

axillary or terminal on short branching spurs, pedicels slender 1.2-1.4 cm long, sub-sulcate, sparsely glandular pilose hairy. Calyx 6-8 mm, lobes 5 equal, linear lanceolate, green, almost free to base, acute to sub-acute, pilose hairy outside, glabrous within. Corolla 3-3.2 cm. blood-red in colour, tube broadly narrowed below, abruptly curved and gently tumid at 2/3 from base, lobes five, short rounded, *ca* 2 mm, sub-equal with a dark streak from sub-terminal end of each lobe, segments sub-erect more or less connivent. Stamens 4 fertile, didynamous, exerted more than 1 cm above corolla mouth, filaments slender and sparsely hairy above, glabrous and dilated below, inserted 1.3 cm above base, anthers oblong, unilaterally dorsifixed and coherent by tips. Gynoecium *ca* 2.3 cm, included within tube, sessile on thin cupular disc, ovary linear oblong glabrous, style thick, abruptly narrowed *ca* 1/2 as long as ovary, glandular pilose, stigma capitate, gently notched, glabrous. Fruits not seen.

Fl. & Fr. : Sept. to (?) Nov.

Distribution : India : Arunachal Pradesh between Rusa to Bimalpur in Tirap Frontier Division.

This rare species is represented by a single collection by Dr. G. Panigrahi from Arunachal Pradesh which is a unique area for speciation of the genus *Aeschynanthus*. In absence of fruits, its

sectional attribution is no doubt a matter of assumption but considering its major taxonomical characters most probably the taxon will occupy a position in the Section *Haplotrichium* recognised by C. B. Clarke and B. L. Burtt and others, where seeds are provided with a single hair at each end. In spite of its collection as early as in 1958 the species remained unnoticed by specialists since no subsequent gathering has been made and the present taxon was identified as *A. masoniae* Kurz. ex C.B.Cl. and housed in the ASSAM herbarium in absence of any comparable specimen. Thanks to Prof. B. L. Burtt of Edinburgh who has been kind enough to send me a checklist of Gesneriaceae of India and neighbouring countries and also an English translation of Prof. T. Wang's key to Chinese Gesneriaceae. Those documents, have asserted to come to the conclusion in describing this interesting taxon as new to science.

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A NEW SPECIES OF FERN GENUS *LOXOGRAMME* PRESL. FROM SOUTH INDIA

During the course of revisionary studies of the genus *Loxogramme* Presl. (Loxogrammaceae Pic. Ser.) in India, the authors came across two specimens being to an old and a recent collection from the Nilgiri hills in Tamil Nadu. These specimens different entirely from all other known Indian specimens. That prompted us to work out these specimens in detail.

Sledge (1960) reported *L. parallela* Copel., from Sri Lanka and South India is synonymous to

L. lanceolata. Later he remarked that "the distinctions between this species and *L. lanceolata* (Sw.) Presl. are ill defined" and also expressed that "Nilgiri specimens often have obliquely diverging sori, the distal ends of which half way or more to the frond margin". These remarks led the authors to scrutinise these specimens more critically along with other specimens at CAL and other Regional herbaria of Botanical Survey of India including MH. Sledge (*l.c.*) referred "Commerson and

Bojer's specimens from Mauritius and Re-union (Bourbon) at K and Hooker et Greville's (1827) Icon Filicum Plate 43 fig. 1 represents true *L. lanceolata* (Sw.) Presl." Similarly, he also referred C.P. 3146 from Sri Lanka as *L. parallela* Copel., of which a duplicate exists at CAL. Critical studies of authentic specimens/type photographs, protologue of the concerned species related literature (Beddome 1883, 1892; Copeland 1916; Tagawa 1943; Panigrahi 1960; Chang 1963; Tagawa 1966, 1971; Nayar and Kaur 1974; Ohashi 1975; Dixit *et al.* 1976, Ching & Su-King 1983; Dixit 1984; Price 1984, Singh & Panigrahi 1985; Price 1990) reveal that these collections from the Nilgiri hills neither belong to *L. lanceolata*, nor *L. parallela* but represent an undescribed species which can be easily distinguished by the following key :

- 1a. Fronds lanceolate to linear-lanceolate, stipulate, sori sub-parallel or parallel to the midrib, away from margin and nearer to midrib, confluent above; spores monolete to trilete :
 - 2a. Fronds lanceolate to rarely oblanceolate, tapering at both ends, 20-24 cm long; sori sub-parallel to midrib; spores monolete ... *L. lanceolata*
 - 2b. Fronds linear - lanceolate, less than 20 cm long; sori parallel to midrib; spores monolete to trilete ... *L. parallela*
- 1b. Fronds oblanceolate, sessile, sori divergent from the midribs, confined to middle between margin and midrib, distant never confluent, spores trilete ... *L. avalanchia*

***Loxogramme avalanchia* Dixit et Das, sp. nov.**
 Species haec ab *L. lanceolata* different frondibus parvibus, 12-14 × 1.5 cm. sessilebus, ellipticis, acutis, membranaceis; sori oblique's, remotis; spores triletis.

***Holotypus* :** South India Nilgiri Hills : Avalanchia, Nov. 1883 s.l.,s.n. Accession No. 59932 (MH).

***Paratypus* :** Madras Nilgiri : Naduvattam, 2000 m. 25.7. 1960. K. Subramanyam 10581 (MH, CAL).

Rhizome creeping; scales clathrate, pale-brown, ovate-lanceolate, 3-5 × 0.5-1.0 mm, smooth in margins. Fronds simple, decurrent upto base, membranaceous, pale-green, 12-14 × 1.0-1.5 cm,

oblanceolate, attenuate at base, slightly wavy margins, acute at apex, midrib raised beneath, pinkish, distinct above, veins reticulate, areoles with or without included veinlets. Sori usually starting above middle of frond, divergent from the midribs, confined to middle between midrib and margin 6-8 × 2.5-3 mm, distant, 2-4 mm apart, never contiguous. Spores yellow, always trilete, 50-80 µm in diameter, verrucoid.

L. avalanchia can easily be distinguished from the other species by presence of fronds decurrent to the base, oblanceolate; sori obliquely divergent, never contiguous, away from midrib and margins more or less in middle, 2-4 mm apart and spores always trilete.

***Etymology* :** The species is named after the place of collection, Avalanche in the Nilgiris.

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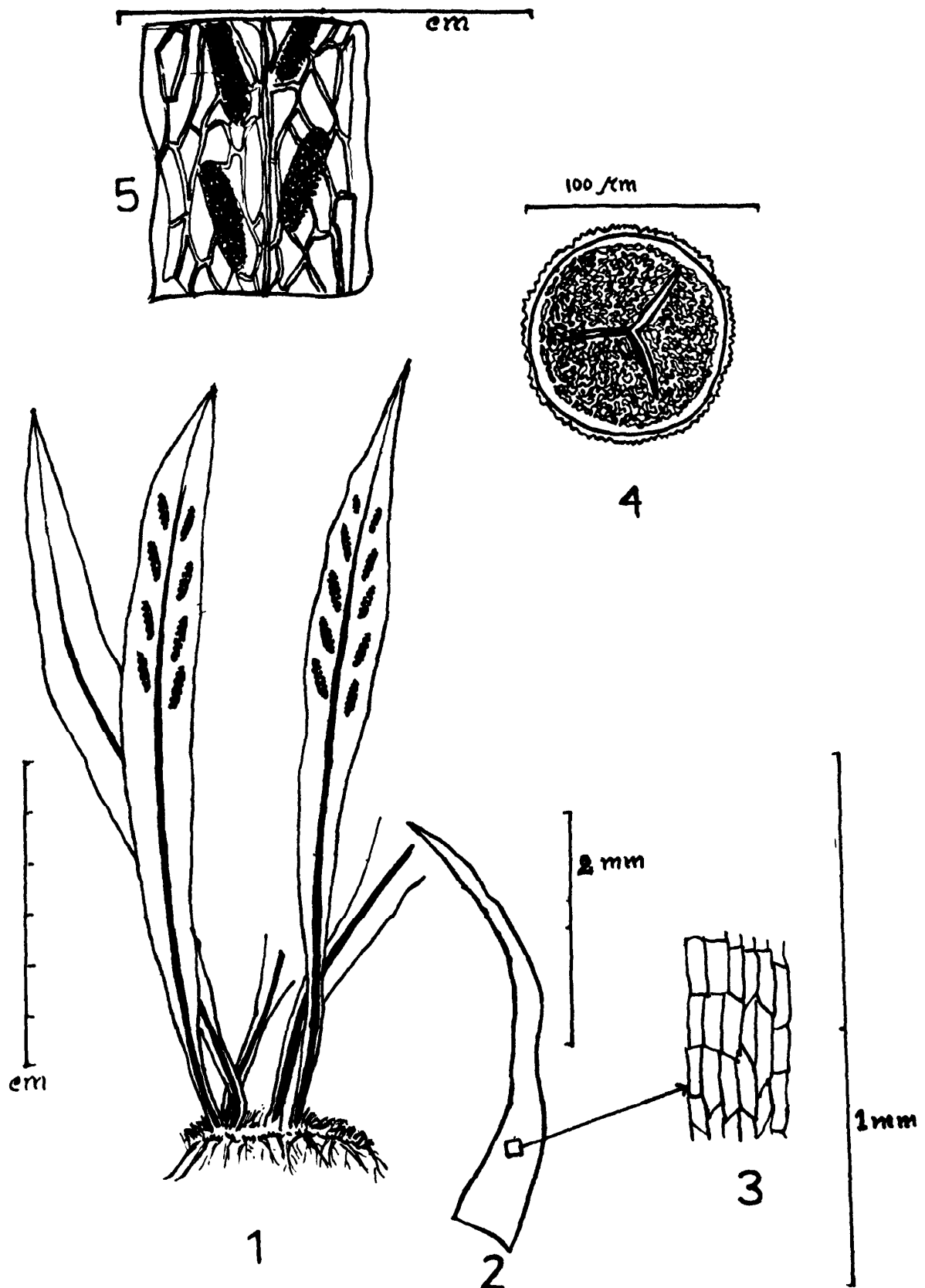
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Figs. 1-5 : *Loxogramme avalanchia* Dixit et Das (Holotypus, Acc. No. 59932, MH) 1. Habit; 2. Camera lucida sketches of rhizoid scales; 3. Camera lucida sketches of cells of rhizoid scales; 4. Camera lucida sketches of proximal part of spores; 5. Part of lamina showing venation.

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PROPER DISTRIBUTION AND CORRECT IDENTITY OF *LOXOGRAMME INVOLUTA* (D. DON) PRESL. IN INDIA

Beddome (1892) recognized the occurrence of only three species of *Loxogramme* Presl., from British India, Ceylon and the Malay Peninsula, of which only *L. lanceolata* (Sw.) Presl., and *L. involuta* (D. Don) Presl., reported from the Indian region. Scrutiny of the specimens revealed that a majority of specimens with larger fronds are identified as *L. involuta* in Central National Herbarium (CAL.). Among specimens with larger fronds, recently Price (1984) made a new combination as *Loxogramme cuspidata* (Zenker) Price from South India. But, the specimens of *L. cuspidata* (Zenker) Price from South India were wrongly identified as *L. involuta* (D. Don) Presl., in Indian Herbaria. Critical examination of *L. involuta* (D. Don) Presl., from Calcutta Herbarium and the Herbaria of Regional Circles, Botanical Survey of India; National Botanical Research Institute, Lucknow; Forest Research Institute, Dehradun; together with protologue, available literature and cibachrome photographs of type

material from Kew Herbarium revealed that *L. involuta* (D. Don) Presl., is a mixture of number of species which were wrongly identified in all Indian Herbaria. Price (1990) described a new species of *Loxogramme* from Sikkim Himalayas as *L. porcata* Dixit and Das (1994) reported that the specimens from North-West Himalayas are entirely different from the previously identified *L. involuta*. Detail study of true *L. involuta* (D. Don) Presl., authors found that it does not occur in North-West Himalayas. Species segregated from *L. involuta* complex from Western Himalayas and described as *L. mussooriana* Dixit and Das. A number of new taxa and new records of species segregated from *L. involuta* complex viz. *L. carinata* Price, *L. wallichiana* (Hook.) Price, *L. ensiformis* Ching, *L. manipuriana* Das and Dixit. Our studies on *L. involuta* (D. Don) Presl. conclude that it is not an abundant species in India as recorded in the past; but confined only to Eastern India and can be easily distinguished from