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BIERMANNIA JAINIANA HEGDE ET NAGESWARA RAO — A NEW SPECIES OF ORCHID FROM ARUNACHAL PRADESH, INDIA

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The genus *Biermannia* King et Pantl. is so far known to consist of 4 species *viz. B. quinquicallosa* King et Pantl. from Jaintia Hills, *B. bimaculata* King et Pantl. from Sikkim, *B. ciliata* (Ridl.) Garay from Malaya and *B. decumbens* (Griff.) Tang & Wang ex Merill & Metcalf from Burma.

The genus is characterised by (1) a short stem bearing 3-8 fleshy leaves with few flowered racemes, (2) the erect column with foot placed at an angle, (3) saccate lip attached to the foot, parallel to the column, (4) two rounded pollinia attached to a spathulate caudicle with a small gland at base.

While collecting the orchids from the felled trees in forest coupe areas at Sessa under the programme of conservation of orchids, a few plants resembling the habit of *Phalaenopsis* were noticed. They were collected and introduced in the Orchid Sanctuary, Sessa. Upon flowering they were critically studied.

Interestingly, the specimen although resembled *Phalaenopsis* in gross morphological characters, produced flowers of intermediate characters of the genera *Phalaenopsis* and *Biermannia*. Further study revealed it to be a new taxon belonging to the genus *Biermannia* and is described in this paper as *B. jainiana* Hegde et Nageswara Rao.

Biermannia jainiana Hegde et Nageswara Rao, *sp. nov.* Affinis *B. quinquicallosa* King et Pantl. a qua tamen differt, (1) Magna planta, (2) Sepalis apiculatis, (3) Labellum concavum, truncatum et apiculatum ; disco ciliatis, (4) Pedes cum callis erectis.

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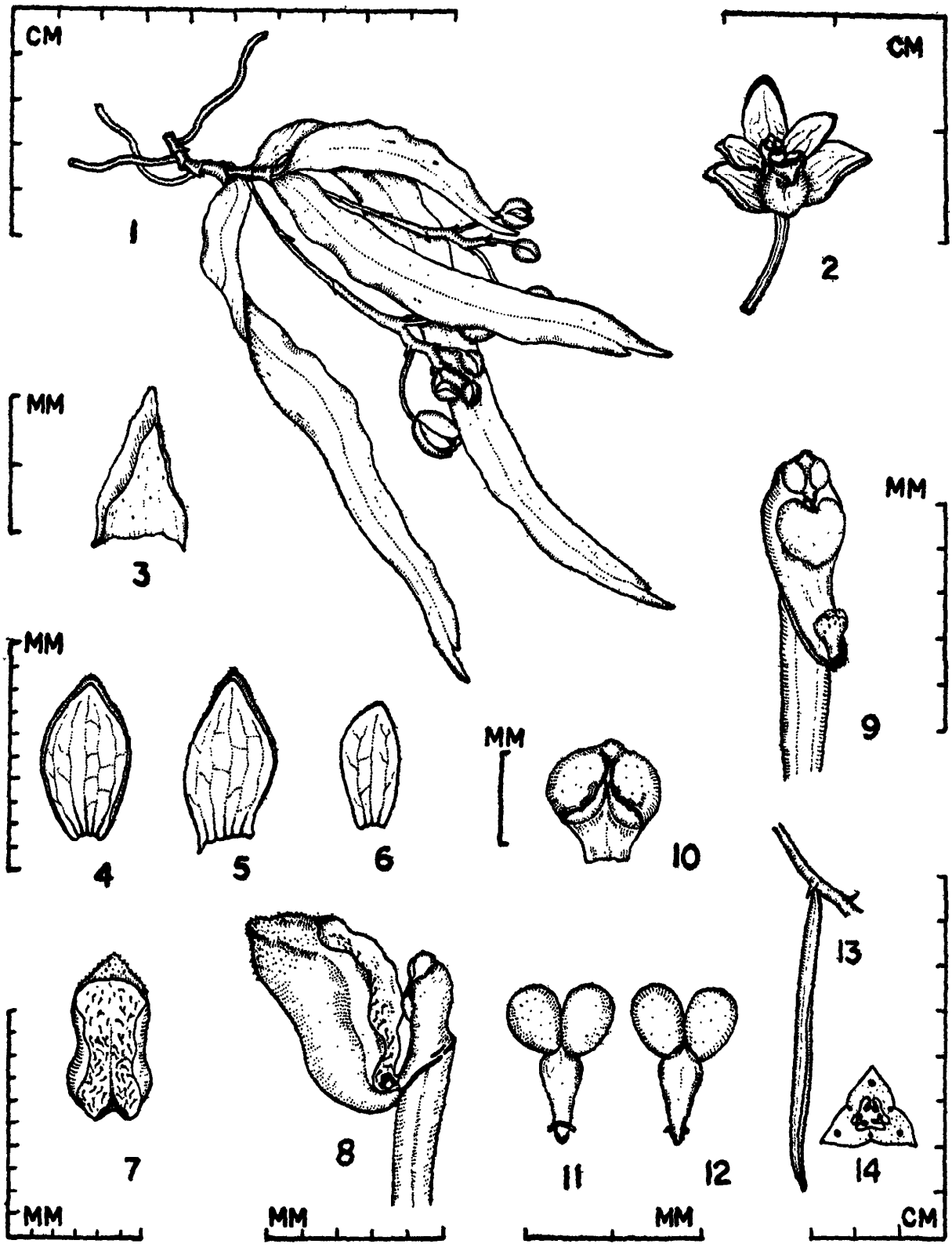
Holotypus Hegde 4192, 5.5.1982 (Orchid Herbarium, TIPI). *Paratypi Hegde* 4194, 11.5.82 (CAL) ; *Hegde* 4241, 19.5.82 (ASSAM) ; *Hegde* 4269, 4270, 4271, 4272, 19.5.82 (Orchid Herbarium, TIPI). Lecti ad locum Sessa, alt. *ca* 1100 m, West Kameng District, Arunachal Pradesh, India.

Nomen speciei in honorum clarissimi Dr. S. K. Jain, Director, Botanical Survey of India, Howrah, datum est.

Biermannia jainiana Hegde et Nageswara Rao *sp. nov.* (Figs. 1-14)

Rare pendulous epiphytes generally found in subtropical wet forest under the shady portions of tree trunks.

Roots many, 30-40 cm long, filiform, grey. *Stem* 4-7 cm long, decurved, with many dense roots and dried leaf bases in the lower half, leafy in the upper half. *Leaves* 6-17 × 1.2-2.5 cm, up to 8 in number, oblong-oblanceolate, acute. Unequally obliquely bilobed at apex, alternate, 3-7 mm apart, sheathing and twisted upwards at base, jointed, undulate at the outer margins and entire at the inner margins. Older ones drooping laterally and the younger held up horizontally, fleshy, flat, ensiform, subfalcate or not. *Inflorescence* 2-6 racemes, leaf opposed, 3-6 cm long, shorter and held beneath the leaves, 3 6-flowered, lax ; *rachis* club-shaped, terete, with 2 or 3 short sterile bracts at intervals of 1.0-1.5 cm, grooved at the axils. *Flowers* non-resupinate, restricted to the distal thickened portion of the rachis, not widely opening ; perianth lobes distinctly apiculate *ca* 1.5 cm across the lateral sepals and *ca* 0.9 cm across the lip and odd



Biermannia jainiana Hegde et Nageswara Rao, *sp. nov.*

Figs. 1-14 : 1. Plant. 2. Flower (slightly spread out). 3. Bract. 4. Odd sepal. 5. Lateral sepal. 6. Petal. 7. Lip. 8. Column, foot and lip. 9. Column, Note foot with an erect callus at tip. 10. Anther cap. 11 & 12. Pollinia front view and back view respectively. 13. Capsule. 14. T. S. of capsule. (Not to scale).

[Figs. 1-12 : Drawn after the *Holotype Hegde* 4192 ; figs. 13 & 14 : drawn after the *Paratype Hegde* 4270].

sepal, white, the basal 1 or 2 bloom much earlier than the terminal ones. *Bracts* 1.5-2.0 × 1-2 mm, much shorter than the ovary, broadly ovate, acute, keeled abaxially towards the apex. *Ovary* 1.0-1.5 cm long, 3-angled, narrowly winged along the ridges. *Sepals* 7-9 × 4.5-5.0 mm, elliptic-oblong or ovate-oblong, concave, 5-nerved. *Lateral petals* 5.5-7.0 × 3.0-3.5 mm, shorter and narrower than the sepals, elliptic-oblong, obtuse, concave, 3-nerved. *Lip* 5.5-7.0 × 3-4 mm, superior, immobile, parallel to the column, fleshy, entire, with narrow erect subundulate lateral margins, truncate and thickened at apex into a cubic apicule on the dorsal side, with sparse short papillae on the apicule ; *disc* concave, with many brownish ciliae within ; ciliae simple or unequally bilobed and glandular at the tip, dense at the base and sparse towards the apex of lip. *Column ca* 3.5 × 2.0 mm short, stout ; *foot ca* 3 mm long, running obliquely downwards, with a knob-like erect median callus at the tip ; callus sparsely gland dotted and purple tinged. *Anther* 2-celled ; anther cap broadly ovate, shortly beaked over the rostellum. *Pollinia* 2, ovoid, with a spathulate membranous caudicle and a small gland at the base. Rostellum simple, beaked over the stigmatic surface, slightly bent upwards. *Stigmatic surface* obcordate, excavate, opaque, with a median vertical line. *Capsule* 7-8 × 0.5 cm, sessile, linear-oblong, distinctly 3-angled, narrowly winged at the ridges, narrowed towards apex.

Flowering : May. *Fruiting* : June.

Distribution : INDIA : Arunachal Pradesh, West Kameng Dist., Sessa, alt. *ca* 1100 m, *Holotype Hegde* 4192, 5.5.1982 (Orchid Herbarium, TIPI) ; *Paratypes Hegde* 4194, 11.5.1982 (CAL) ; *Hegde* 4241, 19.5.1982 (ASSAM) ; *Hegde* 4269, 4270, 4271, 4272, 19.5.1982 (Orchid Herbarium, TIPI).

A key is provided below to distinguish *B. jainiana* from the other two Indian species :

1a. Lip distinctly 3-lobed .. ***B. bimaculata***
1b. Lip entire :
  2a. Leaves 3 cm long ; inflorescence axillary equalling the leaves, 1 or 2 flowered; epichile with 4 transverse calli .. ***B. quinquicallosa***
  2b. Leaves 6-17 cm long; inflorescence leaf opposed, shorter than leaves ; flowers more than 2 ; Lip with ciliate disc, calli absent, with a distinct dorsal apicule .. ***B. jainiana***

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