Luisia trichorrhiza var. *flava* (Orchidaceae): a new variety from Assam, India[a]

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Keywords/Mots-clés : *Luisia*, North East India/Inde du nord-est, orchid flora/flore d'orchidées.

Abstract

A new variety of *Luisia*, *Luisia trichorrhiza* (W.J.Hooker) Blume var. *flava*, is described and illustrated from Assam, North East India. It is morphologically similar to *L. trichorrhiza* but distinctly differs from the latter by a 9-10 flowered inflorescence with yellowish green flowers.

Résumé

***Luisia trichorrhiza* var. *flava* (Orchidaceae) : une variété nouvelle originaire d'Assam (Inde)** – Une nouvelle variété de *Luisia*, *Luisia trichorrhiza* (W.J.Hooker) Blume var. *flava*, originaire de l'État d'Assam dans le nord-est de l'Inde, est décrite et illustrée. Elle est similaire à *L. trichorrhiza* sur le plan morphologique mais en diffère par une inflorescence à 9-10 fleurs vert jaunâtre.

Luisia is a small genus in the family Orchidaceae. It was established in 1826 by Charles Gaudichaud-Beaupre in *Louis de Freycinet's Voyage sur I'Uranie et La Physicienne*. The genus is named in honour of Don Luis de Torres, a Portuguese Botanist of the nineteenth century (Chowdhery, 1998). Taxonomically, it is a very difficult genus due to low morphological variations among the different species (Seidenfaden, 1971; Misra, 2010). About fourty species are distributed in Bhutan, China, India, Indochina, Indonesia, Japan, Malaysia, New Guinea, Pacific islands, Philippines, Sri

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Lanka, and Thailand (Chen *et al*., 2009). In India there are nineteen species which are mainly found in the Northeastern states, Peninsular India, Andaman and Nicobar Islands (Misra, 2007).

Luisia trichorrhiza (W.J.Hooker) Blume is a common epiphyte in the Tea garden areas of Assam. During my work for an Orchid flora of Assam in March 2016, I found ten plants of *Luisia trichorrhiza* growing epiphytically on trunks and branches of trees of the Daisajan Tea garden of the Tinsukia District of Assam. They were found growing in clump with a long green stem and terete leaves, all of them in flowering condition. Out of these, two clumps growing on the same trunk were noticed: they resembled *Luisia trichorrhiza*, but differed in inflorescence, floral and morphological characters (Tab. 1). They were collected for research purposes. A critical study of these plants once in bloom and the scrutiny of the available literature (King & Pantling, 1898; Pradhan, 1979; Pearce & Cribb, 2002; Chowdhery, 1998; Lucksom, 2007; Yonzone & Rai, 2012; Gogoi, 2012; Gogoi *et al*., 2015) and herbarium matching revealed it to be very distinct from the so far known specimens of *Luisia trichorrhiza* (Plate 1). The taxon is described here as a new variety.

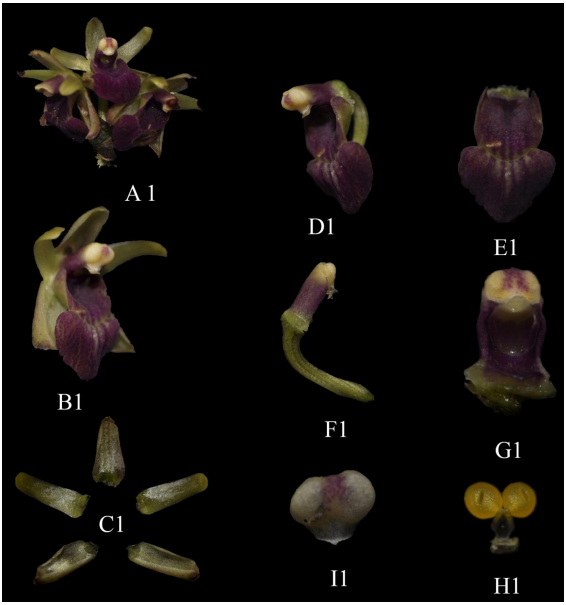

Plate 1: *Luisia trichorrhiza*

A1: inflorescence; B1: flower; C1: perigone; D1: lip with ovary and column; E1: lip; F1: ovary and column; G1: column; H1: pollinia; I1: anther cap

Table 1: morphological characters of both varieties

Plant character	***Luisia trichorrhiza***	***Luisia trichorrhiza* var. *flava***
Stem	14-75 × 0.4-0.7 cm, stout	25-50 × 0.4-0.5 cm, stout
Leaf	10-13.5 × 0.4- 0.5 cm	13.5-16.5 × 0.45 cm, curved downwards
Inflorescence	1.5 cm long, 5-6 flowered	1 cm long, 9-10 flowered
Flower	0.5-0.9 cm across, sepals pale green with faint purple lines, lip dark purple, the base outlined with green lines, the apical ridges green, column purple	0.6-0.8 cm across, sepals and petals yellowish green, lip yellow, column yellowish green
Dorsal sepal	0.5 × 0.21 cm, pale green with faint purple lines	0.5 × 0.3 cm, yellowish green
Lateral sepal	0.61 × 0.2 cm, pale green with faint purple lines	0.7 × 0.25 cm, yellowish green
Petals	0.9 × 0.15 cm, pale green with faint purple lines	0.7 × 0.18 cm, yellowish green
Lip	0.9 × 0.7 cm, dark purple, the base outlined with green lines	0.8 × 0.55 cm, yellow
Column	purple	yellowish green

Luisia trichorrhiza var. ***flava*** Gogoi, *var. nov.*

Luisia trichorrhiza var. *flava* is allied to *Luisia trichorrhiza*, but differs in having 9-10 flowered inflorescence with yellowish green flowers.

Typus: India, Assam, Tinsukia district, Daisajan, 118m, 0764, 16.04.2016, Khyanjeet Gogoi [(Holo 0764 A, CAL; Iso 0764 B, DU; Iso 0764 C, TOSEHIM (The Orchid Society of Eastern Himalaya)].

Plant epiphytic, 25-50 cm tall; stem stout, unbranched (occasionally branched), 0.4-0.5 cm wide, covered by leaf sheaths; sheaths 1.2-1.6 cm long, tubular; leaves 13.5-16.5 × 0.45 cm, distichous, fleshy, terete, rugose, jointed; inflorescence opposite to the leaf, stout, short, 9-10-flowered; peduncle attenuate; rachis 0.8-1 × 0.3-0.4 cm; floral bracts 1.5-1.8 × 1-1.5 mm, persistent, broadly ovate-triangular, boat-shaped, acuminate;

flowers 0.8-1.3 cm across, sepals and petals yellowish green, lip yellow, column yellowish green; pedicellate-ovary 1.3 cm long; dorsal sepal 0.5 × 0.3 cm, oblong, obtuse, 3-veined; lateral sepals 0.7 × 0.25 cm, spreading, obliquely ovate to spathulate, acute, keeled, 3-veined; petals 0.7 × 0.18 cm, oblong, obtuse, spreading, 3-veined; lip 3-lobed, 0.8 × 0.55 cm, hypochile deeply concave with erect, rounded to triangular, subacute lateral lobes, epichile cordate, ridged, tapering to subtruncate, minutely emarginated apex; column 0.3 cm long, stout, pollinia 2, 0.12 cm, grooved, ovoid, yellow. Plate 2.

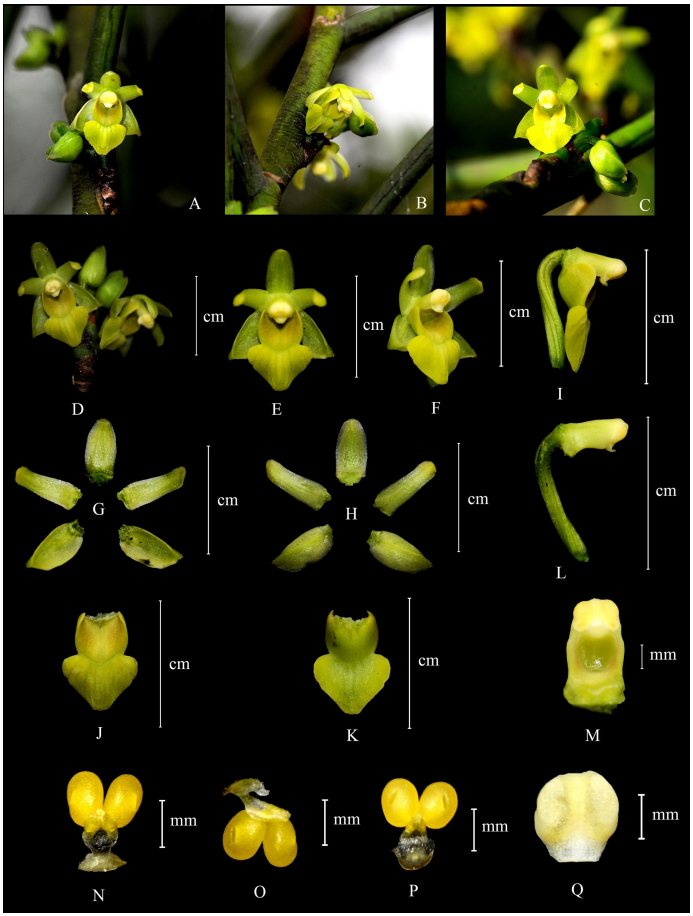

Plate 2: *Luisia trichorrhiza* var. *flava*

A, B, C, D: inflorescence in different views; E, F: flower; G, H: perigone; I: lip with ovary and column; J, K: lip; L: ovary and column; M: column; N, O, P: pollinia in different views; Q: anther cap

Flowering: April- May.

Habitat: Epiphyte in tea garden areas, grows on the trunk of *Albizia odoratissima* (Linnaeus f.) Bentham, *Albizia chinensis* (Osbeck) Merrill and *Adenanthera pavonina* Linnaeus (common shade tree of tea garden).

Distribution: Assam (Daisajan), India. (No other plant with similar flowers was located from other places of Assam. So, we can probably regard it as an endemic from the Daisajan of Assam).

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