

# LICHEN GENUS *PLEUROTHELIOPSIS* FROM THE INDIAN SUB-CONTINENT

*Pleurotheliopsis* is a small genus comprising six species. Four occur in Neotropical region, while one each is reported from Australia and Formosa respectively. This paper extends the distribution range of this genus to the Indian subcontinent, and adds two more species to its list. Taxonomic account of these species is as follows:

## Key to the Indian species :

- Ascocarps up to 1.5 mm in diameter, nucleus I+blue,  
spores 15-33  $\mu\text{m}$  long —1. *P. andamanensis*  
Ascocarps up to 3.0 mm in diameter, nucleus I+vinose red,  
spores 75-95  $\mu\text{m}$  long —2. *P. ceylonensis*

### 1. *Pleurotheliopsis andamanensis* A. Singh & Upreti sp. nov.

Thallus endophloedus, evanescentus. Ascocarpia solitaria usque ad 1.5 diam., hemisphaerica, pro parte thallina non-algifera obducta, nigra, ostiolis lateralis, nigris; excipuloidea fuliginosa leviter expansa, cavitas horizontalis; nucleus I+caeruleus, haud oleo-inspersus; asci 8-sporei; sporae fuscae, ellipsoideae, muraliter divisae, 5-septatae, cellulis in 6 serie transversalis dispositis, 15-33  $\mu\text{m}$  longae, 9-13  $\mu\text{m}$  crassae.

*Type*—India; Andaman Islands, Long Island, 27th. March, 1961, Singh 89446 (LWG: holotype)

Fig. 1.

Thallus endophloedal, evanescent; corticiform layer ca. 60  $\mu\text{m}$  thick, composed of thick-walled, narrow-lumened mycobiont hyphae filling intercellular spaces of the bark (host) cells; phycobiont layer forming one or more than one (at places up to 3) strata, each up to 15  $\mu\text{m}$  thick, consisting of *Trentepohlia* filaments and mycobiont hyphae in the intercellular spaces of bark cells, absent below ascocarps; medulla consisting of mycobiont hyphae forming irregular zone below the phycobiont layer as well as beneath the ascocarps.

Ascocarps 0.9 - 1.5 mm in diameter, ca. 500  $\mu\text{m}$  high,  $\pm$ hemispherical, black, partly covered with corticiform layer of thallus, ostioles lateral, black; excipuloid tissue black and carbonaceous, up to 170  $\mu\text{m}$  thick at sides, slightly spreading laterally; perithecial cavity 420-450  $\mu\text{m}$  high, 500-650  $\mu\text{m}$  broad; nucleus I+blue, without oil globules; paraphysoid threads simple, free at distal end; asci 8-spored, cylindrical to narrowly clavate, 140-200  $\times$  15-22  $\mu\text{m}$ ; spores uniseriate in ascus, dark brown, ellipsoid, multi-celled muriform, cells arranged in 6 transverse tiers, with up to 2 cells in each, with 5 primary septa, 15-33  $\times$  9-13  $\mu\text{m}$ .

*Remarks*—There are only three species in this genus that possess 8-spored asci. They are *P. dissimulans* Zahlbr., *P. inclinata* Zahlbr. and *P. salvata* Zahlbr. Their ascocarps, however, are smaller (0.6-0.9 mm in diameter) and ostioles are pale (not black). Spores in the first species are larger, measuring 35-40  $\mu\text{m}$  and 40-80  $\mu\text{m}$  in length respectively, while those of the third, being of the comparable size with that of *P. andamanensis*, have their cells arranged in 8 transverse tiers.

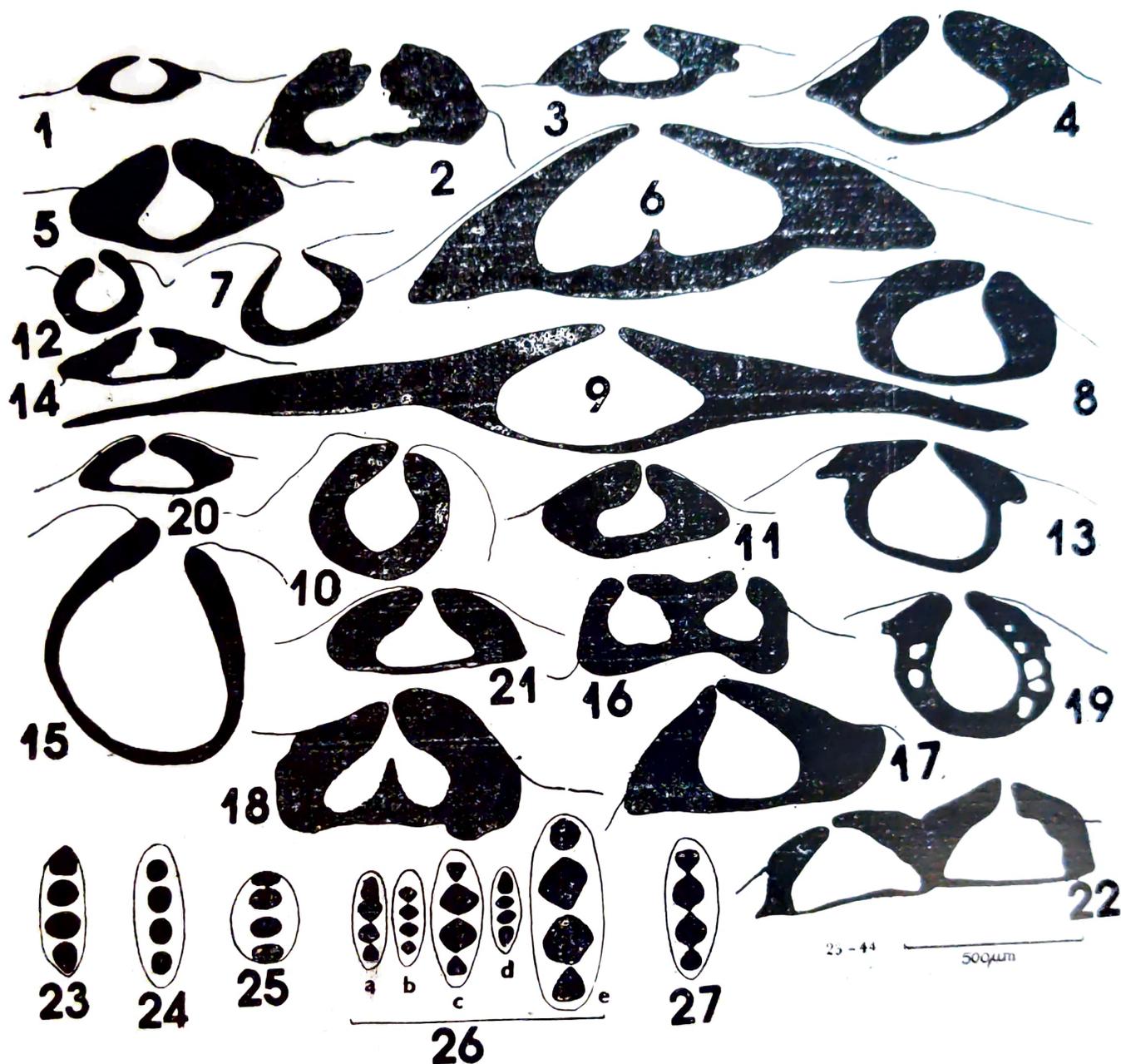
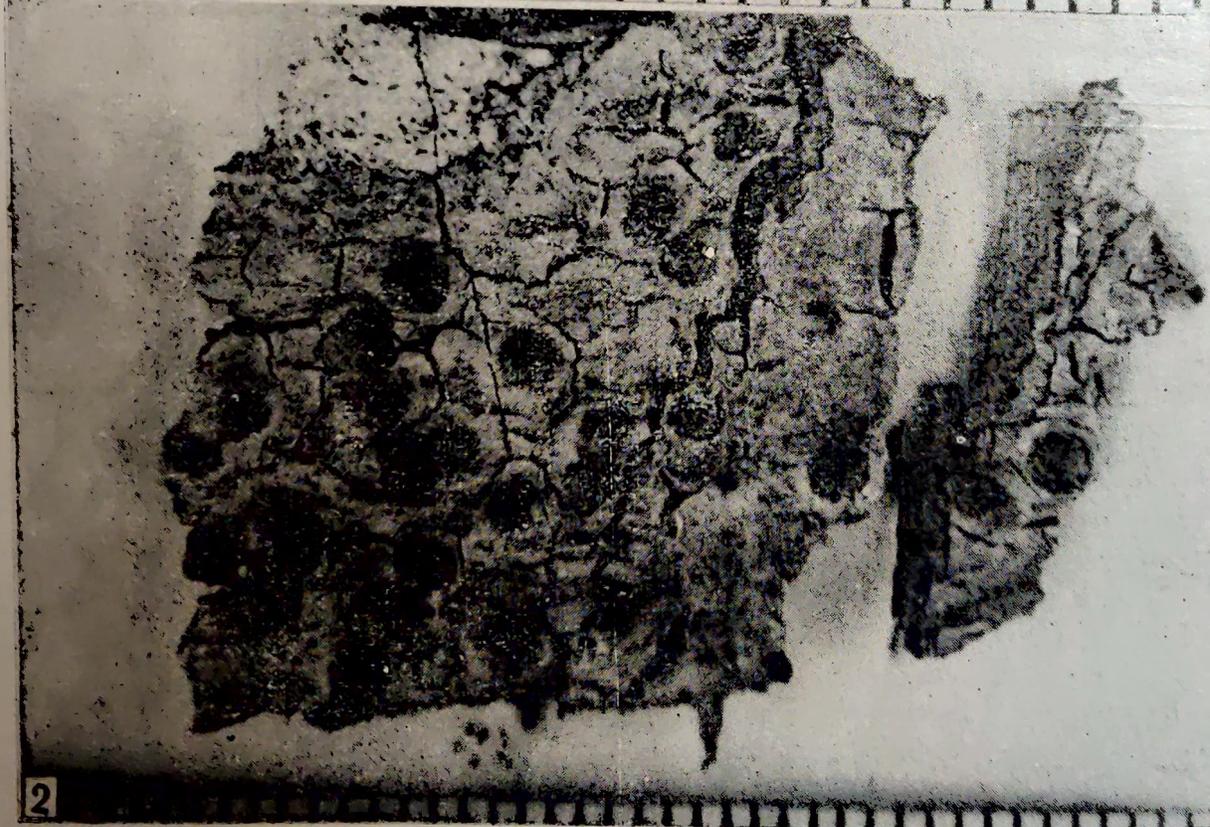


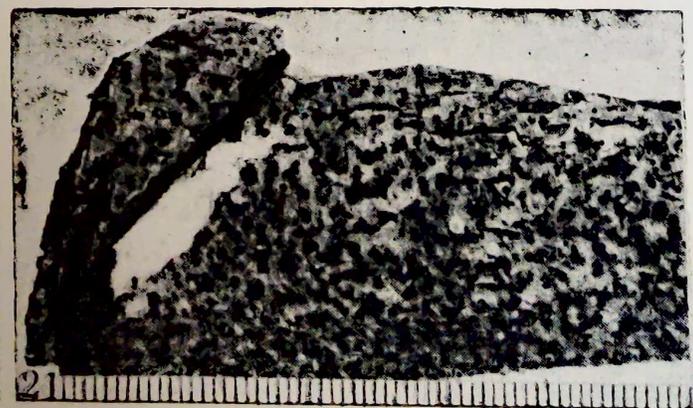
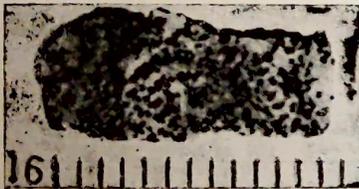
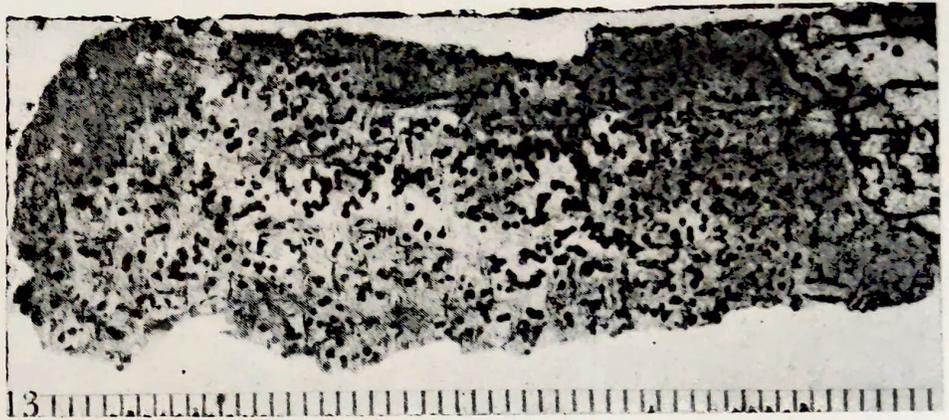
Fig. 1. *Pleurotheliopsis andamanensis*. Habit.  
 Fig. 2. *Pleurotheliopsis ceylonensis*. Habit.  
 (Scale 1 division = 1.0 mm)

*Additional specimen examined*—India; Andaman Islands, Long Island, Singh 89422 (LWG).

2. *Pleurotheliopsis ceylonensis* A. Singh & Upreti sp. nov.

Thallus epiphloedus, ochraceus, laevigatus velni tidous. Ascocarpia solitaria, usque ad 3.0 mm diam., convexa, thallina non-algifera obducta, nigra, ostiolis lateralis, pallidis, leviter umbilicatis; excipuloidea fuliginosa, expansa, cavitas horizontalias; asci 8-spore; sporae fuscae, ellipsoideae, muraliter divisae, 5-12-septatae, cellulis in usque ad 20 seriae transversalis dispositis, 75-95  $\mu$ m longae, 30-40  $\mu$ m crassae.





*Type*—Sri Lanka; Central Province, no precise locality, Thwaites CL 89B (BM: holotype)—earlier annotated as *Anthracothecium borbonicum*.

Fig. 2.

Thallus corticolous, epiphloedal, ochre, smooth to nitidous, with rather broad, brownish-black border; corticiform layer as in previous species, 55-105  $\mu\text{m}$  thick; phycobiont layer as in previous species, 30-35  $\mu\text{m}$  thick; medulla indistinct.

Ascocarps solitary, up to 3.0 mm in diameter, ca. 750  $\mu\text{m}$  high, convex, covered with corticiform layer of thallus, dull black, ostioles eccentric to lateral, pale, slightly umbilicate; excipuloid tissue black and carbonaceous, spreading; perithecial cavity  $\pm$  horizontal; nucleus I + vinose red, without oil globules; paraphysoid threads simple, free at distal end; asci clavate, 8-spored, ca. 400 $\times$ 90  $\mu\text{m}$ ; spores uniseriate in ascus, brown, ellipsoid, multi-celled muriform, cells arranged in upto 20 transverse tiers, with up to 6 cells in each, with 5-12 primary septa, 75-95  $\times$  30-40  $\mu\text{m}$ .

*Remarks*—This specimen was earlier annotated as *Anthracothecium borbonicaum* (Nyl.) Müll. Arg., with which it shows superficial resemblance, but its close examination revealed the eccentric to lateral position of the ostiole. In vertical section of the ascocarp the horizontal disposition of the ascocarp cavity is quite distinct. In all the three species with 8-spored asci, e. g., *P. dissimulans* Zahlbr, *P. inclinata* Zahlbr, and *P. salvata* Zahlbr the ascocarp diameter ranges between 0.6 to 0.9 mm, much smaller than the species under consideration. Out of these three, the only one, i. e. *P. inclinata* with comparable spore-size, has the cells of spores arranged in 8 transverse tiers.

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