

## HEPPIACEAE (LICHENES)

### CORYNECYSTIS, A NEW LICHEN GENUS FROM THE KAROO, SOUTH AFRICA

#### *Corynecystis Brusse*, gen. nov.

Thallus e haptero subfruticosus, pulvinatus, saxicola, plus minusve 3 cm diametro, et 2 cm altus, ad basim (hapteron) divisus. *Lobi* sublineares, inflati, ramosi, 1–3 mm diametris, usque ad 2,5 cm longi, cylindrici vel irregulares vel interdum complanati. *Pagina externa* nigricans, laevis. *Cortex* (stratum gonidiale) paraplectenchymatus. *Algae* cyanescentes (*Chroococcaceae*). *Medulla* (pagina interna) alba, 10–200  $\mu$ m crassa.

TYPUS. — *Corynecystis capensis* Brusse.

#### *Corynecystis capensis* Brusse, sp. nov.

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lata et apothecioidea. *Paries* (excipulum) hyalinus, plus minusve (pericline) prosoplectenchymatus, 20–30  $\mu$ m crassus, J–. *Subhymenium* (vel carpocentrum) hyalinum, 20–70  $\mu$ m profundum, J+ caeruleum. *Hymenium* hyalinum, circa 200  $\mu$ m altum, J+ caeruleum. *Paraphyses* graciles, flexiles, septatae, remote ramosae et anastomosae vel fere simplices, leviter gelatinosae. *Asci* clavati vel botuliformes, parietibus praecipue ad apicibus versus incrassatis, J+ caeruleis, cum vaginis gelatinosis, laceratis, hyalinis, distalibus (generis *Peltulae* Nyl. similes). *Ascospores* numerosae (circa 100 vel plures), hyalinae, simplices, ovales, 4–5  $\times$  5,5–7  $\mu$ m, J–. *Pycnidia* globosa, in thallis omnino immersa, hyalina, 100–200  $\mu$ m diametris. *Pycnidiospores* hyalinae, ellipsoideae, circa 4  $\times$  1,8–2,0  $\mu$ m.

TYPUS. — 3221 (Merweville): Layton, on rock face in kloof (–BB). *D.A.M.B. Shearing* 589, 1984.06.25 (PRE, holo.; COLO; LD, iso.).

Thallus subfruticose from a holdfast, pulvinate, saxicolous, about 3 cm across and 2 cm high, divided to base (holdfast). *Lobes* sublinear, inflated, branched, 1–3 mm in diameter, up to 2,5 cm long, cylindrical to irregularly inflated, or sometimes flattened. *Outer surface* charcoal, smooth, matt. *Cortex*

(algal layer) paraplectenchymatous, 30–60  $\mu\text{m}$  thick; algae blue-green (*Chroococcaceus*). *Medulla* (inner surface) white, 10–200  $\mu\text{m}$  thick; hyphae 2–3  $\mu\text{m}$  thick, lightly gelatinized. *Ascomata* first perithecioid, hyaline, immersed, globose, about 300  $\mu\text{m}$  in diameter, becoming 400  $\mu\text{m}$  wide and apothecioid. *Wall* (exciple) hyaline, more or less (periclinally) prosoplectenchymatous, 20–30  $\mu\text{m}$  thick, I–. *Subhymenium* (or carpocentrum) hyaline, 20–70  $\mu\text{m}$  deep, I+ blue. *Hymenium* hyaline, about 200  $\mu\text{m}$  high, I+ blue. *Paraphyses* slender, flexible, septate, remotely branched and anastomosed or nearly simple, lightly gelatinized. *Asci* clavate to botuliform; with thickened walls, especially towards the apices; I+ blue, with a distal hyaline, lacerate gelatinous sheath (as in the genus *Peltula* Nyl.) *Ascospores* numerous (about a hundred or more) per ascus, hyaline, monolocular, oval, 4–5  $\times$  5,5–7  $\mu\text{m}$ , I–. *Pycnidia* immersed in thallus, hyaline, globose, 100–200  $\mu\text{m}$  in diameter. *Pycnidiospores* hyaline, ellipsoid, about 4  $\times$  1,8–2,0  $\mu\text{m}$ .

This remarkable new lichen has the colour, size and habit of a *Thyrea*, except the lobes are inflated. *Thyrea*, however, has non-corticate, homoeomeorous, dorsiventral solid lobes, with *Gloeocapsa* algae as the photobiont. The asci contain fewer ascospores (8–32 each), and lack the lacerate sheaths. Other subfruticose or fruticose members of the Lichina-



FIG. 4. — *Corynecystis capensis*. D. Shearing 490. Scale in mm.

ceae (as presently circumscribed) are much smaller. (Henssen, 1963, 1977, 1980; Poelt, 1969; Zahlbruckner, 1926).

Immature thalli of the new lichen (Fig. 4) resemble *Dactylina arctica* (Hook.) Nyl. in form and size, but the latter contains green algae, is dull ochre coloured, and contains depsides and/or depsidones.

This new genus is, however, closest to *Peltula* Nyl. both in apothecial characters, and in the structure of the upper cortex, which is constructural with the algal layer in these cases. The major difference between *Corynecystis* and *Peltula* is the large inflated lobes of the former. This represents an order of magnitude in size difference from any known fruticose *Peltula*, which are also solid within. (Wetmore, 1971; Swinscow & Krog, 1979).

This new lichen is therefore best placed in the Heppiaceae, and is presently only known from the type locality, Layton, south east of Fraserburg in the Cape Province.

CAPE. — 3221 (Merweville): Layton, locally common on rock (-BB). D. Shearing 490. 1984.02.15 (PRE). Fig. 4.

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