

Trichophaea cupulata sp. nov. from India

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The new species *Trichophaea cupulata* is described. Deep cupulate apothecia with pustulate outer surface, large flexuous hairs, and smooth uniguttulate ascospores are the distinguishing characters of this species.

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During a collecting trip in the Himalayan hills the author collected a discomycete distinguished by its deep cupulate apothecia with crenate margins and white hymenium. Laboratory study showed it to be a member of the genus *Trichophaea* Boud. As the collection does not match any known species of the genus, a new species is proposed to accommodate this collection.

Trichophaea cupulata sp. nov.

Apothecia 3–6 mm lata, cupulata vel patelliformia, sessilia, margine crenata, hymenio cremeo-albo, externo excipulo brunneo pustulato setoso. Asci jodo haud tincti, cylindracei, $175\text{--}210 \times 19\text{--}23 \mu\text{m}$. Ascosporae laeves hyalinae, angustae ellipticae, uniseriatae, uniguttulatae centrali magna gutta, $16\text{--}24 \times 8\text{--}13 \mu\text{m}$. Paraphyses simplices septatae, apice aliquantum inflato.

Apothecia 3–6 mm across, deep cupulate to saucer-shaped, sessile, margin crenate, hymenium creamy white, outer surface brown, pustulate and hairy. In section: hymenium about $190\text{--}214 \mu\text{m}$ thick; subhymenium about $40\text{--}58 \mu\text{m}$ thick, made of textura angularis tissue of polyhedral, thin walled cells; medullary excipulum about $75\text{--}115 \mu\text{m}$ thick; tissue similar to subhymenium but cells larger in diameter; ectal excipulum about $55\text{--}95 \mu\text{m}$ thick, of textura globulosa tissue, cells dark brown, thick-walled, $12\text{--}30 \mu\text{m}$ in diam, projecting in groups at places to form the pustules. At the margin of the cup the cells are elongated and produce narrow, clavate processes and on the underside long flexuous hairs; hairs 3–4 septate, long, brown with obtuse ends and occasional short, 1–2 lateral branches, $80\text{--}1000$ (or even more) $\times 8\text{--}12 \mu\text{m}$ in size; asci 8-spored, J (-), cylindrical, gradually tapering below, $175\text{--}210 \times 19\text{--}23 \mu\text{m}$; ascospores smooth,

hyaline, oblong elongate to elliptical, uniseriate, arranged straight or with slight overlapping ends, two to several small guttules when young but only a large single central guttule in mature spores, $16\text{--}24 \times 8\text{--}13 \mu\text{m}$; paraphyses simple, septate, slightly larger than the asci.

On soil among mosses, Dhobi Talab, Ranikhet, U.P., Leg. D.C. Pant, 28 November 1965. Holotype BHUPP 299.

The present species comes close to *Trichophaea bullata* Kanouse (1958) and *Lachnea speluncarum* (Vel.) Svrček (1948) in having smooth, oval ascospores and long flexuous brown hairs originating from bulbous cells of the ectal excipulum. It differs, however, from *T. bullata* in having a deep cupulate apothecium with a crenate margin, very dark brown, large cells which form pustules on the apothecial surface, and much longer flexuous hairs. From the other species, *L. speluncarum*, it differs in not having red or rose red apothecia and that the cells of the ectal excipulum are not hyaline or subhyaline.

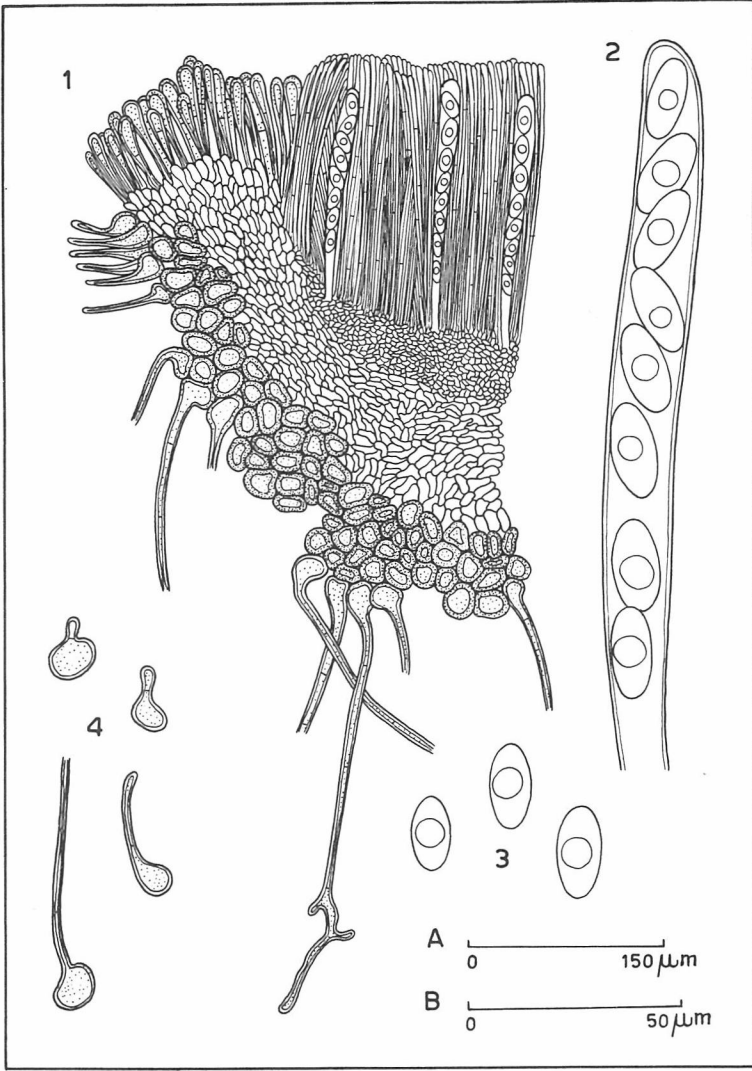
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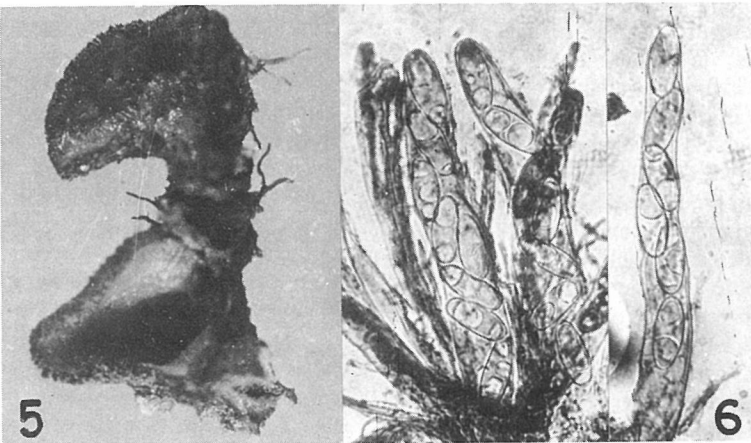
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Figs. 1-4. *Trichophaea cupulata*.
Fig. 1. V.S. of an apothecium showing tissue structure. Fig. 2. Part of an ascus with ascospores. Fig. 3. Ascospores. Fig. 4. Hairs.



Figs. 5-6. *Trichophaea cupulata*.
Fig. 5. Apothecia $\times 5$. Fig. 6. Asci and ascospores $\times 400$.

Awasthiella, a new lichen genus from Manipur, India

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Singh, K. P. 1980. *Awasthiella*, a new lichen genus from Manipur, India. *Norw. J. Bot.* Vol. 27, pp. 33-35. ISSN 0300-1156.

A new lichen genus *Awasthiella* is described in the family Verrucariaceae on the basis of material from Manipur, India. It is characterized by the black perithecia containing hymenial algal cells smaller than those of thallus, and simple spores.

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The state of Manipur in the eastern part of India has a rich flora of all groups, and several lichen taxa have already been reported (Müll. Arg. 1892). During the course of studies on the recent collections of lichens from the same area an interesting saxicolous lichen possessing hymenial phycobiont in the perithecia and 4-8-spored asci with simple spores has been found. This lichen resembles the genera *Endocarpon* Hedw., *Staurothele* Norm., and *Thelenidia* Nyl. in having algal cells in the hymenium. However, it

differs from the first two of those genera in having simple spores, and from the third in having hymenial cells smaller than the thalline cells as well as in having asci containing several spores (Topham & Swinscow 1970). A new genus, *Awasthiella*, in the family Verrucariaceae (sensu Henssen & Jahns 1974) is therefore described to accommodate the present plant. It is named in honour of Dr. D. D. Awasthi, the present writer's teacher.

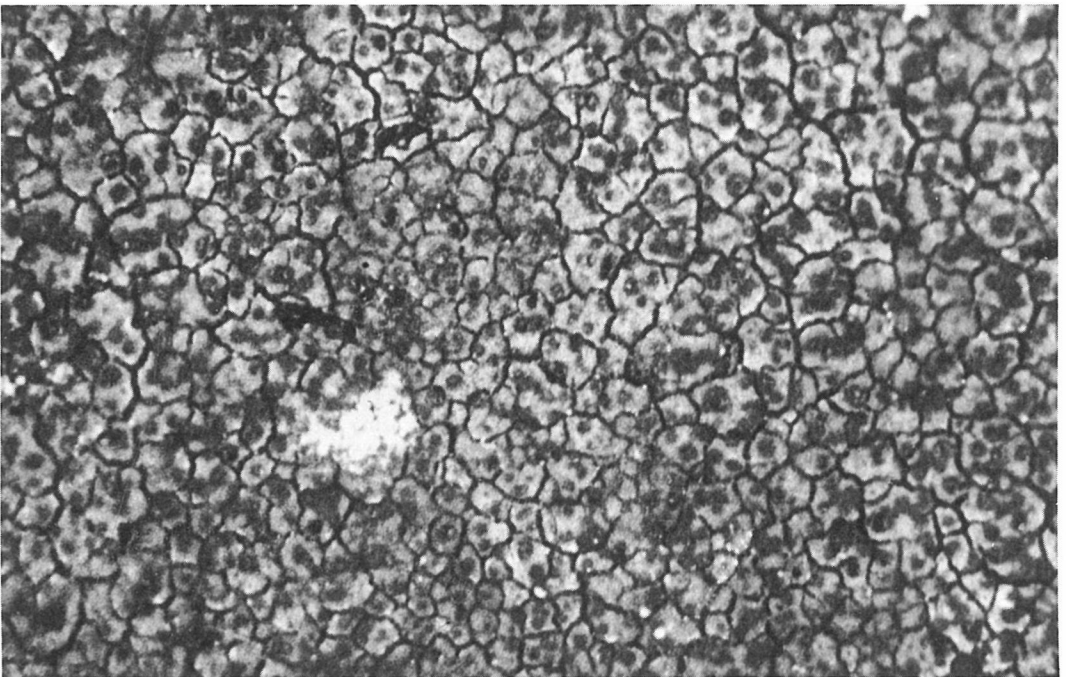


Figure 1. A part of thallus of holotype *Awasthiella indica*, $\times 50$