but none of the specimens are exactly matching the original dimensions; the material is considered as probable syntypes. Four additional specimens are listed as ‘Syntypen’ in NMB 7649a.

tarapotonensis, *Helix*, J. Moricand, 1858: 450, pl. 13 fig. 2. Type locality: [Peru] Tarapoto. Syntype: MHNG-INVE-72711 (1) (Pleurodontidae) [Figs 73-76]. – Remarks. Moricand junior did not state on how many specimens his description was based.

texasiana, *Helix* (*Helicodonta*), S. Moricand, 1834b: 538, pl. 1 fig. 2. Type locality: le Mexique, dans la province de Texas [Berlandier]. Syntypes: MHNG-INVE-72781 (7), MHNG-INVE-72867 (32) (Polygyridae) [Figs 44-46]. – Remarks. Both lots are with labels by Moricand junior, the second lot was part of the Brot collection. Additional syntypes in NMB 1517c (9).

tomigera, *Helix* (*Cochlodonta*), S. Moricand, 1836b: 439; S. Moricand, 1841: pl. 5 figs 13-15. Type locality: [Brazil, Bahia] Caxoeira [Blanchet]. Syntype: MHNG-INVE-64717 (1) (Odontostomidae) [B: figs 115-117].

tomigeroides, *Helix*, S. Moricand, 1846: 153, pl. 5 figs 10-12. Type locality: [Brazil] la province de Bahia [Blanchet]. Syntypes: MHNG-INVE-64718 (16) (Odontostomidae) [B: figs 118-121]. – Remarks. More material in NMB 1491b (5), as syntypes.

trizona, *Helix* (*Cochlogena*) *coxeiranus* [var. α], S. Moricand, 1836b: 434, pl. 2 fig. 7. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. – Remarks. Not an available name (infrasubspecific).

unicolor, *Helix* (*Cochlogena*) *coxeiranus* [var. ϵ], S. Moricand, 1836b: 434. Type locality: [Brazil] Caxoeira, dans la province de Bahia, et dans les bois de St.-Gonsalves [Blanchet]. – Remarks. Not an available name (infrasubspecific).

unicolor, *Helix* (*Cochlogena*) *vittata* [var. γ], S. Moricand, 1836b: 433. Type locality: [Brazil, Bahia] les forêts de Ilheos [Blanchet]. (Simpulopsidae). – Remarks. Material of this taxon has not been found during this study. Seven specimens are listed as syntypes in NMB 1420d.

velutohispida, *Helix* (*Cochlogena*), S. Moricand, 1836b: 429, pl. 2 fig. 4. No type locality [Blanchet]. Syntypes: MHNG-INVE-64611 (5 + 2) (Simpulopsidae) [B: fig. 28]. – Remarks. In NMB additional type material is present; NMB 1477a (1), NMB 1477b (1), listed as ‘Paratypen’ [syntypes] and syntypes respectively.

ventricosa, *Vibex*, J. Moricand, 1856: 175, pl. 6 fig. 6. Type locality: Pérou, Macapa. Syntypes: MHNG-INVE-91243 (3) (Pleuroceridae) [Fig. 10].

versicolor, *Helix* (*Helicigona*) *pyramidella* [var. γ], S. Moricand, 1836b: 419. – Remarks. Not available name (infrasubspecific).

viminea, *Helix* (*Cochlogena*), S. Moricand, 1834b: 540, pl. 1 fig. 5. Type locality: le Brésil, aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-64563

- (9) (Simpulopsidae) [B: fig. 22]. – Remarks. More syntypes in NMB 1480a (6), NMB 1480b (9).
- vittatoezonata*, *Helix* (*Cochlogena*) *vittata* [var. β], S. Moricand, 1836b: 433. Type locality: [Brazil, Bahia] les forêts de Illheos [Blanchet]. (Simpulopsidae). – Remarks. Material of this taxon has not been found during this study.
- vittato zonata*, *Helix* (*Cochlogena*) *vittata* [var. α], S. Moricand, 1836b: 432. – Remarks. Not an available name (this combination of words does not fulfil the requirements of Art. 11.9.5 ICZN Code, because they are a descriptive phrase not based on the name of a single entity, and the name has not been used as valid before 1985).
- vulgaris*, *Helix* (*Cochlogena*) *rhodospira* [var. α], S. Moricand, 1836b: 428. Type locality: [Brazil] aux environs de Bahia [Blanchet]. Syntypes: MHNG-INVE-60163 (4) (Bulimulidae). – Remarks. Additional type material in NMB 1377a (9), as syntypes.
- zonata*, *Helix* (*Cochlodina*) *exesa* var., S. Moricand, 1841a: 61, pl. 4 figs 8-9. No type locality [Blanchet]. (Odontostomidae). – No material has been found during this study that can be attributed as type material.

EPONYMS

The following taxa were named after Moricand senior or junior. Eponyms for animals have been extracted from Sherborn (2006), Ruhoff (1980), Neave (2015), and the Index to Organism Names (ION, 2015); plant eponyms have been extracted from the International Plant Names Index (IPNI, 2014). Their systematic position is given in parenthesis; for eponyms in animals also the phylum is given. The current classification at family level is given between brackets.

- Amphiscopia moricandiana* Nees in A.P. de Candolle, 1847: 357 (Plantae, Acanthaceae).
- Ancylus moricandi* d'Orbigny, 1837 [1834-1847]: 355 (Mollusca, Ancyliidae).
- Anodonta moricandi* Lea, 1860: 90 (Mollusca, Unionidae).
- Brassica moricandia* Boissier, 1839: 34. Nomen illegitimum (IPNI, 2014) (Plantae, Brassicaceae).
- Brassica moricandioides* Boissier, 1838: 10 (Plantae, Brassicaceae).
- Bulimus moricandi* L. Pfeiffer, 1847: 113 (Mollusca, Bulimulidae).
- Cleome moricandii* Briquet, 1914: 376 (Plantae, Capparaceae).
- Convolvulus moricandii* Kuntze, 1898: 214 (Plantae, Convolvulaceae).
- Cyclostoma moricandi* L. Pfeiffer, 1852: 64. New name for *Cyclostoma disjunctum* S. Moricand, 1846 not Matheron, 1832 (Mollusca, Epitoniidae).
- Dalea moricandii* Dietrich, 1847: 1015 (Plantae, Leguminosae).
- Diguetia moricandinana* Martius 1841 [in Martius & Eichler 1841-1872]: 22 (Plantae, Annonaceae).
- Dipladenia moricandiana* A.P. de Candolle, 1844: 486 (Plantae, Apocynaceae).
- Etheria stefanensis* J. Moricand, 1856: 178, pl. 7 fig. 10 (Mollusca, Etheridae).
- Eunomia moricandiana* Boissier, 1844: 83 (Plantae, Brassicaceae).
- Gephyrraulus moricandiae* Sylven & Solinas, 1987: 27. (Diptera, Cecidomyiidae).
- Granaria moricandi* "Férussac" F. Held, 1837: 918. Nomen nudum (Mollusca).
- Haemulon moricandi* Ranzani, 1842: 345, pl. 31 fig. 1 (Pisces, Haemulidae).
- Helix moricandi* G.B. Sowerby II in L. Pfeiffer, 1842: 34 (Mollusca, Bradybaenidae).
- Helix moricandi* A.E. Férussac, 1821 [1821-1822]: 64. Nomen nudum (Mollusca).
- Hiraea moricandiana* Jussieu, 1840: 259 (Plantae, Malpighiaceae).
- Hyperbaena moricandii* Miers, 1851: 44 (Plantae, Menispermaceae).
- Melania moricandi* Brot, 1868: 22 (Mollusca, Thiariidae).
- Moricandia* A.P. de Candolle, 1821: 75 (Plantae, Brassicaceae).
- Moricandia* Pilsbry & Vanatta in Pilsbry 1898: 57 (Mollusca, Odontostomidae).
- Planorbis moricandi* Beck 1837: 120. Nomen nudum (Mollusca).
- Plectrochoerus moricandi* Pictet, 1843b: 227 (Mammalia, Erethizontidae).
- Polypodium moricandii* Mettenius, 1856: 87, pl. 1 figs 47-48 (Plantae, Polypodiaceae).
- Psylliodes peyerimhoffi moricandiae* Peyerimhoff, 1925: 15 (Arthropoda, Chrysomelidae).
- Rhytiglossa moricandiana* Nees in A.P. de Candolle, 1847: 341 (Plantae, Acanthaceae).
- Rytidocarpus moricandioides* Cosson, 1888 [1882-1890]: 100, pl. 64b (Plantae, Brassicaceae).
- Solanum moricandi* Dunal in A.P. de Candolle, 1852: 319 (Plantae, Solanaceae).
- Solaropsis moricandi* Beck 1837: 27 (Mollusca, Solaropsidae).
- Stoastoma moricandianum* C.B. Adams, 1851: 150 (Mollusca, Stoastomatidae).
- Succinea moricandi* L. Pfeiffer, 1842: 131 (Mollusca, Simpulopsidae).
- Thibaudia moricandii* Dunal in A.P. de Candolle, 1839: 563 (Plantae, Ericaceae).

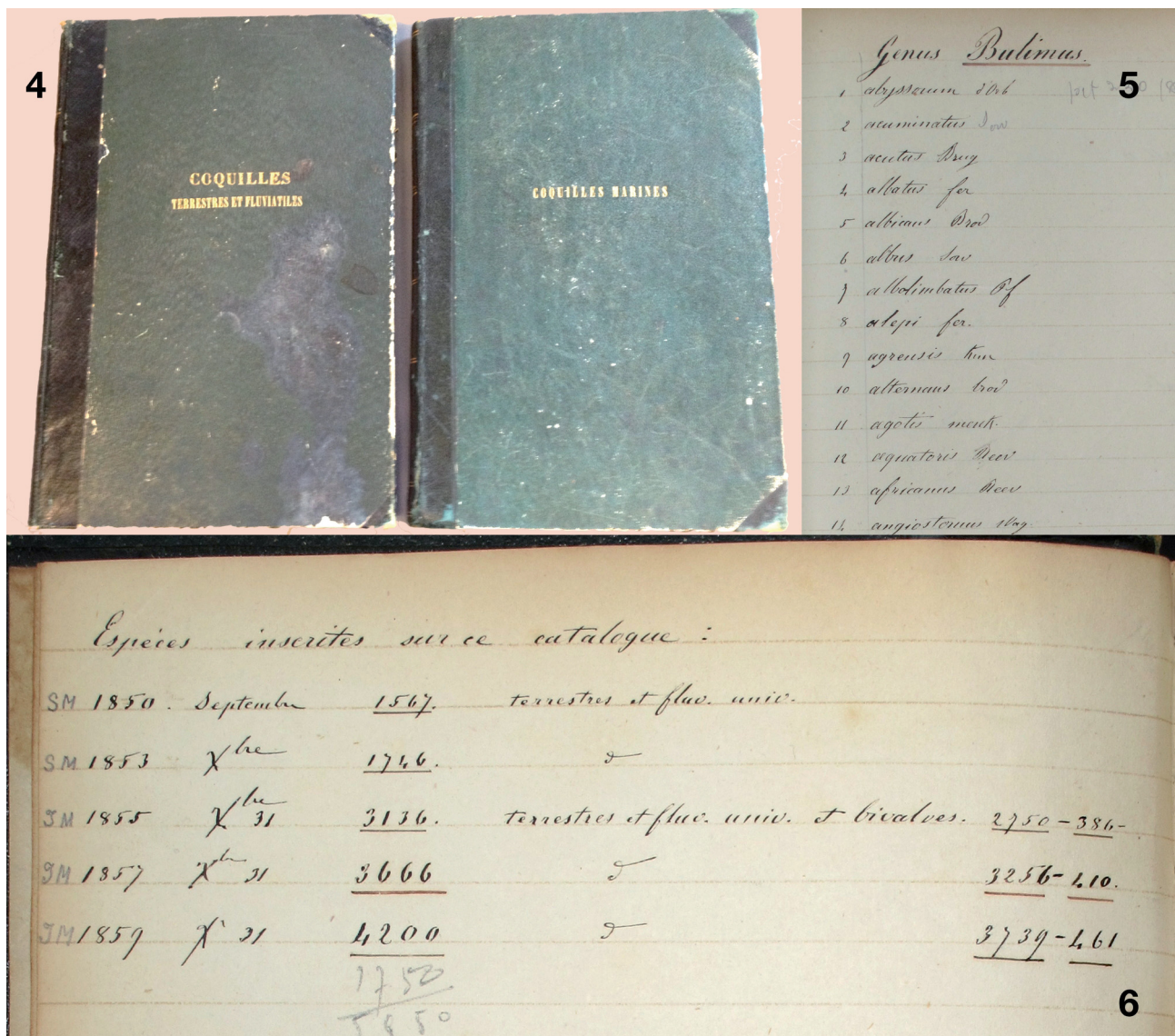
NOTES ON THE COLLECTION

The Moricand collection

Around 1850, Moricand senior and junior decided to make an inventory of their collection (Figs 4-5). They listed all molluscan species alphabetically per genus. Starting with the land and freshwater species, they had listed 1567 species by September 1850, and 4200 (including Bivalvia) by the end of October 1859. According to a note in pencil, likely in a different handwriting, another 1750 taxa were added, bringing the grand total for this category up to 5950 (Fig. 6). A second book was made for the marine species, with 929 names listed per ultimo 1855, and 1752 taxa listed four years later. These lists give only a partial overview of the extent of their collection, because many species were represented by more than one lot. When

looking to the listings it becomes clear that the text is in the hand of Moricand junior. Furthermore it is evident that these lists are relatively poor in information content, i.e. they present only taxon names, neither numbers of specimens or lots, nor provenance data are provided. Since all original labels seem to have been destroyed, the scientific value of the collection is not optimal but still considerable (see also Breure, 2016).

The handwritings of father and son Moricand are similar, yet distinct upon close inspection. The handwriting of senior is more rounded, while that of junior is less regular. To facilitate recognition, the labels of each of them have been largely grouped together in a version of this paper available at DOI: 10.13140/RG.2.1.3573.0649 [S. Moricand: figs 7-26, 39-40, J. Moricand: figs 27-35, interspersed with some of Brot (see below). Close



Figs 4-6. Inventories of the Moricand collection. (4) Titles of front covers in both books. (5) Part of text dealing with terrestrial mollusc species. (6) First page of 'Coquilles terrestres et fluviales', showing progress through time.

cooperation between Moricand senior and junior is evidenced by a label written by S. Moricand of a taxon described by J. Moricand (Fig. 15) and vice versa (Fig. 27)]. The recognition of handwritings can greatly facilitate the discovery of links between collections (cf. Albano *et al.*, 2014), trace the origin of material, and allow the recognition of type material (Breure & Ablett, 2011).

Ritter (1855: vii) stated that after the death of Moricand senior the whole collection, including about 50,000 plants, stayed in the possession of the family; this was also the case when Moricand junior died in 1877. Alphonse de Candolle (1880: 435) mentioned in his alphabetical list of plant herbaria serving as reference for botanical studies under [S.] Moricand “Chez son fils, le Dr Moricand [probably his youngest son Alexandre (1827-1890), who was medical doctor], à Genève”; it may be safely assumed the total collection remained intact till the next generation decided to waive the collection.

When the last child of Moricand senior, his daughter Delphine, died in 1907, the family had to decide on the fate of the considerable collection. His grand-son Philippe Moricand (1859-1928), living in Paris, decided in 1908 to donate the whole collection to the Muséum d’histoire naturelle (shells and butterflies, *teste* Anonymous, 1909: 135; Anonymous, 1910: 132) and the Conservatoire botanique de la Ville de Genève (plants, archives). The official transfer of the whole collection to the two new depositories was made on 14 August 1908 (Briquet, 1911: 6).

Auguste Brot and his collection

Closely linked to the Moricand collection was a contemporary Genevan conchologist, August Louis Brot (18 September 1821, Gênes - 30 August 1896, Geneva; Fig. 3). Entries on education show him graduating at the university in 1840, continuing his medical studies in Zurich, Paris and Berlin, where he obtained his doctorate in 1845 with the thesis *De anaesthesia nervi quinti*. From 1845-1848 he practised medicine in Geneva, after which he dedicated himself totally to natural history, especially malacology. He was a specialist in the freshwater family Thiaridae and during more than forty years he served on the ‘commission directrice du Musée d’histoire naturelle’ (Bedot, 1896; Candolle, 1897: lx-lxi; Stelling-Michaud, 1966: 344). His considerable private collection was given to the museum after his death, the inventory of which

was made by the paleontologist P. de Loriol (present in MHNG archive). Working with part of his collection (Breure, 2016), it became clear that there must have been close links between Brot and (likely) Moricand junior; type material of several Moricand taxa are present in the Brot collection and vice versa.

In his spare time he played violoncello and was also actively engaged with the local Conservatorium (Campos, 2013).

Contacts with other malacologists and dealers

Neither Moricand senior, nor junior, nor Brot are known to have travelled outside Europe, and their mollusc collections were presumably assembled by gifts, exchange or purchase. Based on information found on labels during the study performed by Breure (2016), from literature and limited database searches, the following preliminary list has been compiled. Note that not all names could be deciphered or traced. This list is currently limited and mainly based on Neotropical material. Abbreviations: B, Brot; JM, Moricand junior; M, Moricand senior or junior; SM, Moricand senior.

Adams C.B. (1814-1853) [SM]: A clipping from a cover of a publication, with a dedication to Moricand senior, is in the handwriting archive at MHNG.

Albers J.C. (1795-1857) [JM]: Several lots have been found with a label in J. Moricand’s hand that mentions Albers as the source of the material. However, it cannot be excluded that the link was actually established via Moricand senior as junior may have curated their collection during his later years.

Anthony J.G. (1804-1877) [SM]: Some lots were found, possibly this was material received in exchange.

Benoit L. (1804-1890) [M]: Some European material originating from him in the Moricand collection.

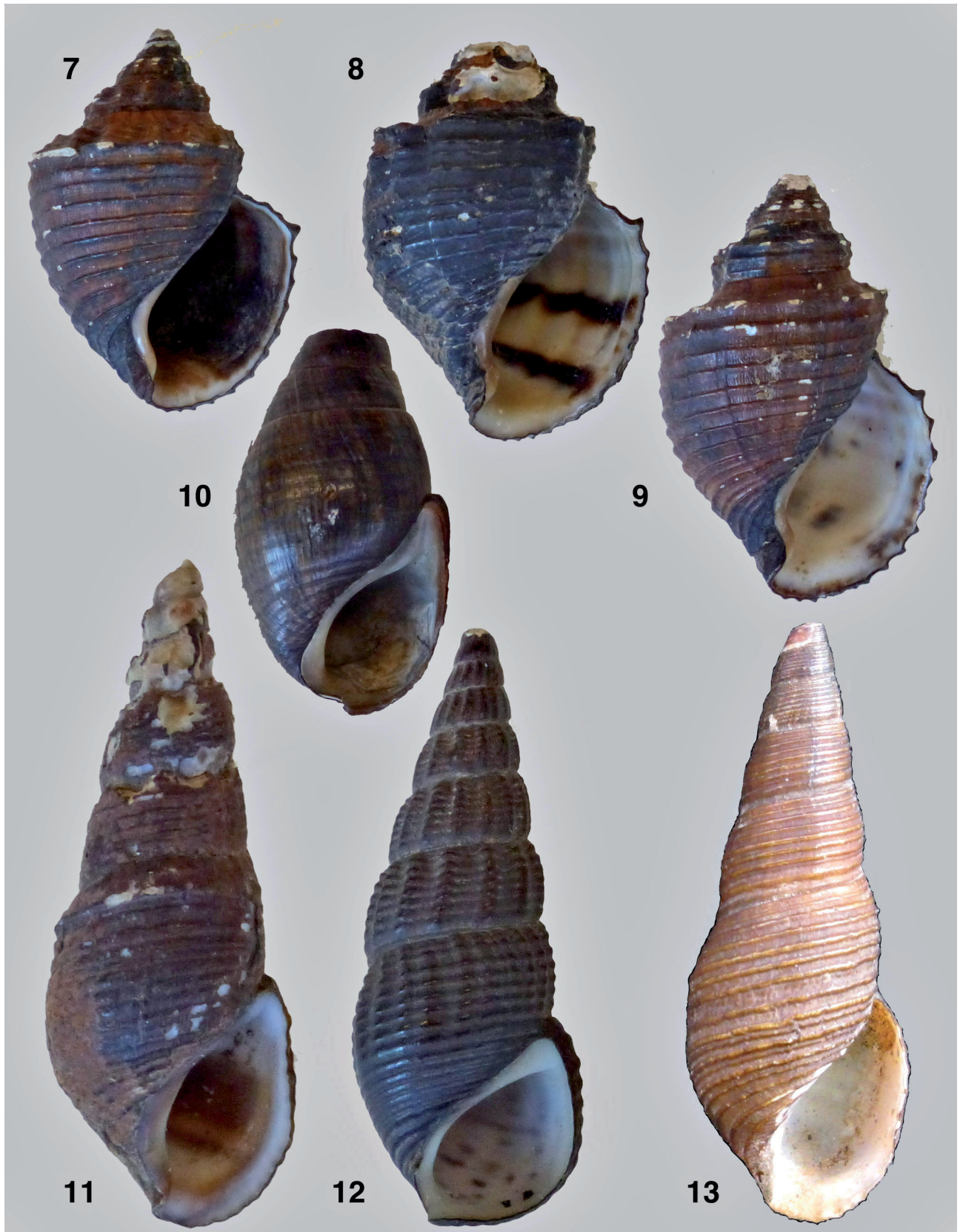
Berlandier J.L. (1805-1851) [SM]: Collected for Moricand senior in Mexico and U.S.A.

Bernardi A.C. (?-1863) [SM]: Some material from northern South America.

Blanchet J.S. (1807-1875) [SM]: Besides being an important source of Brazilian material, as mentioned before, some labels have been found where Blanchet is linked to Peruvian material. It is not known, however, if Blanchet travelled himself to Peru, or traded in material collected by others.

Blauner B.F. (1803-1853) [SM]: Some material that may be associated to Shuttleworth probably reached the

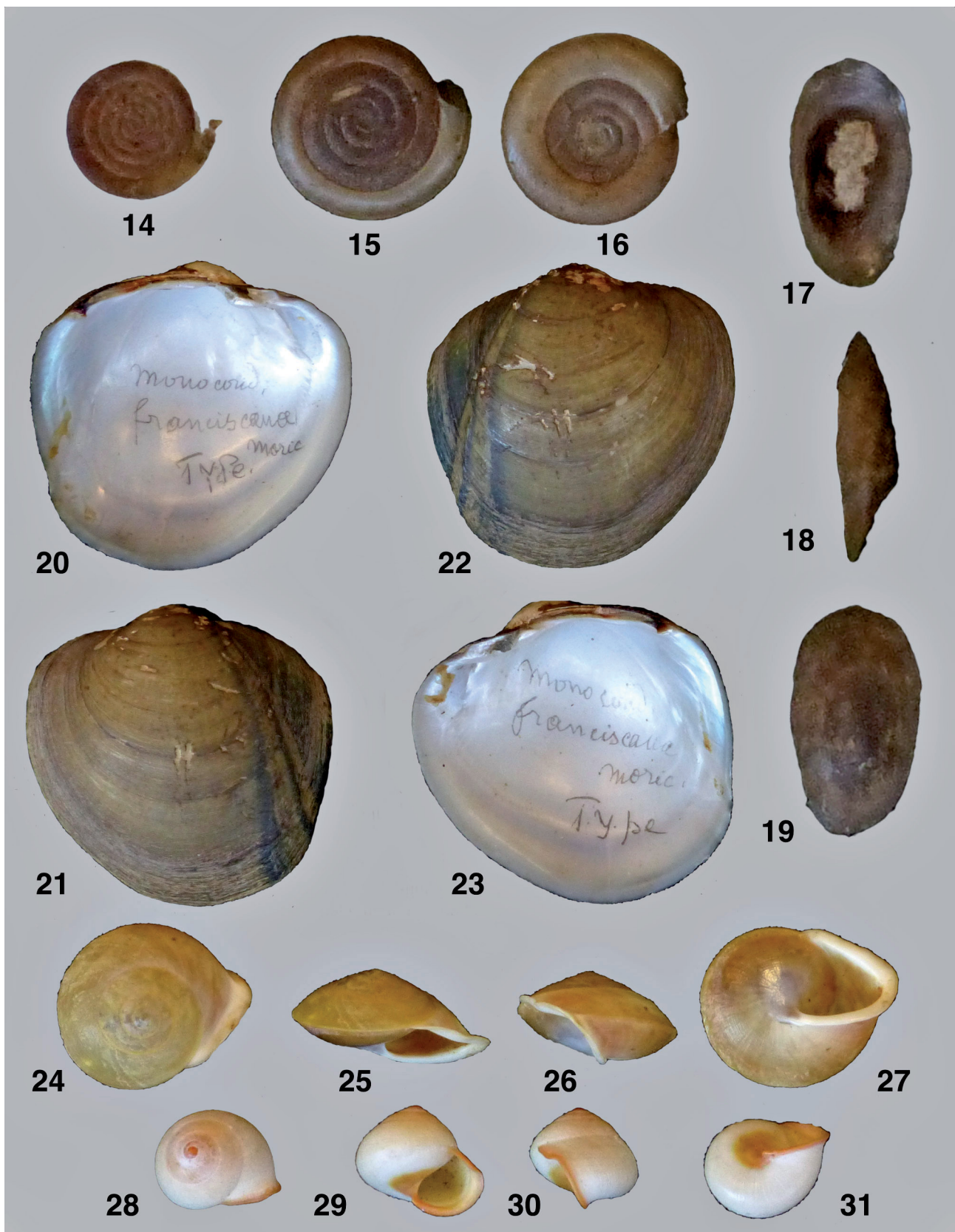
Figs 7-13. Thiaridae and Pleuroceridae. (7-9) Thiaridae. (7-9) *Aylacostoma crenocarina* (S. Moricand, 1841), (7) syntype of *Melanopsis crenocarina melanostoma* S. Moricand, 1841, MHNG-INVE-91242 (H = 38.8), (8) syntype of *Melanopsis crenocarina bilineata* S. Moricand, 1841, MHNG-INVE-91240 (H = 36.2), (9) syntype of *Melanopsis crenocarina leucostoma* S. Moricand, 1841, MHNG-INVE-91241 (H = 42.9). (10-13) Pleuroceridae. (10) *Doryssa ventricosa* (J. Moricand, 1856), syntype, MHNG-INVE-91243 (H = 37.6). (11) *Doryssa brasiliensis* (S. Moricand, 1838), syntype, MHNG-INVE-91238 (H = 41.1). (12) *Doryssa macapa* (J. Moricand, 1856), syntype, MHNG-INVE-91239 (H = 37.1). (13) *Doryssa cingulata* (J. Moricand, 1860), syntype, MHNG-INVE-91245 (H = 33.5). ►



- Moricands via Blauner (who wrote “Mon cher ami Mr. Shuttleworth...”, letter 18 August 1848; see also under Shuttleworth).
- Boissier P.E. (1810-1885) [SM]: Some type material of species described by Charpentier and Pfeiffer is in the collection originating from Boissier.
- Bourguignat J.R. (1829-1892) [M]: Few lots in the collection.
- Broeck J.E. van den (1851-1932) [B]: Some material from the West Indies.
- Bronn H.G. (1800-1862) [SM]: Exchanged material with Moricand senior (Neubert & Janssen, 2004).
- Charpentier J.G.F. de (1786-1855) [SM]: A letter, dated 15 November 1852, addressed to Moricand senior is in the handwriting archive.
- Coronado F. (?-1881) [B]: Material from West Indies.
- Cristofori G.J. de (1803-1837) [SM]: Some Mediterranean material.
- Cuming H. (1791-1865) [SM]: There are quite a number of lots in the Moricand collection of which the provenance is linked to Cuming. However, it is not clear whether (likely) Moricand (senior) received these directly from Cuming, or via J.E. Gray (see below). Another important, unresolved, question is during which year these specimens reached Geneva (see Breure, 2016), as this may be decisive for the possible type status.
- Damon R. (1814-1889) [B]: Some material supplied by him from various regions of the Americas, Australia, and the Pacific has been found.
- Dautzenberg P. (1849-1935) [B]: Few material originating from him is present in the collection.
- Dohrn H. (1838-1913) [B]: Few lots from northern South America are present.
- Férussac A.E.J.P.F. d'Audebard de (1786-1836) [SM]: Although there are but a few shells found of which the provenance directly links to Férussac, this was apparently a good contact of Moricand senior as in his early papers he frequently refers to his opinion. Férussac also named two new molluscs after Moricand (see Eponyms).
- Fischer P.H. (1835-1893) [B]: A clipping from an envelope addressed to Brot is present in the handwriting archive.
- Fulton H.C. (1861-1942) [B]: Few material, some with original labels retained.
- Gassies J.B. (1816-1883) [B]: A clipping with a ‘hommage’ to Brot is in the handwriting archive.
- Geale R.F. (18**-?) [B]: Some material supplied by him from various regions of the Americas, and Pacific islands has been found.
- Gray J.E. (1800-1875) [SM?]: There is a small clipping in the handwriting archive that is attributed to Gray and mentions Cuming’s name. It is not known to precisely whom this letter was addressed to; see sub Cuming.
- Haines W.A. (?-?) [M]: Some material originating from him, possibly in exchange.
- Hyde W. (?-?) [SM]: Some labels of American Unionidae bear the printed inscription “from / William Hyde, / No. 77 Chesnut Street, / Philadelphia”.
- Jan G. (1791-1866) [SM]: Some type material of De Cristofori & Jan, originating from the latter.
- Jay J.C. (1808-1891) [SM?]: Some material originating from him, which may have reached Moricand (senior?) via J.E. Gray.
- Jeanneret ? (?-1869) [SM]: Some material from West Indies.
- Landauer M.J. (18**-?) [B]: Quite a number of lots, especially from various parts of South America, Mexico and West Indies, and from the Pacific islands.
- Lea I. (1792-1886) [SM]: Material of American Unionidae gives Lea’s name as source.
- Marie E.A. (1835-1888) [B]: Few material from Pacific and Caribbean islands.
- Martens E. von (1831-1904) [B]: Correspondence present in handwriting archive.
- Menke K.T. (1791-1861) [SM]: One lot originating from him present, which may have arrived indirectly.
- Mörch O.A.L. (1828-1878) [M/B]: Few lots with material from West Indies and Chile. Not clear if the contact was with Moricand senior or junior.
- Morelet P.M.A. (1809-1892) [SM]: Some material from Mexico and Central America was found, including type material.
- Mortillet L.L.G. de (1821-1898) [B]: A letter dated 6 January 1866 is in the handwriting archive.
- Mousson J.R.A. (1805-1890) [JM?/B?]: A type lot of a clausiliid species described by Mousson in 1859.
- Newcomb W. (1818-1892) [M?/B?]: Few material originating from Newcomb.
- d’Orbigny A. (1802-1857) [SM]: Important source of non-Brazilian material, including type material of a number of species described by d’Orbigny. Other parts of his collection are present in Paris and London. Dedicated one new freshwater species to Moricand (see Eponyms).

Figs 14-31. Planorbidae, Unionidae, and Helicinidae. (48-53) Planorbidae. (14) *Drepanotrema cimex* (S. Moricand, 1838), syntype, MHNG-INVE-86802 (D = 6.03). (15-16) *Drepanotrema depressissimus* (S. Moricand, syntype, MHNG-INVE-86940 (D = 8.99). (17-19) *Uncancylus concentricus* (d’Orbigny, 1835), syntype of *Ancylus barilensis* S. Moricand, 1846, MHNG-INVE-87402 (D = 7.49). (20-23) Unionidae. (20-23) *Monocondylaea franciscana* (S. Moricand, 1838), holotype, MHNG-INVE-91235 (D = 39.5). (24-31) Helicinidae. (24-27) *Helicina caracolla* (S. Moricand, 1836), syntype, MHNG-INVE-91246 (D = 15.2). (28-31) *Helicina haematostoma* (S. Moricand, 1838), syntype, MHNG-INVE-91253 (D = 8.75).



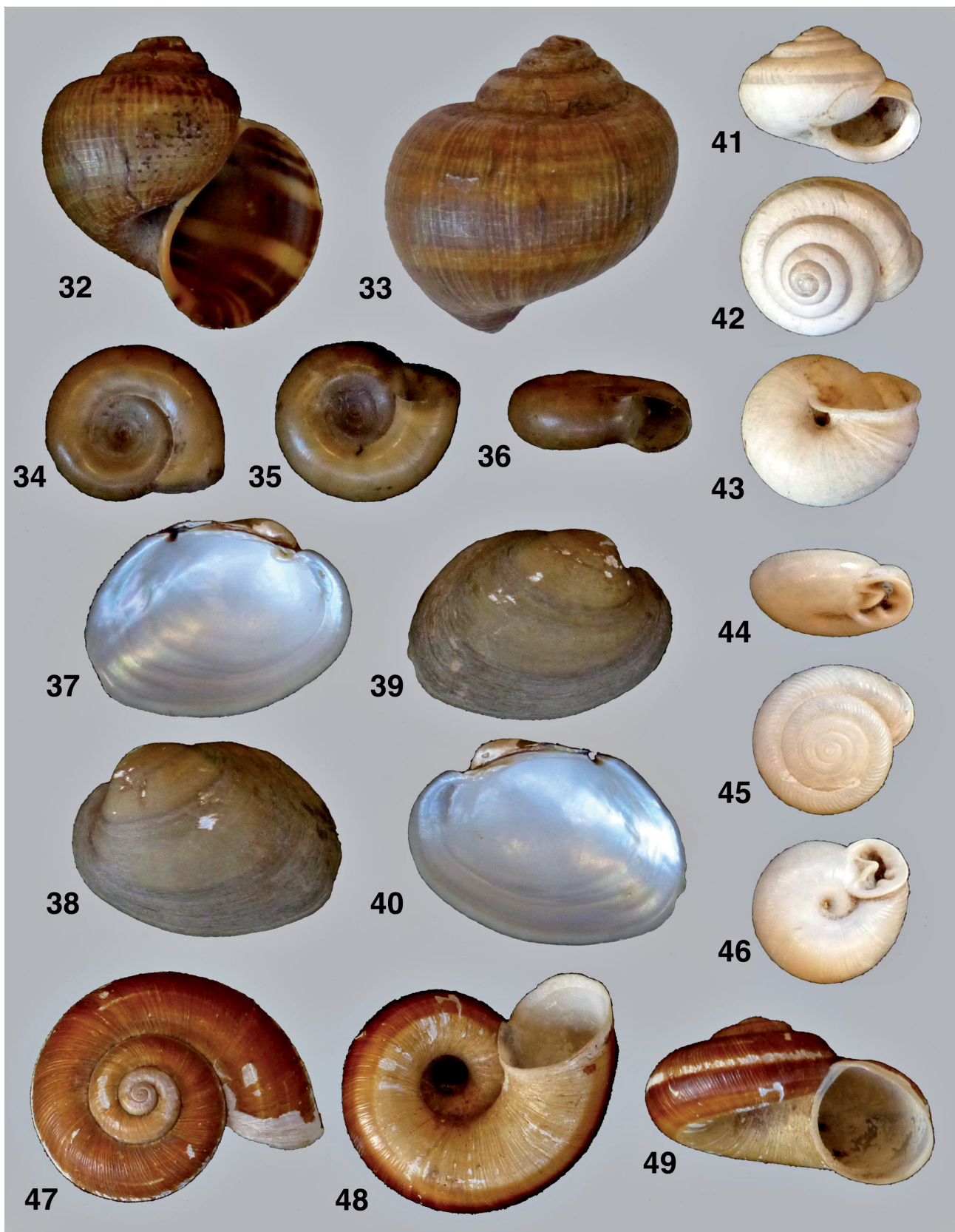


- Paladilhe J.L.I.A. de (1814-1876) [SM/JM]: Two clippings from envelopes mentioning Moricand's name are in the handwriting archive. It is not clear whether they were addressed to senior or junior.
- Parreyss L.J.M. (1799-1879) [B]: Quite some material from various regions of the Americas, and Pacific islands has been found.
- Petit de la Saussaye S.A.A. (1792-1870) [SM]: Several lots in the Moricand collection, among which type material of Petit taxa. A letter (16 June 1851) is in the handwriting archive.
- Pfeiffer L.C.G.L. (1804-1877) [SM]: Although there is no direct evidence for exchange of material, the two undoubtedly had contact as Pfeiffer dedicated two new taxa to Moricand (see Eponyms).
- Phillips J.S. (18*-?) [SM]: Moricand senior was in contact with this malacologist from Philadelphia, U.S.A.
- Pini N. (?-?) [SM]: Clippings from a postcard are present in the handwriting archive.
- Porte M. (?-1866) [JM]: Sent material from the eastern Andes in Peru, among which several new species.
- Ranzani C. (1775-1841) [SM]: Not a malacologist but director of the Museo di Zoologia dell'Università di Bologna, where freshwater shells are in the collection with labels by Moricand senior (Albano *et al.*, 2014: fig. 2A). Ranzani dedicated a new fish after Moricand (see Eponyms).
- Sallé A. (1829-1896) [JM]: Material was found in the Moricand collection which has been collected by Sallé during his travels to the Caribbean and Central America; likely a contact of Moricand junior.
- Saussure H.L.F. de (1829-1905) [JM]: Some material from Mexico was found; likely a contact of Moricand junior.
- Say T. (1787-1834) [SM]: Some labels mention his name as source of material in the Moricand collection.
- Schepman M.M. (1847-1919) [B]: A clipping from correspondence is in the handwriting archive.
- Schneider G. (18*-?) [B]: Some material from northern South America, and from New Caledonia is present in the collection.
- Semper C.G. (1832-1893) [B]: Some labels from material exchanged with Brot are in the handwriting archive.
- Shuttleworth R.J. (1810-1874) [M/B]: Several lots with material from the West Indies. Letter dated 7 August 1852 in the handwriting archive. In the Shuttleworth collection also specimens received from Moricand senior are present (Neubert & Gosteli, 2003: 32, 54).
- Sowerby G.B. III (1843-1921) [B]: Several lots were found with 'Sowerby' as source, some with material that evidently came from the Cuming collection.
- Stabile G. (1826-1869) [M]: Some Clausiliidae material originating from him.
- Stoll O. (1849-1922) [B]: Several lots from Mexico and Central America.
- Sumichrast A.L.J.F. (1828-1882) [B]: Several lots from Mexico.
- Terver A.P. (1789-1875) [M]: Few lots of European material received from him are in the collection.
- Verreaux J.P. (1807-1873) [JM?/B]: On several labels occurs the name "Verreaux"; it is assumed that this was J.P. Verreaux (see Neubert & Gosteli 2003: 8).
- Villa A. (1806-1885) & Villa G. (1810-1887) [JM?/B]: A clipping from correspondence "à Mons. Moricand" is in the handwriting archive; it is not clear if this was a contact of senior or junior. Furthermore there is a list of freshwater shells (Unionidae) "al Sig. Auguste Brot".
- Vimont A.Z. (?-1883) [B]: Material from different parts of the globe.
- Webb P.B. (1793-1854) [SM]: Some material collected by Webb on the Canary Islands is present.

Of the following authors (supposed) type material is present in the Moricand collection: C.B. Adams, Anthony, Benoit, Bielz, Binney, Bourignat, Brot, Charpentier, de Cristofori & Jan, Deshayes, d'Orbigny, Draparnaud, Férussac, Friwaldsky, Gray, Held, Huet, Jan, Jay, Küster, Martens, Menke, Morelet, Mortillet, Mousson, Pfeiffer, Rossmässler, Say, Shuttleworth, Stabile, Terver, Villa, Wagner, and Webb & Berthelot. As far as material did not come directly from these authors, third persons may have been involved, but the check of provenance of all type material was beyond the scope of our study. Material from the Moricand collection has been found as received in exchange in the registers of the Museum of Comparative Zoology, Cambridge, and the National Museum of Natural History, Smithsonian Institution, Washington D.C, both U.S.A.; however, in both cases no date is mentioned and it is likely these exchanges were made during the course of the 20th century.

Figs 32-49. Ampullariidae, Planorbidae, Unionidae, Polygyridae, and Megalomastomidae. (32-33) Ampullariidae. (32-33) *Pomacea decussata* (S. Moricand, 1836), syntype, MHNG-INVE-33485 (H = 29.4). (34-36) Planorbidae. (34-36) *Biomphalaria glabrata* (Say, 1818), syntype of *Planorbis dentifer* J. Moricand, 1853, MHNG-INVE-86932 (D = 12.7). (37-40) Unionidae. (37-40) *Monocondylaea reticulata* (J. Moricand, 1858), syntype, MHNG-INVE-91236 (D = 41.8). (41-46) Polygyridae. (41-43) *Praticolella (Praticolella) berlandieriana* (S. Moricand, 1834), syntype, MHNG-INVE-37027 (H = 8.98). (44-46) *Polygyra (Linisia) texasiana texasiana* (S. Moricand, 1833), syntype, MHNG-INVE-72781 (D = 10.4). (47-49) Megalomastomidae. (47-49) *Aperostoma blanchetiana* (S. Moricand, 1836), syntype, MHNG-INVE-91233 (D = 30.3).





EPILOGUE

Moricand senior and junior have enriched our knowledge of the European and Neotropical flora and fauna with the introduction of many new taxa. Moricand senior's interest in natural history developed gradually. He was interested in botany first and published between 1820 and 1847 in total 11 papers, in which he described 110 taxa, many of which belong to the family Fabaceae. His malacological interest developed later and started in 1834. Until 1851 he published six papers introducing 72 taxa, of which one nomen nudum and seven unavailable names under the ICZN Code. As Moricand senior never visited the Neotropics, he was depending on what others sent him; consequently his new taxa were focussed to a large extent on Brazil. Moricand junior published only four malacological papers within a relatively short time (1853-1860), with 16 new species; due to access to additional sources than Moricand senior, he was able to contribute to the Peruvian malacofauna.

Although this paper has been mainly written from a malacological point of view, we considered it fair to include the new botanical taxa described by Moricand senior, and his botanical eponyms, to do justice to these two sides of this amateur scientist from Geneva. And although the available documentation fails to provide enough detail of the apparently close relationships between Moricand senior, junior and Brot, we feel that at least some light is shed on their fruitful collaboration during the mid-19th century.

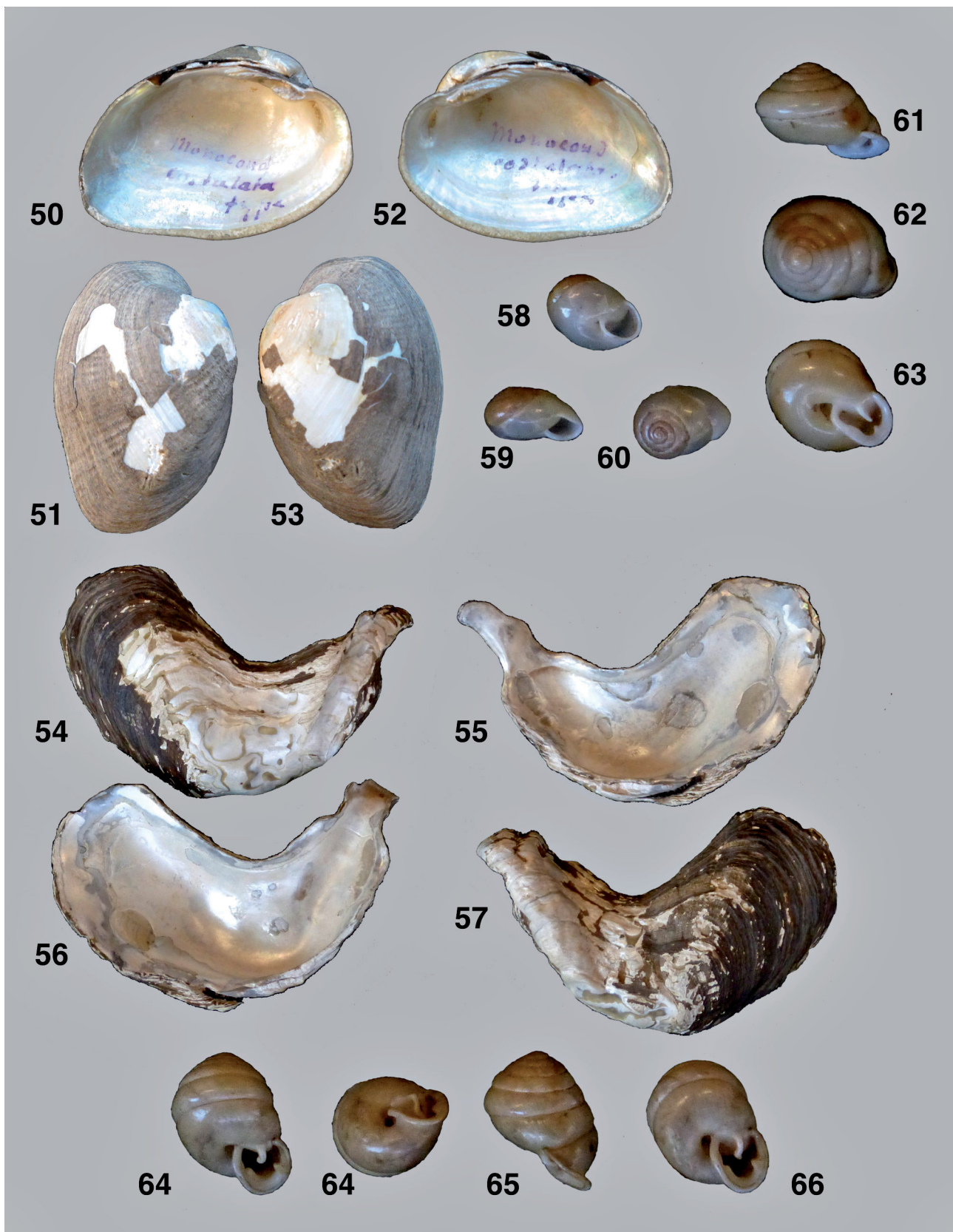
ACKNOWLEDGEMENTS

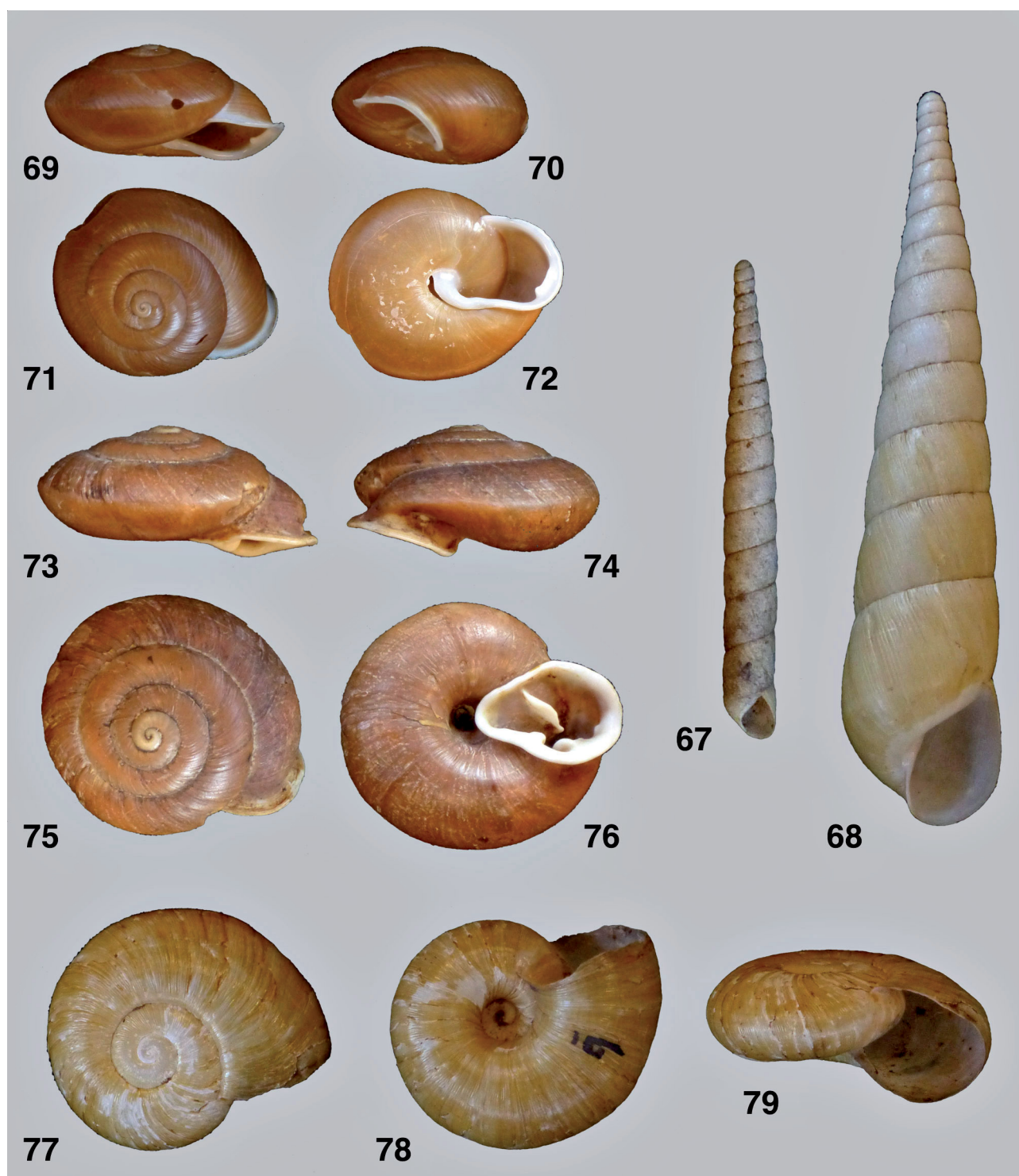
We are very grateful to B. Zezoni (MHNG librarian), who uncovered several sources from the Muséum's archive that were helpful to reconstruct the history of the Moricand collection. A. Buijsen (Naturalis librarian) and P. Emery (CJB librarian) kindly provided information on several botanical sources, and R. Herschler (Washington) sent a scanned label with Moricand's hand. Catherine de Jong (MHNG) helped with verifying the publication dates. J.J. Vermeulen (Leiden) guided us through the forest of botanical nomenclature to sort out the Moricand names and eponyms; his help is gratefully acknowledged. His comments and those of I. Richling (Stuttgart), and F.W. Stauffer (CJB) on the draft version, helped to improve this paper; their comments are here thankfully acknowledged.

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Figs 50-66. Unionidae, Etheriidae, and Streptaxidae. (50-53) Unionidae. (50-53) *Monocondylaea costulata* (J. Moricand, 1858), syntype, MHNG-INVE-91234 (D = 35.0). (54-57) Etheriidae. (54-57) *Bartlettia stefanensis* (J. Moricand, 1856), syntype, MHNG-INVE-91237 (D = 75.7). (58-66) Streptaxidae. (58-63) *Streptartemon comboides* (d'Orbigny, 1835), (58-60) syntype of *Helix (Cochlodonta) comboides brasiliensis* S. Moricand, 1836, MHNG-INVE-68684 (D = 9.01), (61-63) syntype of *Helix (Cochlodonta) comboides edentula* S. Moricand, 1836, MHNG-INVE-68683 (D = 6.30). (64-66) *Streptartemon streptodon* (S. Moricand, 1851), syntype, MHNG-INVE-68696 (D = 8.86). ►





Figs 67-79. Subulinidae, Pleurodontidae, and Haplotrematidae. (67-68) Subulinidae. (67) *Obeliscus subuliformis* (S. Moricand, 1836), syntype, MHNG-INVE-66259 (H = 28.7). (68) *Obeliscus obeliscus* (S. Moricand, 1834), holotype, MHNG-INVE-66256 (H = 84.4). (69-76) Pleurodontidae. (69-72) *Isomeria equestrata* (J. Moricand, 1858), syntype, MHNG-INVE-72607 (D = 38.6). (73-76) *Labyrinthus tarapotonensis* (J. Moricand, 1858), syntype, MHNG-INVE-72711 (D = 30.0). (77-79). Haplotrematidae. (77-79) *Austroselenites moyobambensis* (J. Moricand, 1858), syntype, MHNG-INVE-68036 (D = 27.2).



Figs 80-88. Streptaxidae, Euconulidae, and Charopidae. (80-82) Streptaxidae. (80-82) *Streptartemon cryptodon* (S. Moricand, 1851), syntype, MHNG-INVE-68687 (D = 3.68). (83-85) Euconulidae. (83-85) *Pseudoguppya semenlini* (S. Moricand, 1846), syntype, MHNG-INVE-70933 (D = 2.26). (86-88) Charopidae. (86-88) *Lilloiconcha pleurophora* (S. Moricand, 1846), syntype, MHNG-INVE-69077 (D = 2.15).

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APPENDIX. NOTES ON THE PUBLICATION DATES OF THE "MÉMOIRES DE LA SOCIÉTÉ DE PHYSIQUE ET D'HISTOIRE NATURELLE DE GENÈVE"

1. The "Mémoires" were published at irregular intervals in two parts ("partie") per volume ("Tome"). Most papers appeared with a line on the title page stating the date the content was read at a meeting of the Society. The journal was printed in consecutively numbered sheets of eight pages. We have researched especially S. Moricand's papers that were published in this journal and for which the date of publication may have taxonomic significance, i.e. Moricand 1834a, 1834b, 1835, 1836a, 1838, 1841a, 1846.
2. [Moricand 1834a, b] appeared both in livraison 2 of tome VI, on sheets 67-68. Both papers are without a date of

reading before a Society meeting, while the preceding paper (pp. 503-528, sheets 64-67) cites “Mémoire lu à la Société (...) le 18 Avril 1834”, and the following paper (pp. 545-581, sheets 68-73) has “Mémoire lu à la Société (...) le 5 Juin 1834”. Moricand’s papers were thus likely published in the second half of 1834.

3. [Moricand 1835] was published as the last article in tome VII, 1^{re} partie, with “1835” on the title page; it comprised sheets 31-32. A preceding paper (pp. 191-221, sheets 24-28) has as subtitle “Lu à la Société (...) le 18 décembre 1834”. Thus this paper was possibly published in 1835 (Stafleu & Cowan, 1981: 583 also suggest 1836).
4. [Moricand 1836a] appeared on pp. 414-446, sheets 51-55, of the second part of volume 7; according to its subtitle the paper was read before the Society on 18 June 1835. The following paper (pp. 447-455, sheets 55-56) was read on 17 December 1835. In the archives we found evidence that the date on the cover of this part (“1836”) is correct.
5. The first part of volume 8 has “1838” printed on the cover. [Moricand 1838] was read at the meeting of 5 January 1837 of the Society, but other papers scattered throughout this part were only read as late as 18 January 1838 (p. 163). Therefore this part of the volume must have been published after this month. Since we found evidence in the archives that the second part of volume 8 was printed in 1839, we may assume that the first part was printed earlier, thus February-December 1838.
6. Moricand’s second supplement [Moricand 1841] appeared in the first part of volume 9. It was read at the Society’s meeting of 7 February 1838. The final paper in this part of the journal was read “le 17 Décembre 1840”, and the issue probably appeared in print during 1841.
7. The final part on the Blanchet material [Moricand 1846] was read before the Society in May 1845 and was printed in the first part of volume 11. On page 253, however, a manuscript is shown to be written on 16 February 1846. This part of the volume is likely printed after that date, and in the archives we found evidence that the date on the cover of this part (“1846”) is correct.