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Two new species of the Lichen genus *Parmentaria* from South India

AJAY SINGH

RÉSUMÉ

SINGH, A. (1983). Deux espèces nouvelles de Lichens, genre *Parmentaria*, du sud de l'Inde. *Candollea* 38: 459-463. En anglais, résumé français.

Description et illustration de deux espèces nouvelles de Lichens du sud de l'Inde: *Parmentaria oligocarpa* et *P. pluricarpa*.

ABSTRACT

SINGH, A. (1983). Two new species of the Lichen genus *Parmentaria* from South India. *Candollea* 38: 459-463. In English, French abstract.

Two new Lichen species, *Parmentaria oligocarpa* and *P. pluricarpa* from South India are described and illustrated.

Parmentaria, a tropical genus is predominantly distributed in Australia, where about 50% of its species occur. In Indian subcontinent the records (AWASTHI, 1965; SINGH, 1964, 1980) show the occurrence of only two species, viz., *Parmentaria astroidea* and *P. interlatens*. The third species shown therein (*P. assamiensis*) does not belong to this genus and has been transferred to *Anthracothecium* by SINGH (1982).

Careful examination of some old collections and also of some recent gatherings reveal that the representation of *Parmentaria* in this region, after all, is not as poor as seems to appear from the study of literature.

This paper deals with two species of *Parmentaria*, *P. oligocarpa* and *P. pluricarpa*, both new, from South India. Both the taxa belong to the group of species of this genus in which ostioles from each ascocarp of a stroma open separately to the outside after converging to the central portion of stroma. This small group so far contained only two species, namely, *P. chilensis* and *P. ravenellii*. Rest of the species, numbering about 28 are provided with only a single ostiole to each stroma, irrespective of the number of ascocarps contained in it.

The two species described here can be differentiated from each other in the following manner:

- stroma 2(-3)-carpous, spores 70 μm or more long = **1. *P. oligocarpa***
- stroma (2-)4-7-carpous, spores 38 μm or less long = **2. *P. pluricarpa***

1. *Parmentaria oligocarpa* A. Singh, spec. nova

Thallus corticolus, hypophloedus, laevigatus, bubalineus vel stramineus. Stromata bicarpia, raro tricarpia, 2.0 mm diam., convexa, \pm omnia strata thallina obducta; ascocarpia 0.9 mm diam., lageniformibus, ostiolis distinctis, pallidis; excipuloidea fuliginosa; asci 8-spori; sporae fuscae, ellipsoidae, murilater divisae, cellulis in 8-10 serie transversalis dispositis, 70-90 μm longae, 30-46 μm crassae.

Holotype: India; Tamil Nadu, Madurai district, Shola near 9th. mile on Kodaikanal-Berijam Road, alt. 2290 m, *Foreau & Awasthi 4192* (AWAS) (Fig. 1, A-C).

Thallus corticolous, hypophloedal, buff to straw-coloured, smooth, K-, C-, KC-, P-, hypothallus indistinct; corticiform layer 112-145 μm thick, phycobiont layer 15-17 μm thick (at places indistinct), medulla indistinct.

Stromata (1-)2(-3)-carpous, up to 2.0 mm long, 1.0-1.5 mm broad, convex, \pm completely covered with and concolorous to thallus, only top part of individual ascocarps with a corticiform covering and blackish; ascocarps up to 1.0 mm in diameter, flask-shaped, each opening to the exterior independently through obliquely upward running ostiolar canal, all of which from a stroma, converging and each ending in an ostiole, ostioles situated on a thallus coloured or slightly darker-coloured \pm circular, flat plate in the form of (1-)2(-3) fine dots (depending on the number of ascocarps in the stroma); excipuloid tissue black and carbonaceous, with heavy deposition of colourless crystals, 200-225 μm thick at top and sides, 100-150 μm thick at bottom; nucleus I+ wine red; paraphysoid threads unbranched or sparingly branched and anastomosing; asci clavate, 8-spored, 310-345 \times 55-70 μm ; spores uni- or biseriate in ascus, brown, ellipsoid, multi-celled muriform, cells arranged in 8-10 transverse tiers, 1-6 cells in each, with 7-9 primary septa, 70-92 \times 30-46 μm .

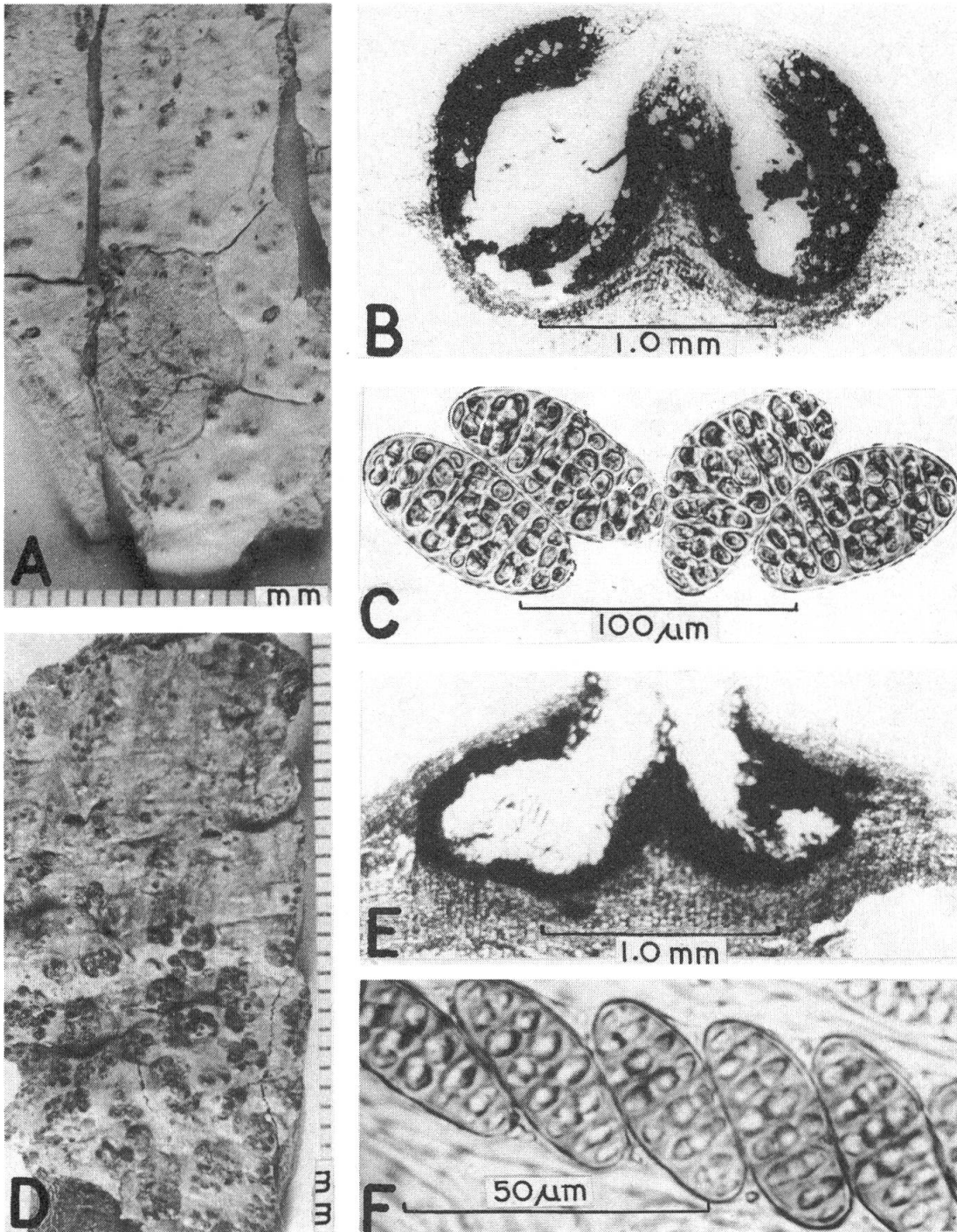


Fig. 1A-C - *Parmentaria oligocarpa*.

A, habit; B, vertical section of stroma; C, spores.

Fig. 1D-F - *Parmentaria pluricarpa*.

D, habit; E, vertical section of stroma; F, spores.

Parmentaria oligocarpa resembles *P. chilensis* in thallus colour as well as in stromata, that are convex and are covered with thallus. The ostioles of all the ascocarps of a stroma converge to its centre but remain separate from each other. Nonetheless, the two species differ in other details. In *P. chilensis* the number of ascocarps in a stroma is 1-5. The asci are 4-8-spored, a character by virtue of which, as stated by IMSHAUG & HARRIS (1969), *P. chilensis* is well isolated in the genus.

Known from the type collection only.

2. *Parmentaria pluricarpa* A. Singh, spec. nova

Subsimilis *Parmentaria ravenellii* (Tuck.) Müll. Arg., sed sporae minora.

Holotype: India; Kerala, Mallapuram district, Calicut University Campus, 23rd. Jan., 1975, *Singh & Ranjan 102233b* (LWG) (Fig. 1, D-F).

Thallus corticolous, hypophloedal, buff, smooth, K-, C-, KC-, P-, hypothallus in the form of black line, partly surrounding the thallus; corticiform layer 27-33 μm thick, phycobiont layer 30-38 μm thick, medulla indistinct.

Stromata (2-)4-7-carpous, up to 2.0 mm in diameter, immersed to emergent; ascocarps stellately arranged in the stroma, ca. 1.0 mm in diameter, immersed to emergent and convex to hemispherical, covered by thallus or completely naked, dull to shining black, opening through obliquely upward running ostiolar canals, all converging to the centre of stroma and each ending in an ostiole, ostioles situated on a pale or black \pm circular plate, in the form of (2-)4-7 dots (depending on the number of ascocarps in the stroma); excipuloid tissue black and carbonaceous, with moderate deposition of colourless crystals, 40-130 μm thick; nucleus I + wine red; paraphysoid threads unbranched or sparingly branched and anastomosing; asci cylindrical to clavate, 8-spored, 155-180 \times 26-32 μm ; spores uniseriate in ascus, brown, ellipsoid, multi-celled muriform, cells arranged in 8 transverse tiers, with 1-4 cells in each and with 7 primary septa, 28-38 \times 12-18 μm .

Parmentaria pluricarpa, somewhat resembles the New World species *P. ravenellii*. The two, however, differ in the following characters. The stroma in *P. pluricarpa* is a compact structure due to larger number of ascocarps, and of larger size, in each stroma as compared to that of *P. ravenellii*, in which the stroma is (1-)2-3(-5)-carpous and presents rather a lax appearance. The ascocarps in the latter always remain covered with corticiform layer, which imparts dull black colour to them. The ostiolar plate in *P. pluricarpa* is brown in young stroma but turns black later on, but in *P. ravenellii* it always remains brown. The spores in the latter are larger, measuring 43-60 \times 15-22 μm .

Known from the type collection only.

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