

Valid publication of *Boesenbergia aurantiaca* (Zingiberaceae)

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ABSTRACT. The reason why *Boesenbergia aurantiaca* was invalidly published is given and the name is validated here.

Keywords. Borneo, Danum Valley, gingers, Sabah, type specimen

Introduction

In 1985, during construction of the Danum Valley Field Centre in Sabah, G.C.G. Argent and J.A. Ratter of the Royal Botanic Garden Edinburgh visited the area and made collections of herbarium specimens and living material for cultivation in Edinburgh. Among the living collections were two Zingiberaceae which were registered in the RBGE Garden Accessions book for 1985 on 15th May, when they were given accession numbers 19850843 and 19850847. The Garden Accessions book records that this was plant material collected by Argent and Ratter during March 1985. Accession number 19850843 is still growing in Edinburgh while 19850847 is assumed to have died. Among the dried herbarium specimens, which were collected under the Sandakan herbarium collection number series, was *Argent, Ratter, Leopold, Dongop & Kumin SAN 108235*, collected on 25 February 1985.

Boesenbergia aurantiaca R.M.Sm. was one of a number of new species published by R.M. Smith in her review of the Zingiberaceae of Borneo (Smith 1987). It appeared in the Notes from the Royal Botanic Garden Edinburgh 44(2): 226 (1987), and was diagnosed and described in Latin. The type collection is cited as follows, “Type: Sabah, Danum Valley, 100–250 m, mixed dipterocarp forest, in deep shade, iv 1985, *Argent & Ratter San 108235*, cult. RBG Edinb., viii 1985 (holo. E).”

In the herbarium at E, there are two herbarium sheets and a spirit collection which are relevant to the protologue of *Boesenbergia aurantiaca*. *Argent et al. SAN 108235* consists of a leafy shoot with an inflorescence and, in a capsule attached to the sheet, a fragment of leaf. The label shows differences in the collectors' names, the date of collection, and the altitude from those cited in the protologue. This sheet bears the barcode number e00389050. There is a duplicate of this collection at SAN.

The other sheet consists of a leafy shoot with an inflorescence and a flower, and bears the barcode number e00149734. The collector is not recorded but is likely to have

been R.M. Smith. There is no collection number but there is a reference to the living accession from which it was made, 19850847. In the capsule attached to the sheet are a smaller capsule marked, “*Boesenbergia* (Danum Valley plant)”, which contains dried, dissected parts of a flower, and a sheet of card with two flower dissections glued to it. The dissection at the left is marked, “wild coll.” while that on the right is marked, “cult. plant”; the bottom of the card is marked, “Argent & Ratter SAN 108235”. This sheet is a mixed collection consisting of parts from the living collection at RBGE and a part from the wild collection *Argent et al. SAN 108235*.

The label on this sheet records the following:

Observations in cultivation

Orange flowers. Cultivated plant has corolla tube c.4 cm long; wild collection shows tubes of up to 7 cm. Leaves dark green with a yellowish ‘cloud’.

Details of original collection

Sabah, Danum Valley, 100–250 m, mixed dipterocarp forest in deep shade, April 1985, *Argent & Ratter San 108235* (material in spirit coll.)

RBGE No. 850847.

RBGE number 850847 is the accession number, now always given in full as 19850847. The database of the living collection at E records this accession as having been collected by *G.Argent & J.Ratter s.n.*, 15 March 1985 but, as stated in the introduction above, the Garden Accessions book gave the date simply as March 1985. When the Garden Accessions books were digitised, the database may have created the date 15th March 1985 automatically (R. Cubey pers. comm.). Argent’s field book indicates that he and Ratter were already in the Danum Valley on 25 February and stayed there until 14 March 1985 (G.C.G. Argent pers. comm.) so Smith’s record of the original collecting date as April 1985 on the holotype is a mistake. Living accession 19850847 was alive in 1992 but could not be located in November 1998 and has not been seen since; it is assumed dead.

The spirit material is stored in a 500 ml jar with barcode number e00389005. It is important to know whether this material was collected in the Danum Valley, along with the wild collected herbarium material, or from one of the living accessions at the Royal Botanic Garden Edinburgh. The fact that the spirit bottle contains an original collecting tag from the Sandakan herbarium indicates clearly that the spirit material was collected in the wild (G.C.G. Argent pers. comm.) The herbarium sheet and the spirit material are not labelled as being parts of one specimen, however, so they must be treated as duplicates (McNeill et al. 2006, Art. 8.3).

Smith (1987) regarded the cultivated specimen collected in August 1985 as the holotype, indicated by the word “holotype” in red crayon in Smith’s hand on the sheet. As this sheet is a mixed collection, with parts from two gatherings, however, the name *Boesenbergia aurantiaca* was not validly published. The evidence available now indicates that Smith based her description mainly on the plant cultivated at Edinburgh, with supplementary notes from the spirit collection, *Argent & Ratter SAN 108235* (E). There is no evidence one way or the other that she studied the herbarium sheet of *Argent & Ratter SAN 108235* (E). Thus, the name can be validly published here, as follows:

Boesenbergia aurantiaca R.M.Sm., **sp. nov.**, floribus aurantiacis et habitu caespitoso *B. ornatae* similis sed foliis fusco-viridibus et pallide luteo-viridibus et ligula multo brevior distincta. R.M. Smith (in Notes Roy. Bot. Gard. Edinburgh 44: 226–227, t. 4. 1987).

TYPUS: *Anon. (R.M. Smith?) s.n.*, barcode no. e00149734, excluding dissected flower of *Argent, Ratter, Leopold, Dongop & Kumin SAN 108235* in capsule, RBGE living collection, Aug 1985, taken from a living plant originally collected in Malaysia, Sabah, Lahad Datu District, Ulu Sg. Segama, Danum Valley Research Centre and grown at RBGE under accession number 19850847 (holo E).

Erect herb. Leafy shoots caespitose, leaves 4–5. Leaves with petioles 2–8 cm long; lamina 5–12 × 3–5 cm, elliptic, apex shortly acuminate, glabrous, tawny green, brightly greenish yellowish variegated along the midrib; ligule 3–5 mm long, bilobed; sheaths glabrous. Inflorescence terminal on the leafy shoot, more or less sessile, many-flowered; bracts distichous, to 5 × 0.5 cm, cymbiform, glabrous, single-flowered; bracteoles smaller than the bracts; flowers orange; calyx 5–6 mm long, 2–3-lobed; corolla tube to 7 cm long (shorter in cultivated plants), lobes 1.5–1.8 cm long, the dorsal one broader; labellum c. 2 × 2 cm, saccate, more or less entire; lateral staminodes 1.3–1.5 × 0.4–0.6 cm, spatulate. Stamen to 1.5 cm long; filament c. 1 cm long; anther thecae c. 0.5 cm, parallel, dehiscing by slits, connective prolonged into a 1 mm long crest; style glabrous; stigma glabrous. Epigynous glands 2–3 mm long, linear. Ovary 2–3 mm, trilocular with axile placentation. Capsule unknown.

Other specimens seen: MALAYSIA. **Sabah.** Lahad Datu District, Ulu Sg. Segama, Danum Valley Research Centre, 25 Feb 1985, *Argent, Ratter, Leopold, Dongop & Kumin SAN 108235* (E, including spirit collection, SAN); *ibid.*, East trail E1, damp dipterocarp forest, 13 Oct 1985, *Still SAN 112115* (E).

Ecology. Deep shade in lowland mixed dipterocarp forest, at 100–400 m alt.

Notes: Two herbarium specimens have been made from the surviving RBGE living accession, number 19850843, namely *Ngamriabsakul 29* (E) and *Newman & Škorničková 1471* (E). Images of all Zingiberaceae specimens housed at E may be seen at the herbarium database of the RBGE, <http://elmer.rbge.org.uk/bgbase/vherb/bgbasevherb.php>. Smith's Latin description of this species has not been translated into English. Since Latin is less widely read than formerly, a translation into English is given (above).

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References

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