

# Annotated catalogue of types of Hawaiian land and freshwater snails (Mollusca: Gastropoda) in the Muséum national d'Histoire naturelle, Paris, with lectotype designations

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## **ABSTRACT**

Pacific island land snail faunas are among the most threatened faunas in the world, having suffered a higher rate of extinction than any other major animal group. The Hawaiian land snails are among the most species rich and most severely impacted of these faunas, yet the current status of most of the Hawaiian species is unknown. Most of the major taxonomic studies on the fauna were under-

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taken 50-100 years ago and only certain groups were comprehensively revised. New research is uncovering undescribed species, both extant and extinct. The need for rigorous taxonomic treatment of the group is acute if the validity and conservation status of the many species is to be ascertained, and the basis for such research is comprehensive study of type material. The Muséum national d'Histoire naturelle, Paris, holds type material of 38 nominal species-group taxa of Hawaiian land and freshwater snails belonging to six families, overwhelmingly the Achatinellidae Gulick, 1873 and Amastridae Pilsbry, 1910; this annotated catalogue provides details of this material. We designate lectotypes for 17 species-group taxa. Name-bearing types (holotypes, lectotypes and representative syntypes) are illustrated.

#### RÉSUMÉ

*Catalogue annoté des types de gastéropodes terrestres et d'eau douce d'Hawaï (Mollusca: Gastropoda) du Muséum national d'Histoire naturelle, Paris, avec désignations de lectotypes.*

Les faunes de mollusques terrestres des îles du Pacifique sont parmi les plus menacées au monde, ayant déjà subi un taux d'extinction plus fort que n'importe quel autre groupe zoologique. Parmi elles, les gastéropodes terrestres d'Hawaï sont les plus riches en espèces et les plus gravement touchés; pourtant le véritable statut de ces espèces est encore mal connu. La plupart des études taxonomiques sur cette faune ont été publiées il y a 50 à 100 ans et seuls quelques groupes sont correctement traités. De nouvelles recherches de terrain ont permis la découverte de nouvelles espèces, aussi bien actuelles qu'éteintes. La révision taxonomique rigoureuse de ce groupe est une nécessité pour déterminer le statut de conservation de nombreuses espèces. La base de cette recherche est l'étude exhaustive du matériel type. Le Muséum national d'Histoire naturelle, Paris, possède le matériel type de 38 taxa nominaux du groupe espèce de gastéropodes terrestres et d'eau douce d'Hawaï, appartenant à six familles, dont principalement des Achatinellidae Gulick, 1873 et Amastridae Pilsbry, 1910; le présent catalogue annoté fournit les détails de ce matériel. Nous désignons des lectotypes pour 17 taxons du groupe espèce. Les types porte-nom (holotypes, lectotypes et syntypes représentatifs) sont illustrés.

## INTRODUCTION

Habitat destruction and the impacts of invasive species are the primary causes of biodiversity loss and species extinction across many taxa, particularly on Pacific Islands (Cox & Elmqvist 2000; Lydeard *et al.* 2004; Duncan *et al.* 2013). The incredibly diverse assemblages of land snails on these islands have been particularly heavily impacted, with many species already extinct and the remaining fauna disappearing rapidly (Lydeard *et al.* 2004; Régnier *et al.* 2009, 2015a, b; Richling & Bouchet 2013; Sartori *et al.* 2014). Among the Pacific Islands, the most species rich land snail fauna is that of the Hawaiian Islands, with more than 750 described species, over 99% of them endemic to the archipelago and many to single islands (Cowie *et al.* 1995). It has been suggested that up to 90% of these species may already be extinct (Lydeard *et al.* 2004), although the level differs among taxonomic groups (Régnier *et al.* 2015a; Hayes, Yeung & Cowie unpublished).

The current biodiversity crisis, exemplified by this fauna, emphasizes the urgent need for taxonomic research to describe such faunas before they vanish unknown (Solem 1990; Hopkins & Freckleton 2002; Rodman & Cody 2003; Wheeler 2004; Hawksworth & Cowie 2013). The major published research on Hawaiian land snail taxonomy was undertaken more than 50 years ago (e.g., Neal 1934; Baker 1940; Cooke & Kondo 1961) and in some cases a century ago (e.g., Hyatt & Pilsbry

1910-1911; Pilsbry & Cooke 1912-1914). It is therefore difficult to assess the number of species still extant, especially as some groups have yet to be studied in detail (e.g., Endodontidae Pilsbry, 1895 and Punctidae Morse, 1864; Solem 1976, 1983), and because modern molecular and microscopy techniques (e.g., SEM) are discovering numerous undescribed and sometimes cryptic species, both extinct and extant (Hayes, Yeung & Cowie, unpublished). This lack of taxonomic clarity and dearth of recent published studies of Hawaiian land snail systematics hinders attempts to assess their conservation status accurately.

To begin conserving any fauna, a comprehensive assessment of the available type material information must be completed to provide the initial framework for the necessary systematic revisions. Natural history museum collections play a vital role in the study of biodiversity and its loss by providing an indispensable resource of historical and current biological records (Davis 1996; Ponder *et al.* 2001; Suarez & Tsutsui 2004). Hawaiian land snail type specimens have been deposited in several major museum collections including that of the Muséum national d'Histoire naturelle (MNHN), Paris. The primary objective of this catalogue is to document this material, as one of a series of catalogues of museum types representing this highly threatened fauna.

## MATERIAL AND METHODS

### ARRANGEMENT AND TREATMENT OF TAXA

This catalogue is a work of nomenclature and clarification of the status of type material; it is not a work of taxonomy and we have avoided making any new taxonomic judgements. All interpretations follow the *International Code of Zoological Nomenclature* (ICZN 1999), hereafter, the *Code*. Primary types (i.e. holotypes, syntypes, lectotypes; there are no neotypes) and secondary types (i.e. paralectotypes; there are no paratypes) are included in this catalogue.

The list is arranged alphabetically by family. Within each family, taxa are arranged alphabetically by species-group name. The heading of each entry consists of the name, author(s) and date of description, followed by the original generic combination and species if an infra-specific taxon. The next line of the entry consists of the name as given with the original genus (and species for the one taxon described as a variety) in which it was described, as published by the author, including subgenus if in the original description, with the original orthography even if now considered incorrect according to the *Code* (ICZN 1999) (e.g., diacritical marks, ligatures, incorrect gender endings, species names beginning with a capital), except that genus and species names are in italic even if printed otherwise in the original publication, and with the original status indicated, i.e. “*var.*” in one case. The name is followed by its author(s), date of publication, page number and plate/figure number(s). Other works by the same or different authors that bear directly on the original description or are of related interest (e.g., the first illustrations of the species or of type material) follow on subsequent lines, with the name as published in the work(s). In some instances Férussac (1821) introduced a name as a *nomen nudum* prior to making it available (Férussac *in* Quoy & Gaimard 1825); this is also indicated in this section. Next the current taxonomic status, as in Cowie *et al.* (1995), is given and includes generic and subgeneric placement, whether a valid taxon, and if not, the appropriate synonymy (as noted above, no new taxonomic judgements have been made; this information is simply provided for information). This is followed by a listing of MNHN type material with MNHN catalogue number(s), and with the number of specimens in each lot indicated; all specimens are dry shells. The verbatim type locality is then given within quotation marks and with the original orthography, either as in the original description or as restricted by designation of a lectotype. This is followed by additional type locality information (e.g., from labels or subsequent publications, translations or as clarified or corrected by reference to other sources such as the known range of the taxon (ICZN 1999, Recommendation 76A) in parentheses. Information on type material at other institutions (minimally as appropriate), corrections, additional information, interpretations of type status and so on are included in a remarks section. In remarks sections, species-group taxa are referred to in the generic combination of their original description.

Only primary types (holotypes, lectotypes and representative syntypes; there are no neotypes) are illustrated. Dimensions given in the figure legends are shell height (length) in mm, measured parallel to the columella using a dial calliper or using a scale under the microscope, and in two cases of more discoidal shells, shell width is given, measured similarly, perpendicular to the columella. Reproductions of illustrations from the original descriptions, from illustrations cited in the original descriptions or from subsequent illustrations of type material are also provided if available.

### LECTOTYPES

Of the 38 species group taxa of which type or possible type material is listed in this catalogue, the majority (20) were described originally by W. Harper Pease in three publications in the *Journal de Conchyliologie* (Pease 1868, 1869, 1870). Illustrations were provided only in the 1868 publication. The remaining species were described by Férussac (1821) and Férussac *in* Quoy & Gaimard (1825) (11 species), Ancey (1904a, b) (4), Souleyet (1852) (2) and Baldwin (1895) (1). In only one case, *Helix luteola* Férussac, 1825, was a holotype fixed (ICZN 1999, art. 73.1).

Crosse (1876: 95-99, pls 4-5 [in part]) illustrated the eight species of *Leptachatina* and *Amastra* described by Pease (1870) from specimens provided by Pease, treating the shells figured as “types figurés”. However, this collective statement does not constitute lectotype designations for the eight species illustrated, as designations must be individual (ICZN 1999, art. 74.3). Fischer-Piette (1950) listed type material in the collections of the *Journal de Conchyliologie*, at the MNHN, but included only the species of Pease and not of Ancey. In general, these specimens are those on which original descriptions published in the *Journal* were based, i.e. type material, although additional type specimens may also have been deposited elsewhere. Fischer-Piette (1950: 9) acknowledged that the collection is far from comprehensive, as many species described in the *Journal* are not represented in the collection. Fischer-Piette (1950: 10) explained his use of the term “holotype” as referring to the “Exemplaire unique, ou qui est le principal objet de la description” (unique example, or that which is the main object of the description). This is not a rigorous use of the term as defined by the current *Code* glossary (ICZN 1999), and it admits the possibility that there could be additional syntypes (ICZN 1999, art. 74.6); nor does it comply with the exception of the use of “holotype” (ICZN 1999, art. 74.5), as he was not explicitly selecting a specimen from the syntype series to serve as the name-bearing type. While it may often have been the case that the description was based on only a single specimen, unless that was unambiguously known, use of the term “holotype” is an inference of such and is regulated by the ICZN (1999, art. 74.6). Under this article of the *Code*, such an inference can only be a lectotype fixation, and then only under certain conditions. In most cases Fischer-Piette’s inference of “holotype” does not constitute lectotype fixation under a rigid interpretation of this article. In other cases he used the term “Exemplaire-type”, although he did not explain

his use of this term, which could be construed as meaning the type specimen, an exemplary specimen from the type series or a typical specimen. In such circumstances, however, especially when he also listed “paratypes”, it seems that he was deliberately selecting the “Exemplaire-type” to act as the unique name-bearing type, as regulated by the *Code*, while avoiding the problematic use of the term “holotype” (ICZN 1999, art. 74.5); we consider these instances as constituting lectotype designations. He also used the term “Exemplaire figuré”, which is here considered to not be explicitly selecting a particular specimen to act as the name-bearing type, but simply referring to the “example figured”, usually in the original description.

Johnson (1994) listed type material of all species described by Pease, including those listed in this catalogue. He explicitly and validly designated lectotypes for a number of taxa including one Hawaiian non-marine species (*Amastra similaris* Pease, 1870; lectotype and paralectotypes in the MCZ) but for the most part, he simply referenced the list of Fischer-Piette (1950), accepting the latter’s identification of specimens as “holotypes” but also treating specimens listed by Fischer-Piette as “Exemplaire type” and even “Exemplaire figuré” as holotypes. In no case did Johnson, when wrongly using the term “holotype”, explicitly indicate that he was selecting from the type series that particular specimen to serve as the name-bearing type (ICZN 1999, art. 74.5), and furthermore he used the term lectotype correctly (and therefore understood the concept) in a number of instances; thus none of his listings of MNHN specimens of Hawaiian non-marine species constitutes a lectotype designation.

This paper is part of an ongoing effort to update the systematics of the Hawaiian land snails and appropriate designation of lectotypes is part of this overarching program of research (see Rec. 74G; ICZN 1999 2003). However, we have been circumspect and not designated lectotypes in situations in which it is possible that other more appropriate specimens may be present in other collections. We designate lectotypes primarily for species described in the *Journal de Conchyliologie*, as the collections of the *Journal* are held in the MNHN and it seems reasonable to select specimens from those associated with the journal in which the species were described.

#### HELICTERES AND HELICTER AS USED BY PEASE

The name “Helicteres” was first proposed by Férussac (1821: 60) but is unavailable from that work because it was written in the nominative plural (Cowie & Evenhuis 2001: 188). The first author to make *Helicteres* available was Beck (1837: 51). The name *Helicter*, introduced by Pease (1862: 6), is an unjustified emendation of *Helicteres* (Cowie & Evenhuis 2001: 188-189).

Many of the species in this catalogue were described by Pease (1868, 1869, 1870). Interpreting the original combinations of these species has in some cases proven difficult. Here, we explain our interpretations and explain how we list them in the catalogue.

Pease (1868), in the first sentence of his article stated that *Auriculella* Pfeiffer, 1855 constituted a subgenus of *Helicteres*

Beck, 1837. However, he went on to say that because they were so different from the other subdivisions of *Helicteres* and had been placed by other authors in five different genera, they had a legitimate right to be considered as constituting a separate genus. We therefore consider that the species of *Auriculella* described by Pease (1868) were originally described in the genus *Auriculella* and not in *Helicteres*.

Pease (1869) described a number of species of the genus *Helicter* listed in this catalogue in the “Sectio” and “subdivision” *Leptachatina* Gould, 1847, the “Sectio” *Amastra* Adams & Adams, 1855, the “Sectio” *Laminella* Pfeiffer, 1854 and the “Sectio” *Partulina* Pfeiffer, 1854. In a subsequent publication Pease (1870) described a number of species in the group “Hélicètes”, which we here treat as the genus *Helicteres*. Pease (1870) placed his species in *Leptachatina* or *Amastra*. He explicitly referred to *Leptachatina* as a subgenus, even though, as in the earlier publication (Pease 1869), the headings for each species give the species name in combination only with “L.” (e.g., *L. antiqua*). He did not explicitly refer to *Amastra* as a subgenus; however, his treatment of *Amastra* was equivalent to his treatment of *Leptachatina*.

Thus, in this catalogue for each species placed in “Hélicètes” by Pease (1870), on the line below the heading, which gives the original combination followed by the citation, the name *Helicteres* is placed in square brackets as having not been in the original publication. For all these species of both Pease (1869) and Pease (1870) we treat them as having been placed in *Leptachatina*, *Laminella* or *Amastra* as subgenera of *Helicteres*.

#### AUTHORSHIP OF SPECIES IN QUOY & GAIMARD (1825)

Although in the “Préface” to their work (un-numbered p. 3) Quoy & Gaimard (1825) thanked Férussac for the nomenclature of the terrestrial molluscs, in the introduction to the terrestrial and freshwater mollusc section they stated (p. 463-464) “Nous devons à M. de Férussac la description des espèces que nous avons rapportées, dont il a fait figurer plusieurs dans son magnifique ouvrage sur les mollusques terrestres et fluviatiles”. Férussac is therefore the author of all the species listed in this catalogue as described in Quoy & Gaimard (1825).

#### ABBREVIATIONS AND ACRONYMS

art. Article of the *International Code of Zoological Nomenclature*;  
spm(s) specimen(s).

#### Institutions

ANSP Academy of Natural Sciences of Drexel University, Philadelphia;  
BPBM Bernice P. Bishop Museum, Honolulu;  
MCZ Museum of Comparative Zoology, Harvard University, Cambridge;  
MNHN Muséum national d’Histoire naturelle, Paris;  
NMW National Museum of Wales, Cardiff;  
IRSNB Institut royal des Sciences naturelles de Belgique, Brussels.



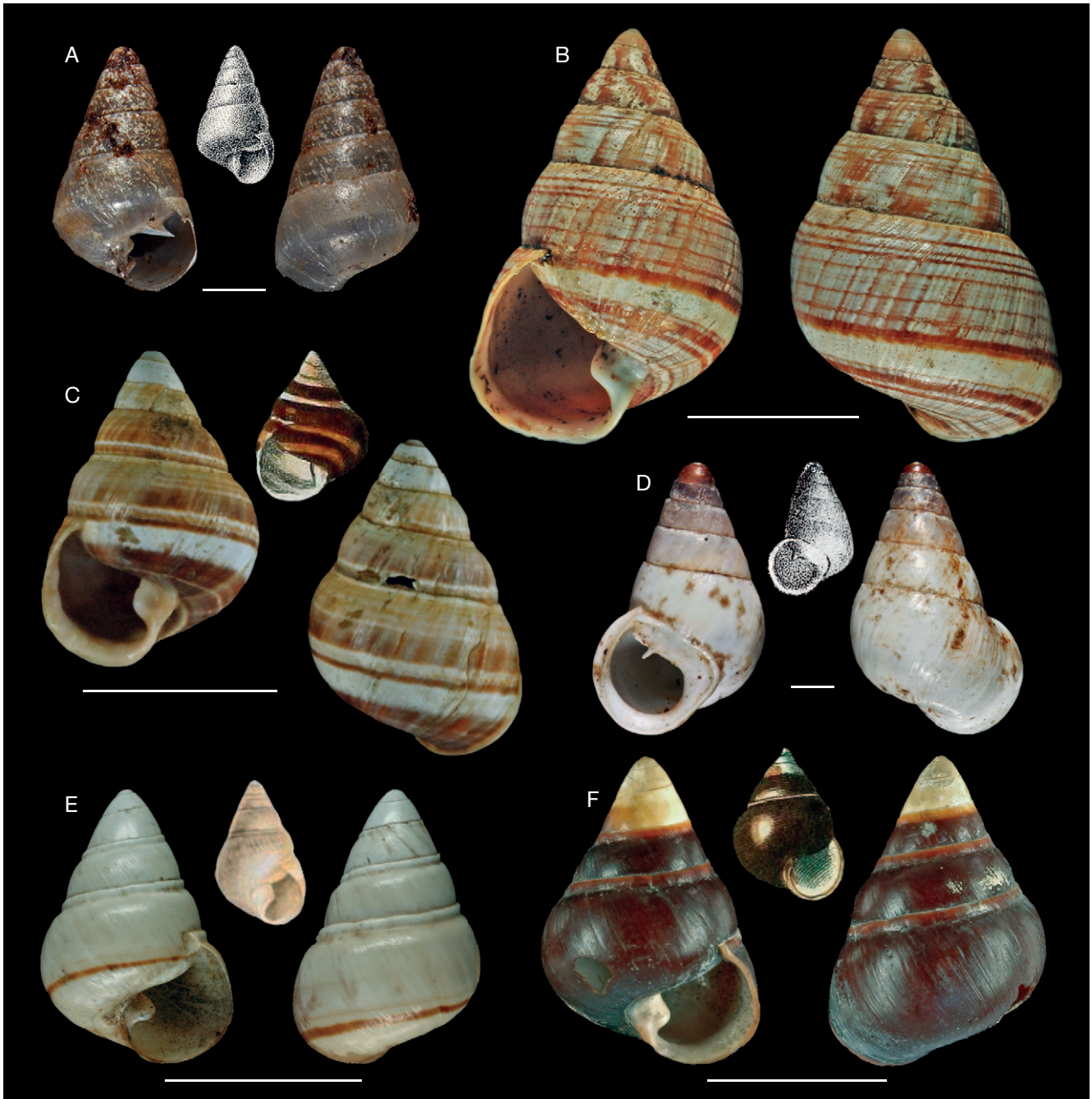


FIG. 1. — Achatinellidae Gulick, 1873: **A**, *Tornatellina cincta* Ancey, 1904, syntype MNHN IM-2000-20012, 3.8 mm, fig. 5 of Ancey (1904a); **B**, *Helicter compta* Pease, 1869, lectotype MNHN IM-2000-30805, 24.7 mm; **C**, *Helix decora* Férussac, 1821, possible syntype MNHN IM-2000-30806, 18.0 mm, fig. 3015 of Chemnitz (1795); **D**, *Auriculella expansa* Pease, 1868, lectotype MNHN IM-2000-30807, 6.4 mm, fig. 8 of Pease (1868); **E**, *Helix lorata* Férussac, 1825, lectotype MNHN IM-2000-30808, 14.2 mm, fig. 8 of Férussac in Quoy & Gaimard (1825); **F**, *Helix lugubris* Férussac, 1821, possible syntype MNHN IM-2000-30810, 17.2 mm, fig. 2062 of Chemnitz (1795). Scale bars: A, D, 1 mm; B, C, E, F, 10 mm. Dimensions given are shell height; reproductions of original illustrations not to scale.

SYSTEMATIC CATALOGUE

Family ACHATINELLIDAE Gulick, 1873

*cincta* Ancey, 1904, *Tornatellina*  
(Fig. 1A)

*Tornatellina cincta* Ancey, 1904a: 297, pl. 12, figs 5, 6.

CURRENT TAXONOMIC STATUS. — Tornatellinae Cooke & Kondo, 1961, *Tornatellaria* Pilsbry, 1910. Valid species.

TYPE MATERIAL. — Syntype MNHN IM-2000-20012 (1 spm).

TYPE LOCALITY. — “Makawao (partie Est de Maui); Oahu; Molokai; Hawaii; vallée d'Iao, Maui; Kaupakalua, Maui”.

#### REMARKS

The MNHN specimen is from Kaupakalua, according to the labels associated with the specimen (variously spelled). One label also identifies it as a “Cotype”. Cooke (*in* Pilsbry & Cooke 1916 [in 1914-1916]: 263, pl. 55, fig. 1) “selected the Makawao lot (no. 18500 Bishop Mus.) as the type (p. 55, fig. 1)” and illustrated one of the specimens from this lot. However, because this lot contains more than one specimen and the figure legend does not identify the shell figured as the “type”, this selection cannot be considered a lectotype designation, even if that was Cooke’s intent. BPBM 41252 has been separated from BPBM 18500 and is labelled as a lectotype, but this designation has never been published (see also Wood & Gallichan 2008: 35, 36). The species was not listed by Fischer-Piette (1950: 170-171). Ancey’s illustrations are not detailed enough to identify the MNHN specimen as that figured. No lectotype is here selected, pending further research in other museums (BPBM, MCZ, NMW, IRSNB) holding type or possible type material (Wood & Gallichan 2008: 35).

*compta* Pease, 1869, *Helicter*  
(Fig. 1B)

*Helicter (Partulina) compta* Pease, 1869: 175.

CURRENT TAXONOMIC STATUS. — Achatinellinae, *Partulina (Partulina) dwightii* (Newcomb, 1855). Valid subspecies.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 73, pl. 4, fig. 54) MNHN IM-2000-30805.

TYPE LOCALITY. — “Molokai”.

#### REMARKS

The original description was based on more than one specimen: “une bande blanchâtre [...] qui est habituellement [usually] bordée [...] par une ligne d’un brun rougeâtre” and “Elle [...] présente souvent [often] [...] une angulation particulière”; and specimens were noted as being in the collections of both Pease and Crosse. A single specimen was noted as “Exemplaire-type” and illustrated by Fischer-Piette (1950: 73, 180, pl. 4, fig. 54). This usage is here treated as a lectotype designation (see introductory text regarding lectotypes). The specimen is the single specimen in MNHN IM-2000-30805, and a label of the collection of the *Journal de Conchyliologie*, associated with this specimen and written at the time of Fischer-Piette, says “type”, as does an earlier label, and another states that it is the specimen figured. Johnson (1994: 9) listed this specimen as the “Holotype”, while also listing “paratypes” (MCZ 25826, 25828).

*decora* Férussac, 1821, *Helix*  
(Fig. 1C)

*Helix (Cochlogena) decorata* Férussac, 1821a: 60; 1821b: 56.

*Turbo lugubris sinistrorsus* Chemnitz, 1795: pl. 213, figs 3014, 3015 [unavailable name].

CURRENT TAXONOMIC STATUS. — Achatinellinae, *Achatinella* Swainson, 1828 (*Achatinella*). Valid species.

TYPE MATERIAL. — Possible syntypes MNHN IM-2000-30806 (4 spms, Fig. 1C).

TYPE LOCALITY. — “Les îles Sandwich” (Oahu, Hawaiian Islands, as the genus is endemic to Oahu).

#### REMARKS

The name *decora* is available by indication (ICZN 1999, art. 12.2.7) as Férussac provided bibliographic reference to illustrations (apertural and abapertural views of a sinistral shell) of *Turbo lugubris sinistrorsus* (unavailable name) by Chemnitz (1795: pl. 213, figs 3014, 3015), whose work was rejected for nomenclatural purposes as it did not consistently apply binominal nomenclature (Opinion 184; Direction 1; ICZN 1999, art. 11.4, 11.5). No other specimens were mentioned. The specimen was from Spengler (“Ex Museo Spengleriano”), bought by Spengler in London (Chemnitz 1795: 307). Pilsbry & Cooke (1914 [in 1912-1914]: 333) stated that “The type of *A. decorata* in the Spengler collection was probably brought to London by the expedition of Captain Dixon”; and based on extensive material they considered the species to be sinistral. Férussac *in* Quoy & Gaimard (1825: 478) stated that his material, which derived from the Freycinet expedition, differed from Spengler’s specimen in its colour and banding. Whether Férussac had the present four MNHN specimens (one of them is dextral) at hand when he listed the species in 1821 is not known (there are no Férussac collection labels with the specimens); nor is it known for sure whether the MNHN specimens are those from the Freycinet expedition. They are indeed very different in shell colour and banding from Spengler’s specimen (Fig. 1C). However, the collection labels do indicate that the specimens were in the Deshayes (and therefore possibly Férussac) collection. The species was treated and illustrated by Deshayes (1851: 191, 192, pl. 155, figs 5-7), but the specimens do not closely match his illustrations. They are here considered only to be possible syntypes.

*expansa* Pease, 1868, *Auriculella*  
(Fig. 1D)

*Auriculella expansa* Pease, 1868: 343, pl. 14, fig. 8.

CURRENT TAXONOMIC STATUS. — Auriculellinae Odhner, 1921, *Auriculella* Peiffer, 1855. Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30807.

TYPE LOCALITY. — “îles Hawaï” (from article title).

#### REMARKS

The original description was explicitly based on more than one specimen: “habituellement sénestre, rarement dextre”; “Coloration générale blanchâtre, ou d’un jaune de paille clair”; and “quelques exemplaires”. However, Fischer-Piette (1950: 71, pl. 14, fig. 8) listed and figured a single specimen

as the “Holotype”. Johnson (1994: 12) referred to Fischer-Piette (1950: 71) as having identified the “Holotype” but also noted “paratypes” (MCZ 45155). Neither listing constitutes a lectotype designation (see introductory text regarding lectotypes). The illustrations of Pease are not detailed but both Pease and Fischer-Piette gave the shell’s size as 6 mm, which is very close to the actual dimension of the specimen in MNHN IM-2000-30807. A label of the collection of the *Journal de Conchyliologie*, associated with this specimen and written at the time of Fischer-Piette, says “Holotype”, and this and two other labels state that it is the specimen figured. It is therefore here designated as the lectotype.

*lorata* Férussac, 1825, *Helix*  
(Fig. 1E)

*Helix lorata* Férussac in Quoy & Gaimard, 1825: 479, pl. 68, figs 8-12.

*Helix (Cochlogena) lorata* Férussac, 1821a: 60; 1821b: 56 [*nomen nudum*].

CURRENT TAXONOMIC STATUS. — Achatinellinae, *Achatinella* (*Achatinella*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30808; paralectotype: MNHN IM-2000-30809 (1 spm).

NON-TYPE MATERIAL. — MNHN IM-2000-37356 (4 spms).

TYPE LOCALITY. — “les îles Sandwich”.

REMARKS

The text of Férussac in Quoy & Gaimard (1825: 479, 480) refers to pl. 65, in error (on p. 479), as well as to pl. 68, which is the correct plate (on p. 480). MNHN IM-2000-30808 closely matches Férussac’s fig. 12 and has been considered to be the figured specimen, according to the label, and the original lot from which it was separated. MNHN IM-2000-30809 has a typical black-bordered Férussac collection label associated with it and is similar to his figs 8 and 9, although it is perhaps not the figured specimen. The species is extremely variable in the amount of banding on the shell, but Pilsbry & Cooke (1914 [in 1912-1914]: 279) took Férussac’s figs 10 and 11 to represent the “typical pattern”. In the absence of specimens of this typical pattern we here designate MNHN IM-2000-30808 as the lectotype; MNHN IM-2000-30809 is a paralectotype. The species was treated and illustrated by Deshayes (1851: 193, 194, pl. 155, figs 9-11).

The main modern label of MNHN IM-2012-37356 identifies the specimens as syntypes of *Helix lorata*. However, the older labels, both dated 1837 (after Férussac’s death), identify them as *Achatinella producta* Reeve, 1850, though one of them also says “*Helix (Helicteres) lorata* var.?” and has an additional label stuck to it also saying “*lorata* var.?”. The modern identification of this lot as *H. lorata* is considered incorrect as the specimens match the original illustration of *A. producta* of Reeve (1850 [in 1849-1851]: pl. 2, fig. 13) quite closely, although they are slightly broader; they also match the illustrations of *A. producta* of Pilsbry & Cooke

(1914: pl. 38, figs 7-13, pl. 43, figs 10-10b), especially their pl. 38, fig. 9. Reeve’s material was from the Cuming collection and described in 1850, whereas the MNHN labels indicate that the material was in Férussac’s collection, and with the date 1837. There is no earlier label suggesting that Férussac considered these specimens to be *H. lorata*. We therefore do not consider these specimens to be type material of either *H. lorata* Férussac or of *A. producta* Reeve. They are discussed here simply to preclude confusion regarding their type status.

*lugubris* Férussac, 1821, *Helix*  
(Fig. 1F)

*Helix (Cochlogena) lugubris* Férussac, 1821a: 60; 1821b: 56.

*Turbo apex fulva* [sic] Dixon, 1789: 354, fig. 1.

*Turbo lugubris* Chemnitz, 1795: pl. 209, figs 2059, 2060 [unavailable name].

CURRENT TAXONOMIC STATUS. — Achatinellinae, *Achatinella* (*Achatinella*) *apexfulva* (Dixon, 1789), synonym.

TYPE MATERIAL. — Possible syntypes MNHN IM-2000-30811 (4 spms), MNHN IM 2000-30810 (2 spms, Fig. 1F).

TYPE LOCALITY. — “Les îles Sandwich” (Oahu, Hawaiian Islands, as the genus is endemic to Oahu).

REMARKS

The name *lugubris* is available from Férussac (1821a: 60) by indication (ICZN 1999, art. 12.2.7) as Férussac provided bibliographic references to illustrations (apertural and abapertural views of a sinistral shell) of *Turbo lugubris* (unavailable) by Chemnitz (1795: pl. 209, figs 2059, 2060) and to an illustration of “*Turbo apex fulva*” by Dixon (1789: 354, fig. 1). The two specimens illustrated are therefore syntypes. No other specimens were mentioned. Férussac in Quoy & Gaimard (1825: 479) provided a description but no illustrations. The specimen illustrated by Chemnitz was from Spengler (“Ex Museo Spengleriano”), who had obtained it in London (Chemnitz 1795: 278) and it may have been derived from Dixon’s material (Pilsbry & Cooke 1914 [in 1912-1914]: 321). The two specimens in MNHN IM-2000-30810 have holes in them that indicate that they were used to make necklaces or other ornamentation, as described by Dixon (1789: 354) and Chemnitz (1795: 278) but not noted by the Freycinet expedition (Férussac in Quoy & Gaimard 1825: 479), suggesting that the MNHN specimens may also have been part of Dixon’s material, which was from a necklace. A typical black-bordered Férussac collection label is associated with them. The four specimens in MNHN IM-2000-30811 do not have holes, but a label associated with them says “Coll. Férussac 1837” (Férussac died in 1836, Coan & Kabat 2014: 331), the date perhaps referring to when the catalogue of Férussac’s collection was being put together (Tomlin 1944: 71); the specimens may well therefore have been from the Freycinet expedition. Whether Férussac had any of these six specimens in hand when he wrote the original description



is not known. All six specimens are considered here as possible syntypes only. The species was treated and illustrated by Deshayes (1851: 194-195, pl. 155, fig. 8), but the MNHN specimens do not closely match his illustrations.

*macromphala* Ancey, 1904, *Tornatellina*  
(Fig. 2A)

*Tornatellina macromphala* Ancey, 1904a: 296, pl. 12, figs 3, 4.

CURRENT TAXONOMIC STATUS. — Tornatellidinae, *Tornatellides* Pilsbry, 1910 (*Tornatellides*). Valid species.

TYPE MATERIAL. — Syntype MNHN IM-2000-20013 (1 spm).

TYPE LOCALITY. — “Kaupakalua, Maui, Keanae, également dans l’île de Maui: Tantalus, près Honolulu, Oahu”.

REMARKS

The original description was based on more than one specimen, as it listed multiple localities and mentioned both adults and young individuals. The species was not listed by Fischer-Piette (1950: 170, 171). The figures of Ancey (1904) are not detailed but are a reasonable match to the single specimen in MNHN IM-2000-20013, but no lectotype is here designated, pending further research in other museums (BPBM, MCZ, NMW, IRSNB) holding type or possible type material (Wood & Gallichan 2008: 61, 62). One label says “Ancey 1907”, which suggests the specimen may have been received from Ancey by MNHN after publication of the description.

*pulchra* Pease, 1868, *Auriculella*  
(Fig. 2B)

*Auriculella pulchra* Pease, 1868: 346, pl. 14, fig. 6.

CURRENT TAXONOMIC STATUS. — Auriculellinae, *Auriculella*. Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30813 (Fig. 2B); paralectotype MNHN IM-2000-31702 (1 spm).

TYPE LOCALITY. — “îles Hawaï” (from article title).

REMARKS

The original description was based on more than one specimen: “tousjours dextre”, and a distinct variety was noted. Fischer-Piette (1950: 71) listed but did not figure the “Holotype, 10 mm” and noted four other specimens (not referred to as paratypes) of the same size, without explicitly selecting one specimen as the “holotype”. Johnson (1994: 21) referred to Fischer-Piette’s listing, noting the “Holotype” and the additional four specimens as “paratypes”, and listed additional paratypes (MCZ 161609). Neither case constitutes a lectotype designation (see introductory text regarding lectotypes). Pease’s illustrations are not detailed and the shells are coloured uniformly yellowish with a white aperture, corresponding to the “variété jaunâtre” (Pease 1868: 347), whereas the main

description states that the shells are white with a transverse greenish band and a brownish lip. Pilsbry & Cooke (1915 [in 1914-1916]: 84) discussed this apparent conflict in the context of Pease’s collection at the MCZ and specimens presented to ANSP. Two of the MNHN shells correspond to the main description (perhaps somewhat faded), while three seem to be the “variété jaunâtre”. A label of the collection of the *Journal de Conchyliologie*, associated with the original lot and written at the time of Fischer-Piette, says “Holotype + 4 sp.”, the former presumably being the one in a separate vial (MNHN IM-2000-30812), which matches the figure of Pease (1868: pl. 14, fig. 6). However, the reference to a distinct variety excluded the specimens corresponding to the “variété jaunâtre” (the three specimens indicated above) from the type series of *pulchra* (ICZN 1999, art. 72.4.1), these being MNHN IM-2000-30812 (Fischer-Piette’s “Holotype”) and MNHN IM-2000-31703 (the other two specimens) and having no type status. We here designate the undamaged of the two specimens that correspond to the main description as the lectotype; the other specimen (with a damaged lip) is a paralectotype.

*uniplicata* Pease, 1868, *Auriculella*  
(Fig. 2C)

*Auriculella uniplicata* Pease, 1868: 344, pl. 14, figs 7, 7a.

CURRENT TAXONOMIC STATUS. — Auriculellinae, *Auriculella*. Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30814; paralectotypes MNHN IM-2000-30815 (2 spms).

TYPE LOCALITY. — “In insula Maui”.

REMARKS

The original description was based on more than one specimen, as two specimens were illustrated and the colour was described as being yellow or brown and the shells as indifferently dextral or sinistral. Fischer-Piette (1950: 71) noted the two specimens figured as being in the collection of the *Journal de Conchyliologie* but did not refer to either as type material. Johnson (1994: 27) simply referenced Fischer-Piette’s statement, treating the two figured specimens as syntypes, while also noting additional syntypes (MCZ 159563, MCZ 161636). The original MNHN lot consisted of two intact specimens (a third specimen was represented only by a broken apertural fragment). The two intact specimens, although paler in colour (perhaps faded), match the original illustrations well, one with a brown band (Pease 1868: pl. 14, fig. 7) and one without (fig. 7a), and a label of the collection of the *Journal de Conchyliologie*, associated with the original lot and written at the time of Fischer-Piette, indicates that they are the specimens figured by Pease. The sinistral specimen with the brown band, as described by Pease (1868: 345), is here separated from the original lot and designated as the lectotype; the other illustrated specimen and the fragment are paralectotypes.



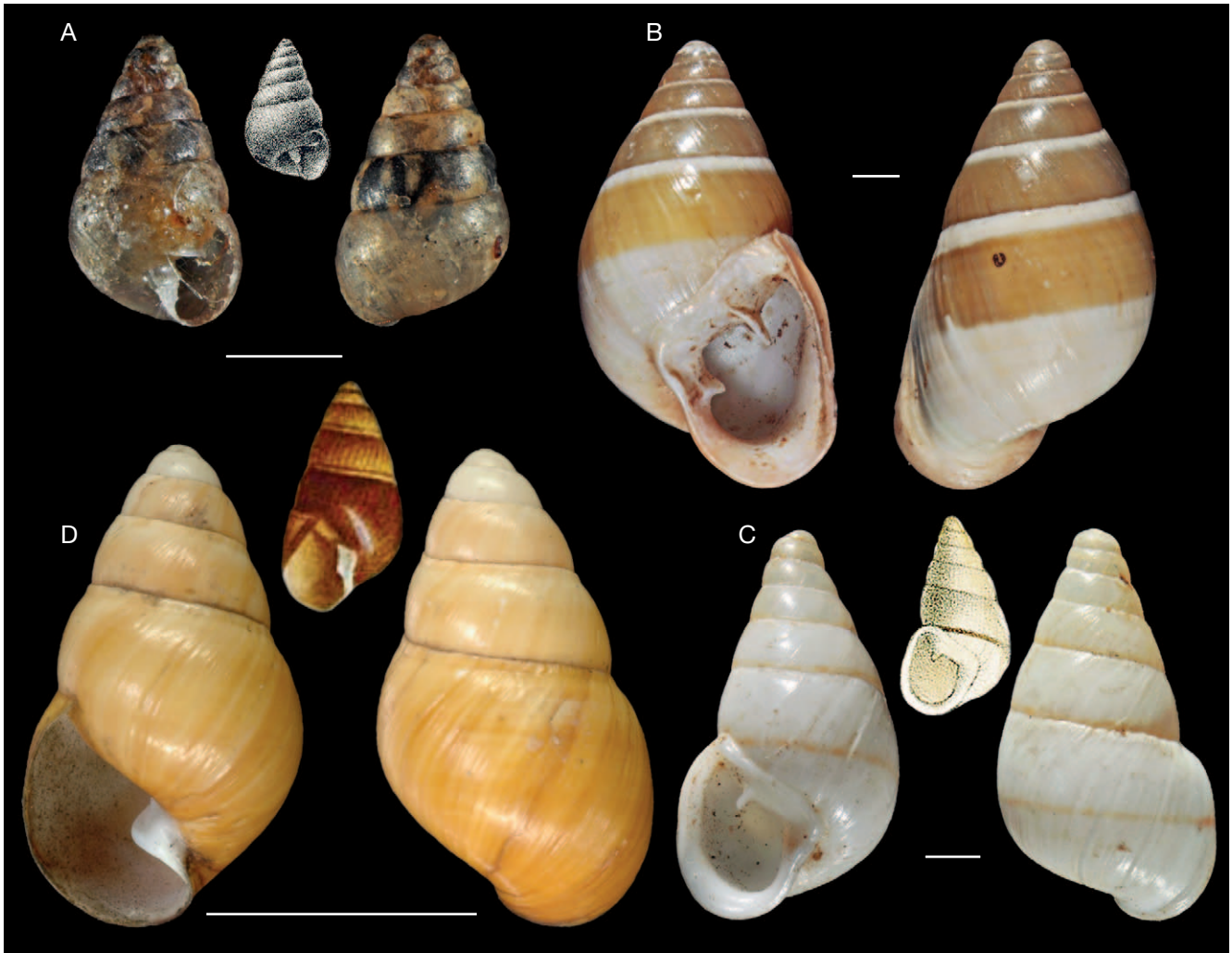


FIG. 2. — Achatinellidae Gulick, 1873: **A**, *Tornatellina macromphala* Ancey, 1904, syntype MNHN IM-2000-20013, 2.6 mm, fig. 3 of Ancey (1904a); **B**, *Auriculella pulchra* Pease, 1868, lectotype MNHN IM-2000-30813, 9.5 mm; **C**, *Auriculella uniplicata* Pease, 1868, lectotype MNHN IM-2000-30814, 7.3 mm, fig. 7 of Pease (1868); **D**, *Helix vulpina* Férussac, 1825, possible syntype MNHN IM-2000-30816, 18.0 mm, fig. 13 of Férussac in Quoy & Gaimard (1825). Scale bars: A-C, 1 mm; D, 10 mm. Dimensions given are shell height; reproductions of original illustrations not to scale.

*vulpina* Férussac, 1825, *Helix*  
(Fig. 2D)

*Helix vulpina* Férussac in Quoy & Gaimard, 1825: 477, pl. 68, figs 13, 14.

*Helix (Cochlogena) vulpina* Férussac, 1821a: 60; 1821b: 56 [*nomen nudum*].

CURRENT TAXONOMIC STATUS. — Achatinellinae, *Achatinella* (*Achatinellastrum* Pfeiffer, 1854). Valid species.

TYPE MATERIAL. — Syntype MNHN IM-2000-30816 (1 spm).

TYPE LOCALITY. — “les îles Sandwich” (Oahu, Hawaiian Islands, as the genus is endemic to Oahu).

REMARKS

MNHN IM-2000-30816, though similar, does not match either of the shells illustrated by Quoy & Gaimard (1825: pl. 68, figs 13, 14), being paler and more uniform in colour

and differing subtly in shape. Labels associated with the specimen, including a black-bordered one typical of the Férussac collection, nonetheless indicate that it was part of the Férussac collection and it is therefore here considered a syntype. The species was treated and illustrated by Deshayes (1851: 193, pl. 155, figs 1, 2) and the shell is a close match in size and shape for that in his fig. 2, but is considerably smaller than that in his fig. 1.

Family AMASTRIDAE Pilsbry, 1910

*antiqua* Pease, 1870, *Helicteres*  
(Fig. 3A)

[*Helicteres*] (*Leptachatina*) *antiqua* Pease, 1870: 94.

*Achatinella* (*Leptachatina*) *antiqua*—Crosse 1876: 97, 98, pl. 3, fig. 6.

CURRENT TAXONOMIC STATUS. — Leptachatininae Cockerell, 1913; *Leptachatina* Gould, 1847 (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30817.

TYPE LOCALITY. — “Île de Kauai (îles Hawaii)” (from article title).

#### REMARKS

This species was described by Pease as a species of “Hélicètes” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. Crosse (1876: pl. 3, fig. 6) illustrated a single specimen, presumably one of the two “exemplaires typiques” [typical examples] in the collection of the *Journal de Conchyliologie* (Crosse 1876: 98). Fischer-Piette (1950: 149) listed the specimen illustrated by Crosse as an “Exemplaire figuré”, also not treating it explicitly as a type. Johnson (1994: 26) referenced Fischer-Piette’s statement but credited him with having listed the “Holotype”; he did not mention additional type specimens. Johnson’s treatment did not constitute a lectotype fixation (see introductory text regarding lectotypes). Despite Crosse’s statement that there were two specimens in the collection, there is now only one specimen in this lot. The labels associated with this specimen indicate that it is the specimen illustrated by Crosse (1876: pl. 3, fig. 6) and that it was received from Pease in 1869; and although the figures are not detailed and the shell is rather featureless and broken into two fragments, it is nonetheless here designated as the lectotype.

#### *balteata* Pease, 1870, *Helicteres* (Fig. 3B)

[*Helicteres*] (*Leptachatina*) *balteata* Pease, 1870: 91.

*Achatinella* (*Leptachatina*) *balteata* – Crosse 1876: 97, pl. 4, fig. 4.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30818.

TYPE LOCALITY. — “Île de Kauai (îles Hawaii)” (from article title).

#### REMARKS

Considered by Pease as a species of “Hélicètes” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. Fischer-Piette (1950: 149) listed the specimen illustrated by Crosse as “Exemplaire figuré”, not treating it explicitly as a type. Johnson (1994: 26) simply referenced

Fischer-Piette’s statement but credited him with having listed the “Holotype”, while also noting additional “paratypes” (MCZ 142986). Johnson’s treatment did not constitute a lectotype fixation (see introductory text regarding lectotypes). The single specimen is a reasonable match for that illustrated by Crosse (1876: pl. 4, fig. 4), although the white sutural bands in that illustration appear quite exaggerated; the labels associated with the specimen state that it is the specimen illustrated by Crosse and that it was received from Pease in 1869. It is therefore here designated as the lectotype.

#### *brevicula* Pease, 1869, *Helicter* (Fig. 3C)

*Helicter* (*Leptachatina*) *brevicula* Pease, 1869: 169.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 72) MNHN IM-2000-30819; paralectotype MNHN IM-2000-30820 (1 spm).

TYPE LOCALITY. — “Ins. Kauai”.

#### REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse, and noted that the shells had a variable number of whorls (“cinq à six”). Cooke (*in* Hyatt & Pilsbry 1910 [in 1910-1911]: 24, pl. 8, fig. 54) illustrated a “Cotype” (ANSP 57802). Fischer-Piette (1950: 72) listed an “Exemplaire-type” and a “paratype” (now MNHN IM-2000-30819 and MNHN IM-2000-30820, respectively) as well as the “paratype” of Cooke, which is here treated as designation of a lectotype and paralectotypes (see introductory text regarding lectotypes). The two MNHN specimens are 7.7 mm (lectotype) and 7.1 mm (paralectotype) in height, almost the exact measurements of the “Exemplaire-type” and “paratype”, respectively, of Fischer-Piette. A label of the collection of the *Journal de Conchyliologie*, associated with these specimens and written at the time of Fischer-Piette, says “type + paratype”. Johnson (1994: 8) referenced Fischer-Piette’s statement but credited him with having listed the “Measured holotype and paratype”, and noted Cooke’s “paratype” as well as additional “paratypes” (MCZ 45195).

#### *costulosa* Pease, 1870, *Helicteres* (Fig. 3D)

[*Helicteres*] (*Leptachatina*) *costulosa* Pease, 1870: 90.

*Achatinella* (*Leptachatina*) *costulosa* – Crosse 1876: 97, pl. 3, fig. 4.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30821.

TYPE LOCALITY. — “Île de Kauai (îles Hawaii)” (in article title).



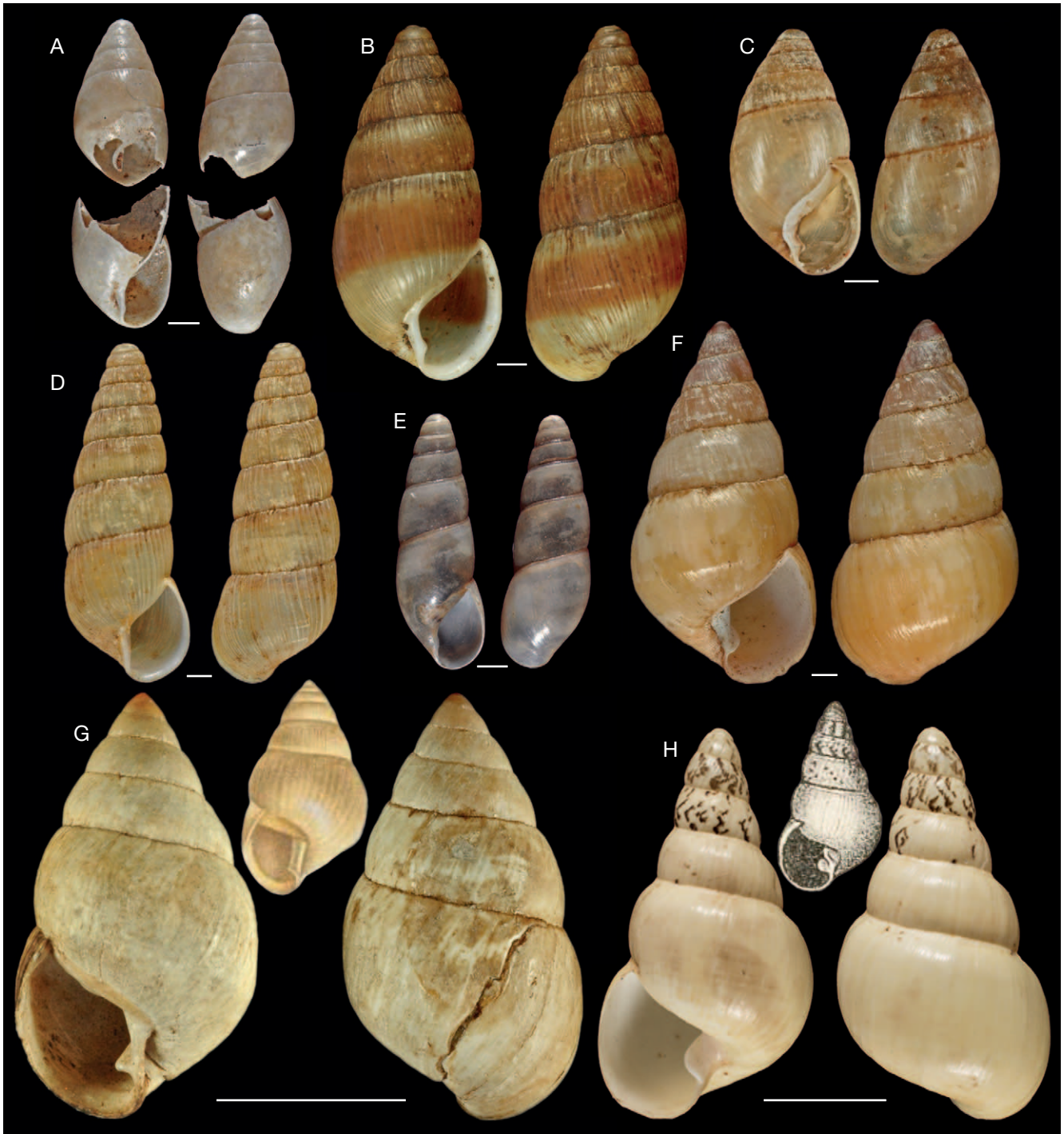


FIG. 3. — Amastridae Pilsbry, 1910: **A**, *Helicteres antiqua* Pease, 1870, lectotype MNHN IM-2000-30817, not measured; **B**, *Helicteres balteata* Pease, 1870, lectotype MNHN IM-2000-30818, 11.8 mm; **C**, *Helicter brevicula* Pease, 1869, lectotype MNHN IM-2000-30819, 7.7 mm; **D**, *Helicteres costulosa* Pease, 1870, lectotype MNHN IM-2000-30821, 14.0 mm; **E**, *Helicter cylindrata* Pease, 1869, lectotype MNHN IM-2000-30822, 8.2 mm; **F**, *Helicter erecta* Pease, 1869, lectotype MNHN IM-2000-30824, 14.6 mm; **G**, *Helix graviora* Férussac, 1825, lectotype MNHN IM-2000-30825, 22.5 mm, fig. 4 of Férussac in Quoy & Gaimard (1825); **H**, *Achatinella helvina* Baldwin, 1895, possible syntype MNHN IM-2000-30133, 15.8 mm, fig. 30 of Baldwin (1895). Scale bars: A-F, 1 mm; G, 10 mm; H, 5 mm. Dimensions given are shell height; reproductions of original illustrations not to scale.

#### REMARKS

Considered by Pease as a species of “Hélicères” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of

Pease). The original description was implicitly based on multiple specimens: “Coloration jaunâtre et devenant habituellement pourprée près de la suture”. Fischer-Piette (1950: 149) noted the illustration of Crosse and listed a “Holotype” (no doubt the specimen illustrated by Crosse, though this was



not stated explicitly). Johnson (1994: 10) simply referenced Fischer-Piette's statement, while also noting an additional "paratype" (MCZ 45191). Neither statement constitutes a lectotype designation (see introductory text regarding lectotypes). The single MNHN specimen matches Crosse's illustration reasonably well, and a label of the collection of the *Journal de Conchyliologie*, associated with the specimen and written at the time of Fischer-Piette, says "Holotype", and this and two other labels state that it is the figured specimen, one indicating that it was received from Pease in 1869. It is here designated as the lectotype.

*cylindrata* Pease, 1869, *Helicter*  
(Fig. 3E)

*Helicter* (*Leptachatina*) *cylindrata* Pease, 1869: 168.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 72) MNHN IM-2000-30822; paralectotype MNHN IM-2000-30823 (1 spm).

TYPE LOCALITY. — "Ins. Kauai".

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse. A "cotype" in ANSP was illustrated by Cooke (*in* Hyatt & Pilsbry 1910 [in 1910-1911]: 19, pl. 8, figs 63, 64). Fischer-Piette (1950: 72) noted an "Exemplaire-type (8.2 mm)" and a "paratype de 7 mm" (now MNHN IM-2000-30822 and MNHN IM-2000-30823, respectively), and in reference to the ANSP "paratype" already illustrated (by Cooke) stated that it would not be useful to illustrate "le type" (i.e. the "exemplaire-type"). This constitutes a valid lectotype designation (see introductory text regarding lectotypes). A label of the collection of the *Journal de Conchyliologie* and written at the time of Fischer-Piette says "type + paratype", and an earlier label says "type". There were two intact specimens in the original MNHN lot (i.e. lectotype and paralectotype), but also a broken specimen that was not mentioned by Fischer-Piette; this specimen is also considered a paralectotype. Johnson (1994: 11) selected the ANSP specimen (ANSP 57806) as lectotype, noting the MNHN specimens as paralectotypes; this designation is not valid as it is here considered that the earlier designation of Fischer-Piette was valid.

*erecta* Pease, 1869, *Helicter*  
(Fig. 3F)

*Helicter* (*Laminella*) *erecta* Pease, 1869: 174.

CURRENT TAXONOMIC STATUS. — Amastrinae *Amastra* (*Paramastra*) *micans* (Pfeiffer, 1859), synonym.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 73, pl. 4, fig. 53) MNHN IM-2000-30824.

TYPE LOCALITY. — "Maui".

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse, as well as noting that the shells were variously coloured ("d'un jaune paille, rougeâtre clair ou brunâtre"). Fischer-Piette (1950: 73, pl. 4, fig. 53) noted and illustrated a measured "Exemplaire-type", thereby designating a lectotype, though not mentioning other specimens (see introductory text regarding lectotypes). A label associated with the specimen indicates that it was received from Pease in 1868. Johnson (1994: 26) referenced Fischer-Piette's statement but credited him with having listed the "Holotype", while also noting additional "paratypes", i.e. paralectotypes (MCZ 23338).

*gravida* Férussac, 1825, *Helix*  
(Fig. 3G)

*Helix gravida* Férussac *in* Quoy & Gaimard, 1825: 478, pl. 68, figs 4, 5.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Laminella* Pfeiffer, 1854. Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30825; paralectotype MNHN IM-2000-30826 (1 spm); possible paralectotype MNHN IM-2000-30827 (1 spm).

TYPE LOCALITY. — "les îles Sandwich".

REMARKS

The species was not listed by Férussac (1821a, b). A typical black bordered Férussac collection label is associated with the original lot. The larger of the two specimens in the original lot matches that illustrated by Férussac *in* Quoy & Gaimard (1825, pl. 68, figs 4, 5) exactly in shell height and is here designated as the lectotype (although the illustration lacks the distinct repair scar on the body whorl); the other specimen is a paralectotype. The species was treated and illustrated by Deshayes (1851: 192, 193, pl. 155, fig. 3). Labels incorrectly give the locality as the Mariana Islands because *Laminella* (and indeed the family Amastridae) is endemic to the Hawaiian Islands. A label associated with MNHN IM-2000-30827 says "Coll. Férussac. 1837", indicating that it was in the Férussac collection (the date perhaps referring to when Férussac's collection was catalogued after his death in 1836). This label also identifies it as *Achatinella straminea* Reeve, 1850 (in 1849-1851: pl. 5, fig. 38), and a "var" of *gravida*, although Férussac *in* Quoy & Gaimard (1825: 478) did not mention a variety.

*helvina* Baldwin, 1895, *Achatinella*  
(Fig. 3H)

*Achatinella* (*Laminella*) *helvina* Baldwin, 1895: 227, pl. 11, fig. 30.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Laminella citrina* (Pfeiffer, 1848). Valid subspecies.

TYPE MATERIAL. — Possible syntypes MNHN IM-2000-30133 (6 spms; Fig. 3H).

TYPE LOCALITY. — “Ohia valley, near Kaluaaha. Island of Molokai”.

REMARKS

The original description was based on multiple specimens. One label shows that the shells were received from Baldwin. Whether they are syntypes or just representative specimens is not possible to ascertain at present.

*laevis* Pease, 1870, *Helicteres*  
(Fig. 4A)

[*Helicteres*] (*Leptachatina*) *laevis* [sic] Pease, 1870: 91.

*Achatinella* (*Leptachatina*) *laevis* [sic] – Crosse 1876: 97, pl. 4, fig. 6.

CURRENT TAXONOMIC STATUS. — Leptachatiniinae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30828.

TYPE LOCALITY. — “l’île de Kauai (îles Hawaïi)” (from article title).

REMARKS

Considered by Pease as a species of “Hélictères” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. The species was illustrated by Crosse (1876: 97, pl. 4, fig. 6), who indicated that there were two “individus typiques” in the collection of the *Journal de Conchyliologie*. Fischer-Piette (1950: 149) noted the specimen illustrated by Crosse and listed a measured “Holotype” (not explicitly the specimen illustrated by Crosse). Johnson (1994: 16) simply referenced Fischer-Piette’s statement, while also noting additional “paratypes” (MCZ 45173). Neither of these listings constitutes a lectotype designation (see introductory text regarding lectotypes). Despite Crosse’s statement that there were two specimens in the collection, there is now only one specimen in the MNHN lot. A label of the collection of the *Journal de Conchyliologie*, associated with the specimen and written at the time of Fischer-Piette, says “Holotype”, and this and two other labels indicate that the specimen is that illustrated by Crosse (1876: pl. 4, fig. 6), one indicating that it was received from Pease in 1869. Although the figures are not detailed, and the shell is rather featureless, the shell in MNHN IM-2000-30828 is here designated as the lectotype.

*luteola* Férussac, 1825, *Helix*  
(Fig. 4B)

*Helix luteola* Férussac in Quoy & Gaimard, 1825: 480.

*Achatina luteola* – Deshayes 1851: 195, pl. 155, fig. 12.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra*. Valid species.

TYPE MATERIAL. — Holotype (monotypy) MNHN IM-2000-30829.

TYPE LOCALITY. — “probable qu’elle vient des îles Mariannes” (probably came from the Mariana Islands; error, correctly the Hawaiian Islands).

REMARKS

Férussac in Quoy & Gaimard (1825: 480) stated “Elle a été trouvée par M. Gaudichaud. Il est probable qu’elle vient des îles Mariannes. Nous n’avons vu qu’un exemplaire”. The holotype was thus fixed by monotypy (ICZN 1999, art. 73.1.2). The labels of MNHN IM-2000-30829, one of which is a black-bordered label typical of the Férussac collection, indicate that the single specimen was received from “Gaudicho”, confirming that it was obtained by the Freycinet expedition, as Gaudichaud served as botanist on the voyage. This Férussac label also gives the Iles Mariannes as the locality. However, as an amastrid, a family endemic to the Hawaiian Islands, it could not have come from the Mariana Islands, and was no doubt obtained during the expedition’s time in the Hawaiian Islands in 1819 (Freycinet 1839: 518). The specimen closely matches that treated and illustrated by Deshayes (1851: 195, pl. 155, fig. 12). It is therefore considered here to be the holotype.

*pachystoma* Pease, 1869, *Helicter*  
(Fig. 4C)

*Helicter* (*Labiella*) *pachystoma* Pease, 1869: 171.

CURRENT TAXONOMIC STATUS. — Leptachatiniinae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 73, pl. 4, fig. 52) MNHN IM-2000-30830.

TYPE LOCALITY. — “Ins. Kauai”.

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse. Cooke (in Hyatt & Pilsbry 1910 [in 1910-1911]: 50, 51, pl. 8, figs 47, 48) mentioned “specimens (probably the types)[...] belonging to Pease’s own collection, which is now at the Museum of Comparative Zoology”, and illustrated one of his own specimens. Fischer-Piette (1950: 73, pl. 4, fig. 52) noted Cooke’s illustrated specimen and illustrated his own measured “Exemplaire-type”, which is here treated as a valid lectotype designation (see introductory text regarding lectotypes). A label of the collection of the *Journal de Conchyliologie*, associated with the specimen and written at the time of Fischer-Piette, says “type”, and another label indicates that it is that illustrated by Fischer-Piette (1950: pl. 4, fig. 52), which indeed it is. Johnson (1994: 198) referenced Fischer-Piette’s statement but credited him with having listed the “Measured holotype”, and noted additional “paratypes” (MCZ 45181).

*rugulosa* Pease, 1870, *Helicteres*  
(Fig. 4D)

[*Helicteres*] (*Amastra*) *rugulosa* Pease, 1870: 95.

*Achatinella* (*Amastra*) *rugulosa* – Crosse 1876: 99, pl. 1, figs 4, 4a.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Amastrella*) Sykes, 1900). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30831; paralectotype: MNHN IM-2000-30832 (1 spm).

TYPE LOCALITY. — “Île de Kauai (îles Hawaii)” (from article title).

REMARKS

Considered by Pease as a species of “Hélicières” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Amastra* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. The specimen illustrated by Crosse (1876: pl. 1, fig. 4, 4a) was listed by Fischer-Piette (1950: 149) as a measured “Exemplaire figuré”, which does not strictly constitute a lectotype designation, even though he also noted several fragmented “paratypes”. Johnson (1994: 23) referenced Fischer-Piette’s statement but credited him with having listed the “Holotype” as well as “fragment of paratype”, while also noting additional “paratypes” (MCZ 45255). This also is not a lectotype designation (see introductory text regarding lectotypes). The original lot contained two specimens, one intact and one in three fragments; a label associated with it indicates that the specimens were received from Pease in 1869. The intact specimen (now separated from the original lot as MNHN IM-2000-30831), which is labeled as “Exemplaire fig.”, corresponds very closely in size to the illustration of Crosse (1876: pl. 1, figs 4, 4a) and to the measurement of 13 mm of Fischer-Piette (1950: 149), though the original description gave a height of 12 mm. It is therefore here designated as the lectotype, the broken specimen in the original lot becoming a paralectotype.

*similaris* Pease, 1870, *Helicteres rugulosa* var.

[*Helicteres*] (*Amastra*) *rugulosa* var. *similaris* Pease, 1870: 96.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Cyclamastra*) Pilsbry & Vanatta, 1905). Valid species.

TYPE MATERIAL. — Paralectotypes MNHN IM-2000-30833 (2 spms, 1 of which in fragments).

TYPE LOCALITY. — “[Waimea] Kauai” [*sic*].

REMARKS

Considered by Pease as a variety of a species of “Hélicières” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Amastra* (see introductory text regarding species of Pease). The original description was not explicitly based on

only a single specimen but neither does it imply the existence of syntypes. The species was not listed by Fischer-Piette (1950: 149, 150). A lectotype (MCZ 45253) was validly designated and illustrated by Johnson (1994: 24, pl. 2, fig. 11), who also listed paralectotypes (MCZ 58936, MCZ 298498), and restricted the type locality as above. A label associated with the MNHN specimens indicates that they were received from Pease in 1869, and they are here treated as paralectotypes.

*simplex* Pease, 1869, *Helicter*  
(Fig. 4E)

*Helicter* (*Leptachatina*) *simplex* Pease, 1869: 170.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (Fischer-Piette 1950: 73) MNHN IM-2000-30834; paralectotype MNHN IM-2000-30835 (1 spm).

TYPE LOCALITY. — “Ins. Hawaii”.

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse, and noted multiple “individus” and “suture quelquefois [sometimes] étroitement bordée”. Cooke (*in* Hyatt & Pilsbry 1910 [in 1910-1911]: 38, pl. 1, figs. 8, 9) noted two specimens presented by Pease to ANSP and illustrated one of them (ANSP 57821) but did not mention the type status of either. Fischer-Piette (1950: 73) noted an “Exemplaire-type” and a “paratype” (said to measure 7.5 and 7.0 mm, respectively, both values slightly greater than the actual sizes of 7.3 and 6.6 mm), thereby designating a lectotype (see introductory text regarding lectotypes), though without illustrating it. The two specimens are now MNHN IM-2000-30834 and MNHN IM-2000-30835, respectively. Johnson (1994: 24) referenced Fischer-Piette’s statement but credited him with having listed the “Holotype”; he also listed the above ANSP specimen as a “paratype”, and mentioned additional paratypes (MCZ 45176).

*solida* Pease, 1869, *Helicter*  
(Fig. 4F)

*Helicter* (*Amastra*) *solida* Pease, 1869: 173.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Metamastra*) Hyatt & Pilsbry, 1911) *subrostrata* (Pfeiffer, 1859), junior synonym; or *Amastra* (*Amastrella*) *decorticata* Gulick *in* Gulick & Smith 1873, senior synonym, valid species.

TYPE MATERIAL. — Syntype MNHN IM-2000-30836 (1 spm).

TYPE LOCALITY. — “ins. Oahu”.

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse. Pilsbry & Cooke (1915 [in 1914-1916]: 28, 29, 31, pl. 7, figs 1-3) treated a single lot





FIG. 4. — Amastridae: **A**, *Helicteres laevis* Pease, 1870, lectotype MNHN IM-2000-30828, 9.2 mm; **B**, *Helix luteola* Férussac, 1825, holotype MNHN IM-2000-30829, 17.0 mm; **C**, *Helicter pachystoma* Pease, 1869, lectotype MNHN IM-2000-30830, 13.0 mm; **D**, *Helicteres rugulosa* Pease, 1870, lectotype MNHN IM-2000-30831, 12.8 mm; **E**, *Helicter simplex* Pease, 1869, lectotype MNHN IM-2000-30834, 7.3 mm; **F**, *Helicter solida* Pease, 1869, syntype MNHN IM-2000-30836, 14.0 mm; **G**, *Helicteres sphaerica* Pease, 1870, lectotype MNHN IM-2000-30837, 10.1 mm; **H**, *Helix spirizona* Férussac, 1825, lectotype MNHN IM-2000-30839, 22.3 mm; **I**, *Helicteres tenebrosa* Pease, 1870, lectotype MNHN IM-2000-30841, 12.7 mm. Scale bars: 5 mm. Dimensions given are shell height.

in the MCZ as the “type lot”. It contained four specimens, which they referred to three species: *Amastra* (*Metamastra*) *textilis* (Férussac in Quoy & Gaimard, 1825) (not figured by Pilsbry & Cooke 1915 [in 1914-1916]), *Amastra* (*Amastrella*) *decorticata* Gulick in Gulick & Smith 1873 (figured by Pilsbry & Cooke 1915 [in 1914-1916]: pl. 7, fig. 1) and *Amastra* (*Metamastra*) *subrostrata* (Pfeiffer, 1859) (2 spms figured by Pilsbry & Cooke 1915 [in 1914-1916]: pl. 7, figs 2, 3). Pilsbry & Cooke (1915 [in 1914-1916]: 29) explicitly considered one of the two *A. subrostrata* shells (probably that illustrated in their fig. 2) and the *A. decorticata* shell to have contributed

to the original description (external colour and dimensions, and aperture, respectively); they therefore considered *solida* to be a synonym of both *subrostrata* and *decorticata*. Fischer-Piette (1950: 73) simply listed “un exemplaire” in the collections of the *Journal de Conchyliologie*, referencing Pilsbry & Cooke (1915 [in 1914-1916]: 28, pl. 7, figs 2, 3). Johnson (1994: 24) listed three (not four) syntypes in the MCZ, but under two catalogue numbers (MCZ 23341, MCZ 141388), indicating that these three were those figured by Pilsbry & Cooke (1915 [in 1914-1916]: pl. 7, figs 1-3). He also noted the listing of the additional syntype by Fischer-Piette (1950:

73). Resolution of the status of *solida* could be achieved by designation of one of the MCZ specimens as the lectotype, which would either: 1) reduce *solida* to the synonymy of *subrostrata*; or 2) establish *solida* as the senior synonym of *decorticata*. While the former action would promote nomenclatural stability (*subrostrata* and *decorticata* would remain valid), the latter would be more reflective of the main points of the original description of *solida* (but would establish *solida* as the valid name for *decorticata*). The MNHN specimen would then become a paralectotype of *H. solida*; pending such action, it continues to be treated here as a syntype.

*sphaerica* Pease, 1870, *Helicteres*  
(Fig. 4G)

[*Helicteres*] (*Amastra*) *sphaerica* [sic] Pease, 1870: 94.

*Achatinella* (*Amastra*) *sphaerica* [sic] – Crosse 1876: 98, pl. 1, figs 5, 5a].

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Cyclamastra*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30837; paralectotype MNHN IM-2000-30838 (1 spm).

TYPE LOCALITY. — “l’île de Kauai (îles Hawaïi)” (from article title).

REMARKS

Considered by Pease as a species of “Hélicètes” (i.e. genus *Helicteres*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Amastra* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. Fischer-Piette (1950: 149) listed the specimen illustrated by Crosse (1876: pl. 1, figs 5, 5a) as a measured “Exemplaire figuré” (though, as is clear from the context, inadvertently as “*rugulosa*”) and also noted a “paratype” (they are now MNHN IM-2000-30837 and MNHN IM-2000-30838, respectively). Johnson (1994: 24) referenced Fischer-Piette’s statement but credited him with having listed the “Holotype” as well as “paratypes” [sic], while also noting additional “paratypes” (MCZ 45162). Neither treatment constitutes a lectotype designation (see introductory text regarding lectotypes). The slightly taller, more globular of the two MNHN specimens appears to be that figured by Crosse and is therefore here designated as the lectotype. A label associated with the specimens indicates that they were received from Pease in 1869.

*spirizona* Férussac, 1825, *Helix*  
(Fig. 4H)

*Helix spirizona* Férussac in Quoy & Gaimard, 1825: 480.

*Helix* (*Cochlogena*) *spirizona* Férussac, 1821a: 60; 1821b: 56 [nomen nudum].

*Achatina spirizona* – Deshayes 1851: 196, pl. 155, figs 14-15.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Paramastra* Hyatt & Pilsbry, 1911). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30839; paralectotypes MNHN IM-2000-36736 (2 spms); possible paralectotypes MNHN IM-2000-30840 (2 spms), MNHN IM-2012-36735 (3 spms).

TYPE LOCALITY. — “probablement [...] les îles Sandwich”.

REMARKS

The largest specimen in the original lot, with which a typical black-bordered Férussac label is associated, closely matches the illustrations of Deshayes (1851: pl. 155, figs 14, 15), notwithstanding the hole in the shell (for stringing it as a necklace or other ornamentation) that is not depicted; it is here selected as the lectotype (MNHN IM-2000-30839); the remaining specimens in the original lot are paralectotypes (MNHN IM-2000-36736). Labels associated with the other two lots (MNHN IM-2000-30840, MNHN IM-2012-36735) indicate that the specimens were in the Deshayes collection, and therefore may have been in Férussac’s collection. They are here considered possible paralectotypes.

*tenebrosa* Pease, 1870, *Helicteres*  
(Fig. 4I)

[*Helicteres*] (*Leptachatina*) *tenebrosa* Pease, 1870: 92.

*Achatinella* (*Leptachatina*) *tenebrosa* – Crosse 1876: 97, pl. 3, fig. 5.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30841.

TYPE LOCALITY. — “l’île de Kauai (îles Hawaïi)” (from article title).

REMARKS

Considered by Pease as a species of “Hélicètes” (i.e. genus *Helicter*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of Pease). The original description was implicitly based on more than one specimen: “Coloration générale noirâtre ou d’un brun rougeâtre”. Fischer-Piette (1950: 149) listed the specimen illustrated by Crosse (1876: pl. 3, fig. 5) as an “Exemplaire figuré” and Johnson (1994: 26) referenced Fischer-Piette’s statement but credited him with having listed the “Holotype”, while also noting additional “paratypes” (MCZ 45189, MCZ 50110). Neither treatment constitutes a lectotype designation (see introductory text regarding lectotypes). A label associated with the MNHN specimen indicates that it was received from Pease in 1869. It closely matches the shell illustrated by Crosse in both size and appearance and is here designated as the lectotype.

*tenuicostata* Pease, 1869, *Helicter*  
(not illustrated – see remarks)

*Helicter* (*Leptachatina*) *tenuicostata* Pease, 1869: 170.

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*). Valid species.

TYPE MATERIAL. — Syntype MNHN IM-2000-30842 (1 spm).

TYPE LOCALITY. — “Ins. Hawaii”.

REMARKS

The original description was explicitly based on specimens in the collections of both Pease and Crosse. Cooke (*in* Hyatt & Pilsbry 1910 [in 1910-1911]: 68) was “unable to find a single authentic specimen of this species”, including none in the MCZ. On this basis, Fischer-Piette (1950: 72, 73, pl. 47, fig. 51) illustrated a “holotype”, apparently inferring “holotype” because no other specimens had been found. The single specimen was broken in 1949 subsequent to having been photographed (Fischer-Piette 1950: 73; collection label) and is now in multiple small fragments (therefore no illustration is provided). Johnson (1994: 26) simply referenced Fischer-Piette (1950: 72, pl. 3, fig. 51), accepting the specimen as the holotype. Neither Fischer-Piette’s nor Johnson’s treatment constituted a lectotype fixation (see introductory text regarding lectotypes). A label associated with the specimen indicates that it was received from Pease in 1868. Although the specimen is labeled as the “type”, it is not here designated as the lectotype, pending a thorough search for syntype material in better condition.

*textilis* Férussac, 1825, *Helix*  
(Fig. 5A)

*Helix* *textilis* Férussac *in* Quoy & Gaimard, 1825: 482.

*Helix* (*Cochlogena*) *textilis* Férussac, 1821a: 60; 1821b: 56 [*nomen nudum*].

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Meta-mastra*). Valid species.

TYPE MATERIAL. — Probable syntypes MNHN IM-2000-30770 (5 spms; largest of which, Fig. 5A).

TYPE LOCALITY. — “îles Sandwich”.

REMARKS

Férussac *in* Quoy & Gaimard (1825: 482) did not illustrate the species and provided only a short description, and it was not treated by Deshayes (1851). It is therefore difficult to ascertain the status of the MNHN specimens. Hyatt & Pilsbry (1911 [in 1910-1911]: 165) stated that the “type specimens” were in the “Jardin des Plantes” (i.e. MNHN). The labels associated with the MNHN specimens indicate that they are from the Deshayes collection, and therefore possibly Férussac’s collection. They are therefore treated here as probable syntypes only.

*tristis* Férussac, 1825, *Helix*  
(Fig. 5B)

*Helix* *tristis* Férussac *in* Quoy & Gaimard, 1825: 482, pl. 68, figs 6, 7.

*Helix* (*Cochlogena*) *tristis* – Férussac 1821a: 60; 1821b: 56 [*nomen nudum*].

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra* (*Amastrella*). Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30843; paralectotypes MNHN IM-2000-30844 (2 spms).

TYPE LOCALITY. — “les îles Sandwich”.

REMARKS

Not treated by Deshayes (1851). A label associated with the specimens is a typical black-bordered label of the Férussac collection and states that they were received from “Gaudicho” (i.e. Gaudichaud); it therefore confirms that they were obtained during the Freycinet expedition. The labels to which the three specimens were once glued says “type” and “Coll. Férussac 1837”. All three shells closely match Férussac’s illustrations, although one retains a significant amount of periostracum that is not shown in the illustrations. However, the other two are damaged, probably in the course of removing them from the label, so the undamaged specimen, with periostracum, is here selected as the lectotype (MNHN IM-2000-30843); the remaining specimens in the original lot are paralectotypes (MNHN IM-2000-30844).

*turgidula* Pease, 1870, *Helicteres*  
(Fig. 5C)

[*Helicteres*] (*Leptachatina*) *turgidula* Pease, 1870: 89.

*Achatinella* (*Leptachatina*) *turgidula* – Crosse 1876: 96, pl. 4, fig. 5].

CURRENT TAXONOMIC STATUS. — Leptachatininae, *Leptachatina* (*Leptachatina*) *pachystoma* (Pease, 1869), subspecies (see Cowie *et al.* 1995: 128).

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30845.

TYPE LOCALITY. — “insula Kauai”.

REMARKS

Considered by Pease as a species of “Hélicètes” (i.e. genus *Helicter*, though the formal genus name was not used and it is therefore placed in square brackets above) in the subgenus *Leptachatina* (see introductory text regarding species of Pease). The original description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. Fischer-Piette (1950: 149) listed the specimen illustrated by Crosse (1876: pl. 4, fig. 5) as the “Holotype” and a label of the collection of the *Journal de Conchyliologie*, associated with this specimen and written at the time of Fischer-Piette, also says “Holotype”. Johnson (1994: 26) simply referenced Fischer-Piette’s statement, while also noting



additional “paratypes” (MCZ 45182, MCZ 45183). Neither Fischer-Piette’s nor Johnson’s treatment constituted a lectotype designation (see introductory text regarding lectotypes). A label associated with the MNHN specimen indicates that it was received from Pease in 1869. The specimen matches Crosse’s illustrations, although the clear demarcation between the whitish lower part of the body whorl and the remainder of the shell is not so distinct in the actual specimen. It is here designated as the lectotype.

*turritella* Férussac, 1821, *Helix*  
(Fig. 5D)

*Helix (Cochlogena) turritella* Férussac, 1821a: 60; 1821b: 56.

*Helix turritella* – Férussac *in* Quoy & Gaimard 1825: 481.

*Achatina turritella* – Deshayes 1851: 196, pl. 155, fig. 13.

CURRENT TAXONOMIC STATUS. — Amastrinae, *Amastra (Paramastra)*. Valid species.

TYPE MATERIAL. — Possible syntypes MNHN IM-2000-30847 (4 spms), MNHN IM-2000-30846 (1 spm; Fig. 5D).

TYPE LOCALITY. — “Les îles Sandwich”.

REMARKS

The name is available from Férussac (1821a: 60; 1821b: 56) because it was accompanied by the single diagnostic term “coquille turriculée”. Férussac *in* Quoy & Gaimard (1825: 481) provided a brief description but no illustration. Labels in both lots indicate that the material was in the collection of Deshayes, and possibly therefore of Férussac. The five specimens are all more or less smaller than that described and illustrated by Deshayes (1851: 196, pl. 155, fig. 13) and therefore no lectotype is here selected and the specimens are considered here as only possible syntypes.

*ventulus* Férussac, 1825, *Helix*  
(Fig. 5E)

*Helix ventulus* Férussac *in* Quoy & Gaimard, 1825: 481.

*Helix (Cochlogena) ventulus* – Férussac 1821a: 60; 1821b: 56 [*nomen nudum*].

CURRENT TAXONOMIC STATUS. — Leptachatinae, *Leptachatina (Leptachatina)*. Valid species.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30848.

TYPE LOCALITY. — “l’île Guam” (in text; error) (“Sandwich Islands”; on label).

REMARKS

Both Férussac (1821a: 60, 1821b: 56) and Férussac *in* Quoy & Gaimard (1825: 481) gave the locality as Guam, whereas the labels (including one with black borders typical

of the Férussac collection) correctly indicate the Sandwich (i.e. Hawaiian) Islands, as the genus *Leptachatina* (and the entire family Amastridae) is endemic to the Hawaiian Islands. This Férussac collection label also indicates that the shell was from Gaudichaud, as stated by Férussac (1821a: 60, 1821b: 56), confirming that it was obtained during the Freycinet voyage. Another label says “type” and “collection Férussac”, and another “Coll. Férussac 1837”. The shell height (13 mm) matches that given by Férussac *in* Quoy & Gaimard (“cinq lignes et demie”, i.e. 12.4 mm) but its width (6.7 mm) is greater than Férussac’s (“deux et demie”, i.e. 5.6 mm), although within a reasonable margin of error. We here designate this specimen as the lectotype. The species was not treated by Deshayes (1851).

Family ELLOBIIDAE Pfeiffer, 1854

*sandwichiensis* Souleyet, 1852, *Auricula*  
(Fig. 5F)

*Auricula sandwichiensis* Souleyet, 1852: 524, pl. 29, figs 29-32.

CURRENT TAXONOMIC STATUS. — Cassidulinae, *Allochroa brononii* (Philippi, 1846), synonym.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30849 (ex MNHN IM-2000-5115); paralectotypes: MNHN IM-2000-5115 (4 spms).

TYPE LOCALITY. — “îles Sandwich”.

REMARKS

The five specimens in the single original lot range widely in size. The largest shell is a precise match in size and shape for Souleyet’s fig. 32 (presumed life-size shell) and matches the larger, more detailed fig. 31 in appearance. Its height and width (11.5 mm, 6.7 mm) closely match Souleyet’s given dimensions (12 mm, 7 mm). This largest specimen is therefore here designated as the lectotype; the other four specimens are paralectotypes.

Family ENDODONTIDAE Pilsbry, 1895

*henshawi* Ancey, 1904, *Endodonta*  
(Fig. 5G)

*Endodonta (Thaumatodon) henshawi* Ancey, 1904b: 66, pl. 5, figs 15, 16.

CURRENT TAXONOMIC STATUS. — Endodontidae, *Cookeconcha* Solem, 1976. Valid species.

TYPE MATERIAL. — Syntypes MNHN IM-2000-9654 (5 spms; Fig. 5G).

TYPE LOCALITY. — “Palihoukapapa, on the Hamakua slope of Mauna Kea, Kawaii [Hawaii], an elevation of 4,000 feet” (from the introduction to the paper).



FIG. 5. — Amastridae: **A**, *Helix textilis* Férussac, 1825, possible syntype MNHN IM-2000-30770, 15.0 mm; **B**, *Helix tristis* Férussac, 1825, lectotype MNHN IM-2000-30843, 19.3 mm, fig. 6 of Férussac in Quoy & Gaimard (1825); **C**, *Helicteres turgidula* Pease, 1870, lectotype MNHN IM-2000-30845, 13.7 mm; **D**, *Helix turritella* Férussac, 1821, possible syntype MNHN IM-2000-30846, 18.5 mm; **E**, *Helix ventulus* Férussac, 1825, lectotype MNHN IM-2000-30848, 12.9 mm. Ellobiidae: **F**, *Auricula sandwichiensis* Souleyet, 1852, lectotype MNHN IM-2000-30849, 11.5 mm, figs 31 & 32 of Souleyet (1852). Endodontidae: **G**, *Endodonta henshawi* Ancey, 1904, syntype MNHN IM-2000-9654, 2.1 mm (shell width), fig. 15 of Ancey (1904b). Lymnaeidae: **H**, *Lymnaea oahuensis* Souleyet, 1852, lectotype MNHN IM-2000-30850, 11.7 mm, figs 39 & 41 of Souleyet (1852). Punctidae: **I**, *Endodonta horneri* Ancey, 1904, syntype MNHN IM-2000-9655, 1.0 mm (shell width), fig. 11 of Ancey (1904b). Scale bars: A-F, H, 5 mm; G, I, 1 mm. Dimensions given are shell height unless otherwise stated; reproductions of original illustrations not to scale.

#### REMARKS

Although the original description stated that this species seemed to be abundant, the actual description was not explicitly based on multiple syntypes, but neither does it imply that it was based on a only a single specimen. Even though the paper was published in 1904, according to the labels the

specimens were not sent by Ancey until 1907, although all these old labels say “cotypes”. No lectotype is here selected, pending further research in other museums (BPBM, IRSNB) holding type or possible type material (Wood & Gallichan 2008: 51).

Family LYMNAEIDAE Rafinesque, 1815

*oahouensis* Souleyet, 1852, *Lymnaea*  
(Fig. 5H)

*Lymnaea Oahouensis* [sic] Souleyet, 1852: 527, pl. 29, figs 38-41.

CURRENT TAXONOMIC STATUS. — Lymnaeidae, *Lymnaea* (*Pseudisidora* Thiele, 1931) *rubella* Lea, 1841, synonym.

TYPE MATERIAL. — Lectotype (here designated) MNHN IM-2000-30850 (ex MNHN IM-2000-27685); paralectotypes: MNHN IM-2000-27685 (3 spms), MNHN IM-2000-27699 (10 spms).

TYPE LOCALITY. — “ruisseaux de l’île Oahou (îles Sandwich)”.

REMARKS

The original description indicates both dextral and sinistral individuals, although the plates only illustrate dextral individuals. All the MNHN specimens are dextral. The largest specimen is a precise match in size and shape for Souleyet’s fig. 41 (presumed life-size shell). The specimen is 11.7 mm in height (Souleyet’s description says 12 mm) and 6.5 mm in width (Souleyet’s measurement of 9 mm is erroneous). This largest specimen is here designated as the lectotype; the remaining 13 specimens are paralectotypes. Those in MNHN IM-2000-27699 are explicitly labelled as having been obtained from Gaudichaud in 1838, the year after his return from the voyage of *La Bonite*.

Family Punctidae Morse, 1864

*horneri* Ancey, 1904, *Endodonta*  
(Fig. 5I)

*Punctum horneri* Ancey, 1904b: 66, pl. 5, figs 11, 12.

CURRENT TAXONOMIC STATUS. — Punctidae, *Punctum* Morse, 1864. Valid species.

TYPE MATERIAL. — Syntypes MNHN IM-2000-9655 (3 spms, of which 1 just an apical fragment; Fig. 5I).

TYPE LOCALITY. — “Palihoukapapa, on the Hamakua slope of Mauna Kea, Kawaii [Hawaii], an elevation of 4,000 feet” (in the introduction to the paper).

REMARKS

Although the original description stated that this species was also found on Oahu, the species was described based on material from the above type locality. The description was not explicitly based on only a single specimen but neither does it imply the existence of syntypes. Although described in the *Journal de Conchyliologie* and three older labels say “cotypes”, no lectotype is here selected, pending further research in other collections (BPBM, IRSNB) holding type or possible type material (Wood & Gallichan 2008: 53).

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