

## Further contributions to the lichen genus *Leptogium* in southern South America

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**Abstract:** Two new species in *Leptogium* are described and illustrated from the Cape Horn region: *L. auriculatum* and *L. adnatum* both grow on wet rocks, the former by a river, the latter on coastal rocks. In addition to the special habitat the latter is easily identified on the closely appressed thallus which centrally often have densely packed squamules in intricately folded structures. *Leptogium auriculatum* is characterized by the regular, rounded lobes with thickened margins carrying granular isidia. The total number of *Leptogium* species known in the region at present is 19, including the previously doubtful *L. patagonicum* Zahlbr., which is here confirmed as a distinct species.

**Key words:** new, region, species, subantarctic

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### Introduction

Cape Horn, the southernmost point of South America, is probably most famous for its poor weather, which makes it frightful for sailors. Nevertheless, several early scientific expeditions travelled through the region and made collections (Galloway 2008), proving that the lichen flora is interesting and quite special. Galloway & Jørgensen (1995) made a survey of the genus *Leptogium* in the region and recorded 16 species, with some additional unconfirmed earlier records. The second author and co-workers also collected lichens during a bryological excursion in the region, parts of which were revised by the first author who found important additions to the known *Leptogium* flora, bringing the total up to 19.

### The Species

#### *Leptogium adnatum* P. M. Jørg. sp. nov.

MycoBank No.: MB805438

*Leptogium patagonicum* similis sed thallo adpresso, complicato non-hirsuto, marginibus irregularibus.

Typus: Chile, Comuna Cabo de Hornos, Islas Holger, in Caleta Holger off NE coast of Isla Navarino, 27 November 2001, W. R. Buck 41478 (NY—holotypus).

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(Fig. 1A)

*Thallus* crustaceous, spreading, composed of densely packed, irregular squamules often more or less erect, forming intricate patterns, but in outer parts developing more fully into vertical, appressed, dark greyish blue orbicular lobes, which are firmly attached to the rocks and up to 1 mm broad. In section 100–150 µm thick with a single cortical layer on both sides, non-hairy.

*Apothecia* sparse, sessile, 1.5–2.0 mm broad with concave, brown disc and 200–250 µm wide, dark grey-blue cellular thalline margin, often with small lobules attached, when developed among the packed squamules appearing urceolate. *Asci* of *Leptogium*-type; *ascospores* poorly developed, narrowly ellipsoid, colourless, sparingly submuriform, 35–45 × 10–12 µm.

*Conidiomata* not observed.

*Notes.* This is an unusual, rather crust-like species which covers the rocks to which it is appressed (hence the epithet) and is carpet-like. Though the type collection on closer inspection was found to consist of closely packed, intricately folded lobes, it is possibly related to *L. patagonicum* Zahlbr. due to the kind of lobes, in spite of the lack of hairs. Similar modifications of that species with densely packed lobes are found in Buck's collections, but they all have distinctly hairy lower surfaces. The different apothecia and

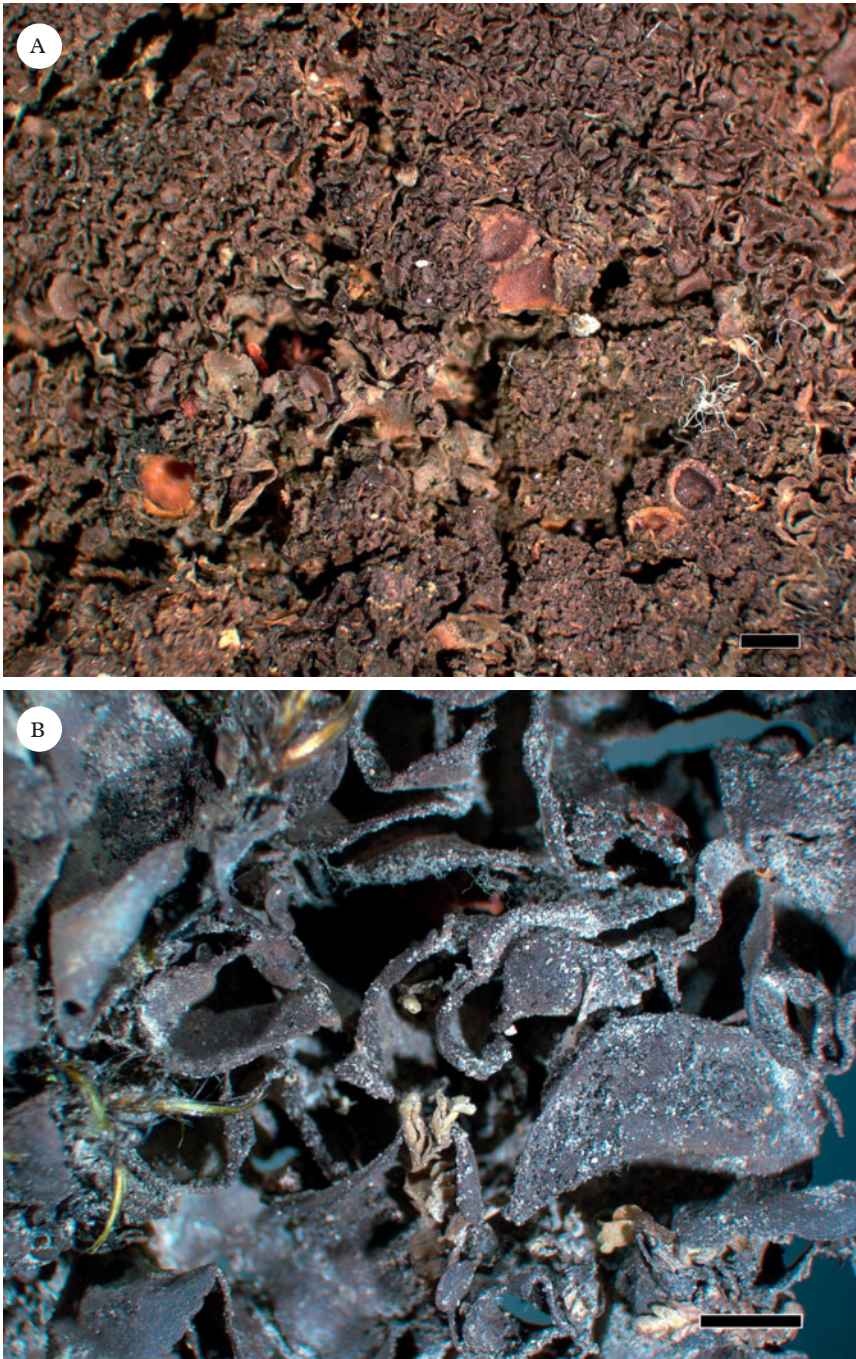


FIG. 1. A, *Leptogium adnatum*, part of the holotype; B, *L. auriculatum*, part of the holotype. Scales: A & B = 1 mm. Photographs: J. Berge.

spores of the material described here cannot be explained as modifications, so a new taxon is established. The ascospores rather indicate a relationship with *L. australe* (Hook. f. & Taylor) Müll. Arg., which is one of the hairy species though with quite different subpedicillate apothecia with blackish brown discs (Galloway & Jørgensen 1995). That species frequently occurs higher up on maritime rocks, amongst mosses and grass in the region, and is quite distinctive. A superficially more similar species is *L. puberulum* Hue, a rare species in the region, which is shortly hairy below, with a different ecology (non-maritime, on exposed rocks more inland) and shorter and broader ascospores.

*Habitat and distribution.* *Leptogium adnatum* was collected on coastal rocks in the supramarine zone, a rather unusual habitat for a *Leptogium*. However, the high rainfall in the region appears to wash the salt out and make such habitats better available for lichens. The species is as yet known only from maritime rocks in the Cape Horn region, and may be a local endemic.

*Additional specimens studied.* **Chile:** Comuna Cabo do Hornos, Parque Nacional Alberto Agostini, N shore of Isla Gordon, extreme SW end of Bahía Romanche, 2012, *W. R. Buck* 59091 (NY); W end of Isla Gordon, extreme SE end of Brazo Intuil of Paso Darwin, 3 ii 2012, *W. R. Buck* (NY); Isla Grande de Tierra Fuego, W coast of Caleta Olla, at E end of Brazo Noroeste of Beagle Chanel, 2012, *W. R. Buck* 58907 (NY); N shore of Isla Hoste, SE end of Estero Fouque, opposite Punta Blanco, 21 i 2012, *W. R. Buck* (NY).

***Leptogium auriculatum* P. M. Jørg.  
sp. nov.**

Mycobank No.: MB805439

*Leptogium decipiente* similis sed thallo non hirsuto, lobis auriformis et marginibus incrassatis granulatis.

Typus: Chile, Comuna Cabo de Hornos, Isla Navarino, Pantalon del Este, c. 9 km E of Puerto Williams, small stream near mouth of Beagle Channel, 25 November 2001, *W. R. Buck* 41349 (NY—holotypus).

(Fig. 1B)

*Thallus* foliose, consisting of orbicular, often imbricate, 5–7 cm diam., auriform lobes 0.5–1.0 cm wide, with undulating margins. In section 150–250 µm thick with the cortex in a single row of isodiametric

cells; margins thickened, bursting into soredioid clusters of granular isidia, these sometimes also roughening the otherwise quite smooth, shiny, dark grey-brown upper surface. *Lower surface* paler, smooth, without hairs.

*Apothecia* and *conidiomata* unknown.

*Notes.* Easily recognized by the auriform lobes with thickened, often granular margins, unlike any other species in the region except for the unrelated *L. decipiens* P. M. Jørg. which has hairs on the lower surface and more elongated lobes with cylindrical isidia. Though *L. auriculatum* has no hairs on the lower surface, it appears to be most closely related to *L. patagonicum* Zahlbr., a species which is well represented in these collections and the identity of which was first clarified by Jørgensen (2001), a view which these collections confirm.

*Habitat and distribution.* The type was collected on wet rocks along a small stream in a disturbed *Nothofagus* forest, and the second specimen on large rock outcrops in a mostly unforested region.

*Additional specimen studied.* **Chile:** Comuna Cabo do Hornos, Parque Nacional Alberto Agostini, Isla Grande de Tierra Fuego, Fiordo Garibaldi, small island just SW of where Ventisquero Pisco Azules reaches the fiord, 2012, *W. R. Buck* 59280 (NY).

**Concluding remarks**

The discovery of two new *Leptogium* species in this region is remarkable, even if the region is poorly accessible and it is difficult to make collections there. It adds to the number of endemics in the subantarctic element.

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