

**THE GESNERIACEAE OF SULAWESI V:
A NEW SPECIES OF *RHYNCHOGLOSSUM*
AND A NEW COMBINATION IN *CODONOBOEA***

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A new species of *Rhynchoglossum*, *R. capsulare* Ohwi ex Karton. (Gesneriaceae), is described and illustrated. This species resembles the widespread *Rhynchoglossum obliquum* Blume. A new combination, *Codonoboea kjellbergii* (B.L.Burt) Karton., is proposed to accommodate the former *Henckelia kjellbergii* B.L.Burt.

Keywords. *Codonoboea*, *Henckelia*, *Rhynchoglossum*, Sulawesi.

INTRODUCTION

The species of the genus *Rhynchoglossum* Blume (Gesneriaceae) are fleshy herbs with alternate leaf arrangements, asymmetrical leaf blades and unilateral racemose inflorescences. *Rhynchoglossum* comprises about 10–13 species distributed from India and southern China through SE Asia and Malesia to New Guinea, and from Mexico to Peru (Burt, 1962; Mendum & Atkins, 2004; Weber, 2004). Mendum & Atkins (2004) gave an estimate of 12 species of *Rhynchoglossum* of which only one species was said to occur in Sulawesi, namely *R. obliquum* Blume. This species is the most widespread in the genus and is distributed from India and southern China southwards through SE Asia and Malesia.

A new species of *Rhynchoglossum* has been identified as part of a revision of the genus for the Malesian region. The name *Rhynchoglossum capsulare* was noted on a specimen of this species by Ohwi but this name was never published. I do so here. Morphologically *Rhynchoglossum capsulare* is similar to *R. obliquum* with its small corolla and two fertile stamens but it differs in characters as laid out in the key below. Two species of *Rhynchoglossum*, *R. obliquum* and *R. capsulare*, are now known to occur in Sulawesi.

Henckelia Spreng. used to be one of the largest genera in the Gesneriaceae with c.180 species (Weber, 2004). It was distributed from India to New Guinea with a centre of diversity in Peninsular Malaysia (Kiew & Lim, 2011). The genus includes *Henckelia kjellbergii* B.L.Burt which was described by Burt (1998) based on a specimen from SE Sulawesi (*Kjellberg* 1092).

Recent molecular analyses have shown that the species of *Henckelia* from India and Sri Lanka are distinct from those of southern Thailand and Malesia (Weber *et al.*, 2011). The name *Henckelia* is retained for the Indian and Sri Lankan species whilst the southern Thailand and Malesian species now mostly belong to *Codonoboea* Ridl., with a smaller number in the resurrected genus *Loxocarpus* R.Br. (see Kiew & Lim, 2011; Weber *et al.*, 2011). The necessary new combinations in *Codonoboea* have already been made for the species from Peninsular Malaysia (Kiew & Lim, 2011) but combinations are still necessary for the species from the rest of Malesia. *Henckelia kjellbergii* was described as belonging to *Henckelia* sect. *Heteroboea* (Benth.) A.Weber & B.L.Burt (Burt, 1998). The species of this section now belong in *Codonoboea* and the necessary new combination is made here.

Key to species of Rhynchoglossum in Sulawesi

- 1a. Leaf blade oblong; fruits elongate, half enclosed by persistent calyx *R. capsulare*
 1b. Leaf blade ovate to elliptic; fruits ovoid, fully enclosed by persistent calyx
 _____ *R. obliquum*

SPECIES DESCRIPTION

Rhynchoglossum capsulare Ohwi ex Karton., **sp. nov.** **Fig. 1.**

Rhynchoglossum oblique Blume similis foliis oblongis, fructu elongatis calycis reliquiis parte dimidia inclusa differt. – Type: Indonesia, Celebes, Resident Menado, OA Poso, Maraowa N. side, 1200–1400 m, 5 viii 1937, *Eyma* 1572 (holo BO; iso A, K, L).

Fleshy erect annual herb, non-rhizomatous, c.19–40 cm high. *Stem* terete, glabrous, 2–5 mm diameter. *Leaves* alternate, exstipulate; lamina membranous, oblique, oblong, 3.5–11 cm long by 1.5–3 cm wide; base unequal, one side rounded, the other side cuneate; apex acuminate, tip 0.5 cm long; margin entire; lamina surface glabrous adaxially, puberulous abaxially, pale green; petiole glabrous, terete, 0.5–2 cm long. *Inflorescences* racemose, slender, terminal and axillary, 8–9 cm long, up to 11-flowered; main axes terete, glabrous; peduncles 2–5 cm long; bracts absent; pedicels puberulous, 0.5–1 mm long; bracteoles in the middle of the pedicels, linear, glabrous, c.0.5 mm long. *Flowers* 10–14 mm long. *Calyx tube* campanulate, glabrous to puberulous, 3–5 mm long by 1–2 mm wide, formed into a tube at the base for 1.5–3 mm; calyx lobes triangular, acute, 5-merous, 1.5–2 mm long. *Corolla* tubular, glabrous outside and inside, 1–1.8 cm long, whitish blue to dark violet; tube 8 mm long; limb 2-lipped, 8–10 mm long; adaxial smaller than abaxial, 2-lobed, 2–4 mm long; abaxial linguiform, slightly 3-lobed, 8–10 mm long, apex rounded. *Stamens* 2, coherent, glabrous; anthers ovoid, 2-thecate, parallel, opening by longitudinal slits, basifixed, 0.5 mm diameter; filaments terete, 2–4 mm long, inserted in the middle

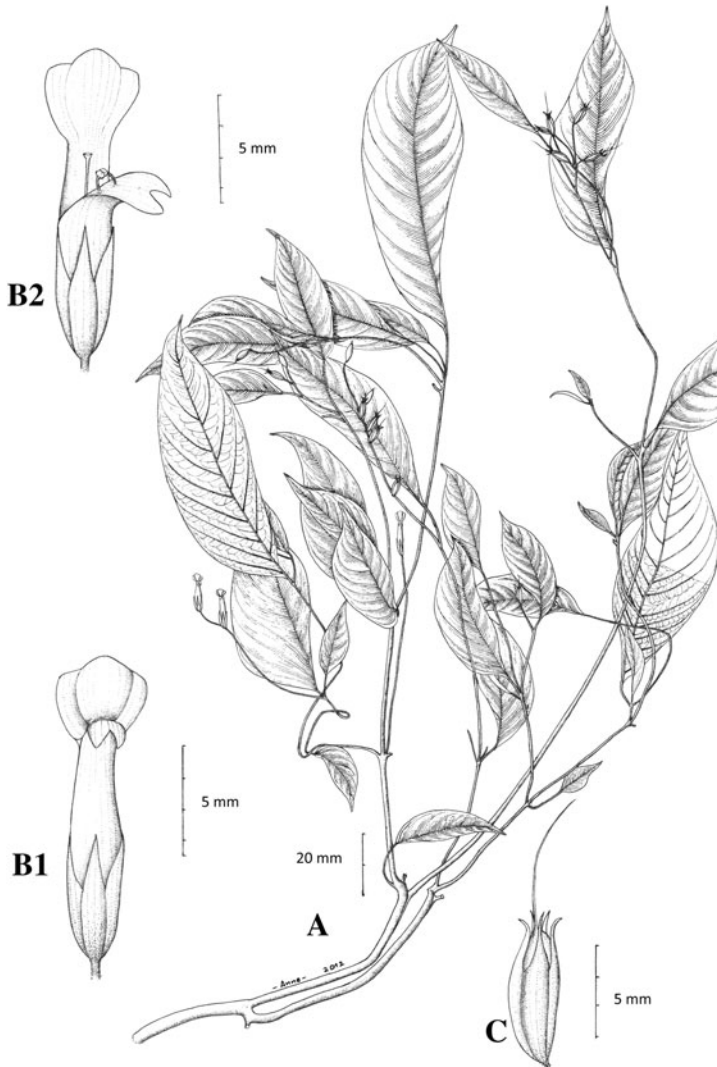


FIG. 1. *Rhynchoglossum capsulare* Ohwi ex Kartton. A, habit; B1, flower, B2, half-open flower; C, fruit [from *Eyma* 1572, holo BO].

of tube on adaxial side. *Ovary* oblong, glabrous, 1-locular, 1–3 mm long; style terete, glabrous, 1–1.2 cm long; stigma capitate, 1 mm diameter. *Fruits* capsule-like, elongate, 4–10 mm long by 2–3 mm wide, glabrous; stalk puberulous, 2–3 mm long, half enclosed by the persistent calyx; persistent calyx 3–7 mm long; style remnant up to 5–6 mm long. *Seeds* minute, ellipsoid, tessellate, 0.3–0.4 mm long.

Distribution. Endemic to Sulawesi (Fig. 2).

Habitat. In open areas in mountain forest at 1200–1400 m altitude.

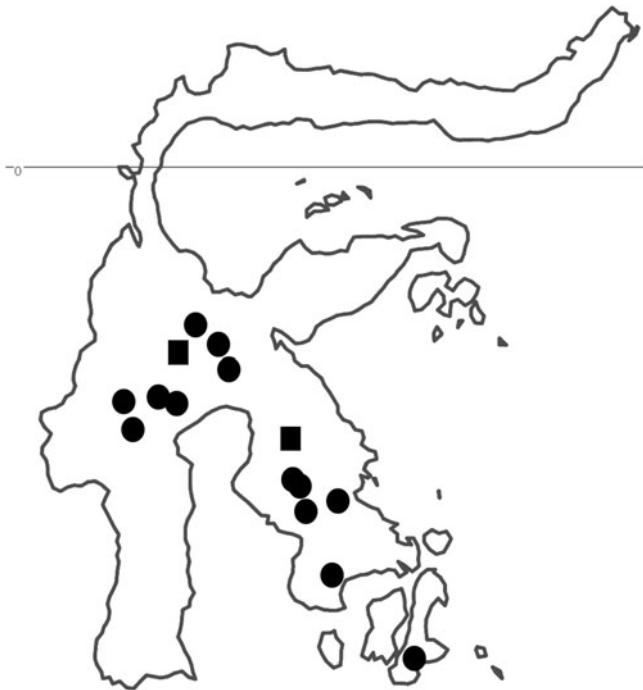


FIG. 2. Distribution map of *Rhynchoglossum capsulare* Ohwi ex Karton. (■) and the Sulawesi distribution of *Codonoboea kjellbergii* (B.L.Burt) Karton. (●).

Etymology. The specific epithet refers to the appearance of the fruit.

Additional specimens examined. SE Sulawesi, B. Porema, 1400 m, 27 x 1929, *Kjellberg* 2663 (BO).

Rhynchoglossum capsulare is the only species of the genus with a capsule-like fruit. In addition there are no wings on the persistent calyx and the calyx does not fully enclose the fruit as is common elsewhere in the genus. The description is based only on herbarium specimens due to the absence of living material.

NEW COMBINATION

Codonoboea kjellbergii (B.L.Burt) Karton., **comb. nov.** – *Henckelia kjellbergii* B.L.Burt, Beitr. Biol. Pflanzen 70: 378 (1998). – Type: Indonesia, Celebes, Boeloe Watoewila, 1500 m, 24 iii 1929, *Kjellberg* 1092 (holo S n.v.; iso BO).

Distribution. Sulawesi, Moluccas (Ambon and Seram), New Guinea (Fig. 2).

Additional Sulawesi specimens examined. **Southeast Sulawesi:** Edge of Kendari–Kolaka Road km 22, near Iwoi Mohalu river, Horodopi, Subdist. Mowewe, Distr. Kolaka, 300 m, 23 v 2008, *Kartonegoro* 279 (BO, E, K, L); G. Kumapodahu, Mt. Watuwila, Sanggona,

Subdistr. Uluiwoi, Distr. Kolaka, 300 m, 14 v 2008, *Kartonegoro* 235 (BO, E, K, L); Kendari–Pohara, 50 m, 7 iii 1929, *Kjellberg* 730 (BO); Buton Island, Membulu, 1910, *Elbert* 3177 (BO, L); Rumbia, 1909, *Elbert* 3156 (BO, L). **South Sulawesi:** Balo-Balo Mt., Kwoi Toro, near Wasoponda, between Soroako and Malili, 800 m, *Hennipman* 6135 (BO, K, L); Todjamboe, 800 m, 3 vii 1929, *Kjellberg* 1882 (BO); Preho, 600 m, x 1929, *Kjellberg* 4048 (BO); G. Taponga, viii 1913, *Rachmat* 458 (BO); G. Latoepa, xi 1913, *Rachmat* 862 (BO). **Central Sulawesi:** Kolonedale, between camp III and Tompantette, 10 x 1938, *Eyma* 3981 (BO); Poso, between Pape and Pendolo, 26 x 1938, *Eyma* 4070 (BO).

Codonoboea kjellbergii is the only species of the genus in eastern Malesia and is found in Sulawesi, the Moluccas (Ambon and Seram) and New Guinea. It is similar to *Codonoboea crinita* (Jack) C.L.Lim from Sumatra, Peninsular Malaysia and Borneo. Both species have oblong-lanceolate and pubescent leaf blades but *Codonoboea crinita* is larger in habit and has larger leaves and flowers.

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