

***Cephaloziella biokoensis* sp. nov. (Marchantiopsida, Cephaloziellaceae), from the island of Bioko (Equatorial Guinea)**

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Abstract: A new species, *Cephaloziella biokoensis* Váňa & F.Müller, is described and illustrated. The type locality is at the highest point of the island of Bioko (Equatorial Guinea) at an altitude of ca. 2900 m NN. The new species belongs to subgenus *Prionolobus* (Spruce) Müll.Frib. and is closely related to *C. turneri* (Hook.) Müll.Frib. The main differences between these two species are shown in a table.

Introduction

In February 2002 one of us (F. Müller) made extensive field studies in different areas of the island of Bioko (Equatorial Guinea). The areas investigated included Pico Basile, the highland of Moca and the southern coast around Ureca. Among the specimens collected on the highest mountain of Bioko, Pico Basile, there is one *Cephaloziella* species new to science.

Description

Cephaloziella biokoensis Váňa & F.Müller, sp. nov.

Cephaloziella turneri similis, sed foliis distantibus, patentibus vel squarrosis, non

concavis, aequaliter bilobatis, parietibus cellularum non incrassatis et perianthiis superne solum plicatis differt.

HOLOTYPE: Equatorial Guinea. Bioko Island. Pico Basile: Bergspitze und Krater NO, 2840–3010 m NN, 03°35'N, 08°46'E, Grasland und *Philippia-Hypericum lanceolatum*-Gebüsch, feuchte, steinig-erdige Böschung, 6-7 Feb 2002, *F. Müller B 658* (DR, ISOTYPE PRC).

PARATYPES: specimens with same label data, *F. Müller B 977* (DR, PRC), *F. Müller B 662a* (DR).

Plants pale green, to 7 mm long, leafy shoots 500(-600) µm wide. Stems irregularly branched, 60-120 µm wide; cortical cells moderately incrassate, 14.5-18.5 × 35-65 µm.

Leaves very distant, seldom contiguous; patent or squarrose, sometimes \pm reflexed, flat, not complicate or concave, to 250(-300) μm long, T!- $\frac{3}{4}$ bifid, sinus acute, lobes narrowly triangular, acute, leaf margin with 1-celled teeth, lobes 6-9 cells wide at base, both lobes nearly of the same size, lobes often reflexed, leaf surface smooth. Leaf cells (12-)14-19 \times 14-26 μm , walls thin to slightly incrassate, cuticle smooth. Underleaves absent. Gemmae common on the ends of the stems, 15-23 \times 13-20 μm , green or red-brown, 1-2-celled, usually with 2-6 angles.

Autoicous, often fertile. Male bracts contiguous, weakly concave, a little bit smaller than leaves on sterile stems, dentate; antheridia 65-85 μm in diameter. Female bracts and bracteole not very much bigger than leaves on sterile stems, dentate, the lower $\frac{1}{4}$ forming a leaf cup united with the perianth; perianth terminal, upper half plicate, lower half \pm smooth, 0.8-1.1 mm long and 0.3-0.45 mm wide, mouth crenulate, cells of perianth mouth 19-37 \times 8-15 μm , moderately incrassate; cells in medium part

of perianth 22-37 μm long and 16-25 μm wide, walls thin or slightly incrassate.

Capsule spherical to ovoid, spores red-brown, spherical, 9.5-11 μm in diameter, nearly smooth to very finely crenulose; elaters 6-10 μm wide, with 2 spirals of ca. 2 μm wide.

Discussion

The angular to polygonal gemmae with protuberant, thick-walled angles and without papillae, the dentate leaf margins and the absence of underleaves indicate that the species belongs to subgenus *Prionolobus* (Spruce) Müll.Frib. Of the members of this subgenus the species is most closely allied with the Holarctic *C. turneri* (Hook.) Müll.Frib. The other species of this subgenus as assigned by Schuster (2002) differ in having edentate vegetative leaf margins and closely verruculose leaf and bract cells.

Table 1: Differences between *C. biokoensis* and *C. turneri*

	<i>C. biokoensis</i>	<i>C. turneri</i>
arrangement of leaves on sterile stems	Leaves very distant	leaves subimbricate
form of leaves on sterile stems	Patent or squarrose, sometimes \pm reflexed, flat, not complicate or concave	conduplicate-concave, patent to erecto-patent
leaf lobes	both leaf lobes nearly the same size	dorsal lobe smaller than ventral
leaf cells	walls thin to slightly incrassate	walls strongly incrassate
perianth	upper half plicate, lower half \pm smooth	deeply plicate almost to base

Fig. 1: *Cephaloziella biokoensis* Váňa & F.Müller, sp. nov.

1. Apex of sterile shoot. 2. Apex of gemmiferous shoot. 3. Leaves. 4. Lobes of leaves. 5. Gemmae. 6. Cortical stem cells. 7. Perianth-bearing shoot tip. 8. Perianth-mouth cells. 9. Cross-section of distal part of perianth. 10. Androecial shoot apex. Scale: 1, 2, 3, 7, 9, 10 = 200 μm ; 4, 5, 6, 8 = 50 μm [drawn from *F. Müller B 658, B 977, B 662a*].



The main differences between *C. biokoensis* and *C. turneri* are shown in Table 1.

C. biokoensis was found on slopes along the track to the top of Pico Basile at an altitude of ca. 2900 m NN. The slopes are nearly vertical and consist of volcanic rock. Associated with *C. biokoensis* were *Philonotis* spec., *Anomobryum julaceum* (P.Gaertn. et al.) Schimp., *Pohlia* spec., *Bryum* spec. and *Brachythecium* spec.

The area around the highest mountain of Bioko has been undercollected in the past. The recent collections by F. Müller include many new bryophyte species for the island. Most of the species show an Afromontane range, including many species in common with Mt Cameroun and the east African mountains; *C. biokoensis* may also be found elsewhere in this area with careful searching.

The new species has been named for the place where it was collected, the only site so far known.

Acknowledgments

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Reference

Schuster, R.M. 2002. Austral Hepaticae Part II. Nova Hedwigia Beiheft 119: I-VIII, 1-606.

