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and *Henckelia* (Gesneriaceae).**

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## New species of phytogeographical interest in *Beccarinda* and *Henckelia* (Gesneriaceae)

By B. L. BURTT

Royal Botanic Garden Edinburgh, Scotland, U.K.

**Keywords:** Gesneriaceae, Scrophulariaceae; *Aeschynanthus*, *Agalmyla*, *Beccarinda*, *Brookea*, *Cyrtandromoea*, *Didymocarpus*, *Henckelia*, *Spelaeanthus*, *Stauranthera*. – Taxonomy, new species, phytogeography. – Indochina, Indonesia, Malesia, New Guinea, Sulawesi, Sumatra.

### Abstract

The known distribution of *Beccarinda* Kuntze is extended from northern Vietnam to Sumatra by the recognition of *B. sumatrana*; the very considerable disjunction is accompanied by only minor morphological differences. *Henckelia* Spreng., which includes the bulk of Malesian species previously referred to *Didymocarpus* Wall. s. lat., has not till now been recorded east of Borneo. *H. kjellbergii* is described from Sulawesi, and the same (or a very closely allied) species has been found once in the Wissel Lakes area of Irian Jaya. A few other examples of recently extended distributions in Gesneriaceae and Scrophulariaceae are mentioned to emphasize our very imperfect knowledge of generic ranges in eastern Asia.

### Zusammenfassung

Durch die Neubeschreibung von *Beccarinda sumatrana* erweitert sich das Areal von *Beccarinda* (bisher nur bekannt aus N.O. Indien, N. Burma, S. China und N. Vietnam) bis nach Sumatra. Trotz der beachtlichen Disjunktion sind die morphologischen Unterschiede zu den indochinesischen Arten gering. Von *Henckelia*, die bisher östlich von Borneo nicht bekannt war, wird eine neue Art, *H. kjellbergii*, aus Sulawesi beschrieben. Von der gleichen (oder sehr nahe verwandten) Art stammt auch eine Aufsammlung aus dem Gebiet der Wissel Seen in Irian Jaya (Neu Guinea). Diese und weitere Beispiele von Gesneriaceen und Scrophulariaceen, deren phytogeographisches Bild sich in letzter Zeit erheblich verändert hat, zeigen, wie mangelhaft die Areale von (süd)ostasiatischen Gattungen bekannt sind.

### Introduction

Work on the Gesneriaceae of eastern Asia provides constant reminders that knowledge of plant distributions in this area is remarkably incomplete. A large disjunctive addition to the range of *Beccarinda* Kuntze is here recorded, and an eastwards extension of the continuous range of *Henckelia* Spreng. to Sulawesi ends with a disjunction from there to Irian Jaya. Some other recently extended distributions in Gesneriaceae and the allied Scrophulariaceae are mentioned.

### Species descriptions

#### *Beccarinda sumatrana* B. L. Burt, sp. nov.

**Diagnosis:** A *B. erythrotricha* W. T. Wang, specie yunnanensi, pilis in folii pagina inferiore patentibus setosis (nec dense appressis), fructibus c. 2 cm (nec 2,5 - 3 cm) longis inter alia distinguenda.

**Type:** Sumatra. Palembang Residency, S. Semando [c. 4°25 S. 103°30 E.], 1400 m, in old forest, 20. IX. 1932, DE VOOGD 1497 (holo BO, iso L).

**Description:** Herb, the stem straggling at base, rooting and somewhat woody, the erect part c. 6 - 8 cm high with opposite leaves, internodes 1 - 2 cm long, and densely covered with reddish brown setose hairs. Leaves opposite, petiolate; petiole 2 - 3 cm long, densely setose; lamina 5 - 7 × 2 - 3 cm, more or less elliptic, subobtuse at apex, cuneate to base, margins dentate, upper surface appressed-pilose, lower similar but hairs on the nerves spreading, lateral nerves c. 5 on each side of midrib, slightly raised below. Inflorescence axillary, c. 4-flowered; peduncle c. 8 - 10 cm long, with short spreading bristly hairs; bracts c. 3 mm long, ovate, bristly outside; pedicels c. 12 mm long in flower, c. 17 mm in fruit. Calyx divided to the base into 5 oblong obtuse segments, 3 - 4 × 1,5 - 2 mm, pilose outside. Corolla c. 1,25 cm long, short and broad, shortly 5-lobed, glabrous. Stamens 4, all cohering together by their tips; filaments glabrous, c. 4 mm long; anthers robust, c. 2 × 2,5 mm. Ovary at flowering 1 mm long, glabrous; style 4 mm, glabrous; stigma punctiform. Fruit (immature?) 1,5 cm long including persistent style, glabrous, held horizontally by uneven growth of receptacular region, somewhat swollen on upperside near base and there distinctly grooved.

#### *Henckelia kjellbergii* B. L. Burt, sp. nov.

**Diagnosis:** Species in sect. *Heteroboaea* prope *H. crinitam* (Jack) Spreng. ponenda, sed ab hac habitu graciliore, foliis minoribus (5 × 0,8 -

12 × 1,8 cm, nec 9 × 3,2 - 21 × 5 cm) interdum aggregatis sed interdum internodiis distinctis sejuncti, corolla brevior (20 nec 40 - 50 mm) et fructu brevior (4,5 nec 5,5 - 8,5 cm) facile distinguitur.

Type: S. E. Sulawesi, Boeloe Watoewila [= Gunung Watuwila, 3°47' S. 121°34' E.], 1500 m, Regenwald, Krone blau mit 2 gelben Streifen, 24. III. 1929, KJELLBERG 1092 (S).

Description: Woody herb to 37 cm. Stem simple or once-branched near the base, 2 - 3 mm diam., the younger parts densely pilose and leafy, the older parts leafless and glabrous. Leaves alternate, more or less clustered near top of stem, lower ones often distinctly spaced with internodes to 10 mm, subsessile or with short pilose petiole up to 3 mm long, blade 5 × 0,8 - 12 × 1,8 cm, narrowly elliptic, attenuate at both ends, margins serrate or serrulate, apex sharply acute or rather blunt, upper surface often slightly mamillate, pilose, the hairs mostly 2,5 - 4 mm long but shorter ones also present, lower surface similar but the long hairs chiefly on the raised veins and the short more numerous than on the upper side. Peduncle axillary, usually solitary, more rarely paired, c. 4 - 4,5 cm long, pilose, with two small (1 mm long) bracteoles slightly above the middle. Calyx divided to base in 5 segments, hairy, 1,5 - 2 mm long, obtuse or subacute. Corolla 20 mm long, outside thinly pubescent with spreading hairs some glandular; tube to lateral sinus 15 mm; median lobe 6 × 4 mm, laterals 3 × 3 mm, upper ± equalling laterals (but damaged), all rounded and glandular ciliate. Fertile stamens 2, arising 5 mm above base of corolla; filaments 4,5 mm long; anthers nearly 2 mm across the fully divaricate thecae, cohering face to face. Fruit shortly pubescent with spreading hairs when young, eventually more or less glabrous, 4,5 - 5 cm long.

Notes: *Henckelia kjellbergii* is altogether a less robust species than *H. crinita* and differs in its smaller leaves and flowers, the leaves tend to be separated by distinct internodes and only the few uppermost are clustered at the top of the stem. Both KJELLBERG (4048) and HENNIPMAN (6153) record this species as growing in a limestone habitat, which is unusual as *Henckelia* is very consistent in its avoidance of limestone. There is a species bearing the epithet *calcareae* because it had been recorded by the collectors as growing on limestone on Gunung Sitong in Kelantan; however, the locality was visited subsequently by C. F. SYMINGTON and he reported that this species grew only on a quartzite outcrop. If, therefore, it can be confirmed that *H. kjellbergii* really does grow on the limestone, and not just in a limestone area, it will be the first such record for the genus.

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*H. crinitam* (Jack)  
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The specimens quoted below show distinct variation, but there are so few of them that it would be foolish at this stage to try to make any taxonomic distinctions between them. The type specimen has small leaves with serrulate margins, whereas at the other end of the range HENNIPMAN 6153 has the largest leaves (up to 12 x 1,8 cm) with the sharpest serrations and the most acute leaf-tip.

Specimens: Sulawesi: Type (see above). - E.: Kendari distr., Poehara, 50 m, tiefe Schluchten, Blume dunkelblau, 7. III. 1929, KJELLBERG 730 (S). - S. W.: Tobjamboe [2°56 S. 120°6 E.], 800 m, Regenwald (Schatten), Blume violett, 3. VII. 1929, KJELLBERG 1882 (S). - Central: Preho, [N part of Mengkoka Mts], 600 m, Regenwald, Kalk, Blume blauviolett, X. 1929, KJELLBERG 4048 (S). - S.: Balo-Balo Mts., Awoi Toro, near Wasaponda (between Soroaka and Malili), 800 - 1000 m, limestone massif, primary forest, rich in *Asteronia*, herb on steep slopes near rivulet, flowers bright blue, 10. VII. 1979, HENNIPMAN 6153 (E ex L). - Irian Jaya. Wissel Lakes region, Jave R., Prauwen camp, summit beyond Carup Paniai, 20. III. 1939, EYMA 4750 (K, US, both ex BO).

#### Discussion

The generic distribution hitherto recorded for *Beccarinda* has been N. E. India, N. Burma, S. China (incl. Hainan) and N. Vietnam. The new species described from S. Sumatra creates a disjunction in the range of the genus of nearly 3000 km. It is surprising to find that this large disjunction is not accompanied by more than trivial specific differences. *Beccarinda sumatrana* is a completely typical member of this genus, which is an assemblage of 8 - 10 closely related species; it is compared only with *B. erythrotricha* W. T. Wang in the diagnosis because these two species share the feature of a cuneate base to the leaf-blade, the remainder have blades that are rounded or cordate at the base.

If one speculates on the reasons for this wide disjunction, it is not necessary to think of spread down (or up) the least broken land corridor, through the Malay Peninsula and Thailand. Directly between S. Sumatra and Vietnam lies the shallow southeastern basin of the South China Sea, not long ago part of Sundaland. Discoveries on the Natuna Islands are still possible: *B. sumatrana* was found at 1400 m and the peak of Great Natuna goes to over 1100 m.

*Henckelia* (the generic name that must now be used for most of the Malesian plants hitherto placed in *Didymocarpus*, see WEBER & BURTT 1998) might be thought, from published records, to have its easterly range cut off abruptly in Borneo. It is true that the literature yields

ion, but there are so to try to make any specimen has smaller end of the range (8 cm) with the shar-

- E.: Kendari distr., 7. III. 1929, KJELLBERG, 800 m, Regenwald 1882 (S). - Central: Kalk, Blume blaulo Mts., Awoi Toro, 1000 m, limestone steep slopes near rivulet (E ex L). - Irian mp, summit beyond (x BO).

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*Didymocarpus brownii* Koord. from N. Sulawesi, but that plant was wrongly placed and has since been transferred to *Dichrotrichum* (BURTT 1962), a genus that has itself now been reduced to a synonym of *Agalmomya* (BURTT 1968). There is, however, a true species of *Henckelia* sect. *Heteroboaea* on Sulawesi; it was collected several times by the Swedish botanist Dr. G. KJELLBERG, after whom it is now named. The same species, or one very closely allied, is represented in herbaria by a single specimen (EYMA 4750, K, US) from the Wissel Lakes area of Irian Jaya, some 2000 km further east. The genus has not yet been found on the islands of Buru or Seram, where linking stations seem most probable.

A few other recently reported extensions of range may be mentioned. *Stauranthera* Benth. was not known further east than Borneo and the Philippines until *S. novoguineensis*, from W. Sepik province of Papua New Guinea was described (BURTT 1984).

A more modest extension will shortly be recorded for *Brookea* Benth., a shrubby genus of Scrophulariaceae until now regarded as endemic to Borneo, where there are three species. There are two distinct species to be described from Sulawesi.

It is interesting that these extensions to *Henckelia*, *Stauranthera* and *Brookea* all cross Wallace's Line which runs down the Macassar Strait between Borneo and Sulawesi, suggesting that it may be less important as a geographical division for plants than for animals.

Turning from these easterly extensions of range to the southern one recorded for *Beccarinda*, this is paralleled by the reference above (KIEW & al. 1998) to an undescribed species in N. Vietnam belonging to the genus *Spelaeanthus*, erected for plants from Pahang and Kelantan on the Malay Peninsula.

Records of extensions of range across the borders of S. China are, and will surely continue to be, frequent as the division is in no way a biological one, and any claim that a genus on one side of the border or the other is endemic there is likely to prove rather temporary. Thus the extension of *Cyrtandromoea* Zoll. (Scrophulariaceae) from N. Burma to Yunnan (TAO & al., 1995) causes little surprise, although it is given added interest because it involves not only a minor border transgression of *C. grandiflora* C. B. Clarke in the south of the province, but a new species, *C. pterocaulis*, in N. W. Yunnan.

A more general extension of the range of *Aeschynanthus* sect. *Microtrichium* has been gradually recognized. Distribution of sections within this wide ranging genus have scarcely been mentioned in the literature. The sections themselves may need some revision, but sect. *Microtrichium*, established by CLARKE (1883) for a single species from the Arfak



mountains of northwesternmost New Guinea is now known to include most, if not all, of the numerous species from that island and to extend eastwards through the Solomon Islands to provide the eastern limit of the generic range on San Christobal. Westwards the section is found through Malesia and Thailand and reaches its NW limit in Yunnan, where it is represented at least by *A. buxifolius* Hemsl. The coverage of sect. *Microtrichium* thus falls not far short of that of the whole genus.

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Address of the author:

B. L. BURTT

Royal Botanic Garden  
Edinburgh EH3 5LR  
Scotland, U.K.