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Peruvian *Plekocheilus* species (Mollusca, Gastropoda): an overview and description of a new species

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Abstract. – The distribution of *Plekocheilus* species in northern and central Peru is summarised on the basis of available data. A new species, *Plekocheilus (Eurytus) victori*, is described from Dept. Amazonas.

Key words. – Amphibulimidae, distribution, types.

Résumé. – La répartition des espèces de *Plekocheilus* dans le nord et le centre du Pérou est résumée sur la base des données disponibles. Une nouvelle espèce, *Plekocheilus (Eurytus) victori*, est décrite dans le département d'Amazonas.

Mots-clés. – Amphibulimidae, distribution, types.

Introduction

The number of *Plekocheilus* species in Peru is relatively small. In RAMÍREZ *et al.* (2003: 281) ten species are listed, of which one (*Plekocheilus (Eurytus) conspicuus* Pilsbry, 1932) has been transferred to *Thaumastus* and two others (*lacrimosus* Heimbürg, 1884 and *pseudopiperatus* J. Moricand, 1858) have been placed in synonymy (BREURE & MOGOLLÓN, 2016: 34 respectively 17 and 20). Thus seven taxa remain: *bruggeni* Breure, 1978; *floccosus* Spix in J.A. Wagner, 1827; *lynciculus* Deville & Hupé, 1850; *piperitus* Sowerby I, 1837; *prodeflexus* Pilsbry, 1895; *superstriatus* Sowerby III, 1890; *hauxwelli* Crosse, 1872 (BREURE & MOGOLLÓN, 2016: 188). The latter taxon is tentatively classified as *Plekocheilus (Eudolichotis)*, awaiting anatomical and molecular research to ascertain its status. These seven taxa are concentrated in central and northern Peru on the eastern side of the Andes (BREURE & MOGOLLÓN, 2016: figs 14–16). Their actual distribution is poorly known and summarised herein on the basis of literature and GBIF records. Thanks to collecting efforts by Víctor Castillo Villaneuva we are now able to describe an additional species as new to science.

Material and methods

Distributional data has been extracted from literature and GBIF (2020), and plotted using SimpleMappr (SHORTHOUSE, 2010). Measurements of the shell, i.e. total shell height (H), the diameter of the shell (W), the height of the aperture (HA), width of the aperture (WA), height of last whorl (LW), and the number of whorls (NW), were taken using the methods in BREURE & VEGA-LUZ, 2020: fig. 1). The material on which this study is based has been deposited in the following collections: MNCN, Museo Nacional de Ciencias Naturales, Madrid, Spain; NHMUK, Natural History Museum, London, U.K.; RVL, private collection Ricardo Vega-Luz, Malaga, Spain; VMA, private collection Valentín Mogollón, Lima, Peru.

Systematics

Family Amphibulimidae

Genus *Plekocheilus* Guilding, 1828

Subgenus *Plekocheilus (Eurytus)* Albers, 1850

Plekocheilus (Eurytus) bruggeni Breure, 1978

BREURE, 1978: 9, pl. 6 figs 5–7; BREURE & MOGOLLÓN, 2016: 15, figs 2E–G, 14.

Distribution. – Dept. Pasco, Huancabamba.

Remarks. – This species was described on the basis of material from Preston which was collected presumably at the end of the 19th century. This species has not been recollected since that time. Huancabamba lies at ca. 1750 m.

Plekocheilus (Eurytus) floccosus (Spix in J.A. Wagner, 1827)

WEYRAUCH, 1967: 461; BREURE, 1978: 12; BREURE & MOGOLLÓN, 2016: 17, figs 3C–E, 13A–B, 14, 88B.

Distribution. – Dept. Amazonas, Huampam; Dept. Huanuco, Tingo María; *ibid.*, río Pachitea; Dept. Loreto, near río Arabela; *ibid.*, Puerto; Dept. San Martín, Ramal de Aspuzana; Dept. Ucayalí, Yarinacocha.

Remarks. – This species is restricted to lowlands, the highest elevation where it has been recorded is at ca. 650 m.

Plekocheilus (Eurytus) lynciculus (Deville & Hupé, 1850)

BREURE & MOGOLLÓN, 2016: 18, figs 11A–C, 15.

Distribution. – Dept. Loreto, Sarayacu.

Remarks. – This is a species that needs more research, but Deville & Hupé's material was collected at "Mission de Sarayacu, sur les bords de la rivière de l'Ucuyali". The only locality of that name found in modern gazetteers is in Dept. Loreto. Their material has not been located.

Plekocheilus (Eurytus) piperitus piperitus (G.B. Sowerby I, 1837)

WEYRAUCH, 1967: 463; BREURE, 1978: 15; BREURE & MOGOLLÓN, 2016: 20, figs 4A–F, 15.

Distribution. – Dept. Loreto, Santa María near Iquitos; Dept. San Martín, Moyobamba; Dept. Ucayalí, near Pucallpa; *ibid.*, near Tabacoas.

Remarks. – This taxon has been restricted to Peru by BREURE & MOGOLLÓN (2016: 21), with another subspecies occurring in Ecuador. The altitudinal distribution is up to ca. 875 m.

Plekocheilus (Eurytus) piperitus prodeflexus Pilsbry, 1895

PILSBRY, 1895 [1895–1896]: 91, pl. 36 fig. 81; BREURE & MOGOLLÓN, 2016: 21, 7E–H, 16.

Distribution. – Dept. Amazonas, Balsas.

Remarks. – See the discussion in BREURE & MOGOLLÓN (2016: 22). This subspecies occurs in a different ecoregion to the nominate subspecies, and is found at a higher altitude (ca. 2600 m).

Plekocheilus (Eurytus) superstriatus (G.B. Sowerby III, 1890)

BREURE & MOGOLLÓN, 2016: 23, 7A–D, 16.

Distribution. – Dept. Loreto, Iquitos; *ibid.*, Santa Rita.

Remarks. – Localities for this species are at altitudes of ca. 100 m, hence this may be a true lowland species, confined to rainforests.

Plekocheilus (Eurytus) victori spec.nov.

(Figs 1–2, 3A)

<http://zoobank.org/References/11DAF388-1198-4BDB-8360-4F64F872A9D8>

Diagnosis. – Shell sculptured with spirally incised lines, crossed by vertical incisions, giving, especially on the last whorl, a pattern of oblong granules arranged in puckered bands; colour (dark) reddish-brown with irregular streaks

and blotches lines on one side with yellowish or white; suture descending in front; aperture with (pale) orange peristome.



Figure 1. *Plekocheilus (Eurytus) victori* spec.nov., holotype. A-B, shell in ventral respectively dorsal view. C, close-up of upper whorls. D, detail of sculpture on the last whorl.

Description. – Shell up to 65.7 mm, 1.95 times as long as wide, imperforate, quite slender when full-grown, sides slightly convex, moderately solid. Colour reddish-brownish, darker on the base of the last whorl, ornamented with irregular blotches and axial streaks of irregular shape, fading towards to lower end of the whorls, intense dark brown bordered (especially on the last whorl) with yellowish to whitish on one side and fading away on the other side; upper whorls lighter, with less prominent streaks. Last whorl 0.85 times the total height. Surface shiny, upper whorls with spirally incised lines, faintly crossed by vertical incisions; on the last whorl this sculpture is more conspicuous, resulting in puckered bands of oblong granules. Protoconch smooth (eroded). Whorls 5.0, the upper whorls slightly convex, the last whorl more convex but not swollen; suture well impressed, somewhat crenulated, descending in front. Aperture elongate-ovate, pointed above, whitish inside with the colour pattern faintly shining through, 1.67

times as long as wide, 0.5 times the total height; peristome simple, (pale) orange. Columellar margin regularly curved, entering the aperture with a slightly noticeable fold. Parietal wall with a thin to transparent callus.

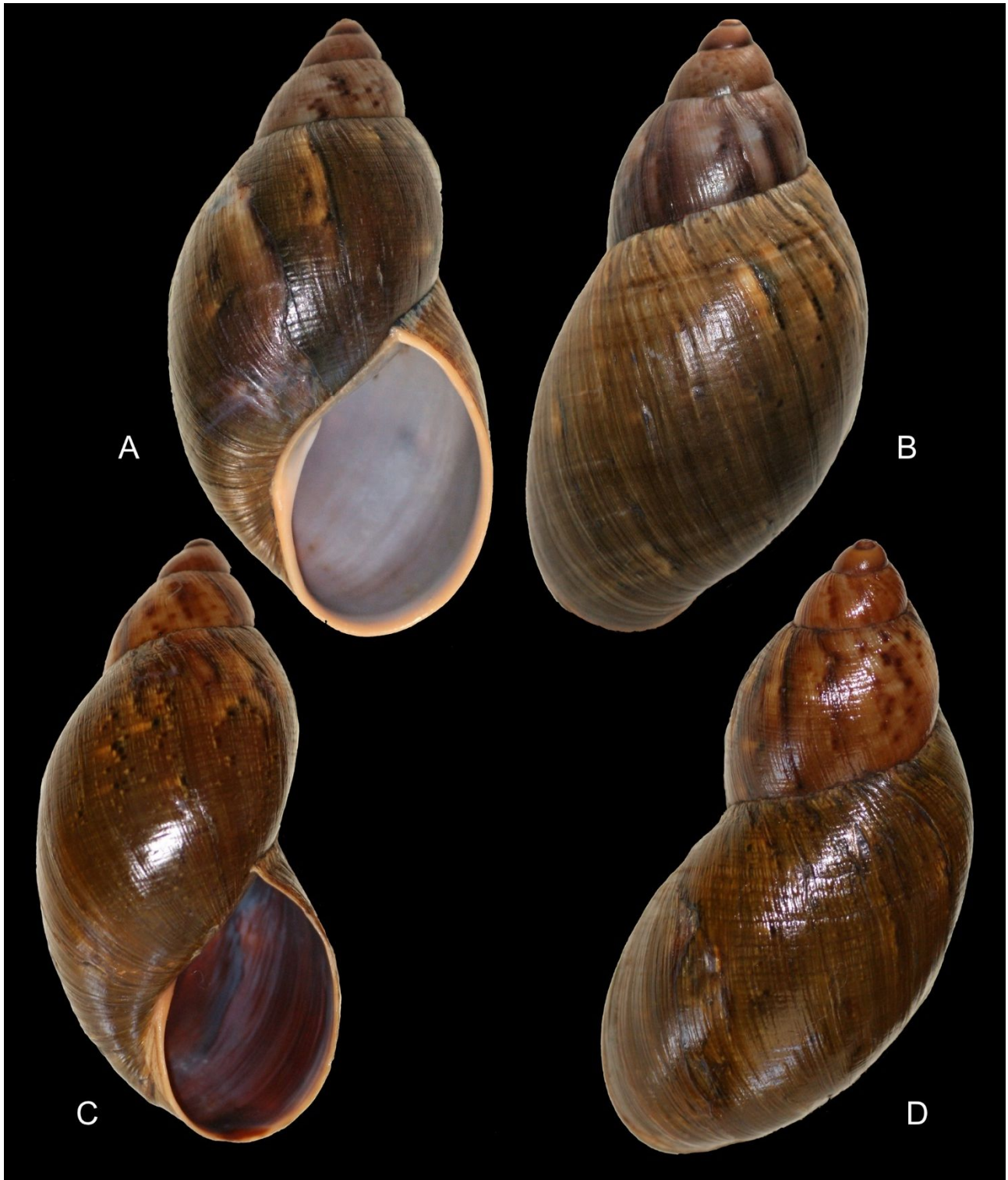


Figure 2. *Plekocheilus (Eurytus) victori* spec.nov., variation in paratypes (A-B, collection RVL, C-D, NHMUK 20200939).

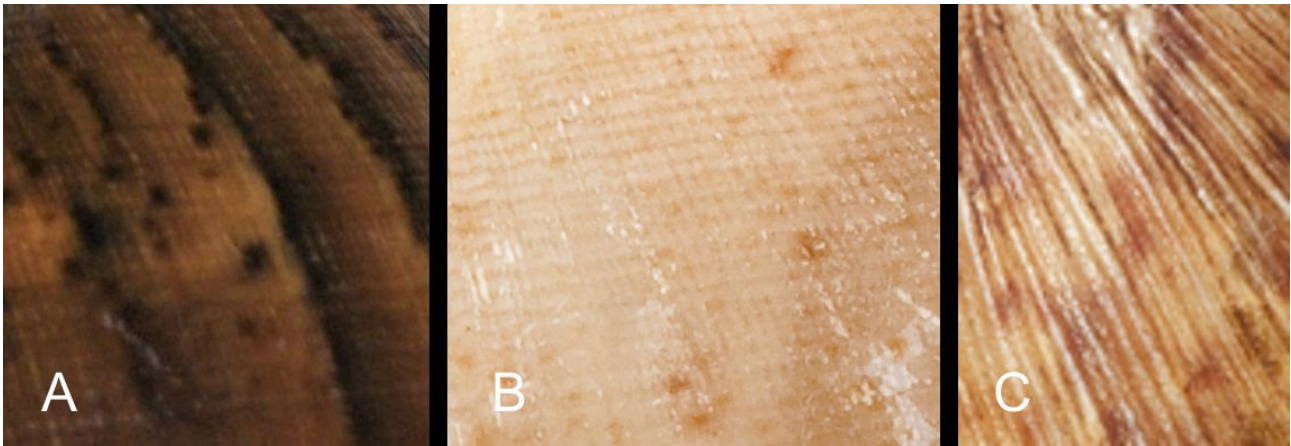


Figure 3. Details of sculpture in Peruvian *Plekocheilus* species. A, *Plekocheilus (Eurytus) victori* spec.nov. B, *P. (E.) piperitus piperitus* (G.B. Sowerby I, 1837). C, *P. (E.) superstriatus* (G.B. Sowerby III, 1890).

Type material. – Peru, Dept. Amazonas, Prov. Rodriguez de Mendoza, Omia district, 1600–1900 m, V. Castillo Villanueva leg., July 2020. Holotype MNCN 15.05/200119H, paratype NHMUK 20200939 (1), RVL-PK1 (1 + 1 subadult), VMA 1506 (1). Measurements of the material are given in Table 1.

Remarks. – This species is quite variable in shape (Fig. 2) and belongs to the same group as *Plekocheilus (Eurytus) piperitus* (G.B. Sowerby I, 1837), *P. (E.) floccosus* (Spix in J.A. Wagner, 1827), and *P. (E.) superstriatus* (G.B. Sowerby III, 1890). From the latter two it differs in (1) having a different sculpture of puckered, spiral bands, (2) having the suture deeper descending in front, (3) the less conspicuous columellar fold. From *P. (E.) floccosus* it differs also by the more broadly ovate aperture; from *P. (E.) superstriatus* additionally in being slenderer. This novelty differs from *P. (E.) piperitus* by (1) the less punctuated sculpture, and (2) being slenderer. See also Fig. 3.

Etymology. – Named after the collector, Víctor Castillo Villanueva, as a recognition for his efforts to increase our knowledge of the Peruvian malacofauna.

	H	W	AH	AW	LW	NW
Holotype	65.7	31.7	38.2	19.6	55.6	5.0
NHMUK	57.2	29.3	25.0	16.1	49.0	5.0
RCL	60.3	32.4	27.6	18.0	50.4	5.0
RCL	45.9	24.8	23.6	15.7	39.1	4.0
VMA	60.3	29.6	34.7	19.6	52.8	—

Table 1. Measurements in *Plekocheilus (Eurytus) victori* spec.nov. H – shell height, W – shell diameter, AH – height of aperture, AW – width of aperture, LW – height of last whorl, NW – number of whorls.

There are further records in several museum collections which are as yet unidentified or where the localities could not be georeferenced. It should be noted that some of these records need further research as we are unsure if the coordinates of their localities are correctly interpreted in museum databases. The localities which could be pinpointed have been included on the distributional map of the species (Fig. 4).

Conclusion

This preliminary study shows that this genus may be more wide-spread in Peru than previously known. The finding of a new species highlights this and since species has presumably quite a restricted range, which is of some concern from a conservation viewpoint. Further studies by local malacologist are needed to increase our knowledge of the variation of the *Plekocheilus* species and to obtain a better understanding of their distribution.

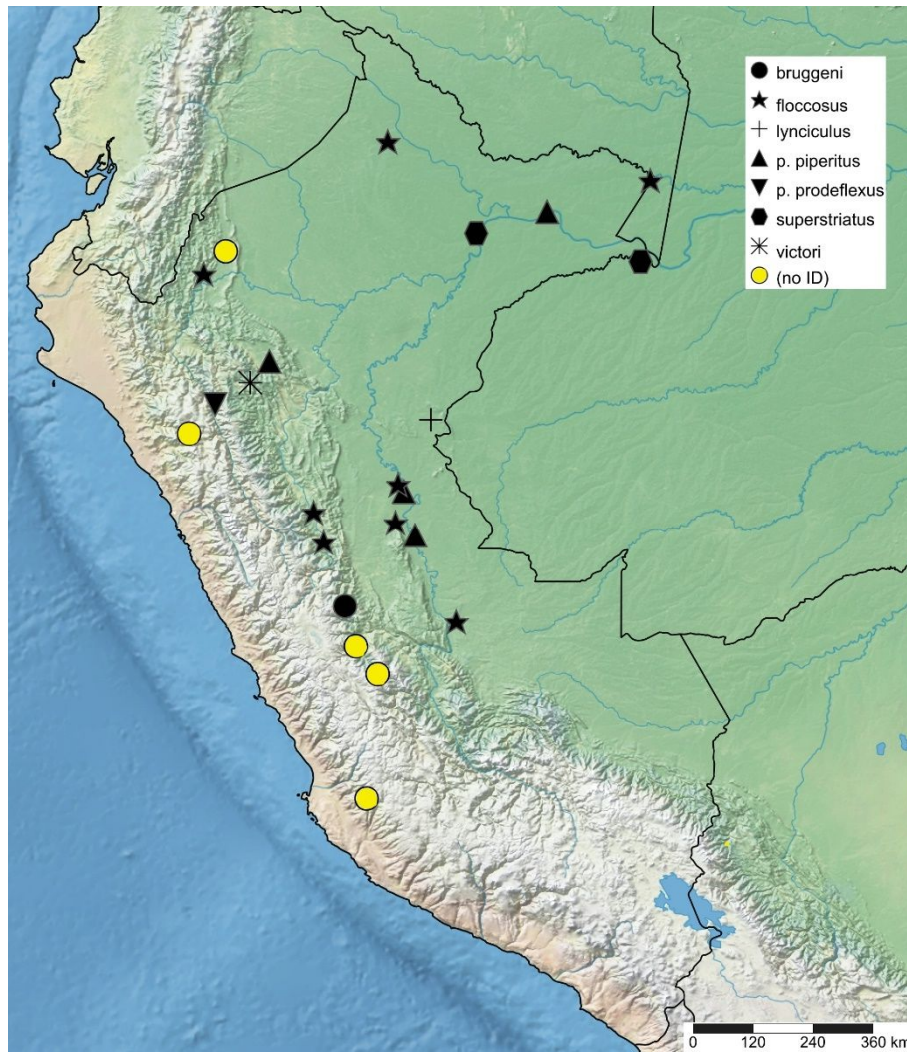


Figure 4. Distribution of Peruvian *Plekocheilus* species discussed in this study.

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