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Maizaniella iterum n. sp. from Gabon, another new species of the subgenus Spirulozania (Gastropoda Prosobranchia: Maizaniidae)

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Maizaniella (*Spirulozania*) *iterum* n. sp. is described from Gabon, West Africa. The subgenus *Spirulozania* now appears to encompass at least seven species, all confined to the Central African forest belt. A revised key to the genus is provided.

Key words: Gastropoda, Prosobranchia, Maizaniidae, *Maizaniella*, Central Africa, Gabon.

Further search in the extensive collections of the Muséum National d'Histoire Naturelle (Paris), this time by Mr. Th.E.J. Ripken (Delft), has revealed the existence of yet another new species of the prosobranch land snail genus *Maizaniella* Bequaert & Clench, 1936 (family Maizaniidae). Van Bruggen (1982) reviewed the genus and described an additional species in 1990 (Van Bruggen, 1990: 189-194)[1]. Although the diversity of terrestrial prosobranchs is very limited in Africa, it appears that the small snails encompassed in the genus *Maizaniella* represent more taxonomic units than originally surmised. So far only nine species have been classified with *Maizaniella*, i.e. three subgenera with one species each (*Maizaniella* s.s., Sierra Leone; *Macromaizaniella*, Cameroon; *Pteromaizaniella*, Fernando Po), and *Spirulozania* with six species. The shell of the last subgenus, introduced by Van Bruggen in 1982 (type species *Cyclophorus lilliputianus* Morelet, 1873), is characterized by small size, a prominent spiral element in the sculpture (particularly on the apex), and in addition a large number of costulae. Regrettably few anatomical data are yet available for members of the genus *Maizaniella*; radula and genitalia have been described only for *Maizaniella* (*Macromaizaniella*) *preussi* (Von Martens, 1892) (fide Van Bruggen, 1982: 196).

Abbreviations used are 1/d for the ratio length (= height)/major diameter as an indication of the shape of the shell (here calculated from micrometer readings, so that the figures calculated from the measurements in mm will not always agree), R for the number of major ribs on the body whorl of the shell (Van Bruggen, 1982), and Rfvbw for the number of major ribs observed on the body whorl in front view (Van Bruggen, 1982: 187). The authorities of the Paris museum kindly permitted a paratype to be retained for the Leiden museum.

Maizaniella (Spirulozania) iterum nov. spec.
(figs. 1-6)

Diagnosis. — A small, noticeably depressed species with not too distant, comparatively little raised costulae, with the spiral sculpture almost confined to the apex

[1] Attention is drawn to a regrettable mistake in Van Bruggen (1990). Repeatedly reference is made to Van Bruggen, 1985, which date is also shown in the list of literature cited. This is incorrect; the paper in question was published on 15 December 1986.

of the shell and a little beyond; this species has a comparatively high number of costulae per surface unit.

Description. — Shell (figs. 1-5) small, corneous, markedly depressed turbinate, wider than high, umbilicate, with slightly produced spire with blunt, mamillate apex, thin and fairly solid, transparent when fresh. Whorls 3-3 1/4, convex, separated by narrow, impressed sutures; apical whorls fairly prominent and somewhat inflated, remainder rapidly increasing in size. Body whorl comparatively large, almost circular in cross section. Aperture large and circular, peristome simple and acute, without reflection, practically free with only a fairly limited area in the upper left touching the body whorl, labrum nearly straight and somewhat receding in profile. Umbilicus wide and deep, revealing all whorls right up to the apex, hardly overhung by the aperture. Whorls covered with thin, corneous, deciduous periostracum; initial part of shell (apex) smooth or weakly pitted, thereafter c. one whorl finely spirally engraved, remaining whorls with initially fairly prominent and rather distant, little raised costulae, which subsequently become noticeably less prominent towards the aperture; interstices much wider than costulae, covered with very fine growth striae or secondary riblets; spiral sculpture becomes increasingly insignificant towards the aperture, becoming obsolete on the body whorl, resulting in a sculpture that is nowhere reticulate.

Operculum (fig. 6) moderately small, permitting some withdrawal into the shell, circular, thin and corneous, half transparent, concentric and flattish, with about eight whorls (the only isolated operculum available is that of the holotype shell).

Measurements of shell: 2.0-2.4 × 3.3-3.7 mm, 1/d 0.59-0.64, 3-3 1/4 whorls, aperture 1.5-1.6 × 1.5-1.6 mm, R = c. 50-60 +, Rfvbw = c. 20-25 (for individual measurements see table 1). Operculum holotype 1.6 × 1.6 mm.

Animal unknown.

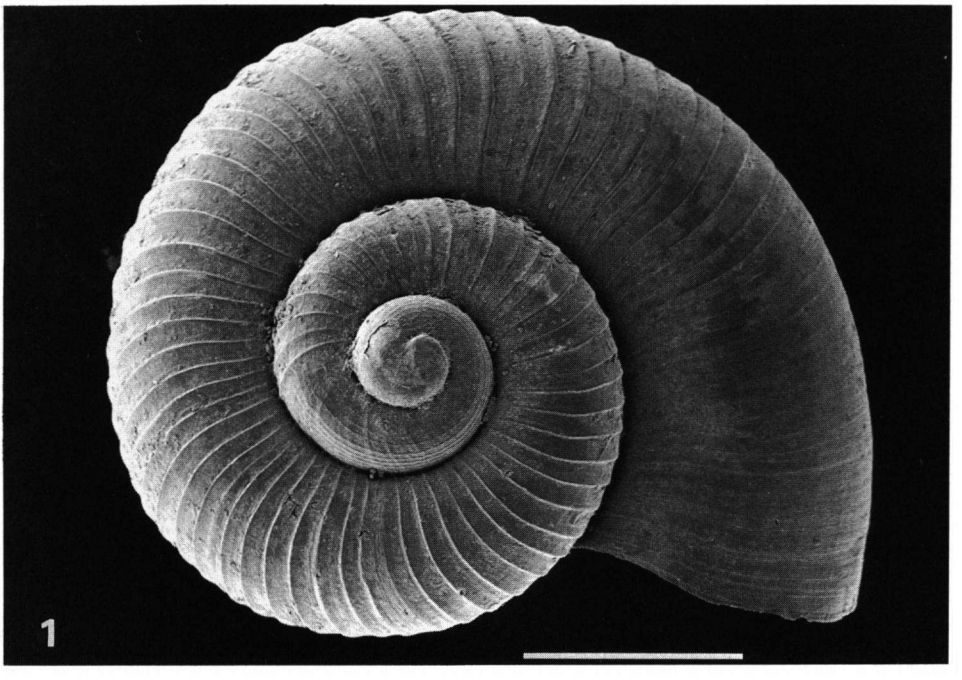
Distribution. — Gabon.

Material examined. — Gabon, Digaba (2°00'S 11°15'E), De Morgan colln. (holotype, figs. 1-5, and one paratype, Muséum National d'Histoire Naturelle, Paris; one paratype, Nationaal Natuurhistorisch Museum 56529).

Derivatio nominis. — *iterum* = Latin, for the second time, in the sense of once more. Since *iterum* is an adverb, it should be considered a noun in apposition following Article 11h(i2) ICZN. The name refers to the fact that once again in quick succession a new species of *Maizaniella* has come to light.

In the key by Van Bruggen (1990: 194-195) the new species (more or less) keys out to *Maizaniella* (*Spirulozania*) *erroris* Van Bruggen, 1982. Below the key is adapted to include the new species, but the differences between the two taxa may here be tabulated as follows:

Figs. 1-6. *Maizaniella* (*Spirulozania*) *iterum* n. sp., holotype, Digaba (Gabon), Muséum National d'Histoire Naturelle, Paris. Fig. 6 is a front view of the operculum. Scales figs. 1-3: 1 mm; figs. 4-6: 100 µm. The S.E.M. photographs emphasize the major ribs, which, when examined under a binocular microscope, are not as prominent as shown. S.E.M. photographs J. Goud, Nationaal Natuurhistorisch Museum.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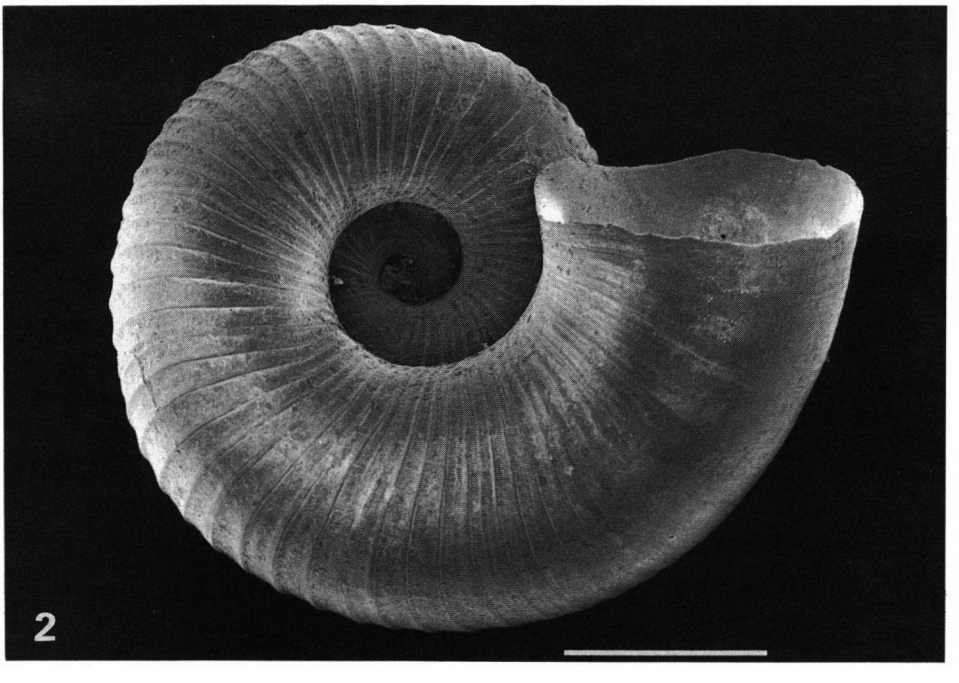
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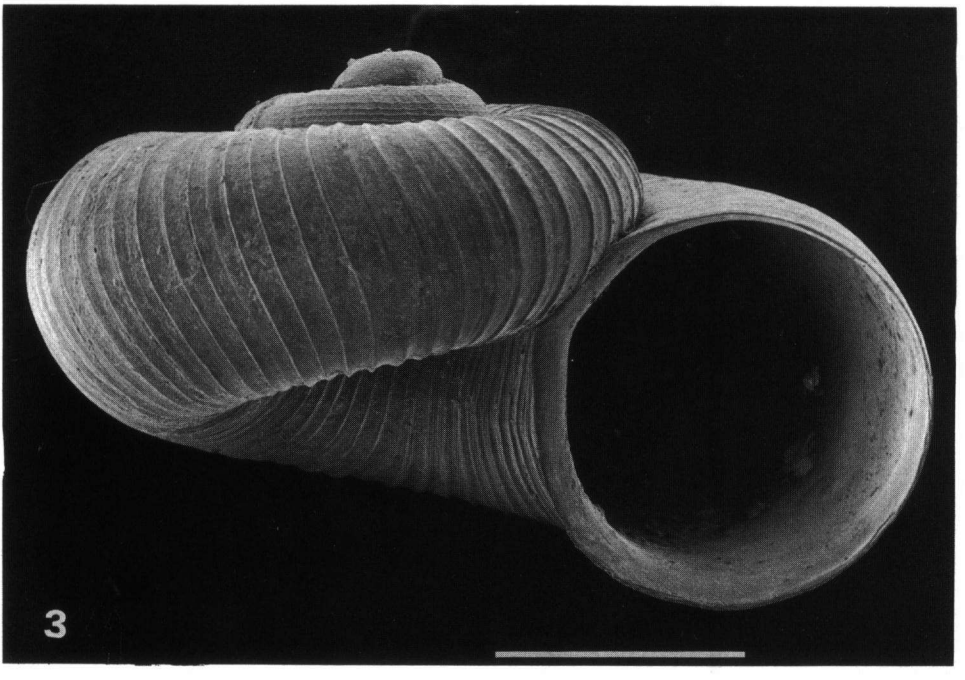
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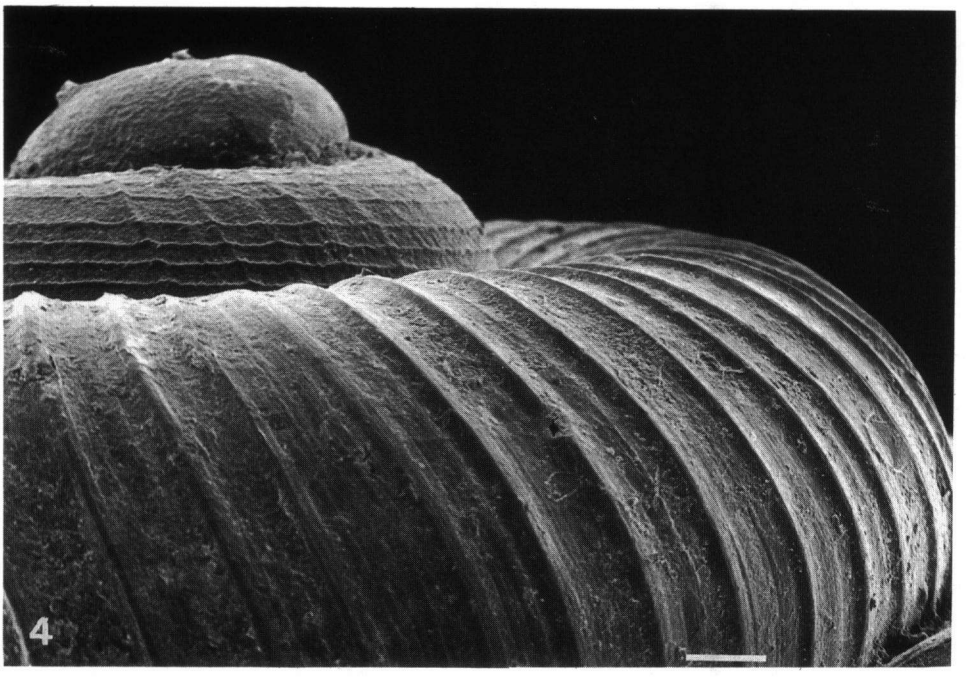
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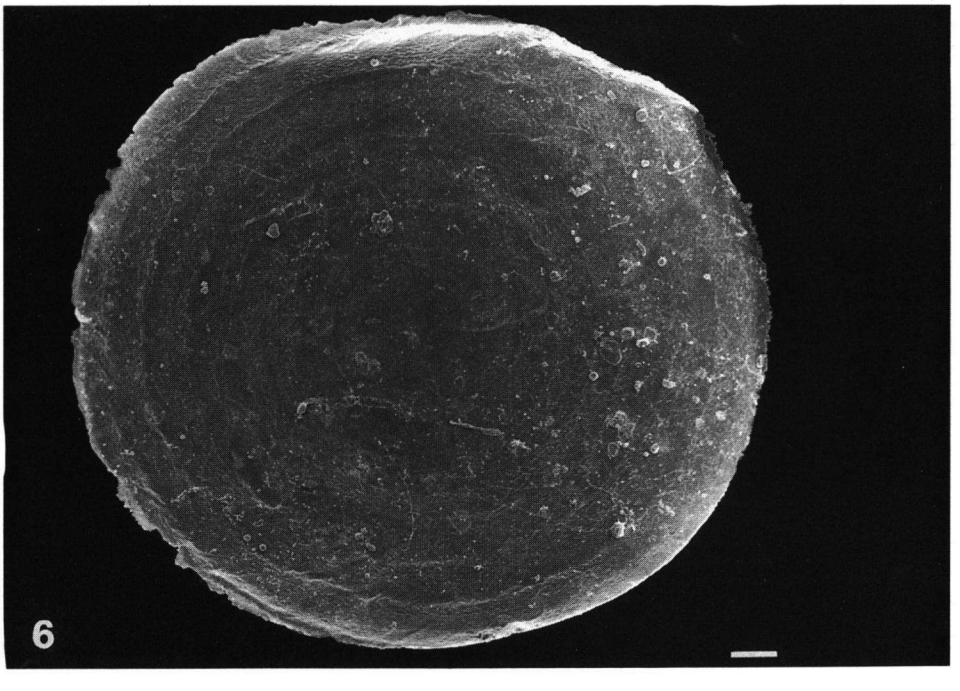
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height × maj.diam.	1/d	R	Rfvbw	whorls	aperture height × maj.diam.
*3.7 × 2.4 mm	0.64	60+	25	3 1/4	1.6 × 1.6 mm
3.3 × 2.0 mm	0.59	c. 50	20	3+	1.5 × 1.5 mm
3.3 × 2.0 mm	0.60	c. 56	-	3	1.5 × 1.5 mm

Table 1. Measurements of the shells of the type series of *Maizaniella* (*Spirulozania*) *iterum* n. sp. The holotype has been indicated by an *. The second and third specimens may be subadult shells.

M. iterum
- shell small: 2.0-2.4 × 3.3-3.7 mm, whorls 3-3 1/4
- shell depressed: 1/d 0.59-0.64
- costulae little prominent
- R = c. 50-60+ (Rfvbw = c. 20-25)

M. erroris
- shell larger: 2.5-3.4 × 3.9-4.9 mm, whorls 3-3 1/2
- shell less depressed: 1/d 0.60-0.74
- costulae noticeably raised
- R = 45-77 (Rfvbw = c. 15, holotype only!)

This shows that the shells can be differentiated with ease. The species may be sympatric. *M. erroris* is known to be widely distributed in Liberia and possibly occurs in Sierra Leone and north-western Zaïre as well (Van Bruggen, 1982: 192-194).

Normally the costulae become gradually more distant and somewhat more prominent towards the aperture of the shell. However, the body whorls of all three specimens of *M. iterum* are characterized, particularly towards the end, by the riblets becoming almost obsolete, so that sometimes they cannot even be counted properly in front view (see last specimen in table 1) and only with some considerable trouble in apical view. This transition is not gradual as might be expected, but somewhat sudden; in the holotype this marked change occurs after c. 43, in the first paratype after c. 35, and in the second paratype after c. 40 costulae on the body whorl (counted from the point of attachment of the aperture). It is hard to judge whether this is a local phenomenon (i.e. one restricted to the single population studied) or a taxonomic feature. Even a superficial examination of the specimens in question immediately drew attention to this unique character, although it was thought advisable to delimit the new taxon in a more traditional way, i.e. by means of characters known to be generally suitable for discrimination in this particular group.

The only species known from Gabon is *M.* (*S.*) *lilliputiana* (Morelet, 1873); data on its distribution (so far only the holotype shell is known; it is simply labelled "Gabon") are not available. *M.* (*S.*) *iterum* is the first properly localized species in Gabon. Mr. A.J. de Winter of Wageningen Agricultural University has recently done some considerable work on the malacofauna of this country, but so far the new species has not turned up in any Gabon material, although a number of samples was obtained by sieving leaf litter from the forest floor.

The type series of *M.* (*S.*) *iterum* entered the Muséum National d'Histoire Naturelle with the De Morgan collection in 1922 (Fischer-Piette, 1951: 20). J.J.M. de Morgan (1857-1924), 'Associé' of the museum, collected widely in the Near and Far East, particularly the Malay Peninsula, but does not seem to have visited Gabon himself

(Germain, 1924). *M. iterum* n. sp. is the second species to be discovered in the Paris museum; at times it seems more convenient to restrict collecting expeditions to ancient museums rather than going to the expense of mounting proper field trips.

A REVISED KEY TO THE SPECIES OF MAIZANIELLA

The following key is adapted from that in Van Bruggen (1990: 194-195); of course, the same admonitions as regards individual variation, adulthood, limited basic data, etc. apply here.

1 a Shell comparatively large (major diameter from 10 to 12 mm), depressed, with very large number of ribs (R = c. 75-c. 100), which are close together; Cameroon - subgenus *Macromaizaniella* Van Bruggen, 1982, only species ..... *M. preussi* (Von Martens, 1892)

b Shell small (major diameter from less than 3 to c. 7 mm), depressed to turbinate, with more limited number of ribs (R = 7-77), which are normally fairly widely distant (interstices always much wider than ribs) 2

2 a Shell without traces of spiral sculpture, smallish (major diameter 5.5-6.7 mm), R = c. 23-43; Sierra Leone — subgenus *Maizaniella* s.s., only species ..... *M. leonensis* (Morelet, 1873)

b Shell with at least traces of spiral sculpture, small (major diameter always under c. 5 mm), R = 7-77 3

3 a Shell with few and irregular flange-like major ribs, R = 7-12, turbinate globose (1/d 0.78-0.87), small (major diameter 2.9-3.2 mm); Fernando Po — subgenus *Pteromaizaniella* Van Bruggen, 1982, only species ..... *M. poensis* Van Bruggen, 1982

b Shell with many more ribs, R = 19-77, depressed turbinate (1/d 0.60-0.78), slightly larger (major diameter 3.2-4.9 mm) — subgenus *Spirulozania* Van Bruggen, 1982 4

4 a R = c. 40 or more, shell small (major diameter 3.3-4.9 mm) 5

b R = at the very most 40, but usually less, shell slightly smaller (major diameter 3.2-4.2 mm) 7

5 a Major costulae on shell little prominent, so that correct counting becomes difficult, shell small, 2.0-2.4 x 3.3-3.7 mm; Gabon ..... *M. iterum* n. sp.

b Major costulae on shell noticeably prominent and therefore easily counted, shell larger, 2.4-3.4 x 3.6-4.9 mm 6

6 a R = c. 40-77, but usually 50 or more, shell 2.5-3.4 x 3.9-4.9 mm; ?Sierra Leone, Liberia, ?Zaïre ..... *M. erroris* Van Bruggen, 1982

b R = 43-49, shell 2.4-3.1 x 3.6-4.4 mm; Angola ..... *M. machadoi* Van Bruggen, 1982

7 a R = 30-36, maximum dimensions of shell 2.9 x 3.9 mm; Central and West Africa, westward beyond the Dahomey Gap 8

b R = 30 or less, maximum dimensions of shell 3.1 x 4.2 mm; Central and (eastern) West Africa, not beyond the Dahomey Gap 9

8 a Shell smaller (2.1-2.5 x 3.2-3.7 mm), more depressed (1/d 0.63-0.68); West Africa west of the Dahomey Gap ..... *M. hiemalis* van Bruggen, 1990

b Shell larger (2.6-2.9 x 3.4-3.9 mm), less depressed (1/d 0.72-0.78); Zaïre ..... *M. chapini* Van Bruggen, 1982

9 a R = 25-30, Rfvbw more than 12, ribs fairly pronounced, shell smaller (2.5-2.9 x 3.2-3.9 mm), somewhat depressed (1/d 0.68-0.78); Gabon, Zaïre .... *M. lilliputiana* (Morelet, 1873)

b R = 19-28, Rfvbw = 10-12, ribs noticeably pronounced, shell larger (2.6-3.1 x 3.4-4.2 mm), slightly less depressed (1/d 0.72-0.77); Zaïre ....*M. lukolelensis* (Bequaert & Clench, 1936)

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