

OREOHOMORUS APIO NEW SPECIES FROM UGANDA (GASTROPODA: SUBULINIDAE)

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Abstract *Oreohomorus apio* n. sp. from the Matiri forest in western Uganda is characterized by its small size and the rapidly increasing first whorls resulting in a broad top.

Key words *Oreohomorus*, *Subulinidae*, *systematics*, *Uganda*

INTRODUCTION

Oreohomorus Pilsbry 1919 is an insufficiently known group of the Subulinidae from tropical Africa. Originally, Pilsbry (1919) classified it as a subgenus of *Homorus* Albers 1850. Thiele (1933) separated *Subulona* Martens 1889 and *Oreohomorus* from *Homorus* because the lateral teeth lack an endocone and classified *Oreohomorus* as subgenus of *Subulona*. Finally, Verdcourt (1983) considered *Oreohomorus* a distinct genus and listed the East African species belonging to that group. *Oreohomorus* differs from *Subulona* in the presence of spiral lines on the protoconch. In the following, we describe a new *Oreohomorus* species from Matiri forest in western Uganda.

MATERIAL AND METHODS

Radulae were prepared by dissolving the dissected buccal mass in 5% potassium hydroxide for several hours. Then they were washed with distilled water. The cleaned radula was mounted on a small piece of coverslip in water and allowed to dry directly onto the glass. The coverslip was fixed to a SEM stub using double-sided tape and sputtered with gold in a Sputter Coater (GEA004S). The radulae were examined in a Leo 1525 scanning electron microscope.

The counting of the shell whorls (in 0.25 whorl units) follows Kerney & Cameron (1979: 13). Shell measurements were taken with an ocular micrometer (accuracy 0.1 mm). The terms proxi-

mal and distal refer to the position in relation to the gonad.

The material on which this study is based is kept in the Zoological Museum of the University of Hamburg (ZMH) and the Zoological Museum of Makerere University (MUK).

TAXONOMIC DESCRIPTION

Subulinidae P. Fischer & Crosse 1877

Oreohomorus Pilsbry 1919

Oreohomorus Pilsbry 1919: 112, 123. Type species (by original designation): *Homorus (Oreohomorus) bequaerti* Pilsbry 1919.

Oreohomorus apio n. sp.

Holotype Uganda, District Kyenjojo: Matiri Central Forest Reserve: Fort Portal-Mubende road, 3 km east of Matiri, 1260 m altitude, 00°33'30"N 030°47'18"E (ZMH 51075, leg. T. Wronski 16.04.2006, measurements: diameter = 9.2 mm, height = 22.7 mm).

Paratypes Uganda, District Kyenjojo: Matiri Central Forest Reserve: Fort Portal-Mubende road, next to Matiri, 1280 m altitude, 00°33'28"N 030°47'08"E (MUK; ZMH 52537); Matiri Central Forest Reserve: Fort Portal-Mubende road, 3 km east of Matiri, 1260 m altitude, 00°33'30"N 030°47'18"E (MUK; ZMH 52572); Matiri Central Forest Reserve: Fort Portal-Mubende road, next to Matiri, 1320 m altitude, 00°33'37"N 030°47'46"E (MUK; ZMH 52550); Matiri Central Forest

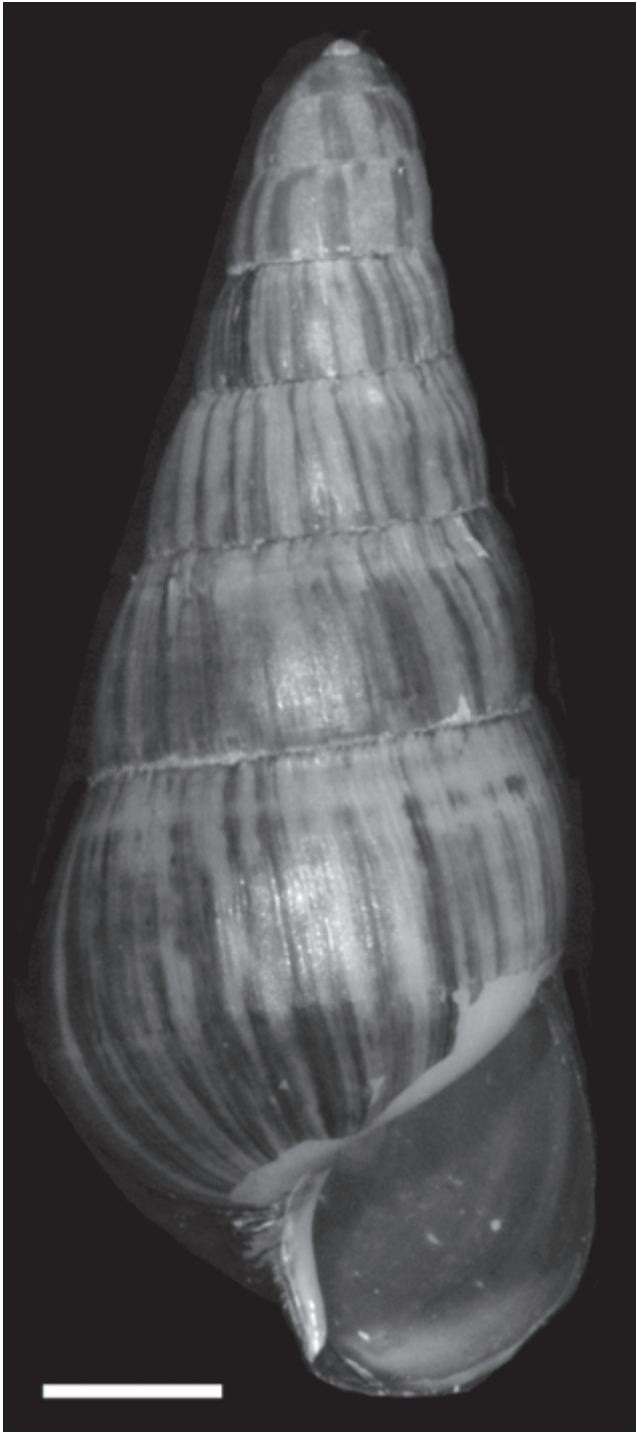


Figure 1 *Oreohomorus apio* n. sp., Uganda: Fort Portal-Mubende road, 3 km east of Matiri (Holotype ZMH 51075). Scale bar = 3 mm.

Reserve: Fort Portal-Mubende road, 3 km east of Matiri, 1280 m altitude, 00°34'00"N 030°47'12"E (MUK; ZMH 52551).

Type locality Uganda, District Kyenjojo: Matiri Central Forest Reserve: Fort Portal-Mubende

road, 3 km east of Matiri, medium altitude moist evergreen *Parinari* forest, 1260 m altitude, 00°33'30"N 030°47'18"E.

Shell (Figs 1–2) elongated conical with 7–8 slightly convex whorls. Protoconch pointed, with dense microscopic spiral striation. First whorls rapidly increasing, thus top of the shell broad. Teleoconch moderately thick-walled, almost smooth, but whorls sometimes spirally indented close to the suture; beige with irregular brownish streaks; opaque; slightly glossy. The body whorl does not or hardly descends towards the aperture. Aperture slightly oblique drop shaped, whitish within, edentate. Peristome neither expanded nor thickened. Palatal insertion of the peristome connected with the columellar edge by a thin callus. Columella slightly concave, abruptly truncate at the base. Imperforate. Measurements, see Table 1.

Radula (Fig. 3–5) The radula is broad. The central teeth have a narrow basal plate and a very short mesocone and hardly distinct ectocones. The about 13–15 lateral teeth have a large mesocone and a smaller ectocone, but no endocone. They pass gradually into the approximately 20 marginal teeth with about equally long, narrow, pointed ecto- and endocones.

Genitalia (Fig. 6) The penis consists of a tube-like distal part and a swollen proximal part. The epiphallus is tapering towards the terminal insertion of the vas deferens. The short penis retractor inserts near the proximal end of the epiphallus close to the insertion of the vas deferens and fuses with the columellar muscle. A branch of the muscle is attached to the proximal part of the vagina. The distal part of the vas deferens is broad and passes near the base of the penis abruptly into the thinner proximal part. The proximal third of the long vagina is enlarged. The bursa of the short bursa copulatrix is oval. The right ommatophoral retractor crosses between penis and vagina.

Remarks *Oreohomorus apio* differs from other *Oreohomorus* species in the small size and the rapidly increasing first whorls resulting in a broad top. Concerning the broad top of the shell, it resembles *O. ellioti* (E.A. Smith 1895) from the Lake Albert region. However, this species is much larger (37.7–46.4 mm shell height according to

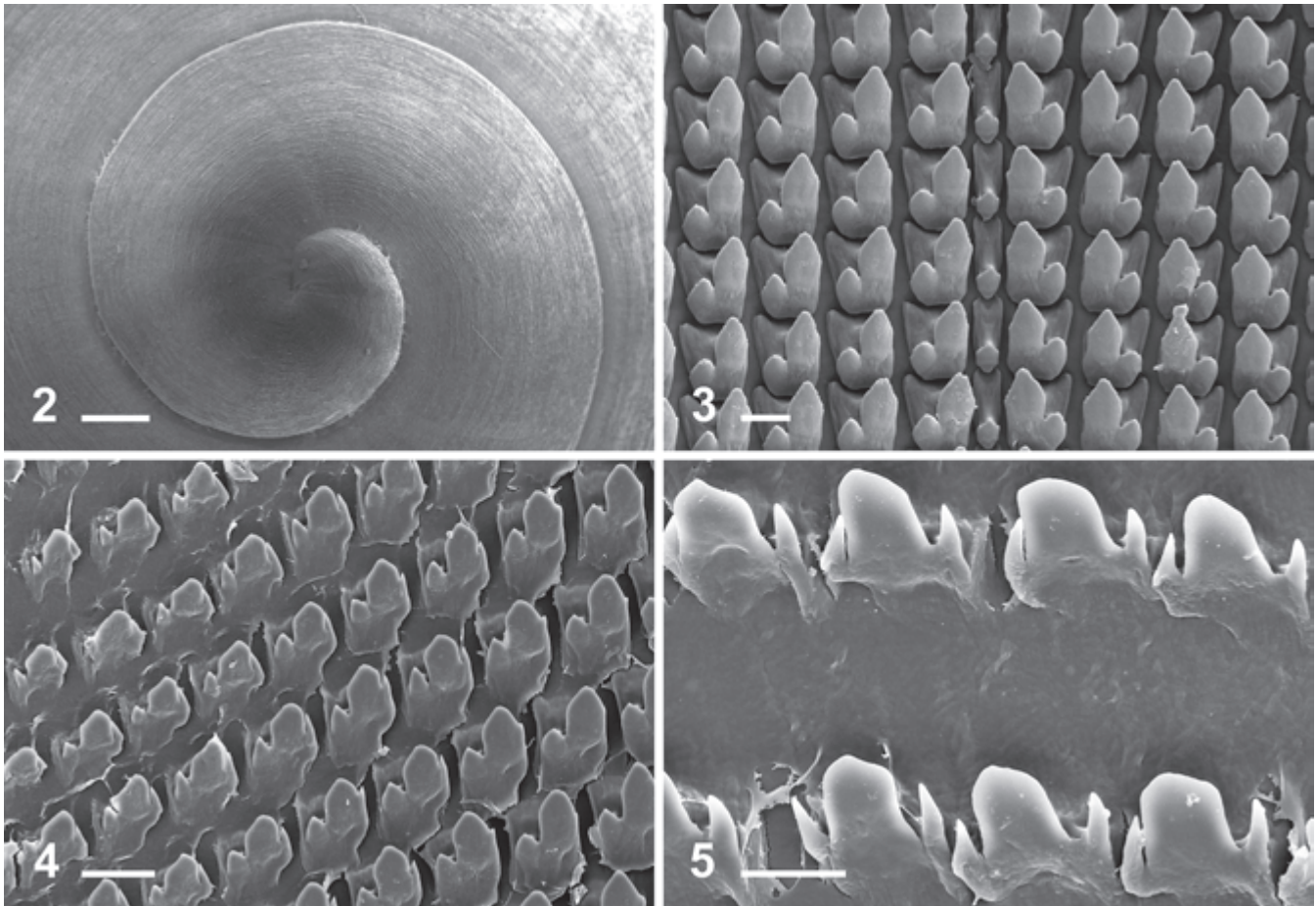


Figure 2 *Oreohomorus apio* n. sp., Uganda: Fort Portal-Mubende road, 3 km east of Matiri. Protoconch (Paratype ZMH 51072). Scale bar = 200 µm.

Figures 3–5 *Oreohomorus apio* n. sp., Uganda: Fort Portal-Mubende road, 3 km east of Matiri. Radula (Holotype ZMH 51075). 3 Central and adjacent lateral teeth. Scale bar = 20 µm. 4 Transition from lateral to marginal teeth. Scale bar = 20 µm. 5 Marginal teeth. Scale bar = 10 µm.

Table 1 Shell measurements and ratios of *Oreohomorus apio* n. sp., Uganda: Fort Portal-Mubende road, 3 km east of Matiri (n = 30; paratypes MUK; ZMH 52572).

Measurement	Minimum	Maximum	Mean±s.d.
Diameter (mm)	8.7	9.6	9.1±0.3
Diameter at 2 whorls (mm)	2.5	2.9	2.7±0.1
Height (mm)	19.4	23.8	21.3±1.3
Diameter/height	0.380	0.473	0.428±0.021
Diameter of aperture (mm)	4.1	5.0	4.6±0.2
Height of aperture (mm)	6.4	7.8	7.0±0.4
Diameter of aperture/ height of aperture	0.579	0.732	0.649±0.031
Height of aperture/shell height	0.295	0.368	0.330±0.018
Number of whorls	6.25	8.0	7.2±0.4

Connolly, 1931) and has fewer whorls at the same size. Only few other *Oreohomorus* species are as small as *O. apio*: *O. nitidus* (Martens 1897) (29–31 mm) that is widespread in Uganda and western Kenya and *O. olivaceus* (Pollonera 1907)

(17–27 mm) from the western slope of Mount Ruwenzori, are more tapering towards the apex and more glossy and *O. bicolor* (E.A. Smith 1909) (16 mm) from the east side of the Ruwenzori Mountains has more strongly convex whorls, a

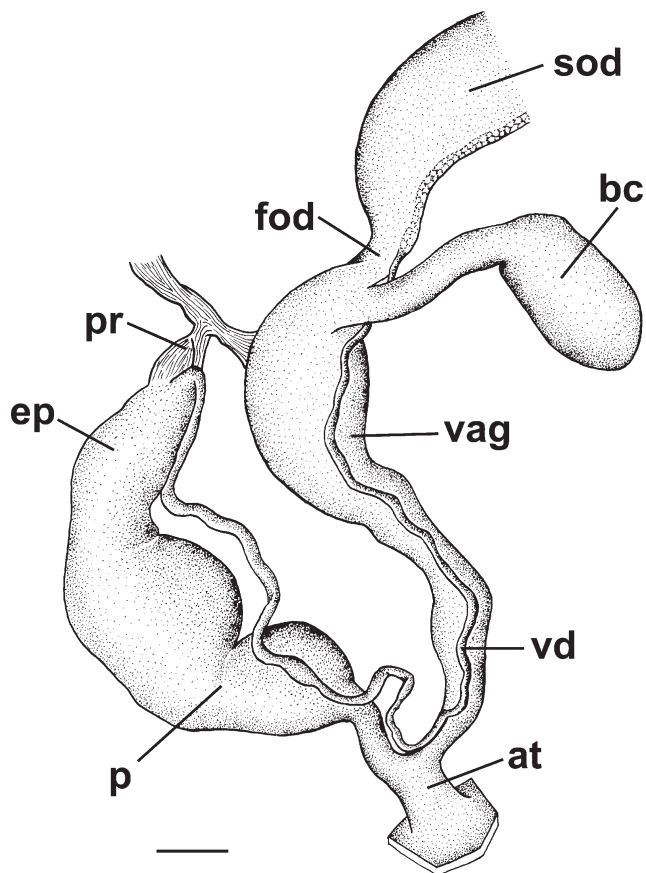


Figure 6 *Oreohomorus apio* n. sp., Uganda: Fort Portal-Mubende road, 3 km east of Matiri (Holotype ZMH 51075). Genitalia: at – atrium; bc – bursa copulatrix; ep – epiphallus; fod – free oviduct; p – penis; pr – penial retractor; sod – spermoviduct; v – vagina; vd – vas deferens. Scale bar = 1 mm.

thickened lip and a more glossy, darkish shell with a yellowish apex.

Several additional *Oreohomorus* species have been described from the Ruwenzori Mountains not far west of the Matiri forest reserve. However, all these species are much larger than *O. apio* and do not have such a broad top: *O. bequaerti* (Pilsbry 1919) is sinistral, 34.5–37.0 mm high, more regularly tapering and with a granulated sculpture on the first two whorls, *O. castaneus* (Martens 1895) is 37–54 mm high and more regularly tapering, *O. circumstriatus* (Martens 1895) is 32 mm high and more regularly tapering with more whorls (10), *O. fuscostriatus* (E.A. Smith 1909) is 32–40 mm high, has a distinct slender shape with more whorls (10–11) and a granulated sculpture, *O. osborni* (Pilsbry 1919) is 38.0–41.5 mm high, more slender and has a granulated sculpture.

According to Pilsbry (1919) *Oreohomorus* is characterized by the sculpture of the protoconch

that is said to be distinctly granular by the intersection of vertical wrinkles and deeply engraved spiral lines. The protoconch of *O. apio* (Fig. 2) shows a dense microscopic spiral striation and, thus, differs from the protoconch of *Subulona* on which spiral lines are missing. However, there are no distinct radial wrinkles on the protoconch of *O. apio*. Actually, such wrinkles are missing also in other species classified in *Oreohomorus*, e.g., in *O. nitidus* (Martens 1897). Thus, vertical wrinkles and a granular sculpture of the protoconch should not be considered a diagnostic character of *Oreohomorus*. Whether spiral lines originated only once in the *Subulona*-*Oreohomorus* lineage, i.e. whether *Oreohomorus* represents a monophyletic unit, has yet to be investigated.

The marginal teeth of *O. apio* differs from those of *O. bequaerti* (Pilsbry 1919), the type species of the genus (see Pilsbry, 1919), in the about equally long, narrow, pointed ecto- and endocones (Fig. 4). Unfortunately, the anatomy has been described so far only from *O. bequaerti* (Pilsbry 1919) so that comparisons of anatomical characters with other *Oreohomorus* species are not possible.

Derivation of name This species is named in honour of Ann Apio, Kampala, who assisted in fieldwork (surname used as a noun in apposition).

Distribution *Oreohomorus apio* is known from medium altitude moist evergreen *Parinari* forest in the Matiri Central Forest Reserve in the district Kyenjojo in western Uganda.

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