

New records of Lamiaceae (subfamily Nepetoideae) from Central Africa with the description of five new species

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Background: Subfamily Nepetoideae is the last subfamily of Lamiaceae not yet dealt with by the *Flore d'Afrique centrale*, and many specimens are still unidentified in the collections.

Objectives: To prepare the treatment of subfamily Nepetoideae (*Coleus* excluded) by analysing herbarium specimens.

Methods: Herbarium material from BR, BRLU, K and POZG was studied.

Results: Five species and one variety new to science are described (*Equilabium mabwense*, *Fuerstia upembensis*, *Ocimum gnidioides*, *O. hirsutissimum* var. *paradoxum*, *Orthosiphon collinus*, *Plectranthus villosicaulis*). Four new synonyms are proposed. A lectotype is designated for *Ocimum fimbriatum*. Fifteen taxa are reported as new to the Democratic Republic of Congo, two to Rwanda and one to Burundi. New records of rare taxa are also included.

Conclusion: Of the 26 taxa discussed in this note, 20 are found in Haut-Katanga, highlighting the region's significant contribution to the diversity of Lamiaceae subfamily Nepetoideae in Central Africa.

Keywords: Democratic Republic of Congo, distribution, endemism, flora, Haut-Katanga, Labiatae

Introduction

The completion of Lamiaceae for the *Flore d'Afrique centrale* (the Democratic Republic of Congo (D.R. Congo), Rwanda, Burundi) is on its way, with five subfamilies published so far, namely Premnoideae and Viticoideae (Paton & Meerts 2020), Scutellarioideae and Lamioideae (Meerts 2022) and Ajugoideae (Meerts 2023). Regional treatments of the Lamiaceae have been published for limited parts of that territory i.e., Rwanda (Troupin & Ayobangira 1985), and the Virunga National Park (Robyns 1947), but these are badly outdated. The whole family is now covered by standard floras in neighbouring regions, notably *Flora of Tropical East Africa* (Paton et al. 2009), *Flora Zambesiaca* (Paton et al. 2013) and the *Flore du Gabon* (Paton et al. 2022). The preparation of the treatment of the subfamily Nepetoideae is in progress. *Coleus*, by far the largest genus of the subfamily (89 species in Central Africa), has been recently revised, including 15 species new to science (Meerts & Paton 2024). In this paper, we deal with the remaining genera. During the revision of the herbarium specimens, a number of taxa new to science have come to our attention, which we publish here. New country records are also reported here, as well as new records for poorly known taxa with restricted distributions.

Materials and methods

The study was conducted in BR, BRLU, K and POZG and is based upon the examination of specimens either collected after the most recent revision of the relevant genus, or more ancient specimens that had remained unidentified so far. Herbarium acronyms are according to Thiers (2021). Other specimens have been retrieved from GBIF (<https://www.gbif.org/fr/occurrence/>). The nomenclature of accepted species names follows the World Flora Online (<https://www.worldfloraonline.org/>). The specimens cited are grouped according to the phytogeographic regions following Robyns (1948).

Results

New records for D.R. Congo, Rwanda and Burundi are documented below. These comprise five species and one variety new to science. Fifteen, two and one species are added to the flora of D.R. Congo, Rwanda and Burundi, respectively. Four new synonyms are proposed and one lectotype is designated. Genera are dealt with in alphabetic order.

Endostemon *N.E.Br.*

Endostemon obtusifolius (*E.Mey.*) *N.E.Br.* in Fl. Cap. [Harvey] 5(1): 296 (1910).

TYPES: SOUTH AFRICA, Transkei, *Drège s.n.* (BM, lecto.), designated here; K, iso.).

Plectranthus intrusus Briq. in Bulletin de l'Herbier Boissier, sér. 2, 1: 834 (1901), *syn. nov.*

Equilabium intrusum (Briq.) Mwany. & A.J.Paton in Phytokeys 129: 117 (2019), *syn. nov.*

Distribution

Angola, D.R. Congo (new country record), Malawi, Mozambique, Tanzania, South Africa, Zambia, Zimbabwe.

Habitat

Fallow fields, degraded savanna.

Specimens examined

D.R. CONGO, **Bas-Congo**: Kititi, 1909, *Allard* 14; Yié, zone Maluku, recru postcultural, 6 Apr. 1976, *Breyne* 2949 (BR); Yié, zone Maluku, rudérale, 30 Dec. 1976, *Breyne* 3173 (BR); M'Vuazi, dans un champ, 23 Sept. 1957, *Delhaye* 247 (BR); Environs de Ndembo, 1898, *Gillet s.n.* (2 sheets) (BR); Kisantu, 1899, *Gillet* 194 (BR); Kisantu, 1900, *Gillet* 662 (BR); Mboso, près de Ngeba (Territ. Madimba), savane, 15 Dec. 1980, *Nkunga* in

Pauwels 6429 (BR); Kimpako, Feb. 1909, *Vanderyst s.n.*; Makanga, 15 May 1908, *Vanderyst s.n.* (BR); Mayidi, 11 Jan. 1907, Yokolo, Apr. 1933, *Vanderyst* 39847 (MO, WAG, BR).

Discussion

Plectranthus intrusus Briq. has long been an enigmatic species, supposedly endemic to SW D.R. Congo. It was interpreted by Paton et al. (2019) as belonging in *Equilabium*. Re-examination of the type material and other collections in BR shows that it is identical to *Endostemon obtusifolius*. The latter is new to D.R. Congo, but the Congolese localities in Bas-Congo are a short distance from previously known localities in N Angola. All previous records of *E. membranaceus* (Benth.) Ayob. ex A.J.Paton & Harley in D.R. Congo (except *Bequaert* 7746) were also incorrect identifications of *E. obtusifolius*.

Bibliography

Paton et al. (1994, 2013).

Equilabium *Mwany. & A.J.Paton*

Equilabium candelabriforme (*Launert*) *Mwany. & A.J.Paton*

Distribution

D.R. Congo, Namibia, Tanzania, Zambia, Zimbabwe.

Habitat

Savanna.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Env. de Sakabinda, savane à *Acacia*, près de la source de la Lufunfu, 9 Apr. 1971, *Lisowski* 23542 & 23542a (POZG).

Discussion

New country record for D.R. Congo. The new locality is situated a short distance from the nearest localities in Zambia.

Bibliography

Paton et al. (2009, 2013).

Equilabium janthinothryx (*Lebrun & L.Touss.*) *Mwany. & A.J.Paton*

Distribution

D.R. Congo, Rwanda (new country record), Uganda.

Habitat

Savanna, scrub, often on shallow rocky soil, termite mounds, fallow fields, at 1 000–2 100 m a.s.l.

Specimens examined (new identifications only)

RWANDA, **Lacs Edouard et Kivu**: Kisenyi, Mont Kama, 1 580 m a.s.l., fissure de rocher, 10 Aug. 1948, *Mullenders* 2685 (BR). D.R. CONGO, **Lacs Edouard et Kivu**: Parc National Albert [Virunga], Chana (?) termitière en savane, 11 May 1959, *Keremera* 396 (BR); Lulinga après de Mabenga (PNA) [Virunga], 1 000 m a.s.l., savane boisée, 12 Mar. 1957, *De Witte* 14284 (BR); Parc National Albert [Virunga], vallée de la Rwindi (affl. Lac Edouard), rive gauche en aval du pont, 1 020 m a.s.l., galerie à *Euphorbia nyakae*, 3 Sept. 1956, *De Witte* 13380 (BR).

Discussion

New country record for Rwanda. *E. janthinothyx* is very closely related to the east African *E. longipes*, from which it differs in the slightly longer calyx and pedicel and indumentum of rachis consisting only of very short glandular hairs (< 0.2 mm). *E. janthinothyx* has a narrow distribution range in eastern D.R. Congo, western Rwanda and southern Uganda, i.e. at the western limit of *E. longipes*' distribution range.

Bibliography

Robyns (1947), Paton et al. (2009), as *Plectranthus janthinothyx*.

Equilabium mabwense Meerts & A.J.Paton, *sp. nov.*

TYPES: D.R. CONGO, **Haut-Katanga/Bas-Katanga**: Upemba National Park, près de Mabwe, sous-bois de forêt katangaise, 18 Nov. 1948, *Van Meel* sub *De Witte* 4629 (BR0000017708074, holo!; K, iso.). urn:lsid:ipni.org:names:77351580-1

Relationships

Close to *E. viphyense* (Brummitt & Seyani) Mwany., Culham & A.J.Paton on account of the vertical tuberous rootstock with annual shoots, the red sessile glands on calyx and corolla, differing in the indumentum of the stem lacking long hairs, the longer petiole, the asymmetric, ovate-elliptic obtusely cuneate (not cordiform) leaf blade, the longer pedicels, the longer corolla; *E. stenophyllum* (Baker) Mwany. & A.J.Paton has similar vertical, carrot-like tubers but leaves are very different in shape.

Description

Perennial herb $\pm$ 80 cm high, with a thickened, vertical, more or less fleshy rootstock; stem erect, fleshy, $\pm$ 6 mm in diam. in lower part (in dry material),

shortly pubescent, with retrorse eglandular somewhat curly hairs and orange sessile glands, in the inflorescence only with papilliform (0.1–0.2 mm) glandular hairs, branching in the upper part. Leaves opposite, often with smaller leaves in the axils, the lowermost ones often broader than long, petiole 1.5–7.0 cm, striate, with curly eglandular hairs; lamina ovate-elliptic, elliptic to broadly ovate, very variable in shape on the same shoot, 5.5–14.0 $\times$ 3.0–7.0 cm, remarkably asymmetric, with the two halves of the same blade of different shapes, base obtusely cuneate, to almost rounded or almost auriculate, apex acute to subobtuse, with 5–6 pairs of secondary veins and many subsidiaries, margin irregularly crenate-serrate, upper surface shortly pubescent and with many red sessile glands ($\pm$ 15/mm²), lower surface shortly pubescent on venation (retrorse hairs), and with dense red sessile glands ($\pm$ 30/mm²). Inflorescence broadly paniculate, very lax, of opposite thyrses in the 2–5 upper nodes of the stem, in the axils of foliaceous bracts upwardly decreasing in size, the others in the axils of foliaceous bracts; each thyrses $\pm$ 25–35 cm long, very lax, of $\pm$ 15 verticils spaced 10–15 mm apart at anthesis, up to 25 mm in fruit; bracts broadly ovate to obovate, $\pm$ 1–3 mm long, ciliate, those subtending thyrses up to 7 $\times$ 5 mm; rachis with short papilliform mostly glandular hairs (0.1–0.2 mm), and sessile orange glands; cymes subsessile, 2- or 3-flowered; pedicel patent, 6–8 mm at anthesis, up to 9 mm in fruit, papillate and with tiny glandular hairs. Calyx campanulate, $\pm$ 3–4 mm long at anthesis, with red sessile glands and papillae, up to 8.5 mm long in fruit, tube slightly curving, upper lobe recurved, decurrent, ovate-elliptic, 3–4 mm long, acute at apex, lateral lobes of lower lip narrowly triangular, subulate, $\pm$ 2 mm long, middle lobes of lower lip subulate, $\pm$ 3 mm long. Corolla $\pm$ 15–20 mm long, colour not observed (collecting note in *De Witte* 4629: 'violacée très pâle' [very pale purplish]), in herbarium flushed mauve on lower lip, with red sessile glands, tube sigmoid $\pm$ 10 mm long, narrowest in the middle, expanding to throat, very shortly papillate-puberulent, upper lip erect, 2-lobed, $\pm$ 6–7 mm long, lower lip carinate, $\pm$ 6–12 mm long, 2.5 mm deep, hairy within. Fruit not observed. Figure 1, Figure S1.

Etymology

The specific epithet refers to Mabwe, a locality near Lake Upemba, where the species was collected.

Diagnostic characters

A geophyte with a fleshy, carrot-like vertical rhizome, annual shoots, more or less fleshy, asymmetric leaves generally not cordate at base, red sessile glands on calyx and corolla.

Distribution and habitat

E. mabwense is endemic to the northern part of Haut-Katanga near the limit with lower Katanga. It grows in dry

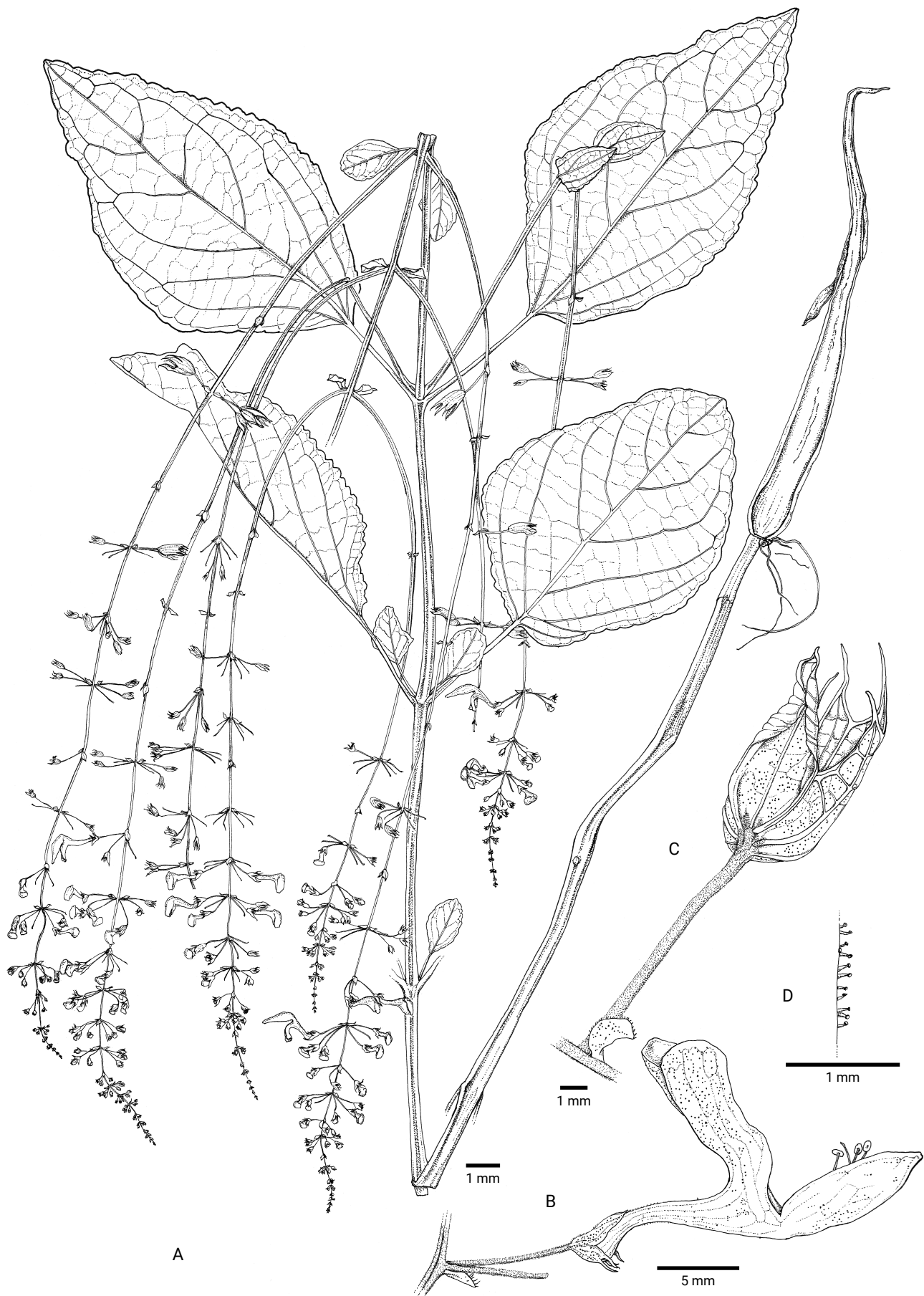


Figure 1. *Equilabium mabwense*. A, whole plant; B, flower at anthesis; C, fruiting calyx; D, detail of pubescence of corolla tube. From Van Meel sub De Witte 4629 (BR). Artist: Hilde Orye.

tropical woodland (miombo). It has been collected in flower in the rainy season, from November to March.

Conservation status

Conservation status is Data Deficient (DD). It is unclear if the species was collected within the core area of Upemba National Park, which is protected, or in the 'zone annexe' in which human activities are allowed.

Additional specimens examined

D.R. CONGO, **Haut-Katanga**: Parc national de l'Upemba, près de Mabwe, forêt katangaise, 29 Feb. 1948, Van Meel sub De Witte 4738 (BR); Mabwe, sous-bois de forêt katangaise, terrain sablonneux, 8 Mar. 1949, Van Meel sub De Witte 5824 (BR).

Equilabium masukense (Baker) Mwany. & A.J.Paton var. masukense

Distribution

Burundi, D.R. Congo (new country record), Kenya, Malawi, Tanzania, Zambia.

Habitat

Rocky outcrops or open areas in dry woodlands (miombo) and grasslands, disturbed ground; at 1 300–1 800 m a.s.l.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Kundelungu, lieu-dit 'La Dalle', 1 450 m a.s.l., lisière de forêt galerie, 18 Feb. 1969, Lisowski, Malaisse & Symoens 2558 (BR). BURUNDI, **Kiharo**: Mosso, dans une forêt claire à dominance de *Berlinia* sp., 28 Mar. 1952, Michel & Reed 1504 (BR); Kioffi, Mosso, Forêt de *Brachystegia* sp., 27 Mar. 1952, Michel & Reed 1581 (BR); Kininya, Mosso, Forêt de *Brachystegia*, 8 May 1952, Michel & Reed 1872 (BR); Rusengo, Buyogom, 1 700 m a.s.l., rudérale, 17 Apr. 1952, Michel 4002 (BR).

Discussion

New country record for D.R. Congo. Paton et al. (2013) recorded this species in D.R. Congo but the source of this information could not be traced. In Burundi the species was known hitherto from a single collection.

Bibliography

Paton et al. (2009, 2013).

Equilabium parvum (Oliv.) Mwany. & A.J.Paton

Distribution

Burundi, D.R. Congo, Kenya, Malawi, Rwanda (new country record), Tanzania, Uganda, Zambia.

Habitat

Swamp savannas, fallow fields, tree plantations, degraded woodland and forest; at 1 200–2 900 m a.s.l.

Specimen examined (Rwanda only)

RWANDA, **Lacs Edouard et Kivu**: Route Cyangugu-Butare, à 6 km de Cyangugu, 1 700 m a.s.l., bord de route dans une zone habitée, 19 Jan. 1971, Bouxin 9 (BR).

Discussion

New country record for Rwanda. The new record in Rwanda represents one of the westernmost localities of *E. parvum*, an east African species.

Bibliography

Paton et al. (2009).

Equilabium pulcherrimum (A.J.Paton) Mwany. & A.J.Paton

Distribution

S D.R. Congo (new country record), N Zambia.

Habitat

Savanna.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Env. Kolwezi, près du village Muilu, pente rocheuse, 8 Apr. 1971, Lisowski 23313 (POZG); Plateau de la Manika, poste sud Musokatanda, 40 km SW de Kolwezi, 10°53'S, 25°05'E, forêt claire pâturée, 1 400 m a.s.l., 17 Feb. 1982, Malaisse & Robbrecht 2356 (BR); 47 km WSW de Kolwezi, 1 340 m a.s.l., rudéral, bord de piste en zone de forêt claire, 14 Mar. 1983, Schaijes 1889 (BR).

Discussion

New country record for D.R. Congo. The last two specimens were hitherto misidentified as *Coleus schizophyllus* (Meerts & Paton 2024). All Congolese collections are situated in the region of Kolwezi, $\pm$ 100–150 km NE of the type locality (Kalene hill, Zambia). The region is subject to rapidly increasing human settlement and disturbance of natural vegetation.

Bibliography

Paton et al. (2013).

Equilabium stolzii (Gilli) Mwany. & A.J.Paton

Distribution

D.R. Congo (new country record), Malawi, Tanzania.

Habitat

Wet savanna, marshland, springs.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Marungu, Kasiki, 20–27 Jun. 1931, *De Witte 493bis* [BR0000016835351] (BR); Marungu, Kipiri, bosquet bordant une rivière dans un vallon encaissé, Jun. 1957, *Duvigneaud 3714C1* (BRLU); Marungu, Kasiki, tête de source de la Bwasoa, formation marécageuse à Kotschya, 27 Jun. 1957, *Duvigneaud 3733C* (BRLU); Marungu, rivière Mobolozzi, 27 Jun. 1957, *Duvigneaud 3734* (BRLU); Marungu, tête de source de la Kapangala, cirque boisé à *Lobelia*, 27 Jun. 1957, *Duvigneaud 3740C* (BRLU); Marungu, 1940, *Jurion 267* (BR).

Discussion

New country record for D.R. Congo. All collections are situated in the Marungu massif, a region with Afromontane vegetation and with phytogeographic affinity with eastern Africa. The species distribution range is relatively restricted stretching from Lake Malawi to Marungu. The gathering *De Witte 493* consists of two sheets i.e., [BR0000016835344] which is *Coleus marunguensis* Meerts & A.J.Paton (Meerts & Paton 2024), and [BR0000016835351] which is *Equilabium stolzii*; the latter was renumbered by us as '*De Witte 493bis*'.

Bibliography

Paton et al. (2009, 2013).

Fuerstia T.C.E.Fr.

Fuerstia angustifolia G.Taylor

Distribution

Angola, D.R. Congo (new country record), Malawi, Tanzania, Zambia.

Habitat

Steppic savanna, dry woodlands, dambos, often on sandy soil; at 1 000–1 400 m a.s.l.

Specimens examined

D.R. CONGO, **Haut-Katanga**: 2 km S of Mofya, Ferme Servranckx, *Duvigneaud 3470* (BRLU); Bianco-hôtel, savane arborée de pente sur sable profond, 8 Dec. 1959, *Duvigneaud 4455* (BRLU); Bianco-hôtel, *Duvigneaud 4459* (BRLU); 33 km S of Kolwezi, forêt claire de pente, 16 Dec. 1959, *Duvigneaud 4605* (BRLU); Entre Pande et Kakonge, forêt sur macigno, à *Brachystegia bussei*, *Duvigneaud 4775* (BRLU); Forêt claire riche en *Monotes*, 27 Dec. 1959, *Duvigneaud 4788* (BRLU); Fungurume, savane steppique cuprifère, *Malaisse, Kisimba & Saad*

1013 (BRLU); Fungurume, colline XII, sur la route vers Kwatebala, 16 Dec. 2007, *Senterre, Handjila & Semere-ab 4879* (BR).

Discussion

New country record for D.R. Congo.

Bibliography

Paton et al. (2013).

Fuerstia upembensis Meerts & A.J.Paton, sp. nov.

TYPES: D.R. CONGO, **Haut-Katanga**, Upemba National Park, Kaswabilenga, rive droite de la Lufira, [08°81'S, 26°43'E], 700 m a.s.l., forêt claire, 23 Oct. 1947, *De Witte 3003* (BR0000017708005, holol.; K iso.). urn:lsid:ipni.org:names:77351581-1

Relationships

Similar to three Angolan species with opposite leaves and 2-flowered verticils i.e., *F. adpressa* A.J.Paton, *F. rara* G.Taylor and *F. rigida* (Benth.) A.J.Paton, the last two also having thickened rhizomes, differing from all of these in having greenish white corolla (vs purplish), from *F. adpressa* in having ascending-patent leaves (vs erect, appressed on stem), from *F. rigida* in having fewer leaves without glandular hairs, and from *F. rara* in having conspicuous glands on leaves.

Description

Geophytic perennial herb, with tufted shoots, often with remains of burnt stems at base, $\pm$ 30–60 cm high; rootstock of 1 to several woody $\pm$ horizontal rhizomes $\pm$ 5–10 mm thick. Stem erect, unbranched, with 3–5 nodes under the inflorescence, quadrangular, striate, shortly pubescent, with patent to slightly recurved mostly eglandular hairs of different lengths, and pale sessile glands, in the inflorescence glandular hairs abruptly more abundant. Leaves opposite, more rarely ternate, ascending to patent, often outwardly falcate, often with young shoots in the axils, 3–6 pairs to a stem, the lowermost pair much reduced; petiole 0–1 mm; blade flat to folded along midrib, narrowly elliptic to narrowly ovate- to obovate-elliptic, 15–75 $\times$ 4–22 mm, base cuneate to attenuate, apex acute, margin entire to somewhat crenate-serrulate distally, very narrowly recurved, shortly ciliate, dull and with sparse erect $\pm$ 0.3 mm long eglandular hairs on upper surface, very shortly hispidulous with antrorse hairs on lower surface of veins, glabrescent, glandular punctate on both surfaces, with 4 or 5 secondary veins on either side, diverging at an acute angle, reticulum becoming more or less prominent on ageing. Inflorescence unbranched or, more often, with a pair of ascending basal branches, 6–12 cm long, lax,

with 10 to 15 verticils spaced 1–13 mm apart; bracts subtending pedicels narrowly ovate-elliptic, acute, 1.0–2.5 mm long, up to 10 mm long under the lowermost branched node; cymes 1-flowered, pedicel ascending, 2–3 mm at anthesis, elongating to 5 mm, with dense glandular and eglandular hairs and sessile glands. *Calyx* pale green, patent at anthesis, then downwardly pointing, tubular, $\pm$ 5–6 mm long at anthesis, with dense eglandular and glandular hairs and pale sessile glands, upper lobe ovate-triangular, $\pm$ 1 mm long, recurving, lateral lobes triangular, acuminate, $\pm$ 0.8 mm long, lower lobes filiform, $\pm$ 0.8 mm long; fruiting calyx $\pm$ 12 mm long. *Corolla* greenish white, 8–11 mm long, tube 4–5 mm long, upper lip 3–6 mm long, recurving, lower lip $\pm$ 3–6 mm long, horizontal. Two fertile stamens, 2 staminodes. *Fruit* not observed. Figure 2, Figure S2.

Etymology

The specific epithet refers to Upemba National Park, where the species was collected.

Diagnostic characters

A perennial herb with annual shoots, thick woody rhizomes, 3–5 pairs of opposite leaves, leaf blade ascending to patent, with sessile glands and without glandular hairs, 2-flowered verticils, and greenish white corolla.

Distribution and habitat

Endemic of D.R. Congo, Haut-Katanga; dry woodlands (miombo) and savanna, often in frequently burnt places.

Conservation status

Probably Least Concern (LC); even though the species is known from only five localities, two of these are situated within a protected area.

Additional specimens examined

D.R. CONGO, **Haut-Katanga**: Domaine de Muhila (Kansimba), forêt claire, près de la grand route, après la traversée de la rivière Konko, 28 Sept. 1970, *Bulaimu* 173 (POZG-V-0072867); Plateau de Muhila, près du village Baton, savane, 1 350 m a.s.l., 6 Nov. 1970, *Lisowski* 23700 (POZG-V-0072107); Parc national de l'Upemba, entre Kabenga et Kasiba, 1 250 m a.s.l., lambeau de forêt katangaise récemment incendié, 18 May 1949, *Van Meel* sub *De Witte* 6379 (BR); Tembwe (baie) [near Moba], colline rocheuse, 19 Dec. 1946, *Van Meel* 297 (BR).

Note

The specimen *Lukuesa* 538 (BR, BRLU) (Mitwaba, Plateau des Kibara, Steppe, à l'W. de la route Jadotville-Manono, près de la source de la Musundu, 19

Oct. 1958) most likely belongs here, differing in the shorter leaves, with yellow sessile glands on both sides.

Bibliography

Taylor (1932), Paton (1994).

Isodon (Benth.) Schrad. ex Spach

Isodon schimperi (Vatke) J.K.Morton

Distribution

Burundi, D.R. Congo (new country record), Ethiopia, Rwanda, South Sudan, Uganda.

Habitat

Montane forest edges, bushland, grassland, by rivers and swamps; at 1 050–2 850 m a.s.l.

Specimens examined (new identifications only)

D.R. CONGO, **Lac Albert**: Mont Dra, Blukwa, sous bois, 13 Oct. 1937, *Gilbert* 553 (BR). **Lacs Edouard et Kivu**: Entre Butembo et Lubero par Katwa, 23 km, jachère, 11 Oct. 1974, *Baudet* 630 (BR); Bwito, Kihondo, 1 650 m a.s.l., 25 Mar. 1954, *Deru* 116 (BR); Kirorirwe [Kirorerwa], forêt à *Acanthus*, 9 Mar. 1934, *De Witte* 1447 (BR); Bisoke, riv. Susa, 2 400–2 600 m a.s.l., forêt de amboo, 2 Feb. 1935, *De Witte* 2211 (BR); Env. De Kiandolili, le long de la piste Mutwanga-Kalonge, 1 800 m a.s.l., forêt ombrophile, 11 Oct. 1952, *Frédéricq* sub *De Witte* 8257 (BR, WAG); Parc national Albert [Virunga], Rumangabo, 1958, *Donis* 3970, 4084 (BR); Territ. Masisi, Bukombo, entre cultures et savanes à *Pennisetum*, 1 420 m a.s.l., 29 Apr. 1957, *Gutzwiller* 826 (BR); Territ. Walikale, Ibusha, Mutongo, 1 050 m a.s.l., 12 May 1958, *Gutzwiller* 2886 (BR); Bukombo (zone Masisi), 1 300 m a.s.l., savane à *Pennisetum*, 8 Mar. 1958, *Gutzwiller* 3522 (WAG); Ouest du lac Kivu, 2 000 m a.s.l., 1929, *Humbert* 7803 (BR); Volcan Ninagongo [Nyiragongo], 2 000–2 200 m a.s.l., 1929, *Humbert* 7940 (BR); Mushumangabo, 2 075 m a.s.l., forêt, Aug. 1937, *Lebrun* 7136 (BR, K); Versant sud du Miken, 2 400–2 600 m a.s.l., étage des bambous et de la forêt mixte, Aug. 1937, *Lebrun* 7297 (BR, K); Parc national des Virunga, Ruwenzori, entre Mutwanga et le gîte de Kalonge, 1 400–1 700 m a.s.l., jachère à *Pennisetum purpureum*, 28 Dec. 1977, *Lejoly* 2272 (BR); Parc national Albert [Virunga], flanc NW du volcan Karisimbi, 2 400–2 800 m a.s.l., étage des bambous et forêt mixte, 17 Aug. 1937, *Louis* 5255 (BR, K); Territ. Rutshuru, Parc National des Virunga, Kibumba, forêt secondaire, Jun. 2009, *Mangambu* 2068 (BR); West Ridge of Lamia, 2 300 ft [700 m a.s.l.], 5 Aug. 1952, *Osmaston* 1951 (BR); Territ. Kabare, Kahuzi, forêt de montagne, 20 Jul. 1976, *Pauwels* 5642 (BR); Ruamoli valley, 8 600 ft [2 620 m a.s.l.], gully, bamboo

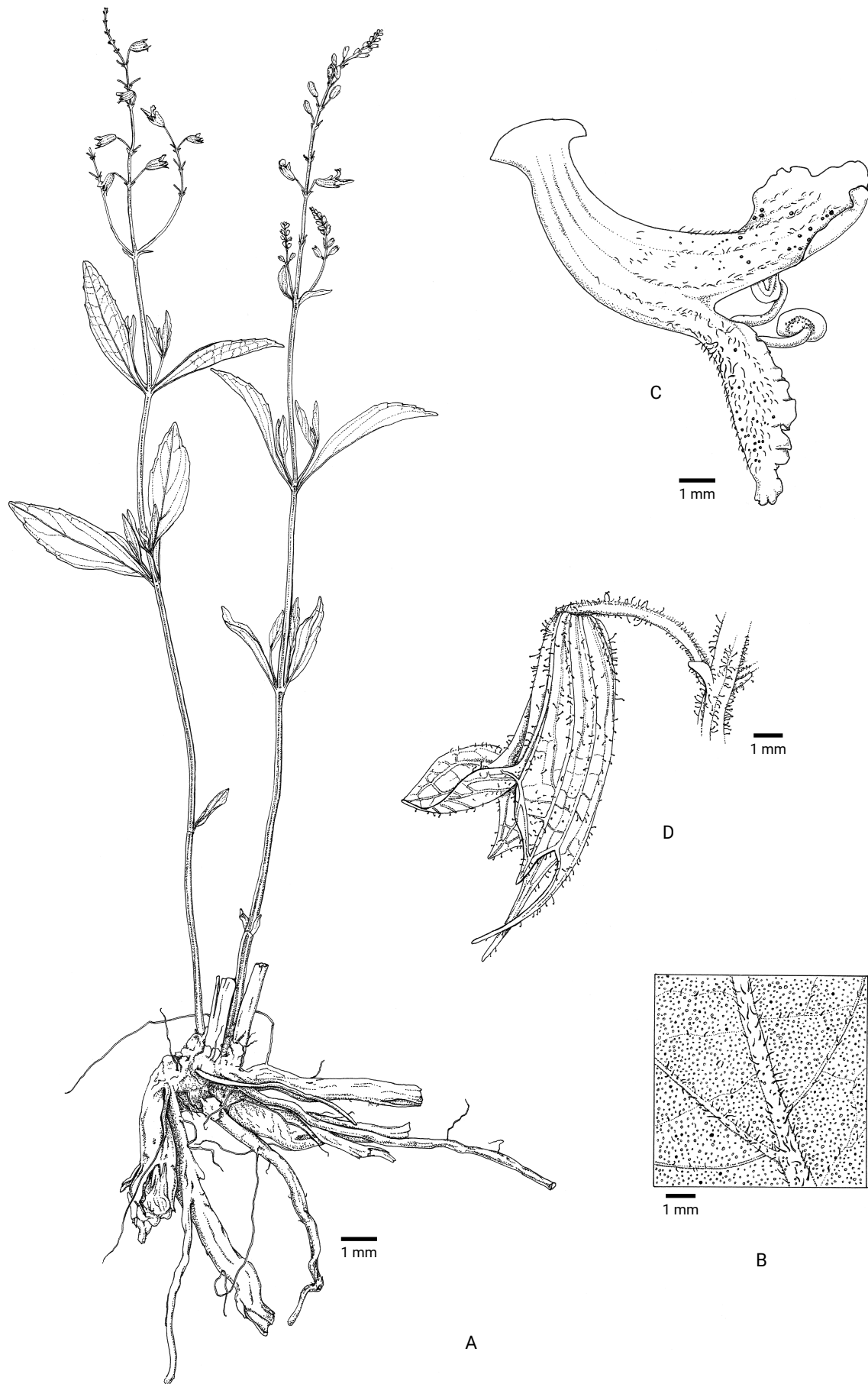


Figure 2. *Fuerstia upembensis*. A, whole plant; B, detail of lower leaf surface; C, corolla; D, fruiting calyx. A, B, C from De Witte 3003 (BR), D from Van Meel 297 (BR). Artist: Hilde Orye.

forest, 5 Aug. 1952, *Ross* 843 (BR); Tshibinda, Kivu, 1929, *Scaetta* 1228 (BR); Tshifunzi, 1928, *Scaetta* 695 (BR); Entre Karoba et Mofumo, 1 900–2 100 m a.s.l., 1928, *Scaetta* 848 (BR); Nord Kivu, Virunga, Kibati, 1 900 m a.s.l., südliches Lavavorland der Westgruppe, im Busch, 30 Sept. 1954, *Stauffer* 547 (BR, K); Katana, 1932, *Vanden Hout* 425 (BR).

Discussion

New country record for D.R. Congo. *I. schimperi* occurs in the mountains of NE Africa from Ethiopia southwards to Burundi. It had not been formally reported from D.R. Congo so far. It is closely related to the widespread *I. ramosissimus* (Hook.f.) Codd with which it has often been confused, e.g. by Troupin and Ayobangira (1985) in the *Flore du Rwanda* [see Polhill (2009) for a discussion of the distinction of the two species]. The examination of material of *Isodon* from D.R. Congo has shown that *I. schimperi* is widespread in the mountains of N Kivu.

Bibliography

Robyns (1947), Troupin & Ayobangira (1985), Polhill (2009).

Ocimum L.

Ocimum amicorum A.J.Paton

Distribution

D.R. Congo (new country record), Tanzania.

Habitat

Clearings in miombo woodland and savanna, often on moist soil.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Dikulushi, 1 000 m a.s.l., clairière de forêt claire, 25 Oct. 1980, *Malaisse* 11145 (BR); Upemba, près de la tête de source de la Ziveba (?), 1 680 m a.s.l., terrain marécageux en pente de 30°, 24 Aug. 1949, *Van Meel* sub *De Witte* 7510 (BR).

Discussion

New country record for D.R. Congo. *O. amicorum* was known hitherto from a relatively narrow range in SW Tanzania (Ufipa District). Newly identified materials from D.R. Congo extend the species' range $\pm$ 750 km to the west.

Bibliography

Paton et al. (2009).

Ocimum angustifolium Benth.

Distribution

Angola, Botswana, D.R. Congo (new country record), Kenya, Malawi, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe.

Habitat

Steppic savanna, sometimes on moist soil, at 1 200–1 700 m a.s.l.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Marungu, section de Mulongoshi, 1 700 m a.s.l., Nov. 1945, *Quarré* 7213 (BR); Territ. Jadotville [Likasi], Busumba, 90 km NE de E'ville [Lubumbashi], 1 278 m a.s.l., 28 Sept. 1957, *De Caters* 131 (BR); Haut-Shaba [Haut-Katanga], Domaine de Muhia [Muhila], Mont Kiseye, 1 700 m a.s.l., 7 Nov. 1970, *Lisowski* 23323 (POZG, 7 sheets).

Discussion

New country record for D.R. Congo. *Ocimum angustifolium* is an east African species, broadly distributed from Kenya southwards to South Africa (northern provinces). Three specimens from D.R. Congo (Haut-Katanga) have been recently identified. Other specimens filed as *O. angustifolium* in POZG are errors for narrow-leaved forms of *O. obovatum* E.Mey. ex Benth. [e.g. *Lisowski* 23267 (POZG)].

Bibliography

Sebald (1989), Paton (1995), Paton et al. (2009).

Ocimum dambicola A.J.Paton

Distribution

Burundi (new country record), D.R. Congo (new country record), Malawi, Tanzania, Zambia.

Habitat

Savanna.

Specimens examined

D.R. CONGO, **Ubangi-Uele**: Tukpwo, savane, 22 Oct. 1954, *Gérard* 1602 (BR). BURUNDI, Kininya Mosso, savane à *Loudetia arundinacea*, 12 Jun. 1952, *Michel* 2786 (BR); Mosso, Ruyigi, savane légèrement boisée, 11 Oct. 1951, *Michel & Reed* 534 (BR).

Discussion

New country record for Burundi and D.R. Congo. The new localities in Burundi are situated at short distance from the previously known localities in N Tanzania; the new locality in NE D.R. Congo is disjunct.

Bibliography

Paton (1995, as *Becium obovatum* subsp. *punctatum*), Paton et al. (2009, 2013).

Ocimum fimbriatum Briq. var. fimbriatum

TYPES: ANGOLA, Mechow 165 (B, holo., destroyed; BR0000006249465, lectotype designated here).

Clerodendrum sessilifolium Moldenke in Phytologia 4: 289 (1953), syn. nov.

Ocimum glabrifolium var. *sapinii* De Wild. in Annales de la Société scientifique de Bruxelles 41: 20 (1921), syn. nov.

Distribution

Angola, Burundi, D.R. Congo, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe.

Habitat

Dry deciduous woodland, savanna, at 900–2 100 m a.s.l.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Nikondama [Bikondama?], Oct. 1911, *Hock s.n.* (BR [BR0000008978585]); Bukama, 5 Jun. 1911, *Bequaert 111* (BR); Sankisia, 24 Sept. 1911, *Bequaert 212* (BR); Nasondoeye, forêt mulu [muhulu] sur Kalahari, 11 Dec. 1959, *Duvigneaud 4514Be* (BRLU); Dilolo, Jun. 1908, *Sapin s.n.* (BR [BR0000005570942] & [BR0000005570959]); Parc national de l'Upemba, entre Kabenga et Kaziba, lambeau de forêt katangaise récemment incendiée, 1 250 m a.s.l., 18 May 1949, *Van Meel* sub *De Witte 6382* (BR); Environs de Lubudi, 1937, *Cabu 112* (BR); Fungurume, colline 5, petite zone d'affleurement cuprifère entourée d'une savane arborée basse, 6 Dec. 2007, *Senterre, Handjila & Semereab 4779* (BR).

Discussion

Clerodendrum sessilifolium has long been an enigmatic species, known only from the type specimen. During our revision of *Clerodendrum* for Central Africa (Meerts 2022), we have re-examined that material. The specimen has very few flowers, but bowl-shaped sessile glands are conspicuous in the inflorescence, thus pointing to *Ocimum*. Calyx shape, with fimbriate lateral teeth, separated from lower teeth by a sinus, points to *O. fimbriatum*. This is a most polymorphic species for leaf shape and size, and several varieties have been described. *Hock s.n.* (type specimen of *C. sessilifolium*) and *Sapin s.n.* (type specimen of *O. glabrifolium* var. *sapinii*) are remarkable in having larger leaves, with blade more ovate than usual for *O. fimbriatum* subsp. *fimbriatum*; however, variation is

continuous and we consider these names as synonyms of *O. fimbriatum* var. *fimbriatum*. *O. fimbriatum* var. *bequaertii* (De Wild.) A.J.Paton also has broad leaves, but they are distinctly petiolate. Such broad-leaved morphs appear to be more frequent in W Katanga compared to the rest of the distribution range.

Bibliography

Sebald (1988), Paton (1995), Paton et al. (2009, 2013).

Ocimum gnidioides Meerts & A.J.Paton, sp. nov.

TYPE: D.R. CONGO, **Haut-Katanga**, entre les 2ème et 3ème rivières sur la piste du détournement de la piste Kolwezi-Musokantanda, 10°48'12"S, 25°19'28"E, 1 454 m a.s.l., 21 Oct. 1989, forêt claire à petits arbres, *Schaijes 4481* (BR0000017713641, holo!). urn:lsid:ipni.org:names:77351582-1

Relationships

Superficially similar to *O. ericoides* (P.A.Duvign. & Plancke) A.J.Paton on account of the small leaves, differing in lack of fascicles of leaves in the axils, the leaves tightly appressed onto the stem (*O. ericoides*: becoming patent to reflexed), the leaf blade pubescent on both surfaces (*O. ericoides*: subglabrous), the margin often with a tooth on either side (*O. ericoides*: margin entire), the reticulum slightly prominent on both surfaces, thickened leaf margin, and the pale mauve corolla with darker stripes (*O. ericoides*: cream-coloured without stripes).

Description

Perennial geophyte, up to 50 cm high, with tufted annual shoots on a thickened, vertical woody rhizome. Stem erect, more or less virgate, quadrangular, ± 1.5 mm thick in lower part, pubescent, with patent eglandular hairs 0.25–0.50 mm, and sessile glands, unbranched or sparingly branched, internodes ± 10 mm. Leaves up to 35 pairs to a stem, opposite, sessile, erect, without fascicles of young leaves in the axils; lamina more or less coriaceous, narrowly elliptic, obovate-elliptic or ovate-elliptic, 8–15 $\times$ 2–4 mm, base cuneate to almost rounded, apex acute to obtuse, flat or more often gutter-shaped, margin thickened by a submarginal vein, entire or often distally with 1 or 2 teeth on either side, 3–5 secondary veins on either side, diverging at a narrow angle, venation slightly prominent on both surfaces (in herbarium), pubescent on both surfaces like the stem, gland-dotted. Inflorescence terminal, 1 cm long at anthesis, elongating to 9 cm, with ± 10 verticils spaced 2 mm apart at anthesis, up to 20 mm in fruit, bracts narrowly ovate, 3–4 mm long, early caducous or more or less persistent and forming a coma; pedicel 1 mm, ascending to patent. Calyx ± 5 mm long at anthesis, accrescent to at least 8 mm (fully mature calyx

not seen), tube shortly pubescent and with pale sessile glands, upper lip obovate, ± 2 mm long, margin of lateral lobes denticulate to slightly fimbriate, with a fringe of white hairs, middle lobes of lower lip subulate, purplish, 3 mm. *Corolla* pale mauvish with darker stripes, ± 10 mm long, tube ± 6 mm long, lobes conspicuously fimbriate, stamens exserted 10–15 mm. *Fruit* not seen. Figure 3, Figure S3.

Etymology

The specific epithet *gnidioides* refers to the resemblance of the plant to some species of *Gnidia*, which also have many small erect leaves.

Diagnostic characters

A suffrutex with short internodes, small, erect leaves with lamina pubescent on both surfaces and slightly prominent reticulum.

Distribution and habitat

Endemic of D.R. Congo (Haut-Katanga, region of Kolwezi); steppic savanna, at $\pm 1\ 500$ m a.s.l.

Conservation status

Probably Endangered (EN); known only from the type specimen, and one picture of a living plant in nature, both in the region of Kolwezi, subject to rapid increase in human settlement and disturbance of the natural flora.

Additional specimens examined

D.R. CONGO, **Haut-Katanga**: Plateau sablonneux de la Manika, au sud de Kolwezi, Aug. 1950, *Schmitz* 4122 (BR); Mutshatsha, 16 Oct. 2016, W.McClelland (photo iNaturalist).

Note

Another specimen possibly belongs here (*Schmitz* 5588 (BR)); it departs from the type in having less numerous, broader, obovate leaves, but it has the diagnostic traits of lamina pubescent on both surfaces, prominent veins and a thickened leaf margin.

Ocimum gratissimum* subsp. *iringense

Ayob. ex A.J.Paton

Distribution

D.R. Congo (new country record), Tanzania.

Habitat

Shrub savanna, cultivated land, pastures, rocky scree, at 800 m a.s.l. in D.R. Congo, 700–1 200 m a.s.l. elsewhere.

Specimen examined

D.R. CONGO, **Haut-Katanga**: Kasanga [near Kalemie], éboulis rocheux, 30 Mar. 1947, *Van Meel* 1420 (BR).

Discussion

New country record for D.R. Congo. The new locality represents the western limit of the distribution range.

Bibliography

Ayobangira (1990), Paton et al. (2009).

***Ocimum hirsutissimum* (P.A.Duvign.)**

A.J.Paton var. *hirsutissimum*

Distribution

Endemic of D.R. Congo (Haut-Katanga, Kibara massif).

Habitat

Steppic savanna, at $\pm 1\ 600$ m a.s.l.

Specimens examined (new identifications only)

D.R. CONGO, **Haut-Katanga**: Mitwaba, savane herbeuse, 1 600 m a.s.l., Feb. 1953, *Desenfans* 2363 (BRLU); au sud du Makomo, relevé 143, savane herbeuse, 16 Aug. 1953, *Desenfans* 3904 (BRLU); au sud de Makomo, relevé 179, 1 650 m a.s.l., savane herbeuse, 19 Mar. 1954, *Desenfans* 5353 (BRLU); au sud du point Kisonza, relevé 182, 24 Mar. 1954, *Desenfans* 5440 (BRLU); Mitwaba, plateau des Kibara, steppe de pente rocheuse ou latéritique, 9 Sept. 1956, *Duvigneaud & Timperman* 2698B (BRLU); 14 km au nord de Mitwaba, steppe sur plateau latéritique, 16 Jan. 1960, *Duvigneaud* 5070L1 (BRLU); N de Mitwaba, pâturage brûlé, 30 Jun. 1988, *Pauwels* 7132 (BR); Mitwaba, Oct. 1956, *Vanden Brande* M252 (BRLU).

Discussion

O. hirsutissimum is related to *O. centraliafricanum* in having more or less patent leaves folded along the midrib, with secondary veins parallel to the margin. It is most distinct in having the upper lip of the calyx ovate-elliptic, acute, upright, particularly large, much exceeding calyx throat, and the lateral lobes of the calyx lacking the characteristic white floccose indumentum of *O. centraliafricanum*; it usually has ternate leaves (rarely opposite); the bracts are foliaceous, forming a conspicuous persistent coma. The type specimen is remarkable by the hispid to villose indumentum on all vegetative parts consisting of patent hairs 1–2 mm long. It is an endemic of the Kibara massif, in the region of Mitwaba.

Bibliography

Plancke (1959), Ayobangira (1987, 1990), Paton (1993).



Figure 3. *Ocimum gnidioides*. A, whole plant; B, leaf lower surface; C, flower at anthesis; D, young fruiting calyx. From Schaijes 4481 (BR). Artist: Hilde Orye.

Ocimum hirsutissimum (P.A.Duvign.)*A.J.Paton* var. **paradoxum** Meerts &*A.J.Paton*, var. *nov.*

TYPES: D.R. CONGO, **Haut-Katanga**, Parc National de l'Upemba, Mukana, savane brûlée, 1 810 m a.s.l., 26 Aug. 1947, *De Witte* 2788 (BR [BR0000016581036], holo!; UPS, iso.).
 urn:lsid:ipni.org:names:77351583-1

Diagnostic features

Differing from the typical variety in the much less developed indumentum, with the stem pubescent to tomentose, with antrorse hairs, not hispid-villose with patent hairs, and leaves subglabrous or pubescent only on veins, not wholly villose. Figure 4, Figure S4.

Etymology

The varietal epithet *paradoxum* refers to the paradoxical occurrence of specimens with much reduced pubescence in a species that is otherwise wholly hispid.

Distribution and habitat

Endemic of D.R. Congo (Haut-Katanga, Kibara massif); steppic savanna at high altitude (1 700–1 850 m), on rocky soil.

Conservation status

Probably Least Concern (LC); even though the variety is known from only four locations, they are all situated within the Upemba National Park.

Additional specimens studied

D.R. CONGO, **Haut-Katanga**: Mitwaba, 26 km au sud du poste, steppe de plateau sur micaschiste à *Tristachya tholonii* et *Parinari pumila*, 11 Sept. 1956, *Duvigneaud & Timperman* 2733Be (BRLU); Parc national de l'Upemba, entre Kabwe-Kanono et Mukana, savane herbeuse d'altitude, 30 Sept. 1948, *Van Meel* sub *De Witte* 4357 (BR, P, WAG); Parc national de l'Upemba, entre Lusinga et Mukana, savane herbeuse d'altitude, 1 815 m a.s.l., 28 Mar. 1949, *Van Meel* sub *De Witte* 5919 (BR); Parc national de l'Upemba, pente rocheuse de 45° près de la tête de source de la rivière Kadidiki, 1 775 m a.s.l., 25 Aug. 1949, *Vvan Meel* sub *De Witte* 7576 Mitwaba, 26 km au sud du poste, steppe de plateau sur micaschistes à *Tristachya thollonii* et *Parinari pumila*, 11 Sept. 1956, *Duvigneaud & Timperman* 2733Be (BRLU).

Discussion

Newly identified materials of *O. hirsutissimum*, collected in the same region as the type, show that the indumentum is not always villose. We propose to recognise at varietal rank a group of specimens with much

shorter indumentum on stem and with leaves almost glabrous. *O. hirsutissimum* var. *paradoxum* is superficially similar to *O. pyramidatum*, on account of the ternate, spreading leaves, differing by the calyx traits (*O. hirsutissimum*: upper calyx lip elliptic, exceeding calyx throat by > 3 mm; *O. pyramidatum*: upper calyx lip obovate, exceeding calyx throat by $\pm$ 1 mm). The specimen *Duvigneaud & Timperman* 2733Be (BRLU) belongs here except for the villose indumentum on the lower surface of midvein and opposite (not ternate) leaves.

Bibliography

Plancke (1959), Ayobangira (1987, 1990), Paton (1993).

Ocimum mearnsii (Ayob. ex Sebal)*A.J.Paton**Distribution*

D.R. Congo (new country record), Kenya, Tanzania, Uganda.

Habitat

Steppic savanna (in D.R. Congo), seasonally flooded and/or overgrazed placed elsewhere, at $\pm$ 1 500 m a.s.l. in D.R. Congo, 1 500–2 100 m a.s.l. elsewhere.

Specimen examined

D.R. CONGO, **Haut-Katanga**: Parc national de l'Upemba, savane d'altitude entre Mukana et Kabwe Kano-no, 18 Oct. 1948, *Van Meel* sub *De Witte* 4533 (BR).

Discussion

New country record for D.R. Congo. The new locality in Upemba National Park is remarkably disjunct, > 1 000 km from the nearest localities in N Tanzania.

Bibliography

Sebal (1989), Paton (1995), Paton et al. (2009).

Ocimum mitwabense (Ayob.) A.J.Paton*Distribution*

Endemic of D.R. Congo (Haut-Katanga, Kibara massif).

Habitat

Steppic savanna, at $\pm$ 1 500 m a.s.l.

Specimens examined (new identifications only)

D.R. CONGO, **Haut-Katanga**: Mitwaba, champ d'aviation, relevé 180, savane herbeuse; 20 Mar. 1954, *Desenfans* 5393 (BRLU); Mitwaba, en face de l'hôtel, grande steppe de plateau passant au verger à *Monotes*,

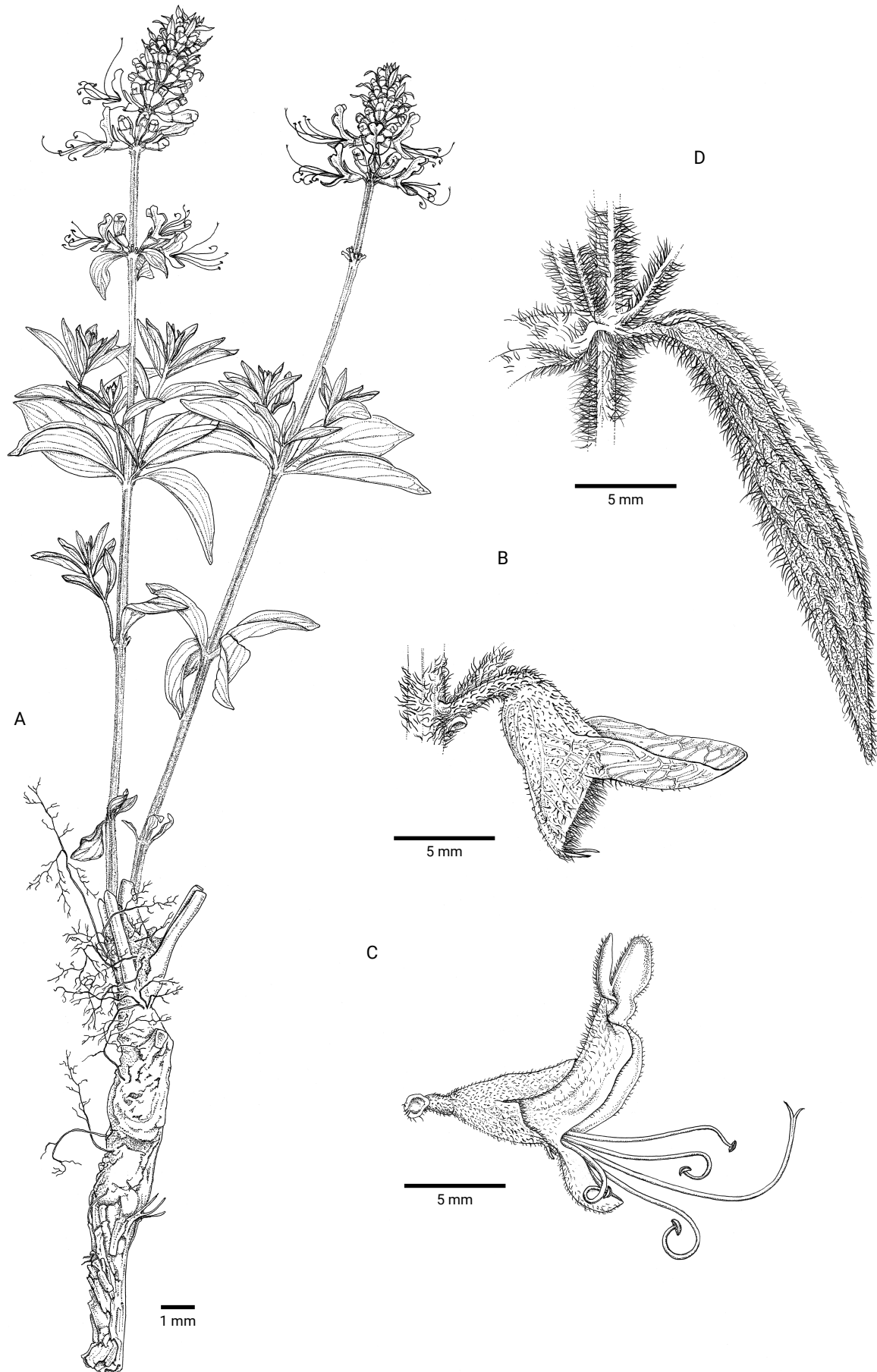


Figure 4. *Ocimum hirsutissimum* var. *paradoxum*. A, whole plant; B, fruiting calyx; C, flower; var. *hirsutissimum* D, indumentum of stem and leaf. A, B, C from De Witte 2788, D from Pauwels 7132. Artist: Hilde Orye.

9 Sept. 1956, *Duvigneaud & Timperman 2692Be* (BRLU); massif des Kibara, hôtel Mitwaba, Sept. 1945, *Mortelmans 57* (BR).

Discussion

O. mitwabense is a somewhat enigmatic taxon known from only a few collections. It is related to *O. centraliafricanum* R.E.Fr. on account of the arching veins parallel to lamina margin, differing in coriaceous leaves, and the calyx lacking the white floccose indumentum on lateral lobes.

Bibliography

Ayobangira (1987, 1990), Paton (1993).

Ocimum pyramidatum (A.J.Paton) A.J.Paton

Distribution

D.R. Congo (new country record), Tanzania.

Habitat

Open dry woodland and grassland, at $\pm 1\ 100$ m a.s.l. in D.R. Congo, 1 050–1 600 m a.s.l. elsewhere.

Specimen examined

D.R. CONGO, **Bas-Katanga**: Kamina, 1 100 m a.s.l., prairie marécageuse, 19 Sept. 1947, *Mullenders 1400* (BR).

Discussion

New country record for D.R. Congo. *O. pyramidatum* was hitherto reported only from a narrow range in SW Tanzania. The new collection extends the range ± 800 km to the west. This specimen had been wrongly identified as *O. obovatum* by Sebald (1989). It differs from Tanzanian material [*Richards 7127, 7277, 11595* (K)] in having a shorter calyx at anthesis (4 mm vs 5–7 mm long).

Bibliography

Paton et al. (2009).

Orthosiphon Benth.

Orthosiphon collinus Ayob. ex Meerts & A.J.Paton sp. nov.

TYPES: D.R. Congo, **Haut-Katanga**, 67 km E de Mitwaba, dembo dans un vallon en auge, steppe humide, après incendie, 10 Sept. 1956 [‘1957’ on label in error], *Duvigneaud & Timperman 2722La* (BRLU0043430, holo!; K, iso). urn:lsid:ipni.org:names:77351584-1

Relationships

Related to *O. rufinervis* G.Taylor, differing in the subsessile, erect (vs petiolate, patent) leaves with narrower leaf blade (5–10 mm vs 10–25 mm wide), with yellow glands (vs red), smaller bracts (1.5–3.5 mm vs 4–5 mm long), much shorter corolla (± 7 mm vs 11–14 mm long).

Description

Perennial herb or suffrutex 15–20 cm high; rootstock a woody rhizome, tubers not observed; stem erect, unbranched, quadrangular, sulcate in upper half, papillate to puberulous in lower half (retorse hairs), subglabrous upwards, becoming abruptly pubescent in the inflorescence with short patent to retrorse eglandular hairs. Leaves opposite-decussate, ± 8 pairs to a stem, lowermost 2 pairs much reduced, ascending to erect, subsessile, blade coriaceous, pale green, narrowly ovate elliptic to narrowly elliptic, $20\text{--}42 \times 5\text{--}10$ mm, much longer than the internodes, base cuneate, apex acute, margin recurved or thickened, subentire to slightly serrate distally with ± 5 teeth on either side, 3–5 pairs of veins diverging at a narrow angle, reticulum prominent on both surfaces, subglabrous, yellow gland-dotted on both surfaces, lower surface paler. Inflorescence terminal, a thyse 4–5 cm long, with ± 6 verticils, spaced 5–12 mm apart, cymes 3-flowered, bract ovate $\pm 1.5\text{--}3.0 \times 1.0\text{--}1.5$ mm, acuminate, reflexed, ciliate; pedicel patent to ascending, curving at tip, ± 2 mm, puberulent. Calyx ± 4 mm long at anthesis, accrescent to 6 mm in fruit, more or less flushed purple, patent to reflexed, tube campanulate, shortly pubescent (eglandular hairs), with sessile glands, upper lobe ovate to obovate, ± 2 mm long, subacute at tip, upwardly recurving, decurrent, lateral lobes ovate-triangular, subulate, ± 2 mm, median lobes of lower lip subulate, attenuate into a filiform point 3–4 mm, ciliolate. Corolla ± 7 mm long, pale-coloured in herbarium, puberulent (curly hairs), lower lip ± 2 mm long. Fertile stamens 4, anther ± 0.8 mm long, thecae divergent. Fruit not observed. Figure 5, Figure S5.

Etymology

The specific epithet ‘*collinus*’ was proposed by Ayobangira (1990) referring to the hilly landscape in which the species was collected.

Diagnostic characters

A suffrutex with ascending to erect, subentire, coriaceous leaves, and 3-flowered cymes.

Distribution and habitat

Endemic of D.R. Congo (Haut-Katanga); steppic savanna in dambo, on seasonally flooded soil.

Conservation status

Data Deficient (DD); the species is known only from the type collection.

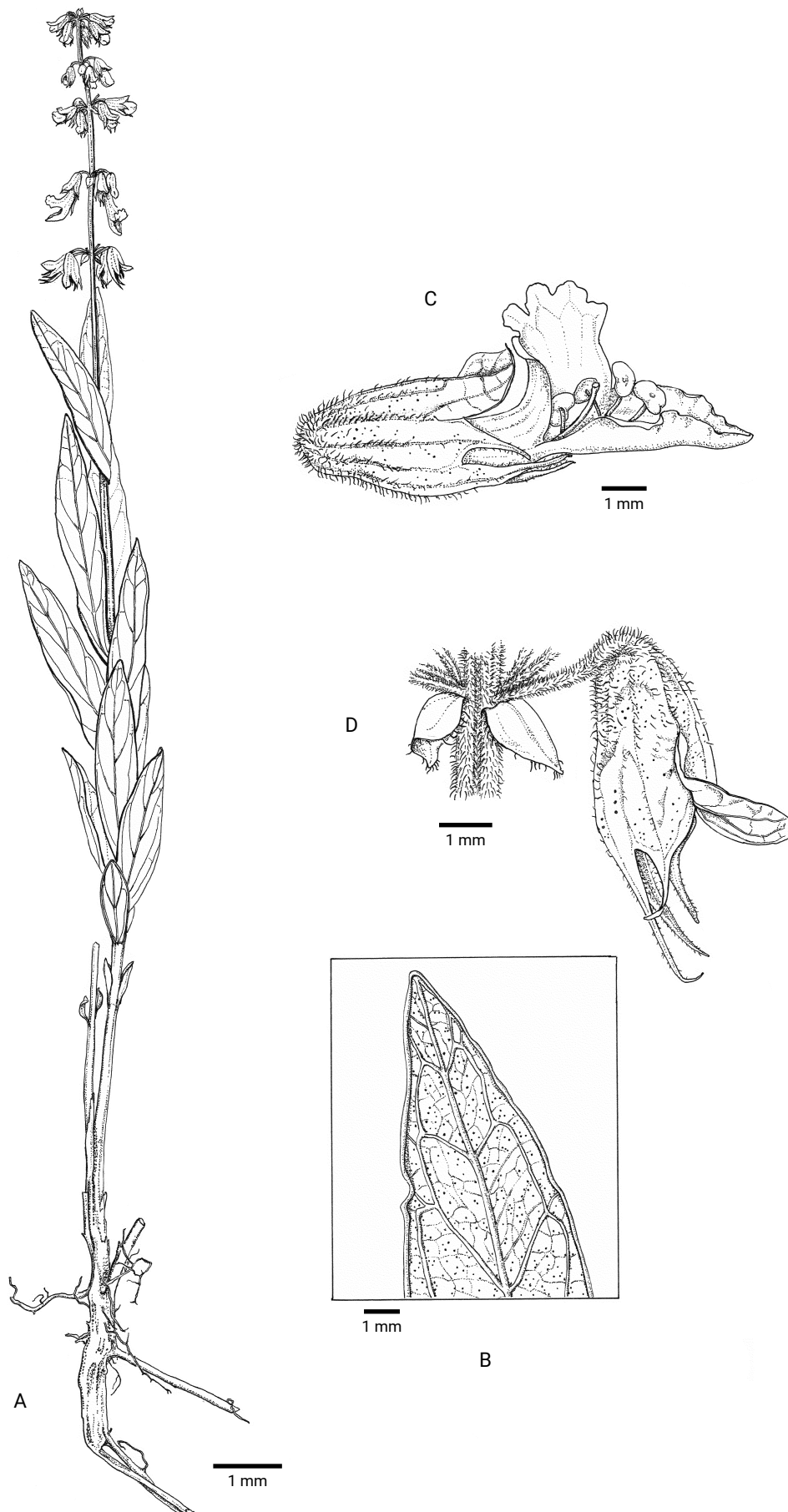


Figure 5. *Orthosiphon collinus*. A, whole plant; B, detail of lower surface of leaf; C, flower at anthesis; D, verticil and one fruiting calyx. From Duvigneaud & Timperman 2722La (BRLU). Artist: Hilde Orye.

Additional specimens examined

None.

Discussion

This species was proposed by Ayobangira (1990) but was never effectively published. It is superficially similar to *Fuerstia rigida* (Benth.) A.J.Paton on account of habit, small coriaceous erect leaves with prominent veins, differing in the eglandular indumentum, the 3-flowered cymes (*Fuerstia rigida*: 1-flowered), and the androecium with 4 stamens.

Bibliography

Ayobangira (1990).

Orthosiphon rufinervis G.Taylor

Distribution

Angola, Central African Republic, D.R. Congo (new country record), Zambia.

Habitat

Steppic savanna, often on seasonally waterlogged soil.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Dilolo, dilungu de la Mangoa, steppe frais à *Eragrostis capensis*, 20 Aug. 1956, *Duvigneaud & Timperman* 2404 (BRLU); Région de Kisenge, tête de source de la rivière Kamalengu, dilungu, 25 Sept. 1958, *Plancke* 155/2087 & 2088 (BRLU); env. de Kabiasha, près du village Kimangu, dembo, 18 May 1970, *Lisowski* 23533 (POZG, 3 sheets).

Discussion

New country record for D.R. Congo. *O. rufinervis* is a relatively rare species throughout its range.

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Plectranthus L'Hér.

Plectranthus asymmetricus A.J.Paton

Distribution

S D.R. Congo (Haut-Katanga) (new country record), N Zambia.

Habitat

Evergreen forest, boulders, especially near watercourses; at 1 200–1 350 m a.s.l.

Specimens examined

D.R. CONGO, **Haut-Katanga**: Route Mitwaba–Manono, 45 km, riv. Kalumengongo (zone Mitwaba), 08°19'S, 27°16'E, 1 140 m a.s.l., rochers humides en bordure de rivière, 3 Feb. 1986, *Bamps & Malaisse* 8620 (BR); Route Lubumbashi–Likasi, 50 km, riv. Kamianga (zone Kambove), 11°18'S, 27°17'E, 1 335 m a.s.l., thalweg de ravin boisé, 15 Jan. 1986, *Bamps & Malaisse* 8027 (BR); Route Lubumbashi–Likasi, 70 km, ravin de la Luafi (zone Kambove), 11°12'S, 27°08'E, 1 200 m a.s.l., talus humifère de fond de ravin boisé, 14 Jan. 1986, *Bamps & Malaisse* 8017 (BR); 5 km NW de Shilatembo, ruisseau temporaire de la Kamianga, 1 340 m a.s.l., forêt dense (ravin encaissé) très humide (aspect guinéen), 5 Feb. 1982, *Malaisse & Robbrecht* 1733 (BR); 5 km N de Shilatembo, forêt dense de ravin du ruisseau temporaire Kamianga, 13 Jan. 1984, *Malaisse* 12947 (BR).

Discussion

New country record for D.R. Congo. The species was previously known from the type specimen only, in N Zambia. The four new localities extend the range $\pm$ 400 km to the north.

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Paton et al. (2013).

Plectranthus villosicaulis Meerts &

A.J.Paton, *sp. nov.*

TYPES: D.R. CONGO, **Kivu**, Ndolere, territ. Kabare, at 1 800 m a.s.l., forêt de montagne, 6 Apr. 1959, *A.Léonard* 3703 (BR0000017710756, holo!; K, iso.). urn:lsid:ipni.org:names:77351585-1

Differing from all previously known species in the genus by the dark brown villose indumentum on stem angles; superficially similar to *Coleus decurrens* Gürke on account of the leaf lamina long attenuated at base, differing in the shorter corolla (6–9 mm vs 15–20 mm long), purplish to pinkish (vs yellow), and the villose indumentum on stem angles.

Description

Perennial herb or shrub up to 2 m high. Stem erect, quadrangular, with dense brown villous indumentum on angles, sparingly branched. Leaves opposite, ascending, petiole 0.2–1.0 cm, not clearly distinct from lamina; lamina elliptic, 6–19 $\times$ 1.5–6.6 cm, base very progressively attenuate into the petiole, apex acuminate, margin serrate, upper surface sparsely rusty pubescent, lower surface appressed pubescent on veins and densely gland dotted ($\pm$ 20 glands/mm²), with 5–11 pairs of secondary veins. *Inflorescence* lax, simple or with 1 or 2 short basal branches, $\pm$ 6–10 cm long at anthesis, elongating to 16–22 cm in fruit, with 8–15 (–22) verticils, spaced 7–15 mm apart in fruit, cymes

subsessile, 3-flowered, bracts ovate $\pm 4 \times 2.5$ mm, reflexed, ciliate, persistent; pedicel 1–3 mm at anthesis, 5–6 mm at fruiting, patent, rusty pubescent, inserted slightly eccentrically on calyx. *Calyx* 3–5 mm long at anthesis, 7.5–10.0 mm long at fruiting, with red sessile glands and shortly stipitate pale minute glands, patent or downwardly pointing, tubulose to campanulate, with short stipitate pale glands, throat oblique, upper lobe ovate-elliptic, ± 5 mm long, subacute to subobtusate, curving upwards, slightly decurrent, lateral lobes of lower lip narrowly triangular, ± 2.5 mm, middle lobes of lower lip 3–4 mm long, long attenuate, somewhat curving upwards. *Corolla* pinkish, with red sessile glands, ± 6 –9 mm long, tube almost straight, saccate at base, ± 4 mm long, upper lip ± 1.5 mm long, erect, 4-lobed, lower lip cucullate ± 4 mm. *Stamens* free, adnate to corolla tube, not exerted from corolla throat. *Fruit*: nutlets ovoid, slightly angled, ± 1.2 mm, dull brown, smooth. Figure 6, Figure S6.

Etymology

The specific epithet '*villosicaulis*' refers to the villose indumentum on the angles of the stem.

Diagnostic characters

A shrub with sessile leaves long attenuate at base, and villose brown indumentum on stem angles.

Distribution and habitat

Endemic to D.R. Congo (Kivu and Kwango). Forests, at 800–1 800 m a.s.l.

Conservation status

This species is known from two localities (one in Kwango and one in Kivu), none of which is protected. It has not been collected after 1959. It is possibly endangered (EN).

Additional specimens examined

D.R. CONGO, **Kasaï**: Panzi, forêt, 10 Feb. 1950, *Cal-lens* 2300 (BR); Panzi, 1925, *Vanderyst* 15801 (BR); Panzi, 1925, *Vanderyst* 15852 (BR); Panzi, Manzengele, 1925, *Vanderyst* 17308 (BR).

Discussion

Plectranthus villosicaulis is superficially similar to *Coleus decurrens* on account of leaf traits (lamina long attenuate at base into a pseudopetiole), and the 3-flowered

cymes, differing in the remarkable stem indumentum, the much smaller, rose corolla with saccate tube, and calyx structure. The geographic distribution is intriguing, with two disjunct groups of populations more than 1 000 km apart, one in Kwango, and the other one in Kivu, suggesting that the species might be present elsewhere in the Congo Basin. Targeted field work is needed to collect more material of this interesting taxon.

Conclusion

Five species and one variety new to science are described in this note. In addition, fifteen, two and one species are new country records for D.R. Congo, Rwanda and Burundi, respectively. Of the 26 taxa discussed in this note, 20 are present in Haut-Katanga, in the Zambezian region of the Democratic Republic of Congo. Five of the six new taxa are located there. This highlights the importance of this region for the diversity and conservation of Lamiaceae subfamily Nepetoideae in Central Africa.

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Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

P.M. contributed to the conceptualisation, methodology, investigation, data curation, writing – original draft, writing – review and editing.

A.J.P. contributed to validation, investigation, writing – review and editing, supervision.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

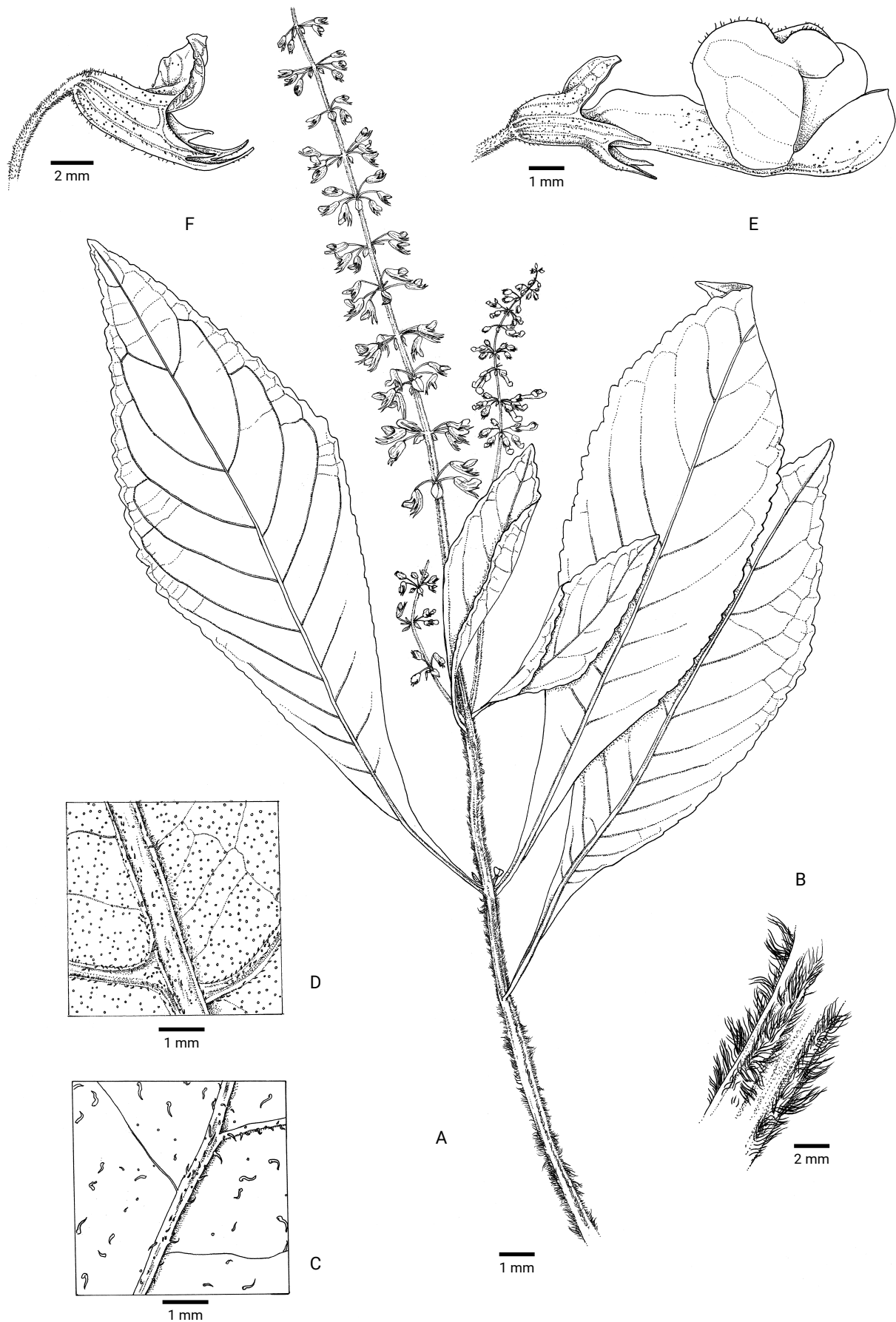


Figure 6. *Plectranthus villosicaulis*. A, branch in fruit; B, detail of stem pubescence; C, detail of upper surface of leaf; D, detail of lower surface of leaf; E, flower at anthesis; F, fruiting calyx. A, B, E from Vanderyst 5852, C, D from Callens 1300, F from A.Léonard 3703. Artist: Hilde Orye.

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