

Type specimens of Macaronesian land snails described by R. T. Lowe held in the Booth Museum, Brighton

A forgotten taxonomic resource

Les spécimens types des mollusques terrestres de Macaronésie décrits par R. T. Lowe et conservés au Booth Museum, Brighton
Une ressource taxinomique oubliée

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KEY-WORDS

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 Col. L. Worthington-Wilmer

R. T. Lowe
 T. V. Wollaston
 syntypes

Summary: Type specimens of 103 species, in 111 lots, of land molluscs from Madeira and the Canary Islands described by R. T. Lowe have been found in the Booth Museum, Brighton. The collections were donated by Col. L. Worthington-Wilmer in 1911 and were selected from the collection of R. T. Lowe. An exemplar from each type lot is illustrated and the references for the original descriptions and type localities are given.

MOTS-CLÉS

Madeira
 îles Canaries
 mollusques terrestres
 colonel L. Worthington-Wilmer

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Résumé : Les spécimens types de 103 espèces en 111 lots, de mollusques terrestres de Madère et des îles Canaries, décrits par R. T. Lowe, ont été trouvés au Booth Museum, Brighton. Les séries ont été données par le colonel L. Worthington-Wilmer en 1911 et ont été sélectionnées dans la collection de R. T. Lowe. Un exemplaire de chaque lot type est illustré et les références des descriptions originales et des localités types sont données.

Introduction

In the United Kingdom important taxonomic collections containing type specimens are often assumed to be held by national, larger municipal or university museums. However, recent work through the "Mollusca Types in GB & Ireland" project (Ablett *et al.*, 2018, <https://gbmolluscatypes.ac.uk>) has revealed that many smaller museums hold type specimens. These range from small independent museums such as Tenby in Wales (Oliver *et al.*, 2020) to city museums such as Exeter (Oliver *et al.*, 2017). In 2021 the first author visited the Booth Museum

of Natural History in Brighton, England to assess the collections of Mollusca and make recommendations on their significance and potential roles (Oliver, 2022, confidential report for Royal Pavilion and Museums, Brighton).

The Booth Museum ¹ (Fig. 1) was built in 1874 to house the private collection of Edward Thomas Booth ¹ (1840–1890) and became a public museum in 1890. Booth was a pioneer of preparing mounted birds in a natural backdrop and was the first to exhibit his dioramas (Fig. 2), for which the museum

1. Booth and the Booth Museum at https://en.wikipedia.org/wiki/Booth_Museum_of_Natural_History (accessed 25/10/2022)

ZOOLOGIE



Fig. 1. Front facade of the Booth Museum, Brighton.



Fig. 2. Diorama of the Gannet (*Sula bassana*), typical of the preparations of E. T. Booth.

remains renowned. The collection of south and Central American butterflies is also documented (Legg, 1984) but the Mollusca have been largely ignored.

The review by Oliver (2022) found that there was a good representation of the land and freshwater molluscs of the south-east of England typified by the Jenner collection (Fig. 3) (Jenner, 1891) and of subtropical and tropical land snails typified by the Tulk-Hart (1847–1920) collection (Fig. 4). Undoubtedly this collection contains many rare, endangered or even extinct species but the provenance of

this material is obscure rendering it of little taxonomic value.

A miscellany of late Victorian material contained some shells exchanged or purchased through Sowerby & Fulton², Ronald Winckworth³ and J. R. Le B. Tomlin⁴. Among the general collection were many shells attributed to a Col. Worthington-Wilmer but in two drawers were selections of neatly arranged boxes of land snails from the Macaronesian islands of Madeira and the Canaries (Fig. 5). The drawer of Madeiran species was immediately of interest as it indicated that

- 2. See Petit (2009).
- 3. See Ellis (1950).
- 4. See Trew (1990).



Fig. 3. A drawer of British land snails from the Jenner collection.



Fig. 4. A selection of land snails from the endangered faunas of Mauritius and Seychelles in the Tulk-Hart Collection.



Fig. 5. Two drawers containing the Worthington-Wilmer donations of Madeiran and Canary Islands Mollusca.

these boxes were once part of the R. T. Lowe collection, the pioneer of Madeiran land snail descriptions from 1831 to 1861. These shells were donated by Col. Louis Worthington-Wilmer in August 1911 and the museum register states “*Selection of the Madeira section of the collection of shells formed by the late Rev. Canon Lowe*” and then against a type list of the shells “*Catalogue of the Madeira section of the collection of Shells got together by the late Rev. Canon Lowe*”. This drawer contains 130 lots, the majority of species described by Lowe. A second donation in October of the same year consists of shells from the Canary islands, 82 lots plus another three from Madeira and Cape Verde islands. These collections were initially donated to the Brighton Museum and Art Gallery and were transferred to the Booth Museum in 1971 when it was incorporated into the “Royal Pavilion & Museums, Brighton and Hove”.

The collections consist of neatly arranged shells in glass-topped boxes, resting on cotton wool (**Plate 8A–E**). Most lots contain multiple examples of each species ranging in number from three to thirty-three. They are labelled on the reverse in pencil giving identity and locality, these are not in Lowes handwriting

and we do not have examples from Worthington-Wilmer.

The reverse carries an original Brighton Museum registration number in the form R 1138/1-130 for the first donation and R1145/1-82 for the second donation where the first number is the accession number and the second the lot number. In the last few years a second registration has been added, with an individual number for each shell, these in the form of a running number, e.g. 406458–406462. Note that in the Booth Museum's digital database these numbers are prefixed with BV and this should be used if enquiring about any of the material listed here. The reference directly to Lowe suggested that these shells may have type status and were at least of historic significance. This paper describes this collection, discusses their significance and determines the type status of those lots containing species described by Lowe. A subsequent paper (in prep.) will bring together a compendium of all known, accepted and potential, type lots held in museums in Europe and North America. That paper will discuss the provenances of the collections and propose a hierarchy of significance.

The Donor - Lt. Col. Lewis Worthington-Wilmer (1838–1923)

Lewis Worthington-Wilmer (often abbreviated to L.W. Wilmer) was part of a military family and joined the army at the age of 17 and then served with distinction during the Indian Mutiny of 1857/58. There are no indications of an early interest in natural history but in India he dredged many marine gastropods from the Andaman Islands. He donated this collection to the British Museum (Natural History) (BMNH) now Natural History Museum United Kingdom (NHMUK) in 1878 and seventy-five were subsequently described by E. A. Smith (1879) including the patronym *Pleurotoma wilmeri* E. A. Smith, 1879. Once retired we see him developing a range of activities not only in natural history but in archaeology and numismatics. Evidence of these activities are present in his donations to the Brighton museum and those relevant to conchology are listed below. His association with the Brighton Museum can be traced to 1886 when a note in the Minutes of the Pavilion Museum, Brighton suggests sending shells to Col. Worthington-Wilmer for identification “*Vol. 15, p. 171, 6 September 1886: Resolved that the shells be sent to Colonel Wilmer of 12 Gunderstone Road, West Kensington to name*”. In 1910 he begins a series of donations of shells:

- 1910 – 28 lots of land snails from Bermuda ex A. J. Peile ⁵
- 1910 – 12 lots of assorted shells
- 1911/1138 – 130 lots of Madeiran land snails selected from the R. T. Lowe collection
- 1911/1145 – 82 lots of shells from the Canary Islands
- 1912/1270 – 43 lots of shells and fossils from Jamaica and Lower Greensand, Isle of Wight
- 1913/1296 – 43 lots of tropical shells, many from Andamans
- 1913/1329 – 102 lots of tropical shells
- 1913/1377 – 8 lots from Isle of Wight and Jamaica

Conchology was perhaps his main interest and he was a founder member of the Malacological Society of London in 1893 and a council member from 1897/9. He regularly attended meetings and participated in discussions on nomenclature (Burne, 1904) and making short communications (Wilmer, 1917). Although a regular attendee and accomplished field

naturalist he did not develop a research interest but exhibited at meetings of the Malacological Society. ⁶

He however is recognised in a number of patronyms *Clavus wilmeri* (E. A. Smith, 1879); *Cancellaria wilmeri* G. B. Sowerby III, 1881; *Conus wilmeri* G. B. Sowerby III, 1882; *Gyrineum wilmerianum* Preston, 1908; *Drillia worthingtoni* E. A. Smith, 1904.

In his obituary Bullen Newton (1923) indicates that Worthington-Wilmer's collection amounted to 40,000 shells but this far exceeds his donations to Brighton. It is not known what became of this collection.

We have no evidence that Worthington-Wilmer acquired the Madeiran shells directly from Lowe although the implication in the Brighton register is that the shells came from Lowe's own collection. However, this could also have come about if Worthington-Wilmer had access to the collection once it had been acquired by Wollaston either directly through T. V. Wollaston or his wife Edith who has possession of the entire Lowe/Wollaston material after her husband's death in 1878 until she sold it to Hugh Berthon Preston ⁷ in 1907. It is possible that Worthington-Wilmer could have met both Lowe and Wollaston, for he was aged 36 when Lowe died and 40 when Wollaston died.

Worthington-Wilmer is not only connected with Madeiran shells through the Booth collection for in 1968 a collection of Madeiran land snails considered to consist of potential syntypes was donated to the NHMUK by a John Cooper (Accession Number 2122). This collection was said to have been put together by Worthington-Wilmer and had been part of the Castle Turner and Farrenden collections. Information on none of the three names mentioned here could be found. This collection consisted mostly of lots with one example only and represented only 33 species compared with the 103 species in the Booth collection, never-the-less the collection was subsequently registered as a set of syntypes.

A third connection came to light in the National Museums Scotland where a number of lots in the A.E. Salisbury ⁸ collection are annotated “Lowe Coll. ex Col. Wilmer”. This suggests that Worthington-Wilmer either had continuing access to the Lowe material or that he had acquired sufficient to make duplicate collections.

5. See Winckworth (1949).

6. In 1909, Mr E. A. Smith exhibited on behalf of Colonel Wilmer, a living sinistral specimen of *Helicella caperata* from Brighton Downs found by Colonel Wilmer.

7. See Winckworth (1946).

8. See Badcock (1964).

The Collector : Richard Thomas Lowe (1802–1874)

The following brief account of R. T. Lowe is derived primarily from the studies of Lowe as a botanist by Sandra Mesquita and her colleagues (Mesquita *et al.*, 2020 ; 2021 ; 2022) and the entry in the Oxford Dictionary of National Biography (Foote, 2004). Lowe was a graduate of Christ's College Cambridge and took holy orders in 1825. At Cambridge he became interested in natural history and joined a group of students who participated in botanizing tours under the supervision of J. S. Henslow, renowned as Darwin's mentor (Walters & Stow, 2001). Other students accompanying Lowe were Miles Joseph Berkeley (1803-1889) (Taylor, 1970) the eminent lichenologist, whom Lowe later named a species for. It was here that Lowe became acquainted with Thomas Vernon Wollaston (1822-1878) (see below) with whom he maintained a deep friendship throughout his life. Henslow was a founder of the Cambridge Philosophical Society in whose journal Lowe would publish his first major paper (Lowe, 1831). Lowe first went to Madeira in 1826 and embarked on making comprehensive collections of plants (Mesquita *et al.*, 2021), shells (e.g. Lowe, 1831) and eventually fishes (Lowe, 1843). In the early years on Madeira he was in frequent correspondence ⁸ with Philip Barker Webb (1793–1854) who was also a Christ's College graduate and was living on Tenerife from 1829-1830. Webb like Lowe was a collector of both plants and shells and published a nine-volume work on the natural history of the Canary Isles but specifically on shells in Webb & Berthelot (1833). Most of the correspondence with Webb ⁹ concerns Botany (Mesquita *et al.*, 2021) but a few pages are dedicated to molluscs (Fig. 6).

Lowe lived on the island as a clergyman causing considerable disquiet through his

adherence to Tractarianism (Nash, 1990) and was finally forced to give up his position in 1847. He returned to live in England but continued to make excursions to Madeira until his untimely death in 1874 as a result of being lost at sea following a shipwreck.

Lowe wrote eleven papers on the land Mollusca of Madeira, Mogador and the Canary Islands with the majority of his new taxa in just three major papers (Lowe, 1831 ; 1852 ; 1855). Altogether he described 222 nominal species with additional varieties identified by Greek letters only. Lowe did not recognise the concept of type specimens and did not designate type material for any of his papers. Surprisingly, Lowe only deposited three lots of land snail to the then British Museum of Natural History including the very rare *Helix delphinuloides* Lowe, 1860. This donation was made in 1860 and others from then through to 1873 concerned marine Mollusca and assorted invertebrates amounting to no more than 20 lots. Lowe's failure to deposit significant collections of land snail may have been due to his untimely death. However, in 1850 Wollaston donated a collection of Madeiran land snails to the BM (NH), most of which had been described by Lowe and were probably collected by Lowe. As a consequence of Lowe's reluctance or his untimely death the vast majority of Lowe's collection was donated after his death, primarily via Wollaston who had inherited Lowe's materials. In a sequel to this paper (Oliver *et al.*, in prep.) the entirety of the deposition of Lowe's collection and the extent of potential type material will be explored.

Thomas Vernon Wollaston befriended Lowe while at Christ's College Cambridge and was also part of the circle of naturalists around J. S. Henslow. Wollaston's main interest was in entomology, primarily Coleoptera (beetles) but after visiting Madeira in 1847 he with Lowe studied Mollusca. After staying on Madeira during the winter of 1847-48 he made four

9. Original MSS in the Università degli Studi di Firenze, Biblioteca di Scienze, Progetto Humboldt. Available at: http://fundacionrotava.es/pynakes/lise/lowe_carta_en_01_1828/1 / (accessed 11 July 2018).

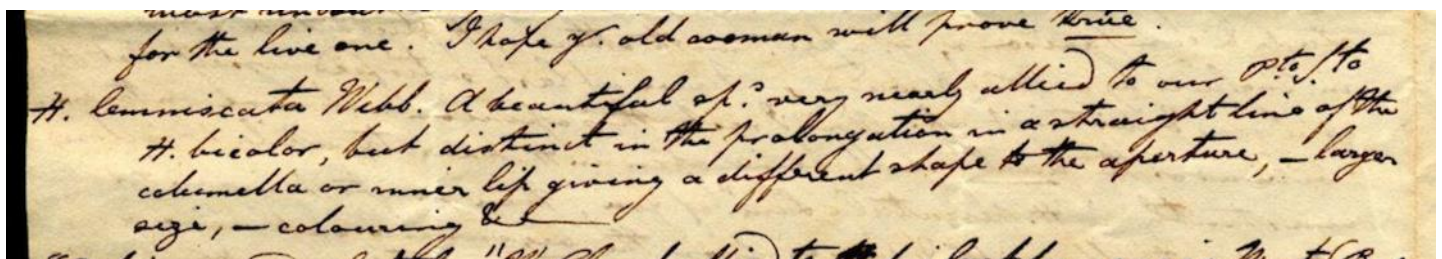


Fig. 6. Extract from a letter written by R. T. Lowe to P. B. Webb on 29/12/1829.

H. lemniscata Webb. A beautiful sp. very nearly allied to our *P^o S^o* [Porto Santo] *H. bicolor*, but distinct in the prolongation in a straight line of the columella or inner lip giving a different shape to the aperture, — larger size, — colouring...

more visits, the last in 1855. In 1858 and 1859 he and Lowe visited the Canary Islands. In 1866 they expanded their horizons and visited the Cape Verde Islands and then in 1875 Wollaston along with John Gray visited St. Helena. Wollaston was greatly interested in biogeography and brought together his work with Lowe in his "Testacea Atlantica" (Wollaston, 1878). In the preface he makes it clear that he had possession of Lowe's collection :

"Nevertheless I should hardly have been inclined to undertake so serious a task as the critical examination of the characters and habitats of so many species, had not the bequeathment to me by Mr. Lowe of his extensive conchological collections (to be distributed to various Museums, though with power to reserve for my own use whatever types I might require) thrown on to my hands a mass of material so unexpected".

Although the statement above suggests that Lowe's collection was destined for various museums Wollaston made only two donations both in 1875 the year after Lowe's death; one to the British Museum (Natural History) comprising 120 species and one to the Zoological Museum of Cambridge University comprising 88 species. Neither of these donations were in any way comprehensive of the 222 nominal taxa described by Lowe. Wollaston's synthesis contains fifty-two new species but half of these are at the subspecies or varietal level and most are from islands other than Madeira.

Wollaston died in the same year that his *Testacea Atlantica* was published and the Lowe/Wollaston collection reverted to Wollaston's widow Edith (née Shepherd).

Discussion

This collection has both historic biodiversity and nomenclatural significance. Firstly the land snail faunas of the Macaronesian Islands are highly diverse with a patchwork of endemic species often occupying limited geographical areas (Cook, 2008). With increasing anthropogenic changes many species are vulnerable, threatened, critically endangered and some possibly extinct (Neubert *et al.*, 2019a, b). Following the IUCN Red List categories in Neubert *et al.* (2019a, b), within the Booth collection there are fourteen listed as Vulnerable; seven as Endangered; ten as Critically

Endangered and seven as Critically Endangered/Possibly Extinct. The latter seven are *Leiostyla cassida*, *Craspedaria delphinuloides*, *Discula lyelliana*, *D. tetrica*, *Monileria pulverulenta*, *Canaridiscus putrescens* and *Atlantica guerinianus* (**Plate 8 A-G**).

Lowe did not designate type specimens in any of his publications, nor did he personally lodge all but three of his species in any museum. Wollaston did deposit Lowe material in London and Cambridge but did not give them any type status. Once the collection passed to Wollaston's widow Edith she sold some of it to other museums and eventually all of it to H. B. Preston in 1907. However, she must have retained some material because after her death her sister donated a collection to Exeter in 1911 which, in part, was assumed to contain shells figured in Lowe's 1831 paper (currently under review). As there were no designated types Preston assumed that any material coming from the Lowe collection could be considered of type status and sold many duplicates as "co-types". This material has now been given syntype status in museums such as in Cardiff, Manchester and Liverpool, (see <https://gbmolluscatypes.ac.uk/specimens?-action=search&Keywords=Lowe>). The 1968 donation to London which is linked to Worthington-Wilmer has also been given syntype status and indeed examples from this collection have been chosen as lectotypes. Given the many collections that are now considered to be of type status we propose that the specimens of species described by Lowe in the Booth Museum can also be given syntype status.

A fuller discussion of the type status of specimens in a dispersed collection will be given in a subsequent paper where the full extent of the possible 7,000 type specimens from the Lowe collection will be itemised and discussed. A catalogue of the type material of species described by R. T. Lowe in the Booth Museum is presented below. The format of the catalogue is as follows: *Paragraph 1*, original name given by Lowe; publication and page number in []; type locality. *Paragraph 2*, type status. *Paragraph 3*, Identification and locality given on the reverse of each box. *Paragraph 4*, number of specimens followed by the Booth Museum registration numbers. *Paragraph 5*, the current name. The current name mostly follows that in MolluscaBase but there is a considerable amount of flux and uncertainty that the current name may be modified here by Klaus

Groh. The current European conservation status, as given in Neubert *et al.* (2019a, b), is indicated after the accepted name, as follows: Least Concern (LC), Data Deficient (DD), Near Threatened (NT), Vulnerable (VU), Endangered (EN), Critically Endangered (CR) or Critically Endangered/Possibly Extinct (CR/PE).

Subfossil and fossil species are suffixed with †.

Catalogue of the Type Material of Species described by R. T. Lowe in the Booth Museum, Brighton

FAMILY COCHLICOPIDAE

Cochlicopa A. Férussac, 1821

1. pl. 1

***Bulimus (Zua) maderensis* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 119] “in Madera” [= Madeira]

Syntypes.

Achatina maderensis, Madeira

16 shells: Booth Museum 406529–406545

***Cochlicopa lubrica* (O. F. Müller, 1774)**

LC Klaus Groh considers that this is more probably close to *Cochlicopa lubricella* (Porro, 1838) and that the taxonomy is under review.

FAMILY TRUNCATELLINIDAE

Truncatellina R. T. Lowe, 1852

2. pl. 1

***Pupa (Truncatellina) linearis* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 275] “semifossilis in Madera” [= semifossil in Madeira]

Topotypes. Lectotype selected by Hutterer & Groh (1993) in NHMUK

Pupa linearis Lowe, Madeira, subfossil extinct

14 shells: Booth Museum, 407828–407841

***Truncatellina linearis* (R. T. Lowe, 1852) DD**

Columella Westerlund, 1878

3. pl. 1

***Pupa (Paludinella) microspora* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 275] “in Madera” [= Madeira]

Syntypes.

Pupa microspora Lowe, Madeira

19 shells: Booth Museum, 407867–407885

***Columella microspora* (R. T. Lowe, 1852) LC**

FAMILY LAURIIDAE

Lauria Gray, 1840

4. pl. 1

***Helix (Cochlodonta) anconostoma* R. T.**

Lowe, 1831 Lowe, R. T. (1831) [p. 62]. “in Madera” [= Madeira]

Syntypes.

Pupa anconostoma Lowe, Madeira

33 shells: Booth Museum, 407713–407746

***Lauria (Lauria) cylindracea* (Da Costa, 1778)**

Leiostyla Lowe, 1852

5. pl. 1

***Pupa (Leiostyla) irrigua* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 276] “in Madera” [= Madeira]

Syntypes.

Pupa irrigua, Madeira

15 shells: Booth Museum, 407802–407816

***Leiostyla (L.) irrigua* (R. T. Lowe, 1852) LC**

6. pl. 1

***Pupa (Leiostyla) laurinea* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 276] “in Madeira, arborea in truncis Laurorum” [= Madeira, in laurel forest on the trunks of laurel trees]

Syntypes.

Pupa laurinea, Madeira

11 shells: Booth Museum, 407817–407827

***Leiostyla (L.) laurinea* (R. T. Lowe, 1852) VU**

7. pl. 1

***Pupa (Leiostyla) macilenta* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 276] “in Deserta Majore” [= Deserta Grande]

Syntypes.

Pupa macilenta, Great Deserta

16 shells: Booth Museum, 407858–407867

***Leiostyla (L.) macilenta* (R. T. Lowe, 1852) VU**

8. pl. 1

***Pupa (Leiostyla) recta* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 276] “in Madera” [= Madeira]

Syntypes.

Pupa macilenta, Madeira

13 shells: Booth Museum, 407909–407921

***Leiostyla (L.) recta* (R. T. Lowe, 1852) LC**

9. pl. 1

***Pupa (Leiostyla) sphinctostoma* var. *a rupestris* R. T. Lowe, 1855** Lowe, R. T. (1855). [p. 209] “sub foliis Sempervivi tabulaeformis, Haw. In rupibus maritimis atque convallium Maderae” [= under the leaves of *Sempervivum tabulaeformis* Haw. in the coastal cliffs and valleys of Madeira]

Syntypes.

Pupa sphinctostoma var. *rupestris*, Madeira

12 shells: Booth Museum, 407922–407933

Leiostyla (L.) sphinctostoma (R. T. Lowe, 1831) LC

10. pl. 1

Pupa (Leiostyla) vincta R. T. Lowe, 1852 Lowe, R. T. (1852). [p. 276] “in Madera” [= Madeira]

Syntypes.

Pupa vincta, Madeira

23 shells: Booth Museum, 407934–407956

Leiostyla (L.) vincta (R. T. Lowe, 1852) LC

Leiostyla (Craticula) Lowe, 1852

11. pl. 1

Helix (Cochlodonta) calathiscus R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 64, pl. 6 fig. 34]. “in summo cacumine montis “Pico de Facho”, Portus S^{ti}.” [= at the top of the mountain Pico de Facho, Porto Santo]

Syntypes.

Pupa calathiscus Lowe, Porto Santo

18 shells: Booth Museum, 407747–407764

Leiostyla (Craticula) calathiscus (R. T. Lowe, 1831) NT

12. pl. 1

Pupa (Craticula) fusca R. T. Lowe, 1852 Lowe, R. T. (1852). [p. 277] “in Madera” [= Madeira]

Syntypes.

Pupa fusca Lowe, Madeira

26 shells: Booth Museum, 407775–407801

Leiostyla (Craticula) fusca (R. T. Lowe, 1852) LC

13. pl. 1

Pupa (Cochlodonta) monticola R. T. Lowe, 1831 Lowe, R. T. (1831). [p. 63, pl. 6 fig. 33] “in summon cacumine Montis “Pico de Facho” Insulae Portù S^{ti}.” [= at the top of the mountain Pico de Facho, Porto Santo]

Syntypes.

Pupa monticola Lowe, Porto Santo

23 shells: Booth Museum, 407886–407908

Leiostyla (Craticula) monticola (R. T. Lowe, 1831) LC

Leiostyla (Scarabella) Lowe, 1855

14. pl. 1

Helix (Cochlodonta) cassida R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 64, pl. 5 fig. 35]. “in Maderae convallibus, in rupibus aridid umbrosis” [= in arid shaded cliffs in the valleys of Madeira]

Syntypes.

Pupa cassida Lowe, Madeira

10 shells: Booth Museum, 407765–407774

Leiostyla (Scarabella) cassida (R. T. Lowe, 1831) CR/PE

FAMILY DISCIDAE

Canaridiscus Alonso & Ibáñez, 2011

15. pl. 8

Helix (Lucilla) putrescens R. T. Lowe, 1861 Lowe, R. T. (1861) [p. 104]. “sub truncis putrescentibus humidus in sylvis convallis Galgae Insulae Palmae rariss” [= under rotting trunks, damp forests of the valley of Galga, the island La Palma, rare]

Syntypes.

Helix putrescens Lowe, Palma

2 shells: Booth Museum, 406383–406384

Canaridiscus putrescens (R. T. Lowe, 1861) CR/PE

FAMILY PUNCTIDAE

Paralaoma Iredale, 1913

16. pl. 1

Helix (Helicella) pusilla R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 46, pl. 5 fig. 17]. “in Maderae sylvis” [= in woods of Madeira]

Syntypes.

Helix pusilla Lowe, Madeira

20 shells: Booth Museum, 407479–407498

Paralaoma servilis (Shuttleworth, 1852) DD

Family FERUSSACIIDAE

Amphorella R. T. Lowe, 1852

17. pl. 2

Helix (Cochlicopa) gracilis var. *vitrea* R. T. Lowe, 1855 Lowe, R. T. 1855 [200] Type Localities: “in Monte Pico Branco, et in jugo inter Pico de Facho et P. de Castello Portùs S^{ti}.” [= Porto Santo, on the Pico Facho and the crest between Pico do Facho and Pico de Castelho]

Syntypes.

Achatina gracilis var. *vitrea*, Porto Santo

12 shells: Booth Museum 406517–406528

Amphorella gracilis (R. T. Lowe, 1831) LC

18. pl. 2

Helix (Cochlicopa) melampoides R. T. Lowe, 1831 Lowe, R. T. (1831). [p. 60, pl. 6 fig. 24] “in Insulâ quâdam, Portum Sanctum ab oriente spectante, ‘Ilheo de Cima’ dictâ” [= Ilhéu de Cima, off Porto Santo]

Syntypes.

Achatina melampoides Lowe, Ilhéu de Cima, off Porto Santo 11 shells: Booth Museum 406545–406555

Amphorella (A.) melampoides (R. T. Lowe, 1831) LC

19. pl. 2

***Achatina (Amphorella) mitriformis* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 120] “in Madera” [= Madeira]

Syntypes.

Achatina mitriformis Lowe, Madeira

13 shells: Booth Museum 406556-406568

***Amphorella (A.) mitriformis* (R. T. Lowe, 1852) LC**

20. pl. 2

***Achatina (Fusillus) oryza* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 120] “in Portu S^{to}” [= Porto Santo]

Syntypes.

Achatina oryza Lowe, Porto Santo

22 shells: Booth Museum 406569-406590

***Amphorella (Fusillus) oryza* (R. T. Lowe, 1852) LC**

21. pl. 2

***Helix (Cochlicopa) tornatellina* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 59-60, pl. 6 fig. 23]. “in Madera” [= Madeira]

Syntypes.

Achatina tornatellina Lowe, Madeira

18 shells: Booth Museum 406622-406639

***Amphorella (A.) tornatellina* (R. T. Lowe, 1831) LC**

22. pl. 2

***Helix (Cochlicopa) triticea* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 60-61]. “in Portu S^{to}” [= Porto Santo]

Syntypes.

Achatina triticea Lowe, Porto Santo

28 shells: Booth Museum 406640-406667

***Amphorella (Fusillus) triticea* (R. T. Lowe, 1831) LC**

23. pl. 2

***Achatina (Fusillus) tuberculata* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 120] “in Portu S^{to}” [= Porto Santo]

Syntypes.

Achatina tuberculata Lowe, Porto Santo

18 shells: Booth Museum 406668-406687

***Amphorella (Fusillus) tuberculata* (R. T. Lowe, 1852) EN**

Cylichnidia R. T. Lowe, 1852

24. pl. 2

***Helix (Cochlicopa) ovuliformis* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 6, pl. 6 fig. 27]. “in cacumine montis ‘Pico de Facho’ in Insula Portūs S^{ti}” [= Pico do Facho, Porto Santo]

Syntypes.

Achatina ovuliformis Lowe, Porto Santo

31 shells: Booth Museum 406591-406621

***Cylichnidia ovuliformis* (R. T. Lowe, 1831) VU**

FAMILY VITRINIIDAE

Madeirovitrina Groh & Hemmen, 1986

25. pl. 2

***Vitrina media* R. T. Lowe, 1855** Lowe, R. T. (1855) [p. 164] “in Madera (Rib. Frio) rarior, et in Portu S^{to}.” [= Madeira (Ribeiro Frio) rare, and on Porto Santo]

Syntypes.

Vitrina media Lowe, Porto Santo

11 shells: Booth Museum, 407969–407979

***Madeirovitrina media* (R. T. Lowe, 1855) LC**

FAMILY GASTRODONTIDAE

Atlantica Ancey, 1887

26. pl. 2

***Helix (Euromphala) gueriniana* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 115] “in Madera” [= Madeira]

Syntypes.

Helix semplicata Pf. *guerineana* Lowe, Madeira

9 shells: Booth Museum, 407550–407558

***Atlantica guerinianus* (R. T. Lowe, 1852) CR/PE**

Janulus Lowe, 1852

27. pl. 2

***Helix (Helicella) bifrons* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 46-47, pl.5 fig 18]. “in Maderae sylvis” [= in woods of Madeira]

Syntypes.

Helix bifrons Lowe, Madeira

11 shells: Booth Museum, 406856–406866

***Janulus bifrons* (R. T. Lowe, 1831) LC**

28. pl. 2

***Helix (Janulus) calathus* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 115] “in Madera” [= Madeira]

Syntypes.

Helix calathus Lowe, Madeira

13 shells: Booth Museum, 406883–406895

***Janulus stephanophorus* (Deshayes, 1850) VU**

FAMILY GEOMITRIDAE

Actinella R. T. Lowe, 1852

29. pl. 3

***Helix (Helicigona) actinophora* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 45, pl. 5 fig. 14]. “in Maderae sylvaticus” [woods of Madeira]

Syntypes.*Helix actinophora* Lowe, Madeira

8 shells: Booth Museum 406743-406750

***Actinella (A.) actinophora* (R. T. Lowe, 1831) VU**

30. pl. 3

Helix (Helicodonta) arcta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 42, pl. 5 fig. 7]. “in Maderae collibus aridis maritimus” [= Madeira, on dry maritime hills]**Syntypes.Helix arcta* Lowe, Madeira

24 shells: Booth Museum 406756-406779

***Actinella (A.) arcta* (R. T. Lowe, 1831) LC**

31. pl. 3

Helix (Helicodonta) arridens* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 43, pl. 5 fig. 9]. “in Madera” [Madeira]**Syntypes.Helix arridens* Lowe, Madeira

13 shells: Booth Museum 406799-406811

***Actinella (A.) arridens* (R. T. Lowe, 1831) CR**

32. pl. 3

Helix (Helicodonta) capsella* R. T. Lowe, 1855** Lowe, R. T. (1855) [181-182]. “in Maderae” [= Madeira]**Syntypes.Helix capsella* Lowe, Madeira

8 shells: Booth Museum, 406912-406919

***Actinella (A.) arridens* (R. T. Lowe, 1831) CR**

33. pl. 3

Helix (Helicodonta) fausta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 43, pl. 5 fig. 8]. “in sylvis Convallis “Boa Ventura” (i.e. Boni Sussessus) dictae in Maderae orá Septentrionali” [= in forests of the valley of Boa Ventura (meaning Good Success) at the north coast of Madeira]**Syntypes.Helix fausta* Lowe, Madeira

5 shells: Booth Museum, 407120-407124

***Actinella (A.) fausta* (R. T. Lowe, 1831) LC**

34. pl. 3

Helix (Irus) laciniosa* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 114]. “in Insula Deserta Minore s. Septentrionali.” [=Ilhéu de Chão]**Syntypes.Helix laciniosa* Lowe, Madeira

17 shells: Booth Museum, 407173-407189

***Actinella (A.) laciniosa* (R. T. Lowe, 1852) VU**

35. pl. 3

Helix (Rimula) obserata* R. T. Lowe, 1852** R. T. (1852) [p. 118-119]. “in Madera” [= Madeira]**Syntypes.Helix obserata* Lowe, Madeira

7 shells: Booth Museum, 407290-407296

***Actinella (A.) obserata* (R. T. Lowe, 1852) CR**

36. pl. 3

Helix (Actinella) stellaris* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 118]. “in Madera” [= Madeira]**Syntypes.Helix stellaris* Lowe, Madeira

18 shells: Booth Museum, 407595-407612

***Actinella (A.) lentiginosa stellaris* (R. T. Lowe, 1852) LC** *Actinella* (*Hispidella*) R. T. Lowe, 1852

37. pl. 3

Helix (Hispidella) armitageana* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 115]. “in Madera” [= Madeira]**Syntypes.Helix armitageana* Lowe, Madeira

7 shells: Booth Museum 406792-406798

Actinella (Hispidella) armitageana* (R. T. Lowe, 1852) VU**Callina* R. T. Lowe, 1855**

38. pl. 3

Helix (Helicogena) bulveriana* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 44, pl. 5 fig. 11]. “in montibus Insulae Portūs S^{ti}” [= in mountains of Porto Santo]**Syntypes.Helix bulveriana* Lowe, Porto Santo

7 shells: Booth Museum, 406873-406879

***Callina bulverii* (W. Wood, 1828) CR**

39. pl. 3

Helix (Helicogena) bulveriana* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 44, pl. 5 fig. 11]. “in montibus Insulae Portūs S^{ti}” [= in mountains of Porto Santo]**Syntypes.Helix bulveriana* Lowe albino variety, Porto Santo

3 shells: Booth Museum, 406880-406882

***Callina bulverii* (W. Wood, 1828) CR**

40. pl. 3

Helix (Tectula) albersi* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 117]. “in Portu S^{to}.” [= Porto Santo]**Syntypes.Helix albersii* Lowe, Porto Santo

5 shells: Booth Museum 406751-406755

***Callina bulverii* (W. Wood, 1828) CR**

41. pl. 3

***Helix (Helicella) rotula* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 53, pl. 6 fig. 10]. “in

montibus Insulae Portūs S^{ti} [= in mountains of Porto Santo]

Syntypes.

Helix rotula Lowe, Porto Santo

13 shells: Booth Museum, 407499–407511

***Callina rotula* (R. T. Lowe, 1831) LC**

Caseolus R. T. Lowe, 1852

42. pl. 3

***Helix (Helicella) abjecta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 50, pl. 6 fig 1]. “in Insulâ Portūs Sti.” [= Porto Santo]

Syntypes.

Helix abjecta Lowe, Porto Santo

21 shells: Booth Museum 406714–406734

***Caseolus (C.) abjectus abjectus* (R. T. Lowe, 1831) LC**

43. pl. 3

***Helix (Caseolus) calculus* R. T. Lowe, 1855** Lowe, R. T. (1855) [p. 185]. “in Portu S^{to} rariss.” [rare on Porto Santo] **Syntypes.**

Helix calculus Lowe, —

7 shells: Booth Museum, 406896–406902

***Caseolus (C.) calculus* (R. T. Lowe, 1855) VU**

44. pl. 4

***Helix (Helicella) calva* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 49–50, pl. 5 fig 26]. “in Madera sylvis” [= in woods of Madeira]

Syntypes.

Helix calva Lowe, Madeira

9 shells: Booth Museum, 406903–406911

***Caseolus (Caseolus) calvus calvus* (R. T. Lowe, 1831) EN**

45. pl. 4

***Helix calva* var. *galeata* R. T. Lowe, 1862** Lowe, R. T. (1862) [p. 93–94]. “along the new Levada de Fajão dos Vinhatios, in the Ribeiro do Fayal, towards the place where I discovered, two years ago, *H. delphinuloides*.”

Syntypes.

Helix galatea Paiva, Madeira

4 shells: Booth Museum, 407162–407165

***Caseolus (C.) galeatus* (R. T. Lowe, 1862) CR**

46. pl. 4

***Helix (Helicella) compacta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 50–51, pl. 6 fig. 2]. “In Insula Portūs S^{ti}. gregaria, ubique copiosissima: in Maderae ad Promontorium S^{ti}. Laurenti (“Ponta Saô Lourenço”) solùm” [= on Porto Santo gregarious, very abundant everywhere: in Madera at the promontory of St. Lorenz (“Ponta Saô Lourenço”) only]

Syntypes.

Helix compacta Lowe, Madeira

11 shells: Booth Museum, 406972–406982

***Caseolus (C.) innominatus compactus* (R. T. Lowe, 1831) LC**

47. pl. 4

***Helix (Helicella) compacta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 50–51, pl. 6 fig. 2]. “In Insula Portūs S^{ti}. gregaria, ubique copiosissima: in Maderae ad Promontorium S^{ti}. Laurenti (“Ponta Saô Lourenço”) solùm” [= on Porto Santo gregarious, very abundant everywhere: in Madera at the promontory of St. Lorenz (“Ponta Saô Lourenço”) only]

Syntypes.

Helix compacta Lowe, Porto Santo

18 shells: Booth Museum, 406983–407000

***Caseolus (C.) innominatus compactus* (R. T. Lowe, 1831) LC**

48. pl. 4

***Helix (Helicella) consors* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 51, pl. 6 fig. 3]. “in Insula Portūs S^{ti}. cum praecedente [*H. compacta*]; rarior” [= Porto Santo, with the preceding [*H. compacta*], but rarer]

Syntypes.

Helix consors Lowe, Porto Santo

8 shells: Booth Museum, 407010–407017

***Caseolus (C.) consors* (R. T. Lowe, 1831) LC**

49. pl. 4

***Helix (Caseolus) sphaerula* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 115–116] “semifoss. in Madera” [= semifossil Madeira]

Uncertain: Klaus Groh wrote– Neither the type locality nor the apparent freshness of the shell leave me to doubt the correct determination. To me it looks like *Caseolus betamajor* Waldén, 1983 also a fossil of Madeira, as it’s shown by Seddon (2008) on plate 23 from Porto Santo as well. The *Caseolus* of Porto Santo urgently need a revision. *Helix sphaerula* Lowe, Porto Santo

10 shells: Booth Museum, 407559–407568

? ***Caseolus (C.) sphaerulus* (R. T. Lowe, 1852) †**

Leptostictea Mandahl-Barth, 1950

50. pl. 4

***Helix (Helicella) dealbata* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 48]. “in montibus Portus S^{to}.” [= mountains of Porto Santo]

Syntypes.

Helix dealbata Lowe, Porto Santo

7 shells: Booth Museum, 407049–407055

***Caseolus (Leptostictea) hartungi* *hartungi* (Albers, 1852) LC**

51. pl. 4

***Helix (Placentula) fictilis* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 118] “in Portu S^{to} [= Porto Santo]

Syntypes.

Helix fictilis Lowe, Porto Santo

24 shells: Booth Museum, 407125–407148

***Caseolus (Leptostictea) hartungi fictilis* (R. T. Lowe, 1852) LC**

52. pl. 4

***Helix (Helicella) leptosticta* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 49, pl. 5 fig 25]. “in Maderae collibus maritimus” [= on maritime hills of Madeira]

Syntypes.

Helix leptosticta Lowe, Madeira

11 shells: Booth Museum, 407210–407220

***Caseolus (Leptostictea) leptostictus leptostictus* (R. T. Lowe, 1831) VU**

53. pl. 4

***Helix (Placentula) micromphala* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 118] “in Insulis Desertis Majore et Minore” [= Deserta Grande and Bugio]

Syntypes.

Helix micromphala Lowe, Southern Deserta [Bugio]

12 shells: Booth Museum, 407278–407289

***Caseolus (Leptostictea) leptostictus micromphalus* (R. T. Lowe, 1852) VU**

***Craspedaria* R. T. Lowe, 1852**

54. pl. 4

***Helix delphinula* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 64] “Ad locum Caniçal dictum ... sed statu semifossili” [Madeira, said from the place Caniçal ... but in semifossil state]

Syntypes.

Helix delphinula Lowe, Madeira, subfossil, extinct

3 shells: Booth Museum, 407054–407058

***Craspedaria delphinula* (R. T. Lowe, 1831) †**

55. pl. 4

***Helix (Coronaria) delphinuloides* R. T. Lowe, 1860** Lowe, R. T. (1860) [p. 42-43, pl. 3 figs 1-3] “living at an elevation of about 4000 feet ... along the new Levada called the Levada de Fajãa dos Vinhaticos, about three miles below its source in the bed or stream of the Ribêiro do Fayal”

Syntypes.

Helix delphinuloides Lowe, Madeira, subfossil, extinct

5 shells: Booth Museum, 407059–407063

***Craspedaria delphinuloides* (R. T. Lowe, 1860) CR/PE**

56. pl. 4

***Helix (Coronaria) coronula* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 117-118] “in Deserta Australi” [= Bugio]

Syntypes.

Helix coronula Lowe, Southern Deserta [Bugio], subfossil

15 shells: Booth Museum, 407028–407042

***Craspedaria coronula* (R. T. Lowe, 1852) CR**

***Discula* R. T. Lowe, 1852**

57. pl. 4

***Helix (Discula) discina* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 117] “in Portu S^{to} vulg.” [= Porto Santo, common]

Syntypes.

Helix discina Lowe, Porto Santo

8 shells: Booth Museum, 407071–407078

***Discula (D.) calcigena discina* (R. T. Lowe, 1852) LC**

58. pl. 4

***Helix (Helicella) polymorpha* var. ♂ *attrita* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 55, pl. 6 fig 14]. “in collibus montibusve Portus S^{ti}.” [= on hills and mountains of Porto Santo]

Syntypes.

Helix attrita Lowe, Porto Santo

12 shells: Booth Museum, 406812–406823

***Discula (D.) attrita* (R. T. Lowe, 1831) NT**

59. pl. 5

***Helix (Discula) papilio* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116-117] “in Insula Baxo juxta Portum S^m” [= Ilhéu de Baixo, off Porto Santo]

Syntypes.

Helix papilio Lowe, Ilhéu de Baixo, off Porto Santo

5 shells: Booth Museum, 407316–407320

***Discula (Discula) calcigena calcigena* (R. T. Lowe, 1831) LC**

60. pl. 5

***Helix (Helicella) cheiranthicola* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 57, pl. 6 fig 17]. “in arbusculis Cheranti tenuifolii Herit: in monte Portus S^{ti}. quodam “Pico branco” dicto: et in Insula “Ilhéu de Baxo” dicto, sed rarissima” [= in shrubs of Cheranti tenuifolii Herit, somewhere on the mountain called “Pico Branco”: and on the island called Ilhéu de Baixo, but very rare].

Syntypes.

Helix cheiranthicola Lowe, Porto Santo

10 shells: Booth Museum, 406935–406944

***Discula (D.) cheiranthicola cheiranthicola* (R. T. Lowe, 1831) NT**

61. pl. 5

***Helix (Helicella) lincta* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116] “in Madera” [= Madeira]

Syntypes.

Helix lincta Lowe, Madeira

8 shells: Booth Museum, 407221–407228

***Discula (Discula) polymorpha depressiuscula* (R. T. Lowe, 1831) LC**

62. pl. 5

***Helix (Tectula) lyelliana* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 117] “in Deserta Majore” [= Deserta Grande]

Syntypes.

Helix lyelliana Lowe, Great Deserta [Deserta Grande]

6 shells: Booth Museum, 407236–407241

***Discula (D.) lyelliana* (R. T. Lowe, 1852) CR/PE**

63. pl. 5

***Helix (Helicella) polymorpha* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 54]. —

***H (H.) p. var. γ arenicola* Lowe, R. T. (1831)** [p. 54-55]. —

? Syntypes.

Helix polymorpha Lowe, Madeira

9 shells: Booth Museum, 407418–407425

Accepted name, identified by Klaus Groh:

***Discula polymorpha cf. arenicola* (R. T. Lowe, 1831) LC**

64. pl. 5

***Helix (Helicella) polymorpha var. pulvinata* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 56, pl. 6 fig 16]. “in montibus collibusive Portūs S^{ti}.” [= hilly mountains of Porto Santo]

Syntypes.

Helix pulvinata Lowe, Porto Santo

10 shells: Booth Museum, 407456–407465

***Discula (D.) pulvinata* (R. T. Lowe, 1831) EN**

65. pl. 5

***Helix (Discula) senilis* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116] “in Insulis Desertis Majore et Minore” [Deserta Grande and Bugio]

Syntypes.

Helix salebrosa Lowe, [a new replacement-name by Lowe, 1862] *senilis* olim [formerly]. Great Deserta [Deserta Grande]

7 shells: Booth Museum, 407512–407519

***Discula polymorpha nebulata* (R. T. Lowe, 1831) LC**

66. pl. 5

***Helix (Discula) senilis* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116] “in Insulis Desertis Majore et Minore” [Deserta Grande and Bugio]

Syntypes.

Helix salebrosa Lowe, [a new replacement-name by Lowe, 1862] *senilis* olim [formerly]. Northern Deserta [Chão]

15 shells: Booth Museum, 407520–407534

***Discula polymorpha nebulata* (R. T. Lowe, 1831) LC**

67. pl. 5

***Helix (Discula) senilis* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116] “in Insulis Desertis Majore et Minore” [Deserta Grande and Bugio]

Syntypes.

Helix salebrosa Lowe, [a new replacement-name by Lowe, 1862] *senilis* olim [formerly]. Bugio, Southern Deserta

7 shells: Booth Museum, 407535–407549

***Discula polymorpha nebulata* (R. T. Lowe, 1831) LC**

68. pl. 5

***Helix (Discula) tabellata* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 116] “in Madera” [= Madeira]

Syntypes.

Helix tabellata Lowe, Madeira

16 shells: Booth Museum, 407613–407628

***Discula (D.) tabellata* (R. T. Lowe, 1852) CR**

69. pl. 5

***Helix tetrica* R. T. Lowe, 1862** Lowe, R. T. (1862) [p. 95-96] “on the S. Deserta, or Bugio, amongst lichens on the seacliffs”

Syntypes.

Helix tetrica Lowe, Southern Deserta [Bugio]

3 shells: Booth Museum, 407633–407635

***Discula (D.) tetrica* (R. T. Lowe, 1862) CR/PE**

Disculella Pilsbry, 1895

70. pl. 5

***Helix (Placentula) spirorbis* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 118] “in Madera” [= Madeira]

Syntypes.

Helix spirorbis Lowe, Madeira

20 shells: Booth Museum, 407569–407588

***Disculella spirulina* (T. D. A. Cockerell, 1921) VU**

71. pl. 5

***Helix (Helicella) compar* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 48-49, pl. 5 fig 23]. “in Maderae collibus maritimis; rariss.” [in the coastal hills of Madeira; very rare]

Syntypes.*Helix compar* Lowe, Madeira

9 shells: Booth Museum, 407001–407009

Disculella compar* (R. T. Lowe, 1831) NT**Domunculifex*** Brozzo, De Mattia, Harl & Neiber, 2020

72. pl. 5

Helix (Helicella) lurida* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 52, pl. 6 fig 5]. “in montibus insulae Portūs S^{ti}.” [in mountains of the island Porto Santo]**Syntypes.Helix lurida* = *nitidiuscula* Sow., Porto Santo

7 shells: Booth Museum, 407229–407235

Domunculifex littorinella* (J. Mabile, 1883) VU**Helicomela* Lowe, 1855**

73 pl. 5

Helix (Helicomela) punctulata* var. *avellana* R. T. Lowe, 1855** Lowe, R. T. (1855) [p. 52, pl. 6 fig 5]. “quoque in Deserta Australi” [(also) on Bugio]**Syntypes.Helix punctulata*, Southern Deserta Is. [Bugio]

7 shells: Booth Museum, 407472–407478

Helicomela punctulata avellana* (R. T. Lowe, 1855) LC**Hystriocella*** R. T. Lowe, 1855

74. pl. 6

***Helix (Helicella) echinulata* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 57-58, pl. 6 fig 19]. in monte “Pico branco” dicto Insulae Portūs S^{ti}.” [in the mountain called “Pico Branco” on the island of Porto Santo]**Topotypes. Lectotype** NHMUK 1968586 designated by De Mattia (*et al.*, 2018): 43-45, fig. 78).*Helix lurida* = *nitidiuscula* Sow., Porto Santo

16 shells: Booth Museum, 407079–407094

Hystriocella echinulata* (R. T. Lowe, 1831) EN**Monilearia* Mousson, 1872**

75. pl. 8

Helix (Discula) pulverulenta* R. T. Lowe, 1861** Lowe, R. T. (1861) [p. 107]. “sub lapidibus in saxosis aridis apricis regionis ‘El Charco’ dictae prope Maspalomas in Canaria Magna australi” [= under stones in dry barren sunny region of El Charco near Maspalomas, southern Grand Canary]**Syntypes.Helix pulverulenta* Lowe, Grand Canary

5 shells: Booth Museum, 406378–406383

Monilearia pulverulenta* (R. T. Lowe, 1861) CR/PE**Obelus* W. Hartmann, 1842**

76. pl. 8

Helix (Turricula) mirandae* R. T. Lowe, 1861** Lowe, R. T. (1861) [p. 107–108]. “sub lapidibus in apricis Insulae Gomerae ad Portum St Sebastiani, in collibus prope mare” [= under stones in the sun on Gomera at Porto San Sebastian in the hills by the sea]**Syntypes.Helix mirandae* Lowe, Gomera

4 shells: Booth Museum, 406277–406280

Obelus mirandae* (R. T. Lowe, 1861) LC**Plebecula* R. T. Lowe, 1852**

77. pl. 6

Helix (Plebecula) giramica* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 114] “in Madera Insulaque Deserta Minore” [= on Madeira and Bugio]**? Syntypes.Helix vulgata* var. *giramica* Lowe, Northern Deserta [Chão]

6 shells: Booth Museum, 407694–407699

***Plebecula giramica* (R. T. Lowe, 1852) VU**

78. pl. 6

Helix (Plebecula) vulgata* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 114] “in Madera vulgatiss. In Insulis Desertis minus frequens. In Portu S^{to} omnino deest.” [= the most common in Madeira. Less frequent in the Deserta Islands. On Porto Santo completely missing]**? Syntypes.Helix vulgata* Lowe, Madeira9 shells: Booth Museum, 407677–407687 [Klaus Groh wrote “*P. nitidiuscula* is restricted to Porto Santo so this should be a different species”]**? *Plebecula nitidiuscula* (G. B. Sowerby I, 1824) LC**

79. pl. 6

Helix (Plebecula) vulgata* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 114] “in Madera vulgatiss. In Insulis Desertis minus frequens. In Portu S^{to} omnino deest.” [= the most common in Madeira. Less frequent in the Deserta Islands. On Porto Santo completely missing]**Syntypes.Helix vulgata* Lowe, Southern Deserta [Bugio]6 shells: Booth Museum, 407688–407693 [Klaus Groh wrote “locality Bugio suggest it may be *H. (P.) saxipotens* Wollaston, 1878 but that is extinct]

? *Plebecula nitidiuscula* (G. B. Sowerby I., 1824) LC

Pseudocampylaea L. Pfeiffer, 1877

80. pl. 6

Helix porto-sanctanae Sowerby, 1824 Sowerby, I, G. B. (1824) [p. 57, pl.3 fig 5] Porto Santo
Topotypes.

Helix portosanctanae, Porto Santo
8 shells, 407427–407434

Pseudocampylaea portosanctana (G. B. Sowerby I, 1824) LC

Serratorotula Groh & Hemmen, 1986

81. pl. 6

Helix juliformis R. T. Lowe, 1852 Lowe, R. T. (1852) [p. 118] “in Portu S^{to}. ” [= Porto Santo]

? **Syntypes.**

Helix coronata Desh., Porto Santo
10 shells: Booth Museum, 407018–407027

Serratorotula juliformis (R. T. Lowe, 1852) EN

Spirorbula R. T. Lowe, 1852

82. pl. 6

Helix (Helicella) depauperata R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 51-52, pl. 6 fig 4]. “in montibus insulae Portūs S^{ti}.” [in mountains of the island Porto Santo]

Syntypes.

Helix depauperata, Porto Santo
7 shells: Booth Museum, 407064–407070

Spirorbula depauperata (R. T. Lowe, 1831) LC

83. pl. 6

Helix (Spirorbula) latens R. T. Lowe, 1852 Lowe, R. T. (1852) [p. 114-115] “in Madera” [= Madeira]

Syntypes.

Helix latens Lowe, Madeira
6 shells: Booth Museum, 407190–407195

Spirorbula latens (R. T. Lowe, 1852) LC

84. pl. 6

Helix (Helicella) obtecta R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 47-48, pl. 5 fig 20a-b]. “in montibus collibusque aridis Portūs S^{ti}, copiosior in Insula 'Ilheo de Baixo'” [= rare on dry mountains and hills of Porto Santo, more common on the islet Ilhéu de Baixo].

Syntypes.

Helix obtecta. Porto Santo
7 shells: Booth Museum, 407278–407289

Spirorbula obtecta (R. T. Lowe, 1831) LC

85. pl. 6

Helix (Irus) squalida R. T. Lowe, 1852 Lowe, R. T. (1852) [p. 114] “in Madera semifoss. vulg.; recens rariss.” [= Madeira, semifossil common, recent very rare]

Syntypes.

Helix squalida Lowe, Madeira
6 shells: Booth Museum, 407589–407594
Spirorbula squalida (R. T. Lowe, 1852) VU

Steenbergia Mandahl-Barth, 1950

86. pl. 6

Helix (Helicella) paupercula R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 47-48, pl. 5 fig 19]. “in Maderae et Portūs S^{ti}. maritimis” [= Madeira and Porto Santo, coastal]

Syntypes.

Helix paupercula, Madeira and Porto Santo
25 shells: Booth Museum, 407353–407377

Steenbergia paupercula (R. T. Lowe, 1831) LC

87. pl. 6

Helix (Helicella) paupercula R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 47-48, pl. 5 fig 19]. “in Maderae et Portūs S^{ti}. maritimis” [= Madeira and Porto Santo, coastal]

? **Syntypes.**

Helix paupercula, Madeira and Porto Santo
32 shells: Booth Museum, 407321–407352
Steenbergia duplex Mandahl-Barth, 1950 DD

88. pl. 6

Helix (Helicella) paupercula R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 47-48, pl. 5 fig 19]. “in Maderae et Portūs S^{ti}. maritimis” [= Madeira and Porto Santo, coastal]

Topotypes of *S. desertae* *Helix paupercula*, Great Deserta [Deserta Grande]

9 shells: Booth Museum, 407378–407386
Steenbergia desertae Mandahl-Barth, 1950 DD

Testudodiscula Brozzo, De Mattia, Harl & Neiber, 2020

89. pl. 6

Helix (Discula) testudinalis R. T. Lowe, 1852 Lowe, R. T. (1852) [p. 117] “in Portu S^{to}. ” [= Porto Santo]

Syntypes.

Helix testudinalis Lowe, Porto Santo
4 shells: Booth Museum, 407629–407632

Testudodiscula testudinalis (R. T. Lowe, 1852) CR

Wollastonaria De Mattia, Neiber & Groh, 2018

90. pl. 6

Helix (Helicella) oxytropis R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 57, pl. 6 fig 18]. “in collibus maritimis Portūs S^{ti}.” [= on maritime hills of Porto Santo]

Topotypes. Lectotype and **paralectotype** NHMUK 1968.546 designated by De Mattia *et al.* (2018): 92-94, figs 184+185.

Helix oxytropis, Porto Santo

12 shells: Booth Museum, 407304–407315

Wollastonaria oxytropis (R. T. Lowe, 1831) NT

91. pl. 7

Helix (Helicella) turricula R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 58, pl. 6 fig 21]. “in Insula quadam “Ilheo de Cima” dicta juxta Insula Portum S^{tum}.” [= on an island called “Ilhéu de Cima” off Porto Santo]

Topotypes. Lectotype NHMUK 1948.7.8.35 by De Mattia *et al.* (2018): 56-62.

Helix turricula, Ilheo de Cima off Porto Santo

12 shells: Booth Museum, 407647–407658

Wollastonaria turricula (R. T. Lowe, 1831) VU

92. pl. 7

Helix (Hystricella) vermetiformis R. T. Lowe, 1855 Lowe, R. T. (1855) [p. 186]. “fossilis in Portu S^{to}.” [= fossil on Porto Santo]

Topotypes. Lectotype NHMUK 1968588 designated by De Mattia *et al.* (2018): 63-66.

Helix vermetiformis, Porto Santo, extinct subfossil 5 shells: Booth Museum, 407664–407668 *Wollastonaria vermetiformis* (R. T. Lowe, 1855)†

FAMILY HELICIDAE

Lampadia Albers, 1854

93. pl. 7

Helix (Helicogena) webbiana R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 44, pl. 5 fig 10]. “in montibus Insulae Portus S^{tu}.” [= mountains of Porto Santo]

Syntypes.

Helix webbiana, Porto Santo

5 shells: Booth Museum, 407700–407704

Lampadia webbiana (R. T. Lowe, 1831) EN

Hemicycla Swainson, 1840

94. pl. 8

Helix (Iberus) berkeleii R. T. Lowe, 1861 Lowe, R. T. (1861) [p. 108] “sub lapidus in convallecula arida aprica inter ‘Juan Grande’ et

‘Maspalomas’ Canariae Magne australoris” [under stones in the dry valleys between Juan Grande and Maspalomas, south of Grand Canary]

Syntypes.

Helix Berkeleii Lowe, subfossil, Grand Canary.

5 shells: Booth Museum, 406132–406136

Hemicycla berkeleii (R. T. Lowe, 1861) DD

95. pl. 8

Helix (Mycena) psathyra R. T. Lowe, 1861 Lowe, R. T. (1861) [p. 109] “in Canaria Magna australiore, praesertim ad Mogan et Aldea de San Nicolas sub saxis in locis aridis apricis” [in southern Grand Canary between Mogan and Aldea de San Nicolas under rocks in dry places].

Syntypes.

Helix psathyra Lowe, Grand Canary.

4 shells: Booth Museum, 406361–406364

Hemicycla psathyra (R. T. Lowe, 1861) DD

96. pl. 8

Helix (Macularia) saponacea R. T. Lowe, 1861 Lowe, R. T. (1861) [p. 109] “sub lapidus in sterilibus apricis Canariae Magnaeaustraloris; &c in excelsioribus (Pinetis) Sct Bartholomeaei, in submaritimis ad El Charco prope Maspalomas, Arguineguin etc.”

[under stones in dry barren places and in higher pine woods, St Bartholomei, El Charco, Maspalomas, Arguineguin etc.]

Syntypes.

Helix saponacea Lowe, Grand Canary.

4 shells: Booth Museum, 406390–406393

Hemicycla saponacea (R. T. Lowe, 1861) NT

FAMILY HYGROMIIDAE

Leptaxis (Katostoma) R. T. Lowe, 1855

97. pl. 7

Helix (Helicogena) phlebophora R. T. Lowe, 1831 Lowe, R. T. (1831) [p. 41-42, pl. 5 fig 6]. “in Insula Portūs S^{ti}; ubique vulgatissima” [= Porto Santo; commonly]

Syntypes.

Helix phlebophora, Porto Santo

6 shells: Booth Museum, 407387–407391

Leptaxis (Katostoma) nivosa nivosa (G. B. Sowerby I, 1824) LC

98. pl. 7

Helix (Katostoma) phlebopora var. scrobiculata R. T. Lowe, 1855 Lowe, R. T. (1855) [p. 166] “vulg. in Ins. Ferro juxta Portum S^m, nec alibi”. [= common on Ilhéu de Ferro, off Porto Santo, not elsewhere]

Syntypes.

Helix phlebophora Lowe var. *scrobiculata*,
Porto Santo

7 shells: Booth Museum, 407393–407399

***Leptaxis (Katostoma) nivosa craticulata* (R. T. Lowe, 1852) LC**

99. pl. 7

***Helix (Leptaxis) psammophora* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 113] “semifoss. in P^{tu} S^{to}.” [= semifossil, Porto Santo]

Syntypes.

Helix psammophora Lowe, Porto Santo, subfossil, extinct

5 shells: Booth Museum, 407435–407439

***Leptaxis (Katostoma) psammophora* (R. T. Lowe, 1852) †**

100. pl. 7

***Helix (Iberus) wollastoni* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 119] “in Portu S^{to}.” [= Porto Santo]

Syntypes.

Helix wollastoni Lowe, Pico de Conselho, Porto Santo

7 shells: Booth Museum, 407705–407712

***Leptaxis (Katostoma) wollastoni wollastoni* (R. T. Lowe, 1852) EN**

Leptaxis (Leptaxis) R. T. Lowe, 1831

101. pl. 7

***Helix (Helicogena) erubescens* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 40-41, pl. 5 fig 3]. “in Maderae sylvaticis” [= in woods of Madeira]

Syntypes.

Helix (Leptaxis) erubescens Lowe, Madeira

9 shells: Booth Museum, 407095–407103

***Leptaxis (L.) simia* (A. Férussac, 1832) LC**

102. pl. 7

***Helix (Helicogena) erubescens* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 40-41, pl. 5 fig 3]. “in Maderae sylvaticis” [= in woods of Madeira]

? **Syntypes** but locality does not agree.

Helix (Leptaxis) erubescens Lowe, Great Deserta [Deserta Grande]

6 shells: Booth Museum, 407104–407109

Accepted name det. Klaus Groh:

***Leptaxis (L.) simia simia* (A. Férussac, 1832) LC**

103. pl. 7

***Helix (Helicogena) erubescens* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 40-41, pl. 5 fig 3]. “in Maderae sylvaticis” [= in woods of Madeira]

? **Syntypes** but locality does not agree.

Helix (Leptaxis) erubescens Lowe, Northern

Deserta [Chão]

5 shells: Booth Museum, 407110–407114

Accepted name det. Klaus Groh:

***Leptaxis (Leptaxis) simia advenoides* (Paiva, 1867) LC**

104. pl. 7

***Helix (Leptaxis) fluctuosa* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 113] “semifoss. in Portu S^{to}.” [= semifossil on Porto Santo]

Syntypes.

Helix fluctuosa Porto Santo, subfossil, extinct

6 shells: Booth Museum, 407149–407154

***Leptaxis (L.) fluctuosa* (R. T. Lowe, 1852) †**

105. pl. 7

***Helix (Helicogena) furva* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 40, pl. 5 fig 2]. “in Maderae sylvaticis” [= in woods of Madeira]

Syntypes.

Helix furva Lowe, Madeira

7 shells: Booth Museum, 407155–407161

***Leptaxis (L.) furva* (R. T. Lowe, 1831) VU**

106. pl. 7

***Helix (Leptaxis) hyaena* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 113] “in Insula Deserti Australi” [= Bugio]

Syntypes.

Helix (Leptaxis) erubescens hyaena Lowe, Southern Deserta [Bugio]

5 shells: Booth Museum, 407115–407119

***Leptaxis (Leptaxis) simia hyaena* (R. T. Lowe, 1852) LC**

107. pl. 7

***Helix (Leptaxis) membranacea* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 112-113] “in Madeira” [= Madeira]

Syntypes.

Helix (Leptaxis) membranacea, Madeira

12 shells: Booth Museum, 407254–407265

***Leptaxis (L.) membranacea* (R. T. Lowe, 1852) LC**

Leptaxis (Cryptaxis) R. T. Lowe, 1855

108. pl. 7

***Helix (Helicogena) undata* R. T. Lowe, 1831** Lowe, R. T. (1831) [p. 41, pl. 5 fig 5]. “in Maderae sylvis, graminosis montanis, &c., vulgaris” [= in woods, on grassy mountains, etc. on Madeira]

Syntypes.

Helix undata Lowe, Madeira

6 shells: Booth Museum, 407659–407663

***Leptaxis (Cryptaxis) groviana groviana* (A. Férussac, 1832) LC**

109. pl. 7

***Helix (Leptaxis) leonina* R. T. Lowe, 1852** Lowe, R. T. (1852). [p. 113]

Syntypes.

Helix leonina Lowe, Southern Deserta [= Bugio]

7 shells: Booth Museum, 406505–406511

***Leptaxis (Cryptaxis) groviana leonina* (R. T. Lowe, 1852) LC**

110. pl. 7

***Helix (Leptaxis) vulcania* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 113] “in Insulis Desertis Majore et Minore” [= Deserta Grande and Bugio]

Syntypes.

Helix vulcania, Great Deserta [Desert Grande]

5 shells: Booth Museum, 407669–407672

***Leptaxis (Cryptaxis) groviana vulcania* (R. T. Lowe, 1852) LC**

111. pl. 7

***Helix (Leptaxis) vulcania* R. T. Lowe, 1852** Lowe, R. T. (1852) [p. 113] “in Insulis Desertis Majore et Minore” [= Deserta Grande and Bugio]

? Syntypes.

Helix vulcania, Northern Deserta [= Chão], locality error

5 shells: Booth Museum, 407669–407672

***Leptaxis (Cryptaxis) groviana vulcania* (R. T. Lowe, 1852) LC**

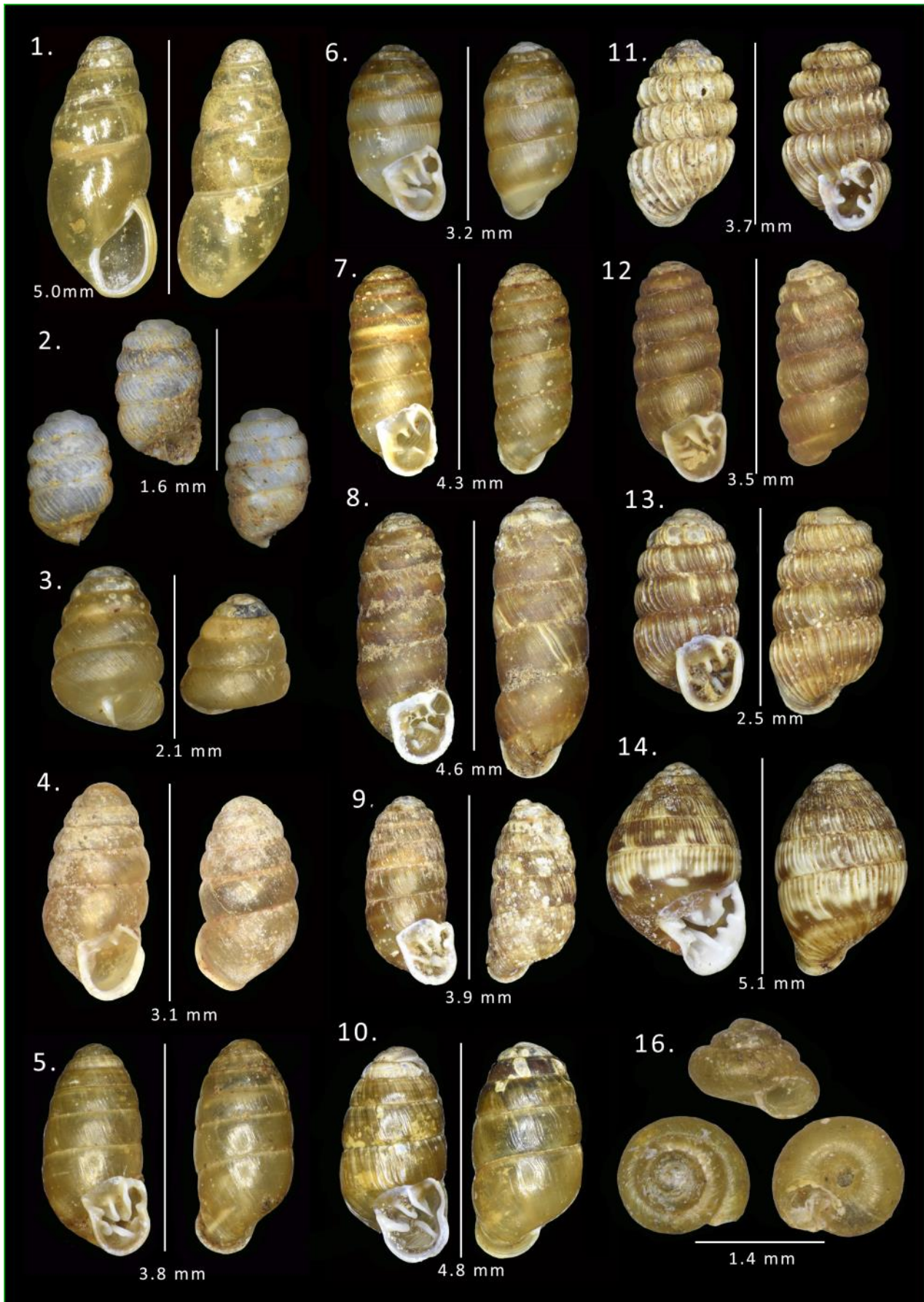


Plate 1. COCHLICOPIDAE, TRUNCATELLINIDAE, LEIOSTYLIDAE & PUNCTIDAE FROM MADEIRA

1. *Bulimus (Zua) maderensis* R. T. Lowe, 1852: 2. *Pupa (Truncatellina) linearis* R. T. Lowe, 1852: 3. *Pupa (Paludinella) microspora* R. T. Lowe, 1852: 4. *Helix (Cochlodonta) anconostoma* R. T. Lowe, 1831: 5. *Pupa (Leiostylia) irrigua* R. T. Lowe, 1852: 6. *Pupa (Leiostylia) laurinea* R. T. Lowe, 1852: 7. *Pupa (Leiostylia) macilenta* R. T. Lowe, 1852: 8. *Pupa (Leiostylia) recta* R. T. Lowe, 1852: 9. *Pupa (Leiostylia) sphinctostoma* var. *α rupestris* R. T. Lowe, 1855: 10. *Pupa (Leiostylia) vincta* R. T. Lowe, 1852: 11. *Helix (Cochlodonta) calathiscus* R. T. Lowe, 1831: 12. *Pupa (Craticula) fusca* R. T. Lowe, 1852: 13. *Pupa (Cochlodonta) monticola* R. T. Lowe, 1831: 14. *Helix (Cochlodonta) cassida* R. T. Lowe, 1831: 16. *Helix (Helicella) pusilla* R. T. Lowe, 1831



Plate 2. FÉRUSACIIDAE, VITRINIIDAE & GASTRODONTIDAE FROM MADEIRA

17. *Helix (Cochlicopa) gracilis* var. *vitrea* R. T. Lowe, 1855: 18. *Helix (Cochlicopa) melampoides* R. T. Lowe, 1831: 19. *Achatina (Amphorella) mitriformis* R. T. Lowe, 1852: 20. *Achatina (Fusillus) oryza* R. T. Lowe, 1852: 21. *Helix (Cochlicopa) tornatellina* R. T. Lowe, 1831: 22. *Helix (Cochlicopa) triticea* R. T. Lowe, 1831: 23. *Achatina (Fusillus) tuberculata* R. T. Lowe, 1852: 24. *Helix (Cochlicopa) ovuliformis* R. T. Lowe, 1831: 25. *Vitrina media* R. T. Lowe, 1855: 26. *Helix (Eryomphala) gueriniana* R. T. Lowe, 1852: 27. *Helix (Helicella) bifrons* R. T. Lowe, 1831: 28. *Helix (Janulus) calathus* R. T. Lowe, 1852



Plate 3. GEOMITRIDAE FROM MADEIRA

29. *Helix (Helicigona) actinophora* R. T. Lowe, 1831: 30. *Helix (Helicodonta) arcta* R. T. Lowe, 1831: 31. *Helix (Helicodonta) arridens* R. T. Lowe, 1831: 32. *Helix (Helicodonta) capsella* R. T. Lowe, 1855: 33. *Helix (Helicodonta) fausta* R. T. Lowe, 1831: 34. *Helix (Irus) laciniosa* R. T. Lowe, 1852: 35. *Helix (Rimula) obserata* R. T. Lowe, 1852: 36. *Helix (Actinella) stellaris* R. T. Lowe, 1852: 37. *Helix (Hispidella) armitageana* R. T. Lowe, 1852: 38. *Helix (Helicogona) bulveriana* R. T. Lowe, 1831: 39. *Helix (Helicogona) bulveriana* R. T. Lowe, 1831: 40. *Helix (Tectula) albersi* R. T. Lowe, 1852: 41. *Helix (Helicella) rotula* R. T. Lowe, 1831: 42. *Helix (Helicella) abjecta* R. T. Lowe, 1831: 43. *Helix (Caseolus) calculus* R. T. Lowe, 1855



Plate 4. GEOMITRIDAE FROM MADEIRA

44. *Helix (Helicella) calva* R. T. Lowe, 1831: 45. *Helix calva* var. *galeata* R. T. Lowe, 1862: 46. *Helix (Helicella) compacta* R. T. Lowe, 1831: 47. *Helix (Helicella) compacta* R. T. Lowe, 1831: 48. *Helix (Helicella) consors* R. T. Lowe, 1831: 49. *Helix (Caseolus) sphaerula* R. T. Lowe, 1852: 50. *Helix (Helicella) dealbata* R. T. Lowe, 1831: 51. *Helix (Placentula) fictilis* R. T. Lowe, 1852: 52. *Helix (Helicella) leptosticta* R. T. Lowe, 1831: 53. *Helix (Placentula) micromphala* R. T. Lowe, 1852: 54. *Helix delphinula* R. T. Lowe, 1831: 55. *Helix (Coronaria) delphinuloides* R. T. Lowe, 1860: 56. *Helix (Coronaria) coronula* R. T. Lowe, 1852: 57. *Helix (Discula) discina* R. T. Lowe, 1852: 58. *Helix (Helicella) polymorpha* var. δ *attrita* R. T. Lowe, 1831



Plate 5. GEOMITRIDAE FROM MADEIRA

59. *Helix (Discula) papilio* R. T. Lowe, 1852: 60. *Helix (Helicella) cheiranthicola* R. T. Lowe, 1831: 61. *Helix (Helicella) lincta* R. T. Lowe, 1852: 62. *Helix (Tectula) lyelliana* R. T. Lowe, 1852: 63. *Helix (Helicella) polymorpha* R. T. Lowe, 1831: 64. *Helix (Helicella) polymorpha* var. *pulvinata* R. T. Lowe, 1831: 65. *Helix (Discula) senilis* R. T. Lowe, 1852: 66. *Helix (Discula) senilis* R. T. Lowe, 1852: 67. *Helix (Discula) senilis* R. T. Lowe, 1852: 68. *Helix (Discula) tabellata* R. T. Lowe, 1852: 69. *Helix tetrica* R. T. Lowe, 1862: 70. *Helix (Placentula) spirorbis* R. T. Lowe, 1852: 71. *Helix (Helicella) compar* R. T. Lowe, 1831: 72. *Helix (Helicella) luri-da* R. T. Lowe, 1831: 73. *Helix (Helicomela) punctulata* var. *avellana* R. T. Lowe, 1855



Plate 6. GEOMITRIDAE FROM MADEIRA

74. *Helix (Helicella) echinulata* R. T. Lowe, 1831: 77. *Helix (Plebecula) giramica* R. T. Lowe, 1852: 78. *Helix (Plebecula) vulgata* R. T. Lowe, 1852: 79. *Helix (Plebecula) vulgata* R. T. Lowe, 1852: 80. *Helix porto-sanctanae* Sowerby, 1824: 81. *Helix juliformis* R. T. Lowe, 1852: 82. *Helix (Helicella) depauperata* R. T. Lowe, 1831: 83. *Helix (Spirorbula) latens* R. T. Lowe, 1852: 84. *Helix (Helicella) obtecta* R. T. Lowe, 1831: 85. *Helix (Irus) squalida* R. T. Lowe, 1852: 86. *Helix (Helicella) paupercula* R. T. Lowe, 1831: 87. *Helix (Helicella) paupercula* R. T. Lowe, 1831: 88. *Helix (Helicella) paupercula* R. T. Lowe, 1831: 89. *Helix (Discula) testudinalis* R. T. Lowe, 1852: 90. *Helix (Helicella) oxytropis* R. T. Lowe, 1831



Plate 7. GEOMITRIDAE & HELICIDAE FROM MADEIRA

91. *Helix (Helicella) turricula* R. T. Lowe, 1831: 92. *Helix (Hystricella) vermetiformis* R. T. Lowe, 1855: 93. *Helix (Helicogena) webbiana* R. T. Lowe, 1831: 97. *Helix (Helicogena) phlebophora* R. T. Lowe, 1831: 98. *Helix (Katostoma) phlebopora* var. *scrobiculata* R. T. Lowe, 1855: 99. *Helix (Leptaxis) psammophora* R. T. Lowe, 1852: 100. *Helix (Iberus) wollastoni* R. T. Lowe, 1852: 101. *Helix (Helicogena) erubescens* R. T. Lowe, 1831: 102. *Helix (Helicogena) erubescens* R. T. Lowe, 1831: 103. *Helix (Helicogena) erubescens* R. T. Lowe, 1831: 104. *Helix (Leptaxis) fluctuosa* R. T. Lowe, 1852: 105. *Helix (Helicogena) furva* R. T. Lowe, 1831: 106. *Helix (Leptaxis) hyaena* R. T. Lowe, 1852: 107. *Helix (Leptaxis) membranacea* R. T. Lowe, 1852: 108. *Helix (Helicogena) undata* R. T. Lowe, 1831: 109. *Helix (Leptaxis) leonina* R. T. Lowe, 1852: 110. *Helix (Leptaxis) vulcania* R. T. Lowe, 1852: 111. *Helix (Leptaxis) vulcania* R. T. Lowe, 1852

ZOOLOGIE

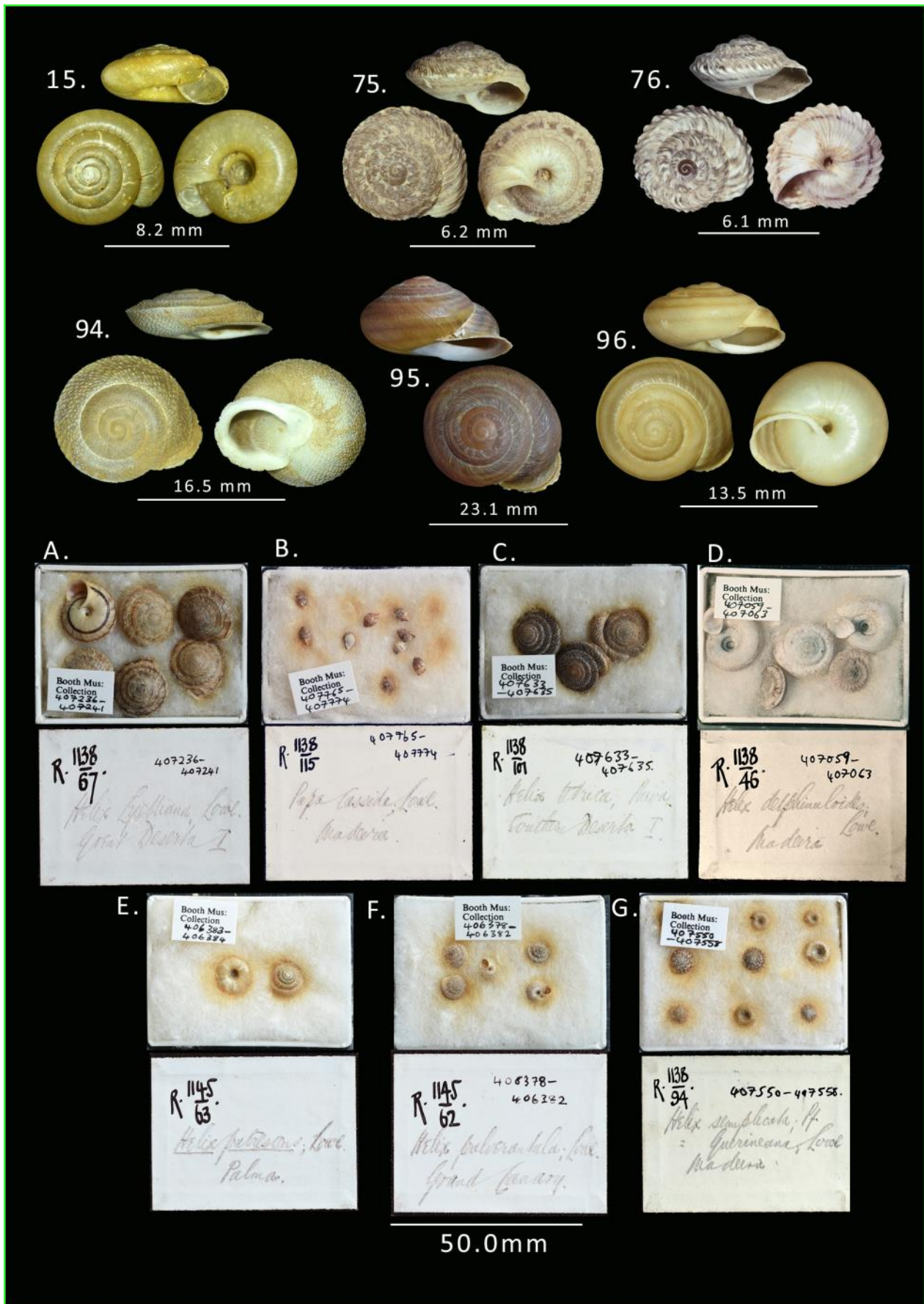


Plate 8. DISCIDAE, GEOMITRIDAE & HELICIDAE FROM THE CANARY ISLANDS

15. *Helix (Lucilla) putrescens* R. T. Lowe, 1861: 75. *Helix (Discula) pulverulenta* R. T. Lowe, 1861: 76. *Helix (Turricula) mirandae* R. T. Lowe, 1861: 94. *Helix (Iberus) berkeleii* R. T. Lowe, 1861: 95. *Helix (Mycena) psathyra* R. T. Lowe, 1861: 96. *Helix (Macularia) saponacea* R. T. Lowe, 1861. A-E Five examples of the glass topped boxes, contents and reverse of the Booth collection of critically endangered/possible extinct species. A, label reads "*Helix lyelliana* Lowe, Great Deserta I" B, label reads "*Pupa cassida* Lowe, Madeira". C, label reads "*Helix tetrica* Lowe, Great Deserta I." D, label reads "*Helix delphinuloides* Lowe, Madeira". E, label reads *Helix putrescens*, Palma. F, label reads "*Helix pulverulenta* Lowe, Grand Canary". F, label reads *Helix subplicata* = *gueriniana* Lowe, Madeira".

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