

Additions and corrections to the Lichens of Antarctica and South Georgia

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Abstract – The taxonomic listing given in *Lichens of Antarctica and South Georgia* (Øvstedal & Lewis Smith 2001) has been updated. 17 additional taxa of lichenised fungi are described, including several nomenclatural changes. 14 of these are considered as new records for the Antarctic and one is new to South Georgia. One is described as new to science.

INTRODUCTION

Following the publication of *Lichens of Antarctica and South Georgia* (Øvstedal & Lewis Smith, 2001), several additional taxa have been identified, mostly in the collections of the British Antarctic Survey, Cambridge (AAS), including one new to science, and some corrections have been made. As with a large proportion of the species given in the above volume, most of the present species have a bipolar distribution. Descriptions and other details of the taxa are given below.

TAXA LIST

Acarospora nitrophila H. Magn.

Thallus as scattered squamules, each squamule up to *ca.* 1 mm diam, as an irregular rim around the disc, disc up to 0.4 mm diam, slightly concave, dark brown, with a black umbo. Hymenium 80-85 µm high, epithecium pale brown. Ascospores >100 in asci, subglobose, *ca.* 3 × 2 µm.

TLC: Negative.

Ecology: On boulders of volcanic rock on unstable scree, with *Physcia* sp., *Umbilicaria antarctica*, *Xanthoria candelaria* and *Lecanora fuscobrunnea*. Alt. 20 m.

Distribution: Bipolar. Europe. Antarctica: Victoria Land.

Specimen seen: R.I. Lewis Smith 9767 (Edmonson Point, slope above south side of Adélie Lake; AAS).

Comment: Previously reported from continental Antarctica by Castello & Nimis (2000), but we have not had access to that material. The type has also not been available, but we have seen numerous specimens det by H. Magnusson from the Arctic (O), and the present Antarctic specimen is within the variation of this material.

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Acarospora veronensis Massal.

Thallus as dispersed, rounded, convex, dark brown areolae, up to 1.5 mm wide. Apothecia 2-4 per areole, discs minute, blackish, concave. Hymenium *ca.* 60 µm high. Ascospores >100 in asci, *ca.* 3 × 2 µm. Lower side of areole pale.

TLC: Negative.

Ecology: On calcareous sandstone on a fluvial outwash plain. Alt. 10 m.

Distribution: Cosmopolitan. Antarctica: Antarctic Peninsula, James Ross I.

Specimen seen: R.I. Lewis Smith 5379 (James Ross I., midway between Cape Lachmann and Bibby Point; AAS).

Comment: The specimen is similar in all essential details to Arctic specimens. New to Antarctica.

Aspicilia sp.

Thallus crustose, *ca.* 3 cm wide, at margins radiating with discrete, elongate, white, flat areolae; a very thin black prothallus present. Fertile areolae crowded in inner part, raised, angular, to *ca.* 0.6 mm diam, with 1-7 slightly concave, black, non-pruinose discs. Hymenium *ca.* 100 µm high, uppermost part yellow-brown. Ascospores 8 in asci, broadly elliptic, *ca.* 15 × 10 µm. Paraphyses moniliform. Oxalate crystals present in medulla.

TLC: Substictic acid.

Ecology: On sandstone boulders. Alt. 20-30 m.

Distribution: Antarctica: Antarctic Peninsula, James Ross I.

Specimen examined: R.I. Lewis Smith 7363 (James Ross I., E side Lachmann Crag; AAS).

Comments: This taxon was not included in Øvstedal & Lewis Smith (2001). The thallus morphology may suggest *A. nikrapensis* Darb., a common species in the Arctic, but the fertile parts are different and we cannot identify it with any of the species treated in Lyngé (1937, 1940), Magnusson (1939), Øvstedal *et al.* [in prep., Thomson (1997) and Zahlbruckner (1928)].

Bryoria austromontana P.M. Jørg. & D. Galloway

Thallus fruticose, pendant to decumbent, brown, main branches up to 0.5 mm diam, thallus up to 20 (- 45) cm long. Pseudocyphellae sparse, mostly closed, rarely opening up ribbon-like, with a secondary formation of a cortex, leaving small ovate openings to the medulla.

TLC: Negative.

Ecology: Antarctic specimens locally common on rock faces attached to other lichens, especially *Usnea antarctica* and *U. aurantiaco-atra*; also loosely attached to moss turf formed by *Chorisodontium aciphyllum* and *Polytrichum strictum* on steep boulder slopes. Alt. 5-120 m.

Distribution: Disjunct southern Southern Hemisphere. New Zealand, Argentina, Falkland Islands. Antarctica: South Orkney Is.

Selected specimens seen: R.I. Lewis Smith 8090, 10855, 10861, 10928, 10929, 10931 (South Orkney Is, Signy I., Factory Bluffs; AAS); 8601 (Signy I., to south of North Point; AAS); 10780 (Signy I., Stygian Cove; AAS); 10884 (Signy I., above Paal Harbour; AAS); H. Imshaug 52065 & K. Ohlsson (Argentina, Isla de los Estados, Puerto Vancouver; MICH); H. Mayrhofer 7512 & H. Hertel (New Zealand, Otago, The Remarkables; BG).

Comments: This was given as *Bryoria* sp. A in Øvstedal & Lewis Smith (2001), but further studies of Antarctic and New Zealand material has convinced us that it is, in fact, *B. austromontana*. The New Zealand material seen by us has fewer wide open pseudocyphellae, but this may be the result of a less severe climate.

Previously, the Antarctic specimens were named *B. chalybeiformis* (L.) Brodo & D. Hawksw. (Lamb 1968, etc.) but, following our recent revision, that taxon has never been observed in the Antarctic biome. However, there is a specimen from Argentina, Isla de los Estados (Imshaug 53237, MICH), so it is quite possible that this species may yet be found in the Antarctic. The strain of *Bryoria* sp. A containing psoromic acid (Øvstedal & Lewis Smith, 2001) is considered below (as *B. implexa*). The type of *B. austromontana* has not been available. In the South Orkney Is this species is often remarkable for the length of its pendant thalli (see Øvstedal & Lewis Smith, 2001).

Bryoria implexa (Hoffm.) Brodo & D. Hawksw. s. lat.

Thallus fruticose, pendant to decumbent, up to 15 cm long, pale brown to grey-brown or dark brown. Main branches up to 0.3 mm diam, sometimes slightly foveolate, with a few fusiform pseudocyphellae, rarely with fissural soralia. Branching irregularly and dichotomously, angles between the dichotomies acute. TLC: Psoromic acid.

Ecology: Antarctic specimens on rock and soil, attached to other lichens or mosses; also on moss turf formed by *Chorisodontium aciphyllum* and *Polytrichum strictum* on steep boulder slopes. Falkland Is specimen on moss amongst *Empetrum rubrum*. Alt. 50-150 m.

Distribution: Bipolar. Europe, North America, South America, Falkland Is. Antarctica: South Orkney Is, South Shetland Is.

Selected specimens seen: R.I. Lewis Smith 6511 (South Orkney Is, Signy I., Factory Bluffs; AAS); N.J. Collins 15 (South Orkney Is, Fredriksen I., north-east side; AAS); S. Pfeiffer 11b (South Shetland Is., Penguin I., inside crater; AAS); R.I. Lewis Smith 11042 (Falkland Is, Saunders I. hill north-west of Mt Richard; AAS); H. Imshaug 53443 & K. Ohlsson (Argentina, Isla de los Estados, Bahia Flinders; MICH).

Comments: This taxon was named as *Bryoria* sp. A (psoromic acid strain in Øvstedal & Lewis Smith 2001). Several specimens have since been examined, including one from Isla de los Estados, which had soralia and were otherwise similar to Antarctic and Falkland Islands specimens. Generally this taxon has more slender main branches than *B. austromontana*, and it lacks the ribbon-like structures, in addition to the different chemistry. In Europe and North America *B. implexa* is a variable species, mostly with soralia but sometimes without (Brodo & Hawksworth, 1977).

Buellia austropapillata Øvst. sp. nov.

Buellia papillata similis, sed differt in ascosporae minoribus et continentium chemicum.

Holotype: Antarctica, Victoria Land, Cape King, 23.12.1995, R.I. Lewis Smith 10280 (AAS).

Thallus 3-4 cm wide, white. Apothecia numerous, sessile, black, up to 1.1 mm diam, at first flat with a thin but distinct margin, later becoming convex with margin excluded. Hymenium 80-90 µm high, epithecium blue-green, N+ red. Hypothecium dark brown. Asci 8-spored. Ascospores 1-septate, but some ascospores with an additional false septum; 15-24 × 6-9 µm. Paraphyses end cell ca. 3 m wide. Medulla K/I -. Pycnidia not seen.

TLC: 6-O-methylarthothelin (major), norstictic acid (major), atranorin (minor), secalonic acid A (minor), secalonic acid C (minor), unknown secalonic acid derivatives (minor/trace) (J.A. Elix det).

Ecology: On moribund mosses. Alt. 10-500 m.

Distribution: Antarctica: Victoria land, Dronning Maud Land. Endemic.
 Specimens seen (other than type): R.I. Lewis Smith 9662 and 10281 (same locality as type; AAS); T. Engelskjøn s.n. (Dronning Maud Land, 1986; BG).
 Comments: This is *Buellia* sp. D in Øvstedal & Lewis Smith (2001). Initially it was thought that the specimens belonged to *B. terricola* A. Nordin, a species described from North America, because of the norstictic acid component and the ascospore septation, but A. Nordin examined the specimens and found that they did not belong to his species.

***Candelariella placodizans* (Nyl.) H. Magn.**

Thallus 1-2 cm wide, composed of contiguous areolae, each areola 0.3-0.4 mm wide, with marginal soralia. Apothecia rare, among areolae, up to 1 mm diam, thalline margin thin, concolorous with thallus, disc flat, greenish. Hymenium ca. 60 µm high. Ascospores 12 in asci, 12-16 × 4-4.5 µm.

TLC: Pulvinic acid derivatives.

Ecology: On dry silty soil. Alt. 150 m.

Distribution: Bipolar. Europe, North America. Antarctica: Antarctic Peninsula, James Ross I.

Specimen seen: R.I. Lewis Smith 7763 (James Ross I., Fortress Hill, 19.1.1989; AAS).

Comments: New to Antarctica.

***Catillaria chalybeia* (Borrer) Massal.**

Thallus evanescent or hidden in fissures in rock. Apothecia black, up to 0.6 mm diam, sessile, flat, true margin slightly protruding. Hymenium ca. 60 µm high, uppermost part green-black. Hypothecium red-brown. Ascospores 8 in asci, 10-12 × 5-6 µm, colourless, 1-septate. Paraphyses little ramified, end cell distinctly enlarged, cap with green-black pigment.

TLC: Negative.

Ecology: On siliceous rock in moraine. Alt. 220 m.

Distribution: Bipolar. Europe, North America. Sub-Antarctica: South Georgia.

Specimen seen: R.I. Lewis Smith 8416 (South Georgia, Stromness Bay, upper Husdal, 21.12.1991; AAS).

Comments: The specimen was compared to N. European specimens and found to be similar in all essential details. New to the sub-Antarctic.

***Lecanora ecorticata* Laundon**

Thallus as a thin leprose film on rock, to 8 cm diam, yellow-green, consisting of weakly delimited, non-lobate colonies of soredia. Soredia globose, without distinct protruding hyphae, and not surrounded by a hyaline layer, 35-45 µm diam. Apothecia not seen.

TLC: Usnic acid.

Ecology: On dry gravelly soil with *Bacidia tuberculata*, *Cladonia pocillum*, *Lepraria stramineum* and *Leproloma cacuminum* (RILS 8075c), and in a shaded damp rock crevice (DCL 1187). Alt. 3-10 m.

Distribution: Bipolar. Europe. Antarctica: South Orkney Is, Signy I.

Specimens seen: R.I. Lewis Smith 8075c (South Orkney Is, Signy I, Lenton Point; AAS); D.C. Lindsay 1187 (South Orkney Is, Signy I, Berntsen Point; AAS).

Comments: This is a recently described species (Laundon, 2003). The type (BM, studied) contains usnic acid and traces of atranorin and zeorin (Tønsberg pers. comm.), but according to Laundon (2003), most specimens contain only usnic acid. The specimens were reported as *Lepraria* sp. B in Øvstedal & Lewis Smith (2001). New to Antarctica and southern Hemisphere.

***Lecanora fuscobrunnea* Dodge & Baker**

Thallus as small, convex yellowish areolae, up to 0.8 mm broad, but sometimes coalescing into larger ones. Apothecia sessile, up to 1 mm diam, with thin thalline margin concolorous with thallus. Disc flat, greenish. Hymenium 50-55 μm high, epithecium blue-green. Hypothecium colourless. Thalline margin almost filled with algae, cortex colourless, *ca.* 15 μm thick, pseudoparenchymatous. Ascospores 8 in asci, 10-12 \times 4.5-5 μm . Paraphyses stout, little ramified, end cell enlarged to 2.5-3 μm diam.

TLC: Usnic acid, zeorin, rangiformic acid, norrangiformic acid, unidentified fatty acid.

Ecology: On volcanic boulders, ornithocoprophilic. Alt. 25-50 m.

Distribution: Antarctica: Victoria Land. Endemic.

Specimens examined: R. Bargagli leg, M. Castello det (Victoria Land, Terra Nova Bay, Gondwana Lake, Italian Exped. 1993-94; TSB 21370); R.I. Lewis Smith 9767 (Victoria Land, Edmonson Point, above south side of Adélie Lake, 30.12.1995, see *Acarospora nitrophila*; AAS).

Comments: This taxon was included as a synonym of *Rhizoplaca melanophthalma* in Øvstedal & Lewis Smith (2001), but information from M. Castello (*pers. comm.*) and further examination of specimens, including some determined by M. Castello, has convinced us that the specimens belong in *Lecanora*, and that the species differs from other species in that genus known from the region. It is not included in a recent study of *Lecanora* in the Antarctic (Sliwa & Olech, 2002).

***Lecidea tessellata* Flørke**

Thallus crustose, circular, up to *ca.* 1 cm diam, grey, rimose, with a thin, black prothallus. Apothecia numerous on inner part of thallus, black, up to 0.7 mm diam, flat to slightly convex, angular due to compression, true margin weakly developed. Hymenium *ca.* 35 μm high. Epithecium brownish to blue-green. Hypothecium colourless. Ascospores 8 in asci, *ca.* 8 \times 3.5 μm .

TLC: Confluent acid.

Ecology: On volcanic boulder in moist seepage area below snow patch, with *Lecanora atromarginata*. Alt. 80 m.

Distribution: Bipolar. Europe. Antarctica: Antarctic Peninsula, James Ross I.

Specimen seen: R.I. Lewis Smith 7657b (James Ross I., valley on north side of St. Martha Cove, 23.1.1989; AAS).

Comments: The specimen is very similar to those from North European sites except that the thalli are somewhat smaller and there is a brownish tinge to the epithecium. The Antarctic specimen is associated with *Lecanora atromarginata*, but can easily be distinguished from that species by the greyer thallus with numerous apothecia. *L. atromarginata* is yellowish (usnic acid) and has only one apothecium per areolae (in Antarctic material). *L. tessellata* was earlier reported by Olech (1989), but that material has not been available.

***Leptogium crispatellum* Nyl.**

Thallus foliose, 1-2 cm across, composed of crowded, \pm erect, round lobes, 2-3 mm across; upper side brown-grey, with numerous granulose to squamulose isidia; lower side bluish-brown, with a few wrinkles and minute scattered hairs. Apothecia laminate, minutely stipitate, up to 0.6 mm diam, with smooth, thin, regular margin concolorous with thallus, and vivid red-brown concave disc. Hymenium *ca.* 100 μm high, uppermost part brownish. Ascospores 8 in asci, submuriform, 18-22 \times 8-10 μm . Paraphyses end cell enlarged to *ca.* 4 μm wide.

TLC: Negative.

Ecology: On soil.

Distribution: Southern Hemisphere. New Zealand, Sub-Antarctic (Marion I., Heard I). Antarctica: South Shetland Is.

Specimens examined: R. Ochyra 2700/80, 2708/80 (South Shetland Is, King George I., Admiralty Bay area; H).

Comments: This species was named *Leptogium* sp. A in Øvstedal & Lewis Smith (2001). Both specimens det P.M. Jørgensen. New to Antarctica.

***Phaeophyscia sciastra* (Ach.) Moberg**

Thallus foliose, 1-2 cm diam, soreolate, grey to grey-brown, lobe-ends 0.2-0.3 mm wide. Soralia marginal, blackish. Lower cortex black, pseudoparenchymatous. No apothecia seen.

TLC: Negative.

Ecology: On mosses. Alt. 5 m.

Distribution: Cosmopolitan. Antarctic: Antarctic Peninsula, James Ross I.

Specimen examined: R.I. Lewis Smith 7506 (Antarctic Peninsula, James Ross I., centre of valley below glacier NW of Dreadnought Point; AAS).

Comments: New to Antarctica.

***Polyblastia cupularis* Massal.**

Thallus crustose, thick, subgelatinous, rimose, grey-brown. Perithecia half sessile, black, up to 0.4 mm diam. Involucrellum extending halfway down the perithecium, exciple colourless. Ascospores 8 in asci, colourless, muriform, 40-44 × 12-15 µm.

TLC: Negative

Ecology: On rock.

Distribution: Bipolar. Europe, North America. Antarctica: South Shetland Is.

Specimen examined: L. Sancho 4059 (South Shetland Is, Livingston I., Hurd Peninsula; MAB).

Comments: The specimen was compared with several from the Arctic and found to be similar in all essential details. New to Antarctica and Southern Hemisphere.

***Rinodina terrestris* Tomlin**

Thallus crustose, dark grey-brown, thin, granulose to evanescent. Apothecia sessile, restricted below, up to 0.6 mm diam, thalline margin paler than disc; disc dark brown. Hymenium 60-70 µm high. Ascospores 8 in asci, ca. 20 × 10 µm, with pale protuberances at the ends.

TLC: Negative.

Ecology: On bryophytes.

Distribution: Bipolar. Europe, Greenland. Antarctica: Dronning Maud Land, Princess Elizabeth Land.

Specimens examined: J. Angard s.n. (Dronning Maud Land, H.U. Sverdrupfjella, Brekkerista, 28.1.1971; BG); R.I. Lewis Smith 10329 (Princess Elizabeth Land, Larsemann Hills; AAS).

Comments: These specimens were referred to by Øvstedal & Lewis Smith (2001) under *R. olivaceobrunnea* who suggested that they may belong to a distinct taxon. They have been compared to material from high altitude in Pakistan (Karakorum, J. Poelt K91-535, K91-477, both det R. Ertl, GRZ). *R. terrestris* has smaller ascospores than *R. olivaceobrunnea*, and the pale protuberances on the ascospores are diagnostic. New to Antarctica and Southern Hemisphere.

Stereocaulon cf. *condensatum* Hoffm.

Primary thallus persistent, granular, grey. Cephalodia on soil, semiblobose, dark brown, with rough surface. Pseudopodetia decumbent, up to 10 mm long; main stem pink, smooth to slightly tomentose. Phyllocladia granulose, greyish.

TLC: Atranorin, stictic acid.

Ecology: On coarse ash and scoria on heated ground associated with fumaroles. Scattered colonies amongst bryophytes on a small scoria cone. Alt. 175 m.

Distribution: Bipolar. Europe, North America, South America. Antarctica: South Shetland Is.

Specimen examined: R.I. Lewis Smith 11254 (South Shetland Is, Deception I., ca. 2 km N of Vapour Col on W side of Stonethrow Ridge; AAS).

Comments: Characterised by the persistent granular primary thallus and the dark cephalodia on soil. Morphologically the specimen is within the variation of European populations, but the chemistry is different, as *S. condensatum* is reported with only atranorin and lobaric acid (Lamb, 1977; Purvis *et al.*, 1992). New to Antarctica.

DISCUSSION

The biogeographic composition of the Antarctic and South Georgia lichenised fungi is broadly summarized in Table 1. These data update Tables 8 and 9 given in Øvstedal & Lewis Smith (2001), but do not include additional species listed by other authors which have not been available to the authors for examination and confirmation. The present update brings the total number of taxa (identified to species plus identified to genus only) to 393 (Antarctic) and 195 (South Georgia). Of the Antarctic taxa, 223 have been recorded from the South Orkney Islands (all of which are known from the 25 km² Signy I.), 213 from the South Shetland Islands, 269 from the Antarctic Peninsula and offshore islands, and 92 from continental Antarctica. The totals for the south Sandwich Islands (46) and Bouvetøya (52) remain unchanged.

Of the 16 species and taxa described here one is new to science (*Buellia austropapillata*). Two chemical strains of *Bryoria* sp. A (Øvstedal & Lewis Smith, 2001) have now been identified as two distinct species, *B. austromontana* and *B. implexa*. Two other previously unidentified taxa have been named (*Lepraria* sp. B = *Lecanora ecorticata*, and *Leptogium* sp. A = *L. crispatellum*). 11 species are new records for the Antarctic (*Acarospora veronensis*, *Bryoria austromontana*, *B. implexa*, *Buellia peninsularis*, *Candelariella placodizans*, *Lecanora ecorticata*, *Leptogium crispatellum*, *Phaeophyscia sciastra*, *Polyblastia cupularis*, *Rinodina terrestris* (formerly given as a form of *R. olivaceobrunnea*, *Stereocaulon* cf. *condensatum*, while *Aspicilia* sp. remains unidentified). *Catillaria chalybeia* is a new record for South Georgia. Two species had been reported previously (*Acarospora nitrophila*, *Lecidea tessellata*), but not by Øvstedal & Lewis Smith (2001). Two are considered to be Antarctic endemics (*B. austropapillata*, *L. fuscobrunnea*), nine have a bipolar distribution (*Acarospora nitrophila*, *B. implexa*, *Candelariella placodizans*, *Catillaria chalybeia*, *Stereocaulon* cf. *condensatum*), two have southern Southern Hemisphere distributions *Bryoria austromontana*, *Leptogium crispellatum*), and two have cosmopolitan distributions *Acarospora veronensis*, *Phaeophyscia sciastra*).

Table 1. Revised number of lichen taxa and percentage (in parenthesis) of regional total^a of different biogeographical elements in relation to the Antarctic and South Georgia geobotanical regions. Data in *italic* are updates of those given in Øvstedal & Lewis Smith (2001).

<i>Biogeographical elements</i>	<i>South Georgia</i>	<i>Bouvetøya</i>	<i>South Sandwich Is</i>	<i>South Orkney Is</i>	<i>South Shetland Is</i>	<i>Antarctic Peninsula + islands</i>	<i>Continental Antarctica</i>
Cosmopolitan	28 (14.4) <i>28 (14.4)</i>	5 (9.6)	8 (17.4)	22 (10.0) <i>22 (9.9)</i>	20 (9.5) <i>20 (9.4)</i>	23 (8.7) <i>25 (9.3)</i>	6+1 (6.8) <i>6+1 (6.5)</i>
Southern S. Hemisphere	19 (9.8) <i>19 (9.7)</i>	3 (5.8)	3 (6.5)	14 (6.3) <i>14 (6.3)</i>	13 (6.2) <i>14 (6.6)</i>	12 (4.4) <i>12 (4.5)</i>	2 (2.3) <i>2 (2.2)</i>
Magellanic	22 (11.3) <i>22 (11.3)</i>	3 (5.8)	0 (0)	14 (6.3) <i>15 (6.7)</i>	14 (6.6) <i>15 (7.0)</i>	16 (6.1) <i>16 (6.0)</i>	1 (1.1) <i>1 (1.1)</i>
Bipolar	67 (34.5) <i>68 (34.9)</i>	16 (30.8)	11 (23.9)	90 (40.7) <i>92 (41.3)</i>	83+1 (39.3) <i>85+1 (39.9)</i>	99+1 (35.2) <i>101+1 (37.6)</i>	24+2 (27.3) <i>26+2 (28.3)</i>
Antarctic endemic	47 (24.2) <i>47 (24.1)</i>	24 (46.1)	20 (43.5)	70 (31.7) <i>70 (31.4)</i>	72 (34.1) <i>72 (33.8)</i>	93+1 (35.2) <i>93+1 (34.6)</i>	44 (50.0) <i>46 (50.0)</i>
Uncertain	1 (0.5) <i>1 (0.5)</i>	0 (0)	1 (2.2)	3 (1.4) <i>3 (1.3)</i>	2 (0.9) <i>2 (0.9)</i>	5 (1.9) <i>5 (1.9)</i>	1+1 (1.1) <i>1+1 (1.1)</i>
Unidentified taxa^b	10 (5.2) <i>10 (5.1)</i>	1 (1.9)	3 (6.5)	7 (3.2) <i>6 (2.7)</i>	7 (3.3) <i>5 (2.3)</i>	16 (6.1) <i>17 (6.3)</i>	10 (11.4) <i>10 (10.9)</i>
Total no. for region	194 <i>195</i>	52	46	221 <i>223</i>	211+1 ^c <i>213+1^c</i>	264+1 ^c <i>269+1^c</i>	88+4 ^c <i>92+4^c</i>

^a Excluding dubious or unconfirmed records.

^b Recorded only from Antarctica and/or South Georgia, but cannot be ascribed to a biogeographical category until identified.

^c (+1 etc.) Number of additional taxa, i.e. record for locality is dubious or unconfirmed.

Further additions and nomenclatural changes are to be expected as other lichen specialists continue to work on recent collections from the Antarctic.

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