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TWO NEW SPECIES OF BEGONIA (BEGONIACEAE) FROM BUKIT TIGAPULUH NATIONAL PARK, RIAU, SUMATRA

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ABSTRACT

GIRMANSYAH, D. 2012. Two new species of *Begonia* (*Begoniaceae*) from Bukit Tigapuluh National Park, Sumatra, Indonesia. *Reinwardtia* 13(3): 229–233. — Two new species of *Begonia* (*Begoniaceae*) from Bukit Tigapuluh National Park, Sumatra, Indonesia are described. Those are *Begonia triginticollium* Girm. belongs to *Begonia* section *Bracteibegonia* and *Begonia dolichocarpa* Girm. belongs to *Begonia* section *Petermannia*.

Key words: *Begonia*, Bukit Tigapuluh, Sumatra.

ABSTRAK

GIRMANSYAH, D. 2012. Dua jenis baru *Begonia* (*Begoniaceae*) dari Taman Nasional Bukit Tigapuluh, Sumatera, Indonesia. *Reinwardtia* 13(3): 229–233. — Telah dipertelakan dua jenis baru *Begonia* (*Begoniaceae*) dari Taman Nasional Bukit Tigapuluh, Sumatera, Indonesia. Kedua jenis tersebut adalah *Begonia triginticollium* Girm. termasuk ke dalam seksi *Bracteibegonia* dan *Begonia dolichocarpa* Girm. termasuk ke dalam seksi *Petermannia*.

Kata kunci: *Begonia*, Bukit Tigapuluh, Sumatera.

INTRODUCTION

The species-rich genus *Begonia* is widely distributed in the tropical and subtropical regions of the world; currently 19 sections and approximately 521 species of *Begonia* are recognized from South-east Asia (Doorenbos *et al.*, 1998; Hughes, 2008). The extensive montane forests of Sumatra harbour 52 known species representing 7 sections of the genus (Tebbutt, 2005; Hughes, 2008; Hughes *et al.*, 2009) with many taxa still to be described (Sands, 2001). Most of the montane forest habitat suitable for *Begonia* in Sumatra is found at the Barisan mountain range which forms the spine of the island, running behind the southeastern coast. There is also an isolated complex of rather steep ridges and valleys in the otherwise quite flat Jambi province, reaching up to 830 m above sea level, known as Bukit Tigapuluh ('Thirty Hills'). This area has been declared as National Park and is of vital conservation importance regarding the large mammals of Sumatra, such as tiger, elephant and orangutan (Widyatmoko & Zich, 1998). The two plant species we described here are endemic to this park, thus highlighted its conservation importance in botanical terms.

Begonia triginticollium Girm., *sp. nov.* – Fig. 1

A *Begonia* verecunda tepalorum marginibus serratis, floribus masculis 3- (non 4-) tepalis et petiolis longioribus differt. – Typus: Sumatra, Riau Province,

Bukit Tigapuluh National Park, 31-07-2006, Deden 800 (holo BO).

Creeping herb 5–10 cm tall. *Stem* repent with upright portions, rooting at the nodes, reddish brown, succulent, unbranched, slender, densely covered by red hair, internodes 2–3 cm apart; without a tuber. *Stipule* greenish, with scattered hair on the veins, not keeled, ovate to narrowly triangular, 5–8 × 3–4 mm, margin fringed with glandular hairs, tip pointed, persistent. *Leaves* distant; petiole reddish brown, hairy, 1–3 cm long; lamina slightly oblique, 3.5–8 × 1.5–3.5 cm, dark green above, yellowish green beneath with red hairs along veins, base rounded on the broader side, acute on the other side, margin sparsely minutely toothed, tip acute; venation palmate pinnate, 1 pair of veins at the base and 2–3 alternate veins along the midrib. *Inflorescences* terminal, monochasial cyme, peduncles brownish green, hairy, erect, shorter than the leaves; few flowered, male flowers 1–2, female flowers 2, protogynous. *Bracts* in pairs, sparsely hairy, margin fringed with short glandular hairs, pale green, oblong, 11–12 × 4–6 mm, persistent. *Male flowers* with a white pedicel 1–1.2 cm long; tepals 3, white with a pink margin toward the tip, glabrous, margin slightly serrate with thin teeth each tipped by hair, tip rounded, outer two rotundate, 1.2–1.3 × 1.1 cm, inner one narrowly elliptic, 0.9 × 0.4 cm; androecium an obovoid cluster, *ca.* 4 mm across; stamens *ca.* 28; filaments

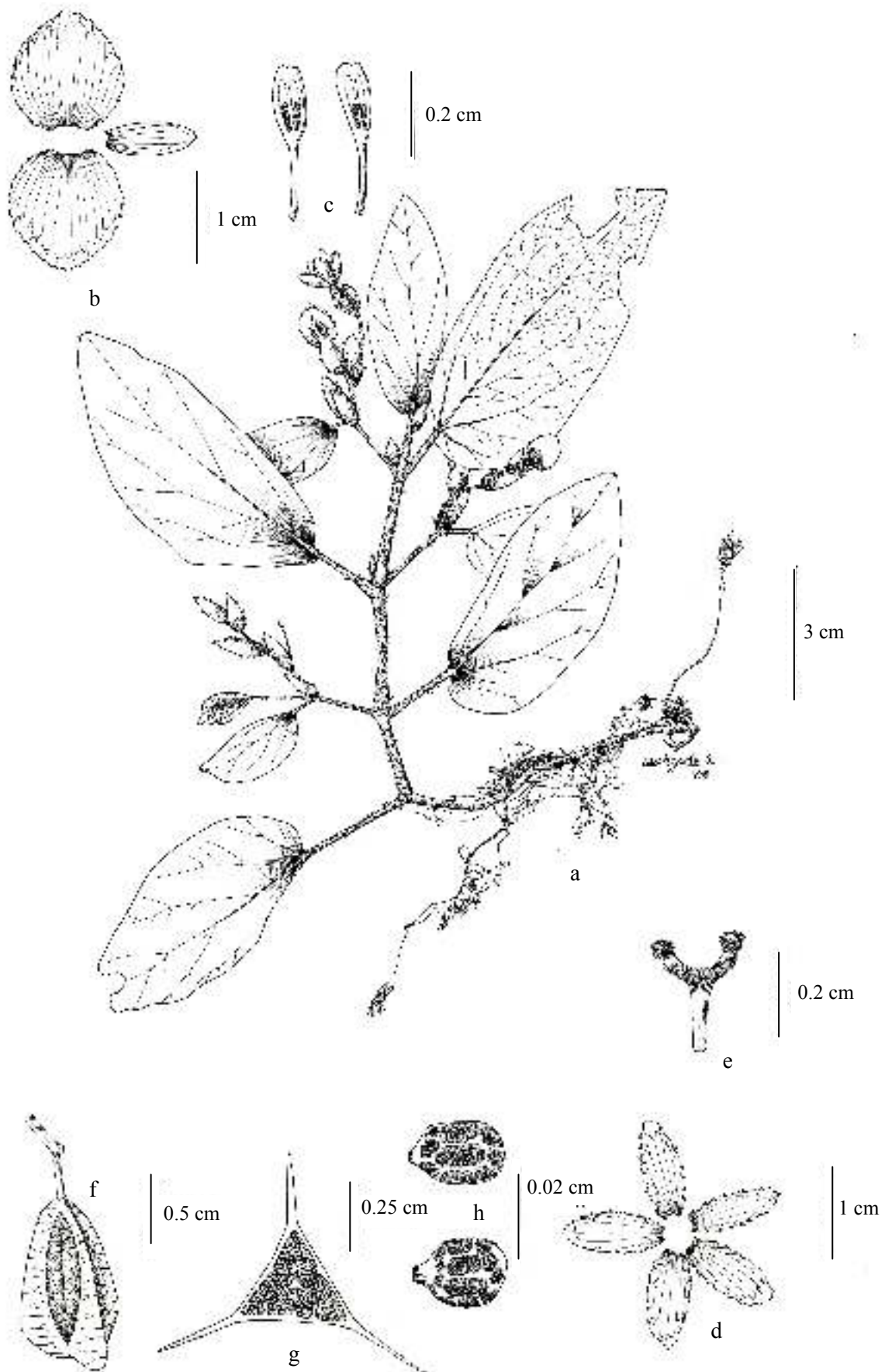


Fig. 1. *Begonia triginticollium* Girm. a. Habit; b. Male flower; c. Stamens; d. Female flower; e. Style; f. Fruit; g. Fruit in cross-section; h. Seeds. (Based on type specimen, *Deden 800*). Drawn by Wahyudi Santoso (BO).

free, 1–2 mm; anthers golden yellow, narrowly obovate, *ca.* 1 mm long, tip slightly notched, opening by slits as long as the length of the anther, on one face of the anther. *Female flowers* with a reddish pedicel *ca.* 3 mm long; ovary reddish green, hairy, 1.3–0.7 × 0.5–0.9 cm, wings 3, equal, *ca.* 3 mm wide, locules 3, placentas 2 per locule; tepals 5, white with pink along the margin, with hairs, margin serrate toward the tip, tip pointed, outermost 10–9 × 4–5 mm, innermost narrowly elliptic, slightly smaller *ca.* 9 × 3 mm; styles 3, styles and stigmas pale yellow, *ca.* 0.4 cm long, Y-shaped, stigmas spiral. Fruit with a reddish-green hairy pedicel, 0.4–0.5 cm long, capsule obconical, 1.1–1.2 × 0.5–1 cm, sparsely hairy, locules 3, wings 3 equal, thinly fibrous, 2–3 mm wide, splitting between the locules and wings. Seeds barrel-shaped, 0.3–0.32 × 0.2–0.25 mm long, collar cells a quarter of the seed length.

Distribution. Bukit Tigapuluh National Park, Rengat, Riau Province, Sumatra.

Habitat & Ecology. Lowland rain forest at *ca.* 100 m altitude. Terrestrial along the banks of streams, in wet and shaded areas.

Etymology. The epithet is derived from the Latin for ‘Thirty Hills’, which is the meaning of the Indonesian name ‘Bukit Tigapuluh’.

Notes. Known only from the type locality, it is a rare and obviously endemic *Begonia* being known from a scattered small population along a river bank. It mostly resembles *Begonia verecunda* but it is different in having creeping stems, tepals with toothed margins and three male flower tepals, and oblong fruits. This species has very attractive female flowers with a light red colour along the margin of tepals. It has ornamental potential, especially for indoor use.

Specimens examined. Sumatra, West of Talanglakat on Rengat to Jambi Road, Bukit Karampal area, 04-10-1988, *J.S. Burley et al.* 1146.

Begonia dolichocarpa Girm., *sp. nov.* – Fig. 2

A *Begonia padangensis* omnino glaberrima et fructibus axillaribus solitariis magis elongatis recedit – Typus: Sumatra, Riau Province, Bukit Tigapuluh National Park, 30-07-2006, *Deden 793* (holo BO; iso E, ANDA).

Erect *herb* to *ca.* 100 cm tall. *Stem* erect, rhizomatous at the base, reddish brown and pale green at the nodes, succulent, little branched, terete, glabrous,

internodes in the erect stem 2–15 cm apart, without a tuber. *Stipules* reddish green, ovate to narrowly triangular, glabrous, *ca.* 1.4 × 0.3 cm, tip pointed, caducous. *Leaves* distant; petiole reddish brown to dark red, 1–2 cm long; lamina elliptic to oblong, dark green above, pale green to dark red beneath, base rounded on the broader side, acute on the other side, margin sparsely minutely toothed, apex acuminate, 5–11 × 11–15 cm; venation palmate pinnate, 1 pair of veins at the base and 2–3 pairs along the midrib. *Inflorescences* of male and female axillary, male inflorescence cymose, erect, shorter than the leaves, peduncles reddish, glabrous, male flowers many, female flower solitary, axillary, ovary and tepal unknown. *Male flowers* with a white pedicel 0.5–0.7 cm long; tepals 2, white, greenish near the apex, glabrous, margin serrate, tip acute to acuminate, 0.8–0.9 × 0.4–0.5 cm; androecium with 20 stamens, cluster connate, yellow, filaments 0.1–0.3 cm; anthers golden yellow, broadly triangular to narrowly obovate, 0.3–0.4 mm long, tip slightly notched, opening by slits the full length of the anther, slits unifacial. *Female flowers* unknown. *Fruit* with pedicel 1.5 cm long, capsular, green when young, becoming brown when ripe, conical, *ca.* 4 × 0.5 cm locular part without wings and the total fruit *ca.* 4 × 2 cm including the wings. *Seeds* barrel-shaped, 0.3–0.32 × 0.2–0.25 mm long, collar cells a quarter of the seed length.

Distribution. Bukit Tigapuluh National Park, Rengat, Riau Province, Sumatra.

Habitat and Ecology. Growing in wet areas along small stream margins and river banks 100–1300 m altitude. Found only from the type locality.

Etymology. From the Greek *dolicho*, meaning long; referring to the long fruit.

Notes. This is a very distinct lowland forest *Begonia* species bearing single large fruits. The fruits are similar in size to those of *Begonia atricha* but differ in the shape of capsule and length of the pedicel; *B. atricha* has longer pedicel and pendant bell-shaped fruit, whilst *B. dolichocarpa* has a more straight-sided fruit with a shorter, stouter pedicel. In habit, this species resembles *Begonia isoptera* in Java and *B. padangensis* in Sumatra, and can be distinguished from both by its larger solitary fruits up to 5 cm long. This species is also endemic to Bukit Tigapuluh National Park. It is very local *Begonia* being known from scattered individuals along the small stream margin and river bank. The female flowers remain unknown.

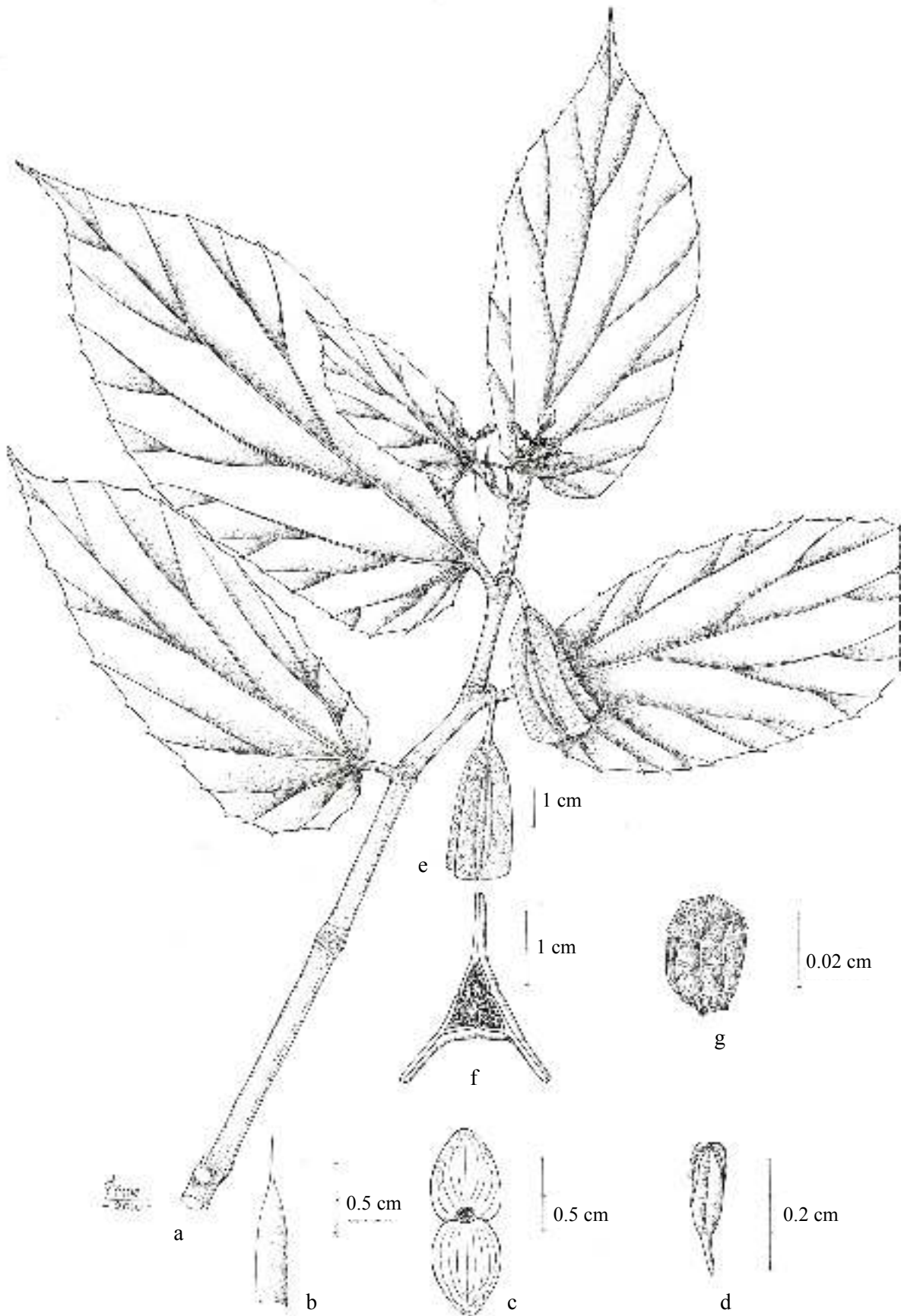


Fig. 2. *Begonia dolichocarpa* Girm. a. Habit; b. Stipule; c. Male flower; d. Stamen; e. Fruit; f. Fruit in cross-section; g. Seed. (Based on type specimen, Deden 793). Drawn by Anne Kusumawaty (BO).

Specimen examined. Sumatra, West of Talanglakat on Rengat to Jambi Road, Bukit Karampal area, 02-12-1988, *J.S. Burley et al. 1796*.

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ERRATUM**REINWARDTIA Vol. 13, Part 2, 2010**

1. Please change the existing word in p. 213, LINE 7 on ABSTRAK (written in Bahasa Indonesia version) with the following:

Keberadaan dua jenis terakhir melampaui distribusi yang sebelumnya hanya diketahui di **barat** garis Wallace.

2. Please change the existing epithet name in p, 214, COLUMN 1, LINE 40 on Key to the species of *Marantaceae* in Sulawesi number 5.a. after *Phrynium*:

.....*longispicum*

INSTRUCTION TO AUTHORS

Reinwardtia is a scientific journal on plant taxonomy, plant ecology, and ethnobotany. Manuscript intended for a publication should be written in English represent an article which has not been published in any other journal or proceedings. Every manuscript will be sent to two blind reviewers.

Two printed copies (on A4 paper) of the manuscript of not more than 200 pages together with an electronic copy prepared on Word Processor computer program using Time New Romance letter type and saved in Rich Text File must be submitted.

For the style of presentation, authors should follow the latest issue of *Reinwardtia* very closely. Title of the article should be followed by authors name and mailing address in one-paragraphed English abstract of not more than 250 words. Keywords should be given below each abstract. On a separated paper, author(s) should send the preferred running title of the article submitted.

Taxonomic identification key should be prepared using the aligned couplet type.

Strict adherence to the International Code of Botanical Nomenclature is observed, so that taxonomic and nomenclatural novelties should be clearly shown. Latin description for new taxon proposed should be provided and the herbaria where the type specimens area deposited should be presented in the long form that is name of taxon, authors name, year of publication, abbreviated journal or book title, volume, number and page.

Map, line drawing illustration, or photograph preferably should be prepared in landscape presentation to occupy two columns. Illustration must be submitted as original art accompanying, but separated from the manuscript. On electronic copy, the illustration should be saved in jpg or gif format at least 350 pixels. Legends or illustration must be submitted separately at the end of the manuscript.

Bibliography, list of literature cited or references follow the Harvard system.

W.J.J.O. DE WILDE & BRIGITTA E.E. DUYFJES. <i>Trichosanthes</i> (<i>Cucurbitaceae</i>) in Malesia: additions and corrections, including a new species and a new variety.....	221
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