

Taxonomic identity and Lectotypification of *Colocasia mannii* (Araceae), a little known species from Northeast India

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पूर्वोत्तर भारत से अल्पज्ञात कोलोकैसिया मन्नाई (ऐरेसी) जाति की वर्गिकी पहचान एवं लैक्टोटाइपिफिकेशन

राजीव गोगोई, सौरभज्योति बोरा एवं जतिन्द्र शर्मा

सारांश

प्रस्तुत शोध पत्र में भारत के पूर्वोत्तर हिमालय क्षेत्र से प्रलेखित की गई अल्पज्ञात जाति कोलोकैसिया मन्नाई की वर्गिकी पहचान एवं पुनःअन्वेषण की जानकारी दी गई है। इस जाति का अद्यतन वर्णन, रेखांकन एवं लोकव्यवहारिक उपयोग से सम्बन्धित जानकारी को भी दिया गया है। इस जाति के नाम कोलोकैसिया मन्नाई का लैक्टोटाइपिफिकेशन भी किया गया है।

ABSTRACT

Taxonomic identity and rediscovery of *Colocasia mannii* Hook.f., a little-known species from the Eastern Himalaya, India are discussed in the paper. The updated description of the species along with illustration and its ethnobotanical uses is also provided. The name *C. mannii* is also lectotypified here.

Keywords: Assam, *Colocasia mannii*, Eastern Himalayas, lectotypification, Ethnobotany

INTRODUCTION

Colocasia mannii Hook.f. was described by Hooker (1893) based on a collection of ‘Gustav Mann’, the then Conservator of Forests of Assam, from Makum, a place presently situated in Tinsukia district, Assam, India. The specific epithet ‘mannii’ was given in honour of the collector Gustav Mann. The species was collected by two of the authors (RG & SB) during 2012, but wrongly reported as *C. lihengiae* C. L. Long & K. M. Liu due to

misidentification (Gogoi and Borah, 2013). Subsequently, the species was collected by the third author (JS) from Upper Dehing Reserve Forest, Tinsukia district, Assam during 2013. Scrutiny of literature revealed that, only two representative specimens of *Colocasia mannii* are available at K without a collection number and no further information are available about its present status. The species was never been recollected or mentioned in any of the literature since its type collections almost a century ago. On comparing with the original materials

(K000499476, image!, K000499475, image!) of *C. mannii*, it was revealed that, plant materials collected by JS and the one reported as *C. lihengiae* by Gogoi & Borah (2013) are identical and belongs to same species. Interestingly both the collections are falling within the type locality of *C. mannii* Hook.f. The present communication deals with the updated description with a coloured illustration, traditional uses. A comparative morphological character with its allied species *C. boyceana* Gogoi & Borah have been provided in a tabular form. A lectotype is also designated here for the name *C. mannii*.

TAXONOMIC DESCRIPTION

Colocasia mannii Hook.f., Fl. Brit. India 6: 524. 1893.

Lectotype (designated here):- **India:** Upper Assam, Makum, December 1887, *Gustav Mann s.n.* (K000499475, image!; isoelectotype: K000499476, image!).

Colocasia lihengiae sensu Gogoi & Borah, Gard. Bull. Singapore 65(1): 33. 2013, *non* C. L. Long & K. M. Liu 2001.

Herb, medium-sized, stoloniferous, growing in small clusters. Corms sub-globose, not massive, erect, c. 3 cm in diam.; tubercles absent, stolons 6-12, each 70-80 cm long. Leaves 3-6; petioles 0.3-1.2 m long, glabrous, green with purple reticulation; blade peltate, sagittate-cordate, 20-40 × 10-25 cm, leathery, dark green above, light green beneath, shining; lateral veins 4-6 pairs, green. Inflorescences 5 (or 6); peduncles green with purple reticulation, cylindric, shorter than petioles, 0.4-0.45 m long, 7-8 mm across; spathes constricted between tube

and limb; tube elliptic, sub-cylindric, 2.5-6.5 × 1.6-2 cm, green; limb erect, ovate, acuminate at apex, 11-17.8 × to 4 cm, golden yellow. Spadix sessile, shorter than spathe, 3.81-10.16 cm long; female zone cylindric, 2.5-2.8 × 1-1.3 cm, green, 1/3rd of the spadix, with inter-pistillar staminodes, yellow; ovary oblong, 2-2.5 × c. 2 mm, green, 1-loculed, placentae 2; stigma sessile, 3-lobed, disciform, white; staminodes yellow; sterile zone cylindric, 1-3 cm × 0.4-1 cm, yellow; male zone 3.8-4 × 0.7-0.8 cm, yellow; synandria 3-10-androus, polygonal, creamy, without hairs; appendix absent. Infructescence elliptic, 5-7 × 2-2.5 cm, green. Berries ovoid, 3-4 mm diam., green when young; seeds many.

Distribution:- India: Arunachal Pradesh: On way to Parasuram Kunda from Chowkham in Lohit district. Assam: Karbi Anglong, Nagaon, Sonitpur, Golaghat, Dibrugarh districts; Endemic.

Specimens examined:- India, Arunachal Pradesh, between Wakro and Parasuram Kund, 250 m, 5 Sept. 2012, Gogoi & Borah 21814 (ARUN); Assam, Tinsukia district, Digboi Forest Division, Upper Dehing Reserve Forest, Tingrai area, Compartment - East Block, J. Sarma 301, 316 (CAL).

Notes:- Gogoi & Borah (2012) have misidentified their earlier collection as *Colocasia lihengiae*. There is a probability that *C. lihengiae* is conspecific to *Colocasia mannii*. The species also probably grows sporadically in Karbi Anglong, Nagaon, Sonitpur, Golaghat and Dibrugarh districts Assam.

Typification: Hooker (1893) described *C. mannii* based on the collections by Gustav Mann and named in honour of the collector. The type locality as mentioned

Table 1. Comparison of Morphological characters between *C. mannii* and *C. boyceana*

Characters	<i>Colocasia mannii</i>	<i>C. boyceana</i>
Distribution ranges	Occurs up to 900 m	1200-1600 m
Habitat	Grows in lax or sporadically, leaves edible	Grows in gregarious patches, leaves not edible
Leaf blade	Thicker in texture, without any purple spot or purple line; margins green	Not thicker in texture, with conspicuous purple spot at the junction of the petiole and purple line from blade-sinus to dorsal junction of petiole; margin purple
Leaf base	Sagittate; sinus broadly acute	Cordate; sinus narrow
Leaf venation	Lateral and secondary veins not prominent	Lateral and secondary veins prominent.
Male flower zone	Male zone without hairs	Male zone with dense hairs
Female zone	Interpistillar staminodes obovoid and without a disc at apex, bigger than fertile pistil	Interpistillar staminodes are ovate and with a disc at apex
Ovary	Globose	Ovoid to oblongoid

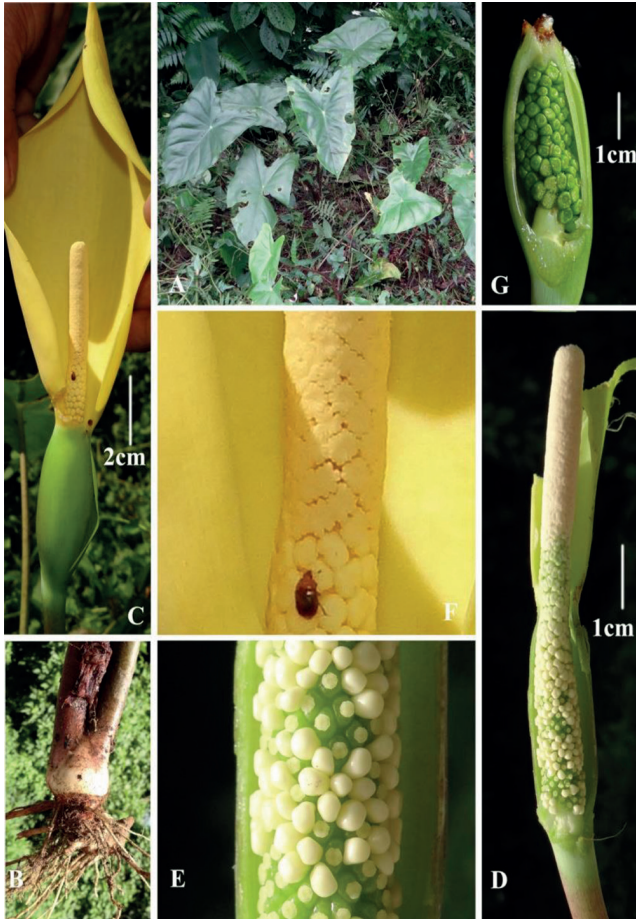


Fig. 1. Habit and reproductive parts of *Colocasia mannii* Hook.f. **A.** Habit of the plant. **B.** Corm. **C.** Inflorescence. **D.** View of a complete spadix. **E.** Portion of the female zone showing ovaries and interpistillar staminodes. **F.** Portion of the male zone showing synandria and possible pollinator. **G.** Infructescence with green berries.

in the protologue was “Upper Assam; at Makum, Mann” without citing any specimens. During the present study, two original materials of *Gustav Mann* s.n. (K000499475, K000499476) were traced at K. The specimen bearing the barcode, K000499475 clearly matches with the description of protologue and designated here as the lectotype in accordance with the Art. 9.3 of Shenzhen Code (Turland & al., 2018).

Traditional uses:- Traditionally the plant is called as *Teli Kacu* (Assamese). The tender stems, leaves and the inflorescence are usually consumed after cooking. *Colocasia mannii* is more preferred leafy vegetable than *C. esculenta*, as the former species does not irritate the throat after consumption. Several dishes of cuisines are prepared



Fig. 2. Lectotype of *Colocasia mannii* Hook.f. (*Gustav Mann* s.n.K000499475 <http://specimens.kew.org/herbarium/K000499475>); © The Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with the consent of the Royal Botanic Gardens, Kew.

after thoroughly boiling the stems; and preferable then mixing with other vegetables. The plant is also believed to reduce the high blood pressure and usually used by the workers of tea gardens of Tinsukia district. The plant is also believed to increase the haemoglobin content and used to cure anaemia especially by new mothers.

In West Karbi Anglong district, the plant is locally known as *arlok-henru* (*arlok*: meaning hills; *henru*, meaning shade).

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Fig. 3. Comparison of reproductive characters of *C. mannii* Hook.f. with its close ally *C. boyceana* Gogoi & Borah: *C. mannii* Hook.f. **A.** frontal view of leaf, **B.** View of the male and sterile zone, **C.** View of the female zone; *C. boyceana* Gogoi & Borah, **D.** frontal view of leaves, **E.** View of Male zone, sterile zone and parts of female zone, **F.** View of female zone.

image of the specimen of *C. mannii*. The authors are also thankful to the Forest Department, Assam and the Karbi Anglong Autonomous Council Authority for permitting to undertaken survey in different parts of the districts. The first author thanks Dr. A. A. Mao, Director, Botanical Survey of India, Kolkata, Dr. V. P. Prasad, Scientist 'E' & Head of Office, Central National Herbarium (CAL), BSI, Howrah, for encouragements. Second author is thankful to Head, Department of Botany, Gauhati University for logistics and support.

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Fig. 4. Ethnobotanical uses of *C. mannii*. **A.** Plants in natural habitat, **B.** Tender leaves are collected for consumption, **C & D.** Different types of curry prepared from the parts of the plant.

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