



Kyllinga cataphyllata (Cyperaceae), a new species from the highlands of West and Central Africa

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Key words

Africa
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Abstract *Kyllinga cataphyllata*, a new species of *Cyperaceae* from the highlands of Western and Central Africa, is described and illustrated. This new species is easily recognized by the ascending rhizome densely covered by large cataphylls. The head-like inflorescence consisting of a single spike with spikelets made up of two to three glumes and only one flower, and the glumes characterized by a spinulose greenish keel. It is closely related to *K. brevifolia*, but differs in having conspicuous cataphylls, glumes with a strongly toothed keel and an asymmetrical pedicel to the nutlet.

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The genus *Kyllinga* Rottb. (*Cyperaceae*) has a pantropical distribution with the highest diversity in eastern Africa and includes 74 accepted species (Govaerts et al. 2009). Most of these species grow on well-drained open sites and are tolerant of fire, grazing and trampling, but a few can also be found in marshes, forest-edges or open forest (Haines & Lye 1983). This genus of small to medium-sized herbs can easily be distinguished from other *Cyperaceae* by its headlike inflorescence, small and few-glumed spikelets, and laterally compressed nutlets with two style branches (Getliffe 1983, Tucker 1984, Goetghebeur 1998).

As part of our ongoing research on the genus *Kyllinga* we came across three doubtfully identified specimens from Rwanda. During his research in the preparation of the Flore du Rwanda (1987), Maquet labelled these specimens as *Kyllinga stenophylla* K.Schum. ex C.B. Clarke. After comparison with the type material of the latter species (i.e. *Preuss 189*) we concluded that these specimens are distinct from *K. stenophylla*. Besides these Rwandese specimens, several similar specimens from Central and West Africa were found in various herbaria (BR, GENT, K, P).

Kyllinga cataphyllata Huygh & Schoupe, *sp. nov.* —

Fig. 1, 2

Herba perennis, rhizoma ascendens conspicue cataphyllum; culmi 14–40 cm longi; bracteae involucales 3; inflorescentia capitata subglobosa; squamae lanceolatae carinatae, carina viridula dense dentata; spiculae 1-nucigerae, nux lateraliter biconvexa, complanata, obovata apiculata. — Typus: *Van der Veken, P. 1984-123* (holo GENT; iso GENT; other duplicates to be distributed), Burundi, S of Bugurama, direction Ijenda to Kigezi, 27 Jan. 1984.

Small to medium-sized perennial herb; rhizome ascending and sympodially branched, 0.7–1.4 mm thick, with conspicuous cataphylls; cataphylls 12–20 mm long, greyish to pale brown with purple nerves; culms (6–)14–40(–63) cm long and 0.5–1 mm wide, usually distant on the sympodial rhizome, glabrous, triangular and ridged; base not swollen. *Leaves* 3 or 4 per culm;

leaf sheaths pale green on rear side, translucent front side, often with reddish dots, densely striate towards the base; lower leaves reduced to pale brown sheaths with purple venation; upper 1 or 2 leaves with lamina; lamina 20–90 by 1.1–2.5 mm, scabrid along the margin and on the midrib towards the apex. *Inflorescence* capitata, with a single subglobose greenish white spike, 3.5–7.5 mm diam, 10–30 spikelets per spike; rachis cylindrical to conical, 1.5–2.8 by 0.3–1.1 mm, with prominent peduncles. *Involucral bracts* 3, leafy, the lowermost often erect, all with translucent wings at the base, scabrid along the margins and midrib towards the apex; the longest bract 3.5–9(–13.5) cm long and 1.2–2.1 mm wide; the shortest bract 1–4 cm long. *Spikelets* 2.5–3.7 by 1–1.7 mm, broadly lanceolate, acute, with a bract, prophyll, 2 or 3 glumes and 1 flower, upper glume(s) empty; bract with prominent midrib, slightly keeled, often spinulose, linear-lanceolate, 1.2–2 by 0.3–0.5 mm; prophyll translucent, obtuse, glabrous, ovate, 0.8–1.2 by 0.3–0.6 mm; glumes cream-coloured with membranous margins and some reddish dots towards the keel, lanceolate, midrib green with a 8–10 spine-like teeth; lower glume 2.5–3.4 by 0.7–0.9 mm; nerves, 2 or 3 on each side of the midrib, slightly raised; midrib excurrent into a short recurved mucro; second glume 2.4–3 by 0.8–1.2 mm; nerves, 2 on each side of the midrib, mucro shorter and straight; upper glume (when present) enclosed, hyaline, linear-lanceolate, 1.3–1.8 by 0.3–0.6 mm. *Nutlet* biconvex, laterally flattened, obovate, 1.2–1.7 by 0.8–1.1 mm, yellow to brown, with an asymmetrical pedicel, surface papillose, base of the style often remaining as a short apiculus.

Distribution — Burundi, Cameroon, Democratic Republic of the Congo and Rwanda.

Habitat & Ecology — This species grows in swamps and on the banks of small rivulets, mostly in shade, on the margins of montane forest.

Etymology — The epithet *cataphyllata* means 'with cataphylls' and refers to the conspicuous sheaths covering the rhizome.

Vernacular name — Rwanda: Indagarago.

Note — *Kyllinga cataphyllata* is similar to *K. brevifolia* Rottb., in habit, rhizome structure, the glumes with a green spinulose keel and an obovate nutlet. However, the latter differs in having less conspicuous cataphylls, glumes with less spinulose keels (only 4 or 5 teeth) and a straight attachment of the nutlet. Also

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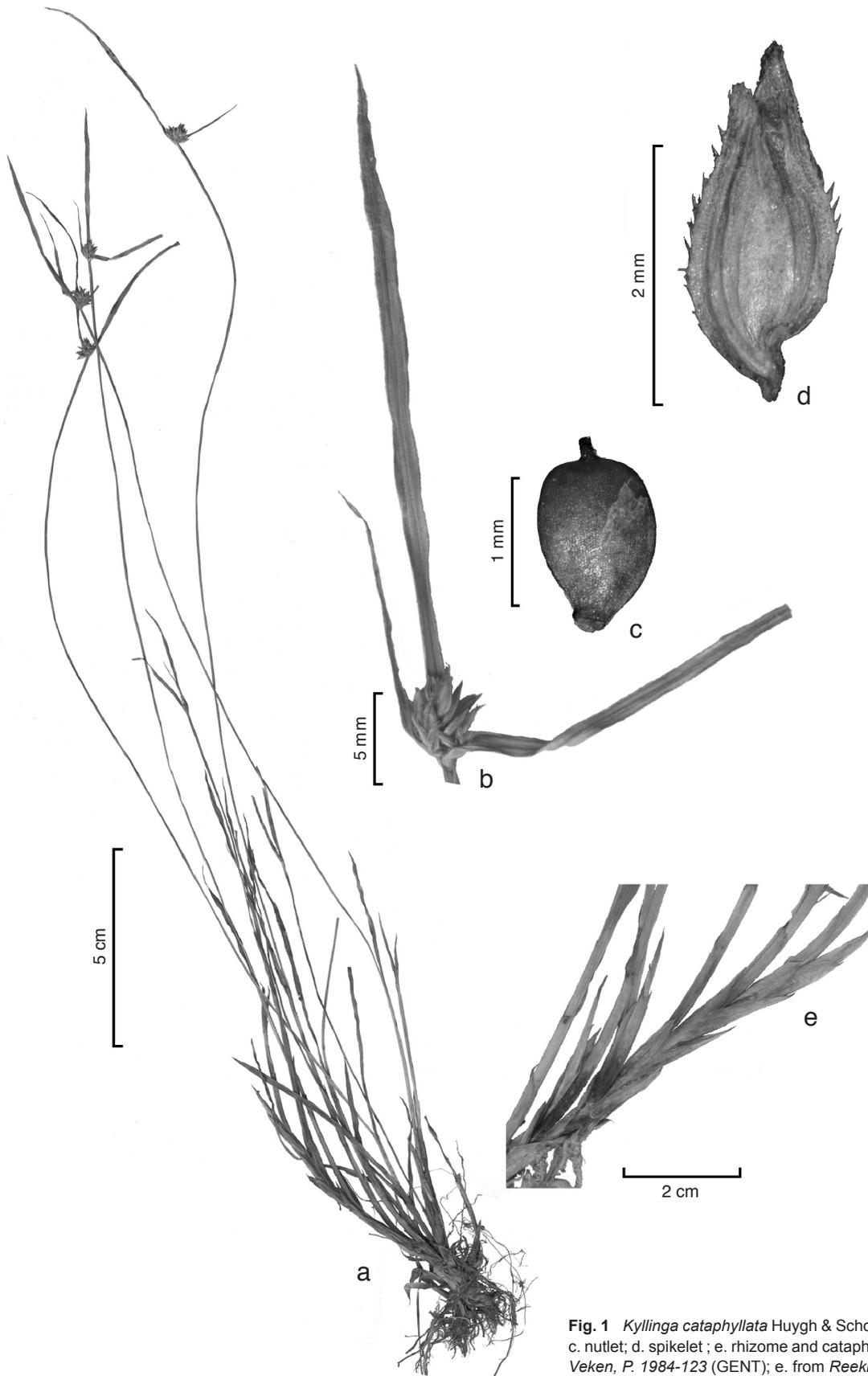


Fig. 1 *Kyllinga cataphyllata* Huygh & Schouppe. a. Habit; b. inflorescence; c. nutlet; d. spikelet; e. rhizome and cataphylls (a–d: from holotype *Van der Veken, P. 1984-123* (GENT); e. from *Reekmans 8195* (GENT)).

the habitat and ecology of the new species is distinct and it has a restricted distribution compared to the pantropical distribution of *K. brevifolia*.

Additional specimens examined. BURUNDI, Prov. Muramvya, Comm. Muramvya, Bugarama, ancienne route d'Astrida, 5 May 1966, *Lewalle 798* (P); Prov. Muramvya, Comm. Bukeye, Nyabigondo, 1 Nov. 1967, *Lewalle 2181* (GENT) & *Lewalle 2191* (P); Prov. Bujumbura Rural, Comm. Mugongomanga,

Ijenda–Mayuyu, 18 May 1969, *Lewalle 3565* (BR); Prov. Bujumbura Rural, Comm. Mugongomanga, Ruhororo, 8 June 1979, *Reekmans 8195* (BR, GENT, K). – CAMEROON, Prov. Nord-Ouest, Div. Mezam, Bafut-Ngamba Forest Reserve, 20 Feb. 1958, *Hepper 2097* (K, P). – DEMOCRATIC REPUBLIC OF THE CONGO, Prov. Nord-Kivu, Distr. Beni, environs de Nyamgaleka (village versant droit de la Haute Lume; ex P.N.A.), 15 Apr. 1953, *Fredericq 8805* (BR, GENT); Prov. Nord Kivu, Distr. Masisi, Bikumbishishi, 30 Apr. 1958, *Gutzwiller 1706* (BR); Prov. Sud-Kivu, Distr. Kabare, Foothills of mountains

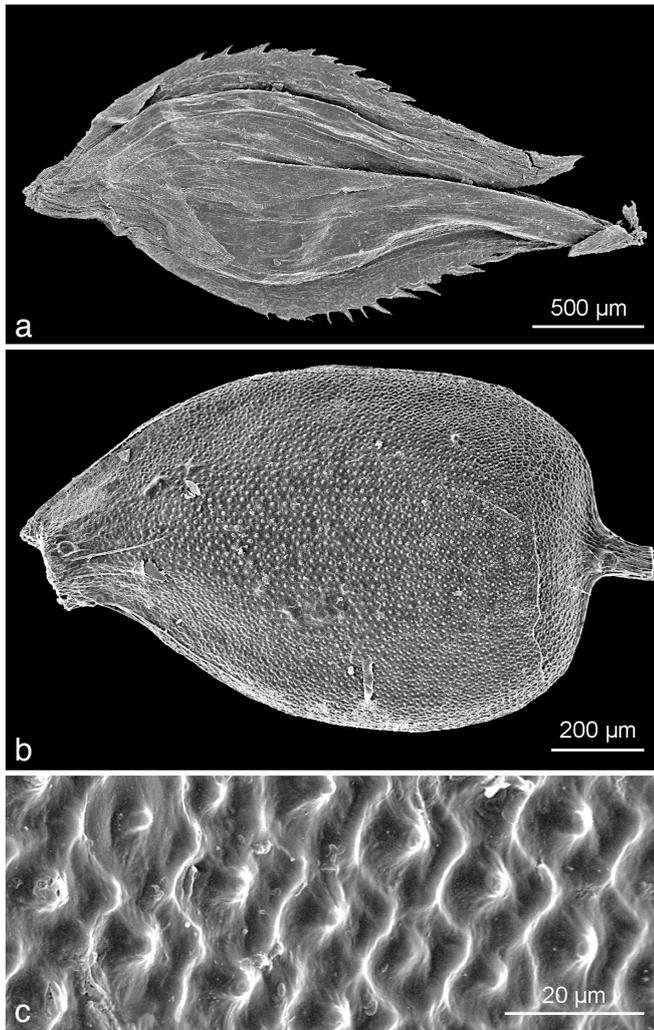


Fig. 2 SEM micrographs of *Kyllinga cataphyllata* Huygh & Schouppe. a. Spikelet; b. nutlet; c. nutlet epidermal cells (all: from the holotype *Van der Veken, P. 1984-123* (GENT)).

west of Katana, Lake Kivu, 28 July 1959, *Cambridge 200* (BR); Prov. Nord-Kivu, Distr. Lubero, Lubero, 9 Sept. 1959, *Léonard 5486* (BR). – RWANDA, Prov. West, Distr. Ruzizi, Route Bukavu–Astrida, 23 July 1959, *Léonard 5100* (BR); Prov. West, Distr. Ruzizi, forêt de Nyongwe, route Butare–Cyangugu, environ du km 100, 21 Aug. 1969, *Bouxin & Radoux INRS 730* (GENT); Prov. West, Distr. Ruzizi, forêt de Nyongwe, route Butare–Cyangugu, environ du km 100, 23 Aug. 1969, *Bouxin & Radoux INRS 791* (GENT, P); Prov. West, Distr. Ruzizi (Cyangugu), Forêt de Rugege (Cyangugu), Marais du Kamiransovu, aux env. du km 103 de la route Butare–Cyangugu, 25 July 1974, *Auquier 3436* (GENT, P); Prov. West, Distr. Nyamasheke, Gisovu, 15 June 1978, *J. Raynal 20578* (K, P); Prov. West, Distr. Ruzizi, Kamiranjovu, s.d., *Christiaensen 1670* (BR).

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We dedicate this paper to the memory of Kilian Mtatomwema.

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