

“Dwarfs among pygmies”: the genus *Punctum* in western Africa and the Congo Basin, with descriptions of two new species and notes on other Afrotropical punctoids (Gastropoda: Eupulmonata: Punctidae)

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Abstract. Species of the genus *Punctum* Morse, 1864 are reported for the first time from western Africa and the Congo Basin: *P. camerunense* nov. spec. from Cameroon (Mount Cameroon), *P. nimbaense* nov. spec. from Liberia (Mount Nimba), and an unidentified, possibly undescribed, species from the Democratic Republic of the Congo (Banalia, Tshopo Province). Representatives of the genus *Punctum* in sub-Saharan Africa were hitherto known from the eastern parts of the continent only. The newly described western African *Punctum* species were all collected above 1200 m altitude. It is suggested that altitude might be a factor explaining the apparent rarity of *Punctum* in West Africa: areas elevated above 1000 m are rather restricted in western Africa, whilst they are widespread in eastern Africa. However, the finding of a single shell below an altitude of 450 m in the Congo Basin seems to contradict this elevation hypothesis. Shells of *P. pallidum* reported by van Bruggen from Malawi and Zambia are illustrated for the first time. Apart from *P. adami*, *P. pallidum*, and the western African species reported in this paper, the Afrotropical *Punctum* species hitherto described appear to have substantially larger shells than the western African taxa and may be better assigned to a different genus, perhaps *Paralaoma*.

Key words. Taxonomy, distribution, land snail, Stylommatophora, sub-Saharan Africa, Liberia, Cameroon, Democratic Republic of the Congo, Congo-Kinshasa, altitude.

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Introduction

Members of the genus *Punctum* Morse, 1864 are among the smallest stylommatophoran land snails. PILSBRY (1948: 645) aptly characterised the type species, *P. minutissimum* (Lea, 1841), as a “dwarf among pygmies”. Owing to their minute size, their presence is often overlooked and even their shell morphology is not well studied, let alone their soft parts.

Species attributed to the genus *Punctum* occur in the Holarctic (including Mexico) and Africa. More or less *Punctum*-like punctoids from elsewhere are usually referred to other genera. In sub-Saharan Africa various *Punctum* species have been described from eastern Africa between Ethiopia and Mozambique. South African *Punctum* species were later assigned to *Trachycystis* Pilsbry, 1893 by Connolly (1939), or to *Paralaoma* Iredale, 1913; see below. From the huge area west of the Rwenzori Range, no *Punctum* species were hitherto known.

In this context it should be stressed that the assignment

of some Afrotropical species to the genus *Punctum*, and even to the family Punctidae, is uncertain. The delimitation of the Afrotropical *Punctum* species is largely based on shell characters, the soft parts of very few African taxa having been studied. Most southern African species that were attributed to *Punctum* by CONNOLLY (1932) were later (CONNOLLY 1939) referred to the heterogeneous genus *Trachycystis*. The soft parts of many *Trachycystis* species were studied by WATSON (1934), who recognized various subgenera (later treated as full genera by SCHILEYKO 2001), but he did not address the minute species that potentially could be Punctidae.

Traditionally, *Punctum* species were part of the family Endodontidae. On anatomical grounds, SOLEM (1976, 1983) divided the Endodontidae in the old sense into the families Endodontidae s.s., Charopidae, Punctidae, and Helicodiscidae. Many workers implicitly or explicitly accepted this division, although some authors (notably VERDCOURT 1991a) continued to use the informal denomination “endodontoid”, as accurate family attribution

is often not possible on shell characters alone. VAN BRUGGEN & MEREDITH (1984) first referred African *Trachycystis* to the family Charopidae, thereby implicitly moving various eastern and southern African punctoids to a different family. Still, only 2 African species have had their attribution to the Punctidae anatomically confirmed—*P. hottentotum* (Melville & Ponsonby, 1891) and *P. pallidum* Connolly, 1922—both by WATSON (1925).

This paper reports the occurrence of *Punctum* in western Africa and the Congo Basin and describes 2 new species. Although not a taxonomic revision of all Afro-tropical punctoid species, this paper needs to address the identity of other *Punctum* species in order to diagnose the new taxa. The opportunity is taken to comment on the systematic position of the eastern African *Punctum* species that were listed by VERDCOURT (1991a, b), these papers constituting the only more or less comprehensive overview of eastern African endodontoids.

This paper is dedicated to the memories of Bernard Verdcourt (1925–2011, see ROWSON et al. 2011) and Adolf Cornelis van Bruggen (1929–2016, see BREURE et al. 2016), who both contributed substantially to the knowledge of African non-marine molluscs including punctoids.

Material and Methods

Shell characters were examined with a Leica M165C stereo microscope at up to $\times 70$ magnification. Because of the scantiness of the material, shells were not studied by SEM. Measurements were made with a Leica DFC420 digital camera attached to the stereo microscope using Leica LAS V4.4 software. Due to their small size *Punctum* shells are difficult to position and measure consistently, so each shell was mounted and measured 3 times and the mean of these measurements is provided. Measurements were taken with the shell in frontal view, whorls were counted in apical view.

Abbreviations used: RMNH, collection of Naturalis Biodiversity Center (formerly Rijksmuseum van Natuurlijke Historie), Leiden. Other abbreviations are explained in Table 1.

Systematic Account

Family Punctidae Morse, 1864

Punctum camerunense nov. spec.

Figure 1A–I

Material. Holotype: Cameroon, South West Region, c. 7 km SW of Buea; undisturbed cloud forest; 04° 08' N, 009° 11' E; 1300–1340 m a.s.l.; J.J. Wieringa leg. (RMNH. MOL.339902). Three voucher specimens (1 damaged) with soft parts dried in: South West Region, Mount Etinde

(Small Mount Cameroon), 5 km NE of Batoke; forest on steep slope; 04° 04' N, 009° 08' E; c. 1400 m a.s.l.; J.J. Wieringa leg. (RMNH. MOL.339903).

Diagnosis. A minute species of *Punctum* (diameter of largest shell 1.2 mm at 3.5 whorls) with a comparatively high-spired, brown shell. Teleoconch sculpture consists of thin, distant, radial ribs with much finer secondary riblets between them, crossed by fine but conspicuous spiral striae on the entire teleoconch. Protoconch with fine spiral sculpture beyond the first $\frac{1}{2}$ whorl. Umbilicus open, exposing all whorls.

Description. Shell dark brown, minute, holotype 1.2 mm wide with 3.5 moderately convex whorls, comparatively high-spired. Suture impressed. Umbilicus cylindrical and deep, taking up c. 24% of shell width, just exposing all previous whorls. Peristome simple, only columellar margin reflected; columellar, basal, and palatal margins rounded; peristome height <90% of peristome width. Teleoconch with thin, somewhat distantly and irregularly spaced periostracal ribs with 4–7 fine riblets between the major ribs. Holotype shell with c. 40 ribs on the last whorl; mean distance between 2 major ribs on body whorl 0.07 mm (5 measurements). Spiral sculpture conspicuously present on entire teleoconch, including first teleoconch whorl where spiral lines dominate the low radial ribs. Protoconch with slightly more than 1 whorl, transition to teleoconch not very sharp, indicated by a subtle change in colour and a not very prominent radial furrow. First $\frac{1}{2}$ whorl of protoconch smoothish or somewhat pitted, without a distinct spiral element; spiral lines appear thereafter and become gradually more prominent on remaining protoconch. For shell dimensions see Table 1.

Ecology. Collected on the floor of undisturbed montane (cloud) forest among leaf litter. The species was present in each of 2 rather small (handful) litter samples taken by the collector. The species was not present in some larger litter samples taken by the author on Mount Etinde at lower altitudes (up to only 300 m) on another occasion, so the species may be confined to higher altitudes and/or less disturbed habitat.

Distribution. Only known from 2 localities on the Mount Cameroon complex. The distance to the geographically closest *Punctum* species (*P. nimbaense* nov. spec. from Liberia) is nearly 2000 km, the distance to the nearest East African species exceeds 2300 km.

Remarks. Only a little more distant geographically than *P. nimbaense* nov. spec. is *P. adami* van Bruggen & Van Goethem, 2001, described from a considerable range of altitudes (915–4300 m) in Virunga National Park, Rwenzori (Ruwenzori) Range, Democratic Republic of the Congo (DR Congo). VAN BRUGGEN & VAN GOETHEM (2001a) could distinguish *P. adami* from most other Afro-tropical *Punctum* species by its small size. Paratype shells of *P. adami* in RMNH (Fig. 1J–L) resemble *P. camerunense* in size and sculpture, especially the thin,



Figure 1. A–I. *Punctum camerunense* nov. spec: (A–C) holotype shell (RMNH.MOL.339902); (D–F) voucher shell (RMNH.MOL.339903); (G–I) voucher shell (RMNH.MOL.339904). J–L. *Punctum adami* van Bruggen & Van Goethem, 2001, paratype shell from Kerere (RMNH.MOL.83932). Scale bar to all figures 0.5 mm.

Table 1. Shell measurements (in mm), number of whorls, calculated ratios, RMNH collection number, and collection locality of individual shells of selected *Punctum* species. Illustrated specimens are marked by an asterisk. Abbreviations: SH = shell height; SD = largest shell diameter; W = number of whorls (counted as described in KERNEY & CAMERON 1979); HLW = height of body whorl; PH = peristome height; PD = peristome width; U = umbilical width. Heights and diameters are all measured parallel and perpendicular to the coiling axis.

Species	Collection	Locality	SH	SD	W	HLW	PH	PW	U	SH/SD	HLW/SH	PH/PW	U/SD
<i>Punctum camerunense</i> *	RMNH.MOL.339902	Holotype: Cameroon, South West, Mt Etinde, c. 1320 m	0.86	1.21	3.50	0.68	0.43	0.49	0.29	0.71	0.79	0.88	0.24
<i>Punctum camerunense</i> *	RMNH.MOL.339903	Cameroon, South West, Mt Etinde, c. 1400 m	0.78	1.08	3.30	0.64	0.39	0.48	0.26	0.72	0.82	0.81	0.24
<i>Punctum camerunense</i> *	RMNH.MOL.339904	Cameroon, South West, Mt Etinde, c. 1400 m	0.75	1.04	3.20	0.60	0.40	0.46	0.23	0.72	0.80	0.87	0.22
<i>Punctum nimbaense</i> *	RMNH.MOL.339906	Holotype: Liberia, Mt Nimba, 1170 m	0.78	1.16	3.20	0.66	0.42	0.44	0.26	0.67	0.85	0.94	0.23
<i>Punctum nimbaense</i> *	RMNH.MOL.339907	Type locality	0.65	1.02	2.94	0.56	—	—	0.25	0.63	0.87	—	0.25
<i>Punctum</i> sp.*	RMNH.MOL.339908	DR Congo, Orientale, Banalia	0.82	1.29	3.40	0.70	0.47	0.49	0.34	0.63	0.85	0.97	0.26
<i>Punctum adami</i> *	RMNH.MOL.83931	Paratype: DR Congo, Virunga N.P., Kerere, 3800 m	0.73	1.12	3.20	0.63	0.42	0.49	0.29	0.65	0.85	0.85	0.26
<i>Punctum adami</i>	RMNH.MOL. 83932	Paratype: DR Congo, Virunga N.P., Isango, 915 m	0.78	1.14	3.25	0.65	0.43	0.47	0.27	0.68	0.83	0.90	0.24
<i>Punctum adami</i>	RMNH.MOL. 83932	Paratype: DR Congo, Virunga N.P., Isango, 915 m	0.72	1.11	3.15	0.62	0.41	0.50	0.27	0.66	0.85	0.83	0.25
<i>Punctum pallidum</i> *	RMNH.MOL.288541	Malawi, Ntcheu Distr., Chimbila Hill, 1750 m	0.74	1.13	3.10	0.63	0.42	0.49	0.27	0.65	0.85	0.87	0.24
<i>Punctum pallidum</i>	RMNH.MOL.288522	Malawi, Zomba Distr., Chivunde Falls, 1450 m	0.87	1.31	3.70	0.68	0.45	0.53	0.37	0.66	0.79	0.83	0.28
<i>Punctum pallidum</i> *	RMNH.MOL.288527	Malawi, Thyolo Distr., Mt Thyolo, c. 950 m	0.96	1.39	3.80	0.76	0.49	0.60	0.36	0.69	0.79	0.83	0.26
<i>Punctum pallidum</i>	RMNH.MOL.288493	Zambia, Isoka Distr., Nyika N.P., c. 2100 m	0.83	1.19	3.25	0.71	0.44	0.56	0.22	0.70	0.85	0.79	0.18
<i>Punctum pallidum</i> *	RMNH.MOL.288493	Zambia, Isoka Distr., Nyika N.P., c. 2100 m.	0.81	1.23	3.20	0.71	0.48	0.54	0.22	0.66	0.87	0.88	0.18
<i>Punctum pygmaeum</i> *	RMNH	France, dépt. Drôme, Combe Laval, 1000 m	0.79	1.39	3.35	0.67	0.49	0.54	0.37	0.57	0.85	0.90	0.27

radial major ribs with fine riblets in between. However, *P. adami* differs in having finer, less pronounced spiral sculpture, and closer-set radial ribs; moreover, its shell is wider at the same number of whorls, and less conical than in *P. camerunense*. These species appear to differ consistently in shell colour, which is more or less dark brownish in *P. camerunense* and much paler in *P. adami* (the latter was originally characterised as “colourless, semi-transparent to very pale brownish” (VAN BRUGGEN & VAN GOETHEM 2001a: 98).

VAN BRUGGEN & VAN GOETHEM (2001a) compared *P. adami* with *P. pallidum*. This species was described from Mount Vengo (now Mount Vumba), Mozambique at c. 1675 m a.s.l., (see CONNOLLY 1922), and later reported from Malawi, Zambia, and the DR Congo (VAN BRUGGEN & VAN GOETHEM 2001b) and from Uganda (WRONSKI & HAUSDORF 2010). VERDCOURT (1991a: 358) characterised *P. pallidum* as follows: “It is a very small pale almost white shell quite unlike any other [*Punctum*] species mentioned but with the typical spaced ribs with fine radial and spiral striae between.” Of *P. pallidum* only thumbnail-size photographs and drawings of the shell ap-

pear to have been published (CONNOLLY 1925, pl. 4 fig. 17, CONNOLLY 1939, pl. 9 figs 9, 10, VERDCOURT 1991b, fig. 14a–c, VAN BRUGGEN & VAN GOETHEM 2001a, figs 10–15). Shells of *P. pallidum* (identified by A.C. van Bruggen) from Malawi and Zambia are illustrated here for the first time (Fig. 3), including an exceptionally large specimen with almost 4 whorls (Fig. 3G–I). The distance between Mount Cameroon and the nearest known locality of *P. pallidum* is almost 2500 km.

VAN BRUGGEN & VAN GOETHEM (2001b: 161) remarked: “*P. pallidum* has no spiral sculpture on the nepionic whorls”. However, careful examination of various samples of *P. pallidum* in RMNH from Malawi and Zambia revealed the presence of fine spiral sculpture on the protoconchs of all fresh shells. Apart from having a different colour, *P. pallidum* differs from *P. camerunense* in having a less conical shell, with finer, generally closer-set radial ribbing and finer spiral sculpture. Populations identified as *P. pallidum* from Malawi and Zambia are rather variable, especially in size and radial rib density (the distinction between major ribs and minor riblets is often unclear).

***Punctum nimbaense* nov. spec.**

Figure 2A–F

Material. Holotype: Liberia, 7 km SE of Yekepa, W side of Mount Nimba; 07° 32.96'N, 008° 28.96'W; 1170 m a.s.l.; C.C.H. Jongkind leg. (RMNH.MOL.339906). One voucher specimen (RMNH.MOL.339907).

Diagnosis. A minute species of *Punctum* (holotype shell diameter 1.1 mm at 3.2 whorls) with a pale, semitransparent (when fresh) shell; sculpture of low, widely spaced radial ribs and distinct but fine spiral striae on both teleoconch and later protoconch. Last whorl takes up a significant proportion of shell height (c. 85%).

Description. Shell minute (holotype 1.1 mm wide with almost 3¼ moderately convex whorls), colourless or very pale yellowish, semitransparent when fresh, moderately high-spired (shell height 67% of shell width in holotype). Suture impressed. Umbilicus open and deep, cylindrical, exposing all previous whorls. Peristome simple, only columellar margin reflected, columellar, basal and palatal margins rounded, peristome height more than 90% of peristome diameter. Teleoconch with thin, low, rather distant and irregularly spaced major periostracal ribs (in holotype c. 30 on last whorl, mean distance between 2 major ribs 0.1 mm on body whorl (measurements at 3 spots on holotype), with 4–7 rather fine (and not always distinct) riblets between the major ribs. Fine spiral sculpture is present on the entire teleoconch. Protoconch not sharply demarcated from teleoconch. First ¼ whorl smoothish, thereafter spiral sculpture starts. For shell measurements see Table 1.

Ecology. Collected among leaf litter on the floor of high forest on a gentle slope dominated by *Parinari excelsa* (Chrysobalanaceae) trees.

Distribution. Only known from the type locality. This represents the first record of *Punctum* in Liberia and in the Upper Guinea forest block. The geographically nearest Afrotropical *Punctum* species is *P. camerunense* nov. spec.

Remarks. *Punctum nimbaense* appears to be one of the smallest *Punctum* species known to date. Most Afrotropical punctoids possess shell diameters of at least 1.2 mm at 3 or more whorls; only *P. camerunense*, *P. adami* and *P. pallidum* come close in size. Other Afrotropical *Punctum* species listed by VERDCOURT (1991a, b) appear to be significantly larger. Shells of *P. camerunense* are separable by their more conical shape, brownish colour, and higher, closer-set radial ribs on the body whorl, and by the noticeably lower ratio of body-whorl height:shell height. Also, in *P. adami* the radial ribbing is denser than in *P. nimbaense*. Some specimens of *P. pallidum* are similarly small-sized at the same whorl number (e.g. Fig. 3A–C), but *P. nimbaense* differs in having a wider umbilicus, paler shell, and especially in its more widely spaced radial ribbing. In size (1.1 mm at most) and its pale colour, *P. nimbaense* resembles *P. azoricum* de Winter, 1988

from the Azorean island of São Miguel, but the latter has a more depressed shell with closer-set radial ribs (DE WINTER 1988).

***Punctum* (nov.?) spec.**

Figure 2G–I

Material. DR Congo, Tshopo Province, Banalia [= c. 01° 32'N, 025° 20'E, 420–450 m a.s.l., not on label]; Chr. Van het Hof leg. vii-1950 (RMNH.MOL.339908).

Description. A small species of *Punctum* (shell diameter 1.3 mm at 3.4 whorls) with a comparatively low-spired shell with not very convex whorls. Teleoconch sculpture (discernible at a few spots only) with distant radial ribs, probably with finer secondary riblets between them, and fine, but distinct, spiral sculpture. Protoconch worn. Umbilicus wide, exposing all whorls. For shell measurements see Table 1.

Remarks. This single shell in poor condition was in the collection of L.A.W.C. Venmans (1898–1959), a Dutch malacologist who published various papers on Afrotropical non-marine Mollusca. The original handwritten collection label gives as a provisional identification “Endodontide *Gonyodiscus* of [or] *Punctum*?”; a separate handwritten label in the tube mentions PILSBRY’s (1919) reference to DAUTZENBERG & GERMAIN (1914). The latter publication, describing 2 minute species of “*Gonyodiscus*” from the Katanga province, potentially comprises the first report of punctoids in the Belgian Congo. PILSBRY (1919) suggested that these species belonged to *Punctum* or *Trachycystis*. Neither PILSBRY (1919) nor PILSBRY & BEQUAERT (1927) mentioned the presence of other *Punctum* species in the Congo, and no further records appear to have been published until VAN BRUGGEN & VAN GOETHEM (2001a, b) described *P. adami* and recorded *P. pallidum*. Venmans was obviously aware of the impact of this specimen, yet he never referred to it in any of his papers.

It is quite possible that that this single, poorly preserved shell belongs to an unnamed species. The shell is somewhat larger, the umbilicus is wider and the whorls appear less convex than in the geographically closest species, *P. adami* and *P. pallidum*. All other hitherto known Afrotropical *Punctum* species appear to have larger shells (VERDCOURT 1991a, b), including the 2 poorly known species first described from the Congo, ?*P. ponsonbyi* (Dautzenberg & Germain, 1914) and ?*P. smithi* (Dautzenberg & Germain, 1914), which according to the original description have shells that are 2 mm wide. Since the shell from Banalia represents the only *Punctum* record in the vast Congo Basin, it is of biogeographical significance, filling up the considerable gap between the western African taxa described here and the species known from Katanga and elsewhere in eastern and southern Africa.

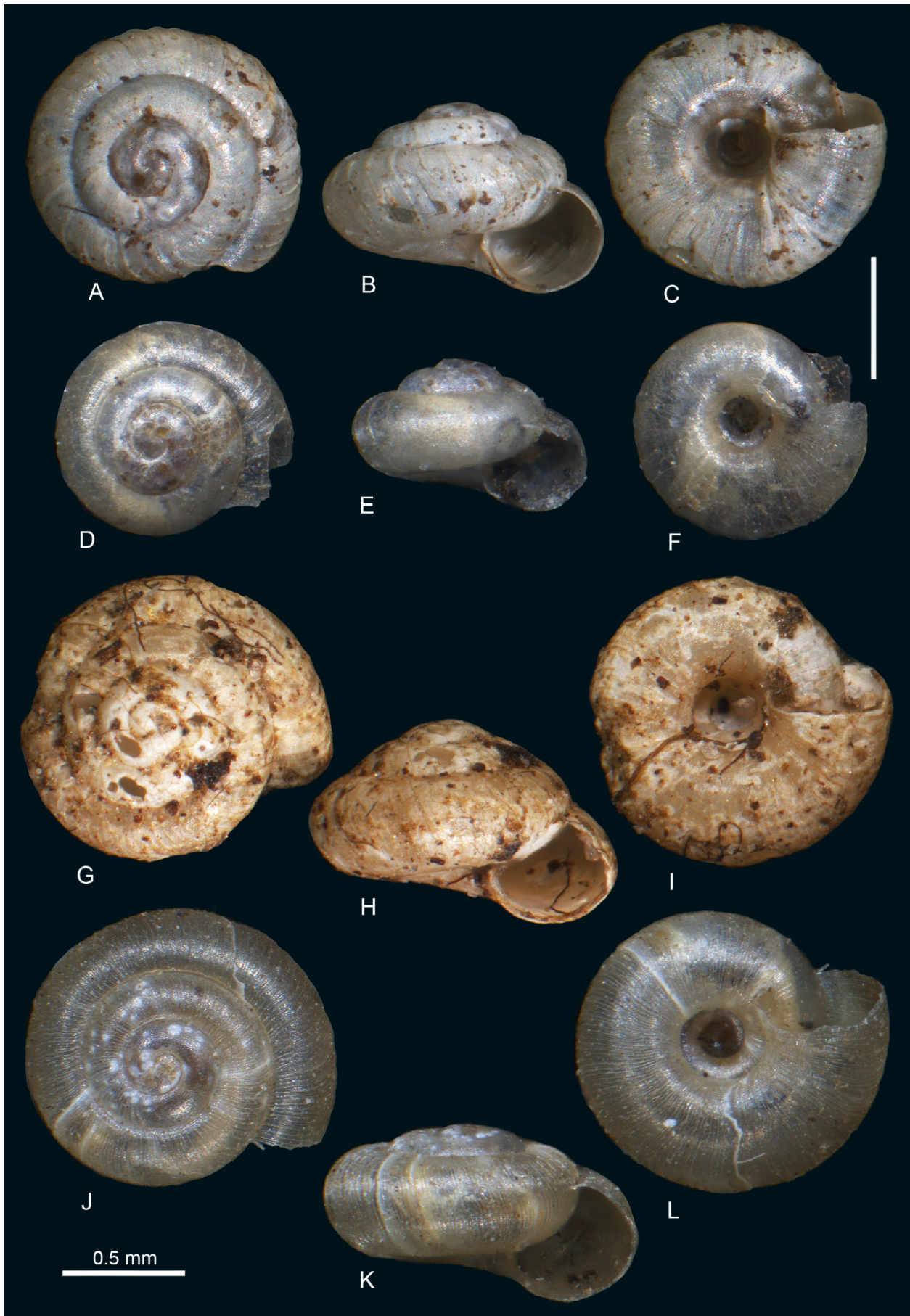


Figure 2. A–F. *Punctum nimbaense* nov. spec.: (A–C) holotype shell (RMNH.MOL.339906); (D–F) voucher shell (RMNH. MOL.339907). G–I. *Punctum* spec. from Banalia, Democratic Republic of Congo (RMNH.MOL. 339908). J–L. *Punctum pygmaeum* (Draparnaud, 1801), France, dépt. Drôme, Combe Laval (RMNH). Scale bar to all figures 0.5 mm.



Figure 3. A–I. *Punctum pallidum* Connolly, 1922: (A–C) Malawi, Chimbria Hill (RMNH.MOL. 288541); (D–F) Zambia, Nyika National Park (RMNH.MOL.288493); (G–I) Malawi, Mount Thyolo (RMNH.MOL.288527). Scale bar to all figures 0.5 mm.

Discussion

The genus *Punctum* has a large distribution in the Holarctic Region, including various Atlantic islands (Madeira, Canary Islands, Azores). The occurrence of *Punctum* spp. in eastern and southeastern Africa has long been known. The discovery of 2 *Punctum* species of barely more than 1 mm in size in western Africa, as well as of a species in the Central Congo, may therefore not come as a great

surprise, not in the least because these parts of tropical Africa are malacologically poorly surveyed. Still, recent western African studies that involved extensive sampling and sifting substantial volumes of leaf litter did not report any *Punctum* (Cameroon: DE WINTER & GITTENBERGER 1998, A.J. de Winter unpublished; Ghana: A.J. de Winter, M.E. Nutsuakor & P. Tattersfield unpublished; Gabon: FONTAINE et al. 2007a, b, de Winter unpublished; Nigeria: OKE & ALOHAN 2006, OKE & CHOKOR 2009; Isle of

Bioko, Equatorial Guinea: WRONSKI et al. 2014). Therefore, species of *Punctum* appear to be either genuinely rare in western Africa and/or ecologically specialised.

The known eastern African localities harbouring *Punctum* species appear to be located at higher altitudes, generally above 1000 m, whilst most of western Africa lies well below 1000 m. The fact that the western African *Punctum* localities reported here have an altitude above 1200 m suggests that elevation may be a factor in the distribution of *Punctum*. If this is indeed the case, *Punctum* might be expected to occur also on other higher mountain ranges in western Africa, e.g. the Pico Basile (Isle of Bioko) and the Loma Mountains (Sierra Leone). Additional localities of *P. nimbaense* may be expected on the adjoining parts of Mount Nimba in Guinea and Ivory Coast.

However, the record of a single *Punctum* shell in the Congo Basin seems not in accordance with this elevation hypothesis, unless the shell had been collected at Banalia from drift deposits of the Aruwimi river (a major tributary to the Congo River), being washed down from higher elevations. The nearest locality above 1000 m lies some 500 km upstream (due east, as the crow flies).

Thus far, *Punctum* species have been recorded in sub-Saharan Africa from Ethiopia, Tanzania, Kenya, Uganda, Malawi, Zambia, the eastern part of the DR Congo, and Mozambique (CONNOLLY 1939, VERDCOURT 1991a, b, VAN BRUGGEN & VAN GOETHEM 2001a, b, WRONSKI & HAUSDORF 2010). Curiously, “true” *Punctum* appears to be absent from South Africa. The only acknowledged punctid there, *P. hottentotum*, was transferred from *Punctum* to *Trachycystis*, thereafter to *Toltecina* (as *T. hottentota*; VAN BRUGGEN & MEREDITH 1984) and recently to *Paralaoma* (as *P. caputspinulae* [= *P. servilis* (Shuttleworth, 1852)]; VAN BRUGGEN 1993). It has been suggested (CONNOLLY 1932, CONNOLLY 1939, HERBERT & KILBURN 2004) that some small species of *Trachycystis* (Charopidae), notably *T. ferarum* Connolly, 1932, *T. mcbeani* Connolly, 1932, *T. venatorum* Connolly, 1932 (= *T. spissisculpta* Connolly, 1932) might actually belong to *Punctum*/Punctidae, rather than to Charopidae. Their shells are mostly substantially larger than those of the *Punctum* species dealt with here. In fact, except for *P. adami* and *P. pallidum*, and perhaps *Trachycystis pura* Connolly, 1922, all Afrotropical species hitherto referred to *Punctum* appear to have larger shells (>1.8 mm) yet a similar number of whorls (CONNOLLY 1939, VERDCOURT 1991a, b, VAN BRUGGEN & VAN GOETHEM 2001a, b). The shells of *P. pygmaeum* (Draparnaud, 1801) (Fig. 2J–L) and *P. minutissimum*, the type species of *Punctum*, have shell diameters of less than 1.5 mm but are a trifle larger than the western African species dealt with here.

The question may be raised whether the Holarctic and Afrotropical species attributed to *Punctum* are part of a single monophyletic genus. *Punctum* spp. are characterised by a combination of few, hardly unique characters like (minute) shell size, depressed shell shape, wide umbilicus, and presence of both radial and spiral sculpture.

In Australia, for example, other punctoid genera with *Punctum*-like shells are recognised (see STANISIC et al. 2010). As yet, scarcely any comparative data on soft part morphology and/or molecular markers are available for any *Punctum* species except the Palearctic *P. pygmaeum* (radula, jaw, SCHACKO 1873; aphallic genitalia, RIEDEL & WIKTOR 1974) and *P. pallidum* (radula, jaw, WATSON 1925; copied in CONNOLLY 1939). PILSBRY (1948: fig. 349) illustrated the genital anatomy and pallial complex of the Mexican species *P. conspectum jaliscoense* (Pilsbry, 1926) which was later synonymised with *Paralaoma servilis* (CHRISTENSEN et al. 2012, and references therein).

The conchological distinction between *Punctum* and *Paralaoma* (= *Toltecina*) has in the past not always been appreciated (and may not always be very clear). *Paralaoma servilis* reaches a substantially larger shell size (2.4 mm) than typical *Punctum* species, has coarser spiral sculpture on both protoconch and teleoconch, and the transition in sculpture between protoconch and teleoconch is rather abrupt (see e.g. CHRISTENSEN et al. 2012, fig. 2). Incidentally, STANISIC et al. (2010) mentioned the sculptural differentiation between protoconch and teleoconch as a character of the family Charopidae.

Whether *Punctum hottentotum* (Melville & Ponsonby, 1891) is conspecific with the invasive *Pa. servilis*, as suggested by VAN BRUGGEN & VAN GOETHEM (2001a) and HERBERT & KILBURN (2004), deserves further study, as the former species was already present in South Africa in the 19th century. The same holds for other Afrotropical nominal *Punctum* species with larger shells listed by VERDCOURT (1991a, b), viz., *P. cryophilum* (von Martens, 1865), *P. brucei* (Jickeli, 1874), *P. abbadianum* (Bourguignat, 1883), *P. ugandanum* (E.A. Smith, 1903), *P. hottentotum mkusiensis* Verdcourt, 1952, and *P. kilimanjaricum* Verdcourt, 1978. These species all possess shells wider than 2 mm and do not seem closely related to the much smaller species described in this paper. These are not necessarily conspecific with *Pa. servilis*: material in RMNH identified as “*Trachycystis ugandana*” (probably topotypical *T. igembiensis* Connolly, 1925) resembles *Pa. servilis* superficially, but is distinct in details.

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