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COWIE, R.H.

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CHRISTENSEN, C.C. & SAMUELSON, G.A.



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## ***Eua mauga* Cowie, 2019, new replacement name for *Partula montana* Cooke & Crampton, 1930 (currently *Eua montana*), a junior primary homonym of *Partula montana* Moellendorff, 1900 (Gastropoda: Partulidae)<sup>1</sup>**

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The Partulidae are one of four land snail families endemic to the islands of the Pacific, the others being the Achatinellidae, Amastridae and Endodontidae (*sensu* Solem 1976) (Cowie 1996). All four families have suffered catastrophic rates of decline and extinction caused by habitat loss, predation by introduced species and to a lesser extent over-collection (Hadfield 1986; Cowie 1992; Sartori *et al.* 2014; Régnier *et al.* 2015). The Partulidae have been the subject of intensive international efforts to conserve what is left of their diversity, largely by *ex situ* breeding and most recently by release into the wild of captive bred individuals of a number of Society Island (French Polynesia) species (Coote *et al.* 2019).

The Partulidae comprise five genera with just over 100 species (Gerlach 2016; Slapcinsky & Kraus 2016). *Partula* Férussac, 1821 (in Férussac 1821–1822) is the most widespread and species-rich, with 77 species, primarily distributed in French Polynesia but with a number of species in Micronesia. *Samoana* Pilsbry, 1909 (in Pilsbry 1908–1910) is also widespread, from French Polynesia to the Mariana Islands of Micronesia but with far fewer species (21) than *Partula*. *Palaopartula* Pilsbry, 1909 (in Pilsbry 1908–1910), with three species, and *Sphendone* Slapcinsky & Kraus, 2016, with one, are known only from Palau in the far western Pacific. *Eua* Pilsbry & Cooke, 1934, with just four species, occurs only in the Samoan and Tongan archipelagos.

In the Samoan archipelago, *Eua zebrina* (Gould, 1847) is endemic to the American Samoan islands of Tutuila and Ofu, having only been discovered on Ofu in 2001 (Cowie & Cook 2001). During surveys in American Samoa in 1998 and 2001, it was found to be by far the most widespread and abundant partulid species, though nonetheless uncommon (Cowie 2001). The partulids of independent Samoa are less well known than those of American Samoa. During surveys in 1992–1994 (Cowie & Robinson 2003), *Eua expansa* (Pease, 1871) was recorded at 12 sites, on both ‘Upolu and Savai‘i, while *Eua montana* (Cooke & Crampton, 1930) was recorded at only four sites on ‘Upolu, to which island it is endemic. The other partulid species in the Samoan archipelago are all in the genus *Samoana*: *S. conica* (Gould, 1847), with two “varieties” listed by Cowie (1998), and *S. abbreviata* (Mousson, 1869) on Tutuila, *S. thurstoni* (Cooke & Crampton, 1930) on Ofu and Olosega, and *S. canalis* (Mousson, 1865) and *S. stevensoniana* (Pilsbry, 1909 in 1908–1910), which have both been recorded on ‘Upolu and Savai‘i; all are extremely rare (Cowie 1998, 2001; Cowie & Cook 2001; Cowie *et al.* 2002; Cowie & Robinson 2003). The fourth species of *Eua* is *E. globosa* Pilsbry & Cooke, 1934, from the island of Eua in the Tongan archipelago. It was still extant during surveys by Yoshio Kondo in 1967 and

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19a.—*Partula rufa*, sub-sp. *montana*, nov.

*Bulinus guamensis*, Pfr., Phil. Abb., ii, p. 113, Bul. t. 4, f. 9.—  
Mon. Hel., ii, p. 13.—*Partula guamensis*, Pfr., Mon.  
Hel., iii, p. 446.—*P. rufa*, Marts., Conch. Mitth., 1881,  
i, p. 95, t. 17, figs. 12—16.

*Hab.*—Ponape, ruins of Nanmatal (Finsch), in the hills (Etscheid, Kubary).

Whorls 5, very distinctly spirally striate, rather solid. Diam. 15, alt. 26 mm. (Pfr.), 16·26 (Marts.), 18·26 (the broadest of my own specimens).

The name *guamensis* cannot be retained inasmuch as this mollusc does certainly not live on the island of Guam, where my friend Quadras collected more than two months without finding it.

Fig. 1. The original proposal of *Partula rufa* subspecies *montana* Moellendorff, 1900.

John B. Burch in 1970 but is now probably extinct as a result of logging activities, with the last remaining suitable habitat being cleared in 1970 (Ó Foighil 2012). All these species are of considerable conservation concern.

Cowie (1998), followed by Gerlach (2016), noted that the name *montana* Cooke & Crampton, originally described in the combination *Partula montana* by Cooke & Crampton (1930) but since placed in *Eua* by Pilsbry & Cooke (1934), Kondo (1968), Richardson (1990), Cowie (1998) and Gerlach (2016), is a junior primary homonym of *montana* Moellendorff, which was originally proposed as *Partula rufa* subspecies *montana* by Moellendorff (1900) as a replacement name for *guamensis*, because he considered *guamensis* inappropriate as the taxon does not occur on Guam (Fig. 1) but only on Pohnpei, further east (Pelep & Hadfield 2011). However, being inappropriate is not justification for replacing a name according to the *International Code of Zoological Nomenclature* (ICZN 1999, Articles 18 and 23.3.7), and the name therefore remains available as a replacement name (*Code*, Article 12.2.3).

In general, junior homonyms are to be replaced, in which case a new name should be provided for *montana* Cooke & Crampton, 1930. However, in the interests of stability, prevailing usage should also generally be maintained, by reversing the precedence of the two names if necessary. The procedure to do this is straightforward (*Code*, Article 23.9.2) as long as two conditions (*Code*, Article 23.9.1) are met: 1) the senior homonym has not been used as a valid name after 1899 (*Code*, Article 23.9.1.1), and 2) the junior homonym has been used as the presumed valid name in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years (*Code*, Article 23.9.1.2). Neither of these conditions appears to have been met. The first condition clearly has not been met as the senior homonym, although it may not have been used since it was introduced, was proposed in 1900 (i.e., after 1899). The second condition appears not to have been met as only four publications could be found that have used it in the last 50 years (i.e., since 1969), viz., Richardson (1990), Cowie (1998),



**Fig. 2.** Holotype of *Partula montana* Cooke & Crampton, 1930, now *Eua mauga* Cowie, 2019, **nom. nov.** Scale bar 5 mm (Courtesy Academy of Natural Sciences of Philadelphia).

Cowie & Robinson (2003) and Gerlach (2016). Of these, Richardson (1990) at least may not count as it is arguably just a list of names (*Code*, Article 23.9.6). Thus, based on usage of the junior homonym (*Code*, Article 23.9.1), it is not possible to reverse the precedence of *montana* Moellendorff, 1900 and *montana* Cooke & Crampton, 1930.

Nonetheless, the *Code* (Article 23.9.3) states that “[i]f the conditions of 23.9.1 are not met but nevertheless an author considers that the use of the older . . . homonym would threaten stability or universality or cause confusion, and so wishes to maintain use of the younger . . . homonym, he or she must refer the matter to the Commission for a ruling under the plenary power . . .” However, a strong case to refer this matter to the International Commission on Zoological Nomenclature can hardly be made, as *montana* Cooke & Crampton, 1930 has been mentioned in the literature only rarely since its description, and although fairly well known among Pacific island malacologists and conservationists, most of these people would readily become aware of a change of name, should that happen. The species has not been evaluated for the IUCN Red List, but when it does get evaluated, if under a new name this would be unlikely to cause confusion.

Furthermore, Article 23.9.5 of the *Code* does not apply. It states that “[w]hen an author discovers that a species-group name in use is a junior primary homonym . . . of another species-group name also in use, but the names apply to taxa not considered congeneric after 1899, the author must not automatically replace the junior homonym; the case should be referred to the Commission for a ruling under the plenary power . . . .” However, *montana* Cooke & Crampton 1930 and *montana* Moellendorff, 1900 were congeneric in *Partula* until the former was placed in *Eua* by Pilsbry & Cooke (1934), and while the former is in use the latter is not, precluding this approach.

Thus, the only solution appears to be to provide a replacement name for *montana* Cooke & Crampton, 1930. There are no junior synonyms that could replace it (Cowie 1998; Gerlach 2016). A new name is therefore provided, as follows:

*Eua mauga* Cowie, 2019, *nom. nov. pro Partula montana* Cooke & Crampton, 1930, junior primary homonym of *Partula rufa* subspecies *montana* Moellendorff, 1900.

The name *mauga* is the Samoan word for mountain or mountainous, reflecting the original name, *montana*, of Cooke & Crampton (1930). It is here treated as a noun in apposition, and as it is not a Latin or latinized word it is indeclinable (*Code*, Article 31.2.3). The holotype (by monotypy) of *Partula montana* Cooke & Crampton, 1930 (Fig. 2) is in the Academy of Natural Sciences of Philadelphia (ANSP 292306) and this shell is therefore now the holotype of *Eua mauga* Cowie, 2019 (*Code*, Article 72.7).

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#### REFERENCES

- Cooke, C.M., Jr. & Crampton, H.E. 1930. New species of *Partula*. *Bernice P. Bishop Museum Occasional Papers* 9(11): 1–9.
- Coote, T., Aberdeen, S., Brocherieux, C., Brown, R., Bushell, M., Buzzard, P., Clarke, D., de Vries, M., Depierre, M., Elliott, J., Frei, G., García, G., Gerlach, J., Honigs, S., McFarlane, D., Merz, B., Miller, B., Mohan, P., Robinson, S., Serra, C., Sincage, J., Spevak, E., Schwitzer, C., Szánthó, J., Tatarata, M., Wilson, S., Woodfine, T. & Pearce-Kelly, P. 2019. Fourth year of *Partula* species reintroductions into natural habitat on Tahiti and Moorea. *Tentacle* 27: 35–38.
- Cowie, R.H. 1992. Evolution and extinction of Partulidae, endemic Pacific island land snails. *Philosophical Transactions of the Royal Society of London B Biological Sciences* 335: 167–191.
- Cowie, R.H. 1996. Pacific island land snails: relationships, origins, and determinants of diversity, p. 347–372. In: Keast, A. & Miller, S.E., (eds.), *The Origin and Evolution of Pacific Island Biotas, New Guinea to Eastern Polynesia: Patterns and Processes*. SPB Academic Publishing, Amsterdam.

- Cowie, R.H.** 1998. Catalog of the nonmarine snails and slugs of the Samoan Islands. *Bishop Museum Bulletins in Zoology* **3**: i–viii, 1–122.
- Cowie, R.H.** 2001. Decline and homogenization of Pacific faunas: the land snails of American Samoa. *Biological Conservation* **99**(2): 207–222.
- Cowie, R.H. & Cook, R.P.** 2001. Extinction or survival: partulid tree snails in American Samoa. *Biodiversity and Conservation* **10**(2): 143–159.
- Cowie, R.H. & Robinson, A.C.** 2003. The decline of native Pacific island faunas: changes in status of the land snails of Samoa through the 20th century. *Biological Conservation* **110**(1): 55–65.
- Cowie, R.H., Rundell, R.J., Mika, F. & Setu, P.** 2002. The endangered partulid tree snail *Samoana thurstoni* on Olosega and the land snail diversity of the Manu'a Islands, American Samoa. *American Malacological Bulletin* **17**(1/2): 37–43.
- Férussac, A.E.J.P.J.F.d'A. de.** 1821–1822. *Tableaux systématiques des animaux mollusques classés en familles naturelles, dans lesquels on a établi la concordance de tous les systèmes; suivis d'un prodrome général pour tous les mollusques terrestres ou fluviatiles, vivants ou fossiles. Tableau systématique de la famille des Limaçons, Cochleæ. Tableau systématique des pulmonés géhydrophilles.* Arthus Bertrand, Paris; J.B. Sowerby, London. 111 p. [quarto version]
- Gould, A.A.** 1847. [Descriptions of species of *Partula*, *Pupa*, and *Balea*, collected by the Exploring Expedition]. *Proceedings of the Boston Society of Natural History* **2**: 196–198.
- Gerlach, J.** 2016. *Icons of evolution: Pacific island tree snails of the family Partulidae.* Phelsuma Press, Cambridge. 334 p.
- Hadfield, M.G.** 1986. Extinction in Hawaiian achatinelline snails. *Malacologia* **27**: 67–81.
- ICZN (International Commission on Zoological Nomenclature).** 1999. *International Code of Zoological Nomenclature.* Fourth edition. London, International Trust for Zoological Nomenclature. xxix + 306 p.
- Kondo, Y.** 1968. Partulidae: preview of anatomical revision. *The Nautilus* **81**(3): 73–77.
- Moellendorff, O.F. von.** 1900. The land shells of the Caroline Islands. *Journal of Malacology* **7**(5): 101–126.
- Mousson, A.** 1865. Coquilles terrestres et fluviatiles de quelques îles de l'océan Pacifique, recueillies par M. le Dr E. Graeffe. *Journal de Conchyliologie* **13**(2): 164–209.
- Mousson, A.** 1869. Faune malacologique terrestre et fluviatile des îles Samoa, publiée d'après les envois de M. le Dr E. Graeffe. *Journal de Conchyliologie* **17**(4): 323–390, pls. 14, 15.
- Ó Foighil, D.** 2012. *Eua globosa.* *The IUCN Red List of Threatened Species 2012*: e.T198790A2535201 (Accessed 25 October 2019).
- Pease, W.H.** 1871. 1871a. Descriptions of new species of land shells. *American Journal of Conchology* **7**(1): 26–27.
- Pelep, P.O. & Hadfield, M.G.** 2011. The status of the endemic snails of the genus *Partula* (Gastropoda: Partulidae) on Pohnpei, Federated States of Micronesia. *Micronesica* **41**(2): 253–262.
- Pilsbry, H.A.** 1908–1910. *Manual of conchology. Structural and systematic. With illustrations of the species. Second series: Pulmonata.* Vol. XX. *Caecilioides, Glessula* and Partulidae. Index to Vols. XVI–XX. Academy of Natural Sciences, Philadelphia. viii + 336 p., 43 pls.



- Pilsbry, H.A. & Cooke, C.M., Jr.** 1934. Partulidae of Tonga and related forms. *Bernice P. Bishop Museum Occasional Papers* **10**(14): 1–22.
- Régnier, C., Bouchet, P., Hayes, K.A., Yeung, N.W., Christensen, C.C., Chung, D.J.D., Fontaine, B. & Cowie, R.H.** 2015. Extinction in a hyperdiverse endemic Hawaiian land snail family and implications for the underestimation of invertebrate extinction. *Conservation Biology* **29**(6): 1715–1723.
- Richardson, C.L.** 1990. Partulidae: catalog of species. *Tryonia* **19**: i, 1–96.
- Sartori, A.F., Gargominy, O. & Fontaine, B.** 2014. Radiation and decline of endodontid land snails in Makatea, French Polynesia. *Zootaxa* **3772**: 1–68.
- Slapcinsky, J. & Kraus, F.** 2016. Revision of Partulidae (Gastropoda, Stylommatophora) of Palau, with description of a new genus for an unusual ground-dwelling species. *ZooKeys* **614**: 27–49.
- Solem, A.** 1976. *Endodontoid land snails from Pacific Islands (Mollusca: Pulmonata: Sigmurethra). Part I Family Endodontidae*. Field Museum of Natural History, Chicago. xii + 508 pp.



*Ovalaua*, new replacement name for *Moala* Dillon & Dillon, 1952, a genus of Fijian Beetles (Coleoptera: Cerambycidae), not *Moala* Baker, 1938 (Gastropoda: Euconulidae). Christensen, C.C. & Samuelson, G.A. *Bishop Museum Occasional Papers* 131: 7–8 (2019)

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## ***Ovalaua*, new replacement name for *Moala* Dillon & Dillon, 1952, a genus of Fijian Beetles (Coleoptera: Cerambycidae), not *Moala* Baker, 1938 (Gastropoda: Euconulidae)<sup>1</sup>**

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The genus *Moala* Dillon & Dillon (1952: 100–101) (type species: *Moala crassus* Dillon & Dillon, 1952, by original designation) was established for two species of cerambycid beetles inhabiting Moala and several other islands in the Fijian Archipelago. *Moala* Dillon & Dillon is currently recognized as a valid genus (Evenhuis 2007; Waqa-Sakiti *et al.* 2018).

*Moala* Baker (1938: 69–70) was established for a monotypic subgenus of land snails of the genus *Lamprocystis* Pfeffer, 1883 occurring on the island of Moala, Fiji. *Lamprocystis* and its subgenus *Moala* are now placed in the family Euconulidae (Schileyko 2002). *Moala* Baker is a senior homonym of *Moala* Dillon & Dillon, and the latter is in need of replacement pursuant to Article 60 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999). Accordingly, the name *Ovalaua* is here proposed as a **new replacement name** for *Moala* Dillon & Dillon, 1952 (not *Moala* Baker, 1938). Described species included in the genus as defined by Dillon & Dillon (1952) and as recognized by subsequent authors (Evenhuis 2007; Waqa-Sakiti *et al.* 2018) are *Ovalaua crassus* (Dillon & Dillon, 1952), **new combination**, and *O. flavovittatus* (Dillon & Dillon, 1952), **new combination**.

*Ovalaua* is named for the island of Ovalau, Fiji, another of the islands inhabited by species of the genus, and is to be treated as masculine in gender.

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### **REFERENCES**

- Baker, H.B.** 1938. Zonitid snails from Pacific islands—Part 1. 1. Southern genera of Microcystinae. *Bernice P. Bishop Museum Bulletin* **158**: 1–102, pls. 1–20.
- Dillon, L.S. & Dillon, E.S.** 1952. Cerambycidae of the Fiji Islands. *Bernice P. Bishop Museum Bulletin* **206**: 1–114.
- Evenhuis, N.L.** 2007. Checklist of the Coleoptera of Fiji. *Bishop Museum Technical Reports* **38**(5): 1–59.

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- International Commission on Zoological Nomenclature.** 1999. *International Code of Zoological Nomenclature*. Fourth edition. International Trust for Zoological Nomenclature. London. xx + 306 pp.
- Schileyko, A.A.** 2002. Treatise on Recent terrestrial pulmonate mollusks. Part 8. Punctidae, Helicodiscidae. Discidae, Cystopeltidae, Euconulidae, Trochomorphidae. *Ruthenica, Supplement 2*: 1034–1166.
- Waqas-Sakiti, H.V.F., Hodge, S. & Winder, L.** 2018. Distribution of long-horn beetles (Cerambycidae: Coleoptera) within the Fijian Archipelago. *South Pacific Journal of Natural and Applied Science* **36**: 1-8.