

TRICHOMANES LATE-ALATUM (v.d.B.) Chr. s.l. FROM SHEVAROY HILLS:
A NEW RECORD FOR SOUTH INDIA

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During the three seasonal explorations for pteridophytes from Shevaroy hills ($11^{\circ}45' - 11^{\circ}55' N$ and $78^{\circ}10' - 78^{\circ}20' E$) situated in Salem district of Madras State in S. India, the writer found *Trichomanes late-alatum*, an epiphytic olive-green filmy fern. The plants were growing wild in fairly deep humid evergreen forests, covering bases of old mossy tree-trunks near the edges of streams at altitudes of 1360-1465 m on some of the hills constituting Shevaroy. The previous records* of the species in the wider sense are from Ceylon, North-East India, Burma, South China, Malaya, Malacca and Sumatra.

Trichomanes late-alatum (v.d.B.) Chr. in Verh. Nat. Ges. Basel 11:424, 1896; Holttum, Fl. Malaya 2:101, 1954. *Didymoglossum late-alatum* v.d. Bosch in Ned. Kruidk. Arch. 5:138, 1863; Copeland in Philipp. J. Sci. 51: 192, tt. 25, 26, 1933. *Crepidomanes late-alatum* (v.d.B.) Copel. in Philipp. J. Sci. 67: 60, 1938.

The species had to be broadly interpreted by Copeland as well as by Holttum because of considerable variations in size of the fronds, false veins and shape of indusia. The above highly variable morphological features were the characters used by van den Bosch (1863) to describe as many as six new species on collections from one general area and also from one Herbarium (Hooker's) where all the gatherings had passed as conspecific. The present specimens agree perfectly to the key characters of the species as diagnosed by Holttum (1954). Moreover, he had been kind enough to scrutinize my specimens and to ascertain the present identification. Out of the collections available at the Central National Herbarium, only *Thwaites* 2985 (CAL) from Ceylon matched with the present gatherings. Cytological studies are under progress with the end in view to throw some light on the nomenclatural confusions of the complex.

A small evergreen epiphyte in mountain forests at moderate altitudes. *Rhizome* slender, root-less, branched, long-creeping, dark-brown showing colourless growing apices and a thick tomentum of short, straight or slightly curved, unicellular, ferrugineous

hairs with colourless tips. *Stipes* 0.5-3 cm $\times$ 1 mm, almost wingless, more hairy and less broad below; narrowly winged, less hairy, broader and slightly undulated above; hairs straight, unicellular, dark-brown, smaller than those on the rhizome and arranged on lateral margins like teeth of a comb. *Fronds* upto 12 $\times$ 4 cm in size, about 0.5 cm apart, olive-green, somewhat lanceolate in outline, usually broadest near middle, bipinnatifid, more open in branching and subfastigiate or narrowly plicate in dried but not well-pressed herbarium specimens; primary laciniae about 2 $\times$ 0.5 cm, towards the upper part of the frond fertile, closer, longer but narrower and more ascending; usually sterile, distant, shorter but broader and less ascending below; secondary laciniae usually not less than 0.5 mm wide, almost entire or slightly sinuous, never serrate; apices broadly rounded or recurved, never conspicuously acute in fresh plants; 1-3-forked at a narrow angle to each other, veinlets acute angled at first but later diverging greatly from each other; false veins many, both long and short, long more numerous, somewhat 1-2-seriate in wider lobes but scattered throughout the narrower ones, composed of uniseriate somewhat hexagonally elongated cells, long continuous single submarginal false vein absent. *Rhachis* up to 9 $\times$ 0.2 cm, narrowly winged throughout with a somewhat crisped or slightly flexuose wing broader than that on the upper part of the stipe, lower surface minutely hairy towards the base, hairs generally smaller than those on the stipe. *Sori* about 2 $\times$ 1 mm (excluding the exserted receptacle), somewhat conical-tubular in shape, more abundant above, usually lateral on primary lobes but exserted on the secondary ones, almost wingless, bilabiate, the free lips of indusia bluntly triangular or broadly rounded forward, almost equal in length to the conical basal part; the receptacle of old sori protruding about 3 mm beyond the lips; cell-walls irregularly thickened and somewhat coarsely pitted. *Spores* broadly of two types: regular and irregular; regular 32.9 $\times$ 30.4 μ , few (because of regular meiosis found in very few mother-cells), sub-triangular in polar view, trilete, laesurae bifurcated at their tips, very minutely spinulose, somewhat foveo-reticulate in surface pattern, exine thin, about 1.5 μ ; irregular numerous (because majority of the mother-cells undergo highly abnormal meiosis), of various shapes and sizes, usually shrunken.

SHEVAROY HILLS: Cauvery Peak, 1360 m 22 Mar. 1962, Ghatak 51; Bauxite

* It is seen from the paper by U. Sharma (*Proc. nat. Inst. Sci. India* 26 : 339-351, 1960) that the specimens she studied, produced only regular spores all decidedly larger in size and developed a less exserted receptacle. Mainly in these features her specimens are different from the present collections. Hence Mercara in Coorg (South India), the locality from where she procured these materials, has been excluded from the present paper, pending further studies.

Hill, 1400 m 3 Nov. 1962, *Ghatak* 225; Kaka-sholai, 1475 m 15 Jun. 1963, *Ghatak* 506. These

specimens are kept in Central National Herbarium (CAL), Sibpur, Calcutta.

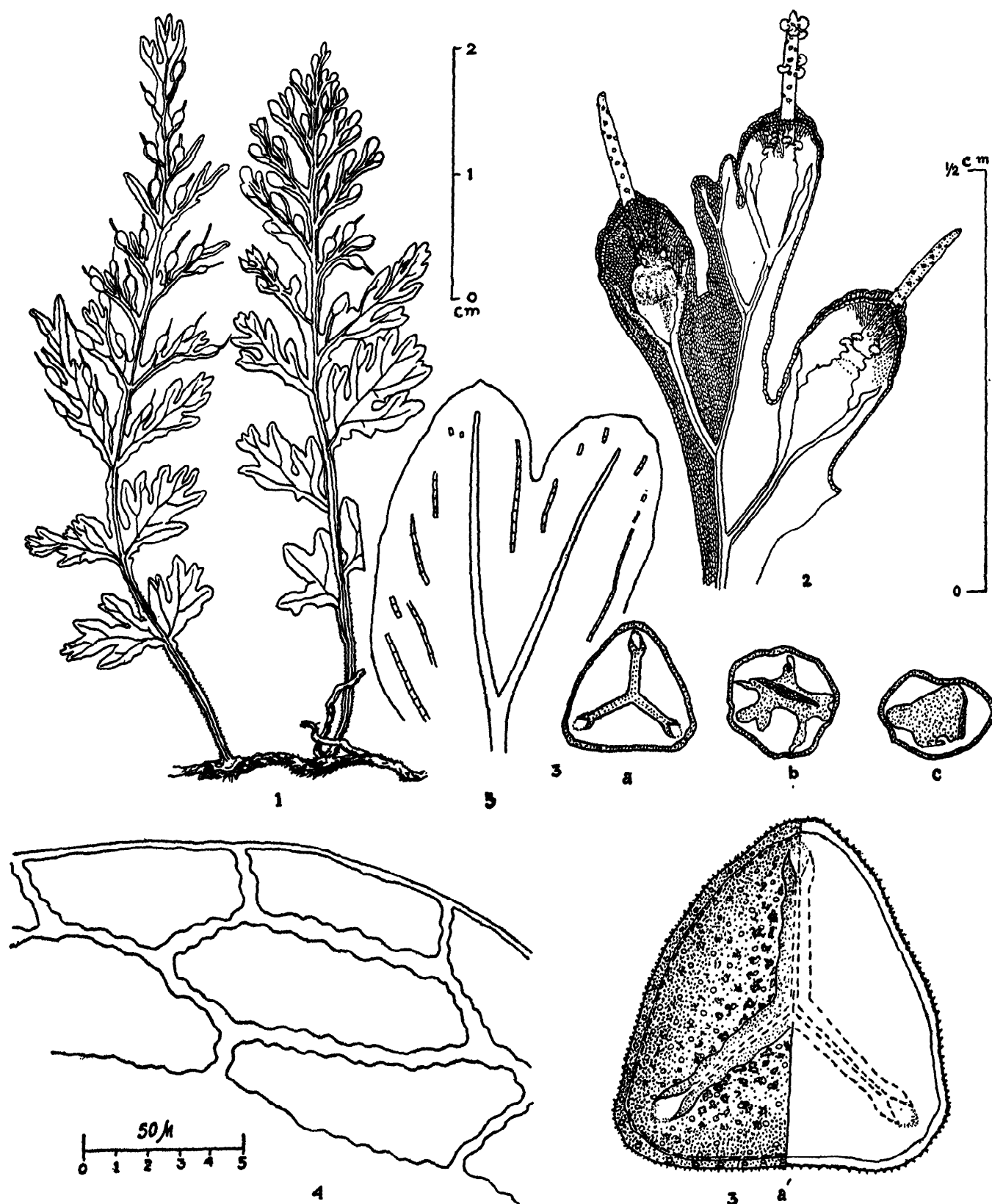


Fig. 1. Habit. Fig. 2. Indusia. Fig. 3a. A regular spore, $\times 666$. Fig. 3a'. The same, $\times 1850$. Figs. 3b and 3c. Two irregular spores, $\times 666$. Fig. 4. Cell-walls. Fig. 5. Tips of ultimate sterile lobes showing many false veins, $\times 6$.