

**Additions to the *Placopsis* mycobiota (*Trapeliaceae*,
Ascomycota) of southern South America, with notes on new
records (including *Aspiciliopsis macrophthalma*), and a
revised regional key to the species**

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Abstract: *Aspiciliopsis macrophthalma*, *Placopsis fusciculoides*, *P. gelidioides* and *P. tararuana* are reported for the first time from southern South America. New records for 13 species of *Placopsis* in southern South America are reported, and a revised key to 22 species of *Placopsis* and *A. macrophthalma* in the region is given.

Key words: Argentina, Chile, Juan Fernández, lichens, Tierra del Fuego

Introduction

The lichen genus *Placopsis* (*Trapeliaceae*) is a common component of high-rainfall, temperate biomes in southern South America with 18 species currently known from the region (Galloway 2002). This is undoubtedly a rather low estimate of potential species numbers, especially when a more closely studied area comprising broadly similar biomes, such as New Zealand, discloses more than twice that number of taxa (Galloway 2007, 2008; D. J. Galloway, unpublished). Collections of *Placopsis* made by Prof. Henry Imshaug (East Lansing) from remote locations in the West Patagonian channels, during cruise 69–4 of R/V *Hero* (see Imshaug 1970: 41, fig. 1, for collecting localities) from 18 September to 10 October 1969, and held in the herbarium of Michigan State University (MSC), together with gatherings from southern Chile and Argentina, made by other collectors (Profs A. Elvebakk, W. Quilhot and U. Söchting), yielded four additional taxa for southern South America: *Aspiciliopsis macrophthalma* (Hook. f. & Taylor) B. de Lesd., *Placopsis fusciculoides* D. J. Galloway,

P. gelidioides Du Rietz ex I. M. Lamb and *P. tararuana* (Zahlbr.) D. J. Galloway. New records of 13 species of *Placopsis* are reported for the region, supplementing and extending the information in Galloway (2002). *Placopsis imshaugii* D. J. Galloway, a new Magellanic species, is described elsewhere. A revised key to the *Placopsis* mycobiota of southern South America, including Juan Fernández, is included as a stimulus to further collection and study of *Placopsis* in the region.

Materials and Methods

The study was based on material obtained from the following herbaria: CANB, GB, MSC, UV. Thin-layer, and high-performance liquid chromatography were carried out according to standardized methods (Culberson 1972; Feige *et al.* 1993).

Species new to southern South America

***Aspiciliopsis macrophthalma* (Hook. f. & Taylor) B. de Lesd.**

in *Ann. Cryptog. Exot.* 4 (2): 101 (1930) [as “*macrophthalma*” (*sic.*)].—*Urceolaria macrophthalma* Hook. f. & Taylor, *Lond. J. Bot.* 3: 649 (1844).—*Lecanora macrophthalma* (Hook. f. & Taylor) Nyl., *Mém. Soc. Imp. Sci. Nat. Cherbourg* 5: 336 (1858).—*Placopsis macrophthalma* (Hook. f. & Taylor) Nyl. in J. M. Crombie, *J. Bot.* 15:

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106 (1877).—*Placodium macrophthalma* (Hook. f. & Taylor) Müll. Arg., *Bot. Jahrb.* 5: 135 (1884); type: Kerguelen [“Kerguelen’s Land”], Christmas Harbour, on hills, 1–700 ft, *f. D. Hooker* 707 (BM 8108!—lectotype [*vide* Dodge (1948: 175)]; BM 8105!—isolectotype).

Remarks. *Aspiciliopsis macrophthalma* is an austral species, characterized by: a thick (0.15–0.50 mm), spreading, tartareous, creamish or pale whitish pink to greyish buff thallus, which is \pm continuous to irregularly cracked, the cracks sharp-edged, 0.05–0.1 mm wide; the surface is minutely roughened, here and there minutely white-pruinose, and \pm minutely papillate appearing maculate ($\times 10$ lens) in places; immersed, aspicilioid apothecia 0.5–1.0 (–1.5) mm diam., the disc pale to dark red-brown, to somewhat blackish shallowly to deeply urceolate, the thalline margins well delimited, concolorous with the thallus and separated from it by cracks; immersed, irregularly cracked cephalodia, merging gradually into the thallus at their margins, and distinguished from the thallus only by their colour (dark purple-blue when wet, concolorous with the thallus or darker to \pm pinkish when dry) and texture; a colourless hymenium (150–300 μ m tall); broadly ellipsoidal, colourless ascospores, uniseriate in the ascus, (15–)20–25(–30) \times 12–15(–17) μ m; and long, filiform conidia, 40–60 \times 1 μ m.

In a recent molecular study, Schmitt *et al.* (2003) showed that *Placopsis macrophthalma* (the generitype of *Aspiciliopsis*) is more closely related to *Orceolina* than it is to *Placopsis*. Accordingly, they proposed the resurrection of *Aspiciliopsis* as an independent monospecific genus, a view that is followed here.

Chemistry. 5-*O*-methylhiassic acid (major), gyrophoric acid (minor), hiassic acid (minor) and lecanoric acid (minor).

Ecology and distribution. *Aspiciliopsis macrophthalma* occurs widely in the Southern Oceans, being known from Îles Kerguelen (Hooker & Taylor 1844; Hooker 1847; Tuckerman 1875; Crombie 1876, 1877; Bouly de Lesdain 1931; Lamb 1947; Dodge

1948, 1966; Imshaug 1977), St Paul Island (Nylander 1886), Heard Island and Îles Crozet (Dodge 1948; Dodge & Rudolph 1955; Øvstedal & Gremmen 2006), Marion and Prince Edward Islands (Ott *et al.* 1997; Øvstedal & Gremmen 2001) and southern New Zealand (Galloway 2007, 2008; D. J. Galloway, unpublished).

Specimen examined. **Chile:** XII Región: moorland in gap at head of fiord E of Monte Roberto, Isla Madre de Dios, 50°20'S, 75°21'W, 29.ix.1969, *H. A. Imshaug* 44151 & *K. Ohlsson* (CANB 006777508).

Placopsis fusciculoides D. J. Galloway

in *Australas. Lichenol.* 57: 16 (2005); type: New Zealand, South Island, Otago, Humboldt Mountains, around Lake Nerine, Mt Aspiring National Park, on rock and moss in open alpine herbfield with *Celmisia*, *Aciphylla*, *Anisotome*, 1500 m, 6 ii 1999, *A. Knight* s. n. (OTA 058063!—holotype; CHR 528307!—isotype).

Remarks. *Placopsis fusciculoides* is an austral species characterized by: an orbicular to spreading, closely attached thallus with neatly pleated, flat to subconvex, flabellate margins, without a marginal prothallus; flat-tish to subconvex lobes, areolate-cracked centrally but discrete to contiguous at or near the margins; a \pm continuous, thin, velvety, pruina ($\times 10$ lens), concolorous with upper surface or pale grey-brown; distinctively eroding soralia with a well-defined, raised margin and pale greenish white or white, coarsely granular to pseudoisidiate soredia; spreading, plicate-ridged to deeply eroded cephalodia developed in concentric lines or bands near the thallus centre; scattered, often rather rare, sessile apothecia, 0.5–1.5 (–2) mm diam., scattered (when present) amongst cephalodia; hymenium 115–140 (–160) μ m tall; ascospores broadly ellipsoid to subglobose, 15–20 \times 8.5–11.5(–15) μ m; filiform, shallowly arcuate conidia, 15–22 \times 0.5 μ m.

Chemistry. Gyrophoric acid (major), \pm cryptostictic acid (major), lecanoric acid (minor), 5-*O*-methylhiassic acid (minor trace), hiassic acid (minor or trace), \pm 2'-*O*-methylhiassic acid (trace), \pm stictic acid (minor) and \pm connorstictic acid (minor).

Ecology and distribution. In southern South America *Placopsis fusciculoides* is found on coastal rocks and on rocks in scrub and grassland from 30–1000 m. Elsewhere it grows on rock outcrops, or on peaty soil or over mosses on soil in exposed subalpine to high-alpine grassland and in open, alpine herbfield. It has an altitudinal range of 610–2002 m in New Zealand, and is known from 4250 m in Bolivia (Galloway 2005). Elsewhere *P. fusciculoides* is known from New Zealand, Canada (British Columbia), and Bolivia (Galloway 2005, 2007; D. J. Galloway, unpublished).

Specimens examined. **Chile:** Juan Fernández Archipiélago: Más Afuera, Campo Correspondencia, large scattered specimens of *Lophosoria* in grassland at E base of Cerro Correspondencia, 1000 m, 1965, *H. A. Imshaug* 36983, 36988, 37002, 37006, 37043, 37054 (MSC; CANB); Más a Tierra, Frances Valley, W side of valley on lateral ridge of Cordón de los Chifladores, 370 m, 1965, *H. A. Imshaug* 38019 (MSC); Bahía Cumberland, Convict Caves, in open at mouth of caves, 30 m, 1965, *H. A. Imshaug* 38246 (MSC); Cordón Salsipuedes, scrub on exposed ridge, 600 m, 1965, *H. A. Imshaug* 38135 (MSC). **Región XII:** Península Brunswick, Puerto Cutter, along shore N of copper mine, 1967, *H. A. Imshaug* 39413B & R. C. Harris (MSC); *ibid.*, Puerto del Hambre, *Nothofagus* forest, Fuerte Bulnes, Punta Santa Ana, 1967, *H. A. Imshaug* 38770 & R. C. Harris (MSC).—**Argentina:** Tierra del Fuego: Isla Grande, 54°51'S, 68°35'W, Parque Nacional de Tierra del Fuego, open meadow and scrub on low hills on W side of Bahía Lapataia near Chilean frontier, 1971, *H. A. Imshaug* 55054 & K. Ohlsson (MSC).

Placopsis gelidioides Du Rietz ex I. M. Lamb

in *Lilloa* 13: 210 (1947); type: New Zealand. Canterbury, Cass, Mt Misery in upper subalpine belt, 1926, *G. Eimar* & *Greta Du Rietz* 1468:15 (S!—holotype; UPS!—isotype [1468:14]).

Remarks. *Placopsis gelidioides* is characterized by: convex, areolate-cracked lobes, often arranged in contiguous parallel lines, very thick swollen, smooth, thalline margins to the disc; brownish often deeply cracked disc; a pale pinkish or pale yellowish brown, nubilated hymenium, 175–200 µm tall; ellipsoidal ascospores uniseriate in ascus, contents vacuolate with 2–3(–4) prominent vacuoles, (15–)16·5–18·5(–20) × 8–10

(–11·5) µm; and filiform, curved conidia, 16–20 × 0·5 µm.

Chemistry. 5-*O*-methylhiassic acid (major), gyrophoric acid (submajor), lecanoric acid (minor) and hiassic acid (minor) [J. A. Elix, personal communication].

Ecology and distribution. *Placopsis gelidioides*, formerly considered a New Zealand endemic (Galloway 2007) is an austral, alpine species that is only infrequently collected. Its ecology in both New Zealand and southern Chile is still very incompletely known.

Specimens examined. **Chile:** IX Región: Parque Nacional Nahuelbuta, 29 v 1970, *J. Redón* s. n. (UV 2163). XI Región: Sector Húngaro, Parque Nacional Tamango, Cochrane, 47°11'S, 72°28'W, 400m, v 2001, *T. Ormeño* s. n. (UV 3553)

Placopsis tararuana (Zahlbr.) D. J. Galloway

in *Bibl. Lichenol.* 78: 59 (2001).—*Lecanora* (*Placopsis*) *tararuana* Zahlbr., *Denkschr. Akad. Wiss. Wien math.-naturwiss. Kl.* 104: 348 (1941); type: New Zealand, [Wellington], “on rock in forest, Table Top, Tararua Mountains, North Island”, c. 800 m. Sept. 1933, *E. Chamberlain* 189 (W 696!—holotype).

Remarks. *Placopsis tararuana* is characterized by: a thin, crustose dark green thallus which is continuous to minutely and irregularly effigurate-cracked; the round to oval ± immersed cephalodia, delimited by a ± continuous crack and having a plane to minutely lumpy or wrinkled surface, never or only rarely plicate-ridged or furrowed, not radiate-cracked; the small, scattered, sessile apothecia with verrucose thalline exciple (noticeable below discs); and by the oval to broadly ellipsoid ascospores, 20–25 (–26·5) × 10–12·5 µm. It is distinguished from *Aspiciliopsis macrophthalma*, by differences in colour and thickness and surface features of the thallus, and by major differences in the morphology of the cephalodia (those of *A. macrophthalma* are irregularly and deeply cracked, and merge gradually into the thallus at their margins, in contrast those of *P. tararuana* are delimited from the thallus

by a \pm continuous gaping crack, and the upper surface is continuous, plane to minutely wrinkled and without deep radiating cracks). The apothecia of *A. macrophthalma* are distinctively immersed-aspicilioid, whereas those of *P. tararuana* are sessile. Ascospores of both *A. macrophthalma* and *P. tararuana* are oval to broadly ellipsoidal and of similar dimensions. A full description is given in Galloway (2007: 1283–1284).

Chemistry. Gyrophoric acid (major), lecanoric acid (minor) and 5-*O*-methylhiascic acid (trace) [J. A. Elix, personal communication].

Ecology and distribution. *Placopsis tararuana* is an austral species known mainly from New Zealand, principally from South Island, where it occurs close to or west of the Main Divide (Galloway 2007; D. J. Galloway, unpublished) in high-rainfall areas and commonly on rocks in beech (*Nothofagus*) forest.

Specimens examined. **Chile:** XI Región: 50°22'S, 75°20'W, scrub-moorland mosaic on hill behind mine. Bahía Corbeto Papudo, 1969, *H. A. Imshaug* 44091 & *K. Ohlsson* (MSC); *ibid.*, 49°49'S, 75°16'W, scrub along river and edge of forest, fiord W of Mte Markham, Pto Alert, 1969, *H. A. Imshaug* 43952 & *K. Ohlsson* (MSC).

New records of *Placopsis* from southern South America

Placopsis baculigera I. M. Lamb

Remarks. *Placopsis baculigera* is a distinctive species with rusty orange convex lobes, having very prominent, swollen thalline margins to the apothecia, a glossy, epruinose disc and rod-shaped rather than filiform conidia (Lamb 1947; Galloway 2002). Formerly known from several localities in Chile and thought to be a Chilean endemic (Galloway 2002), it is here reported for the first time from Argentina.

New Records. **Argentina:** *Tierra del Fuego:* Isla Grande, 54°42'S, 67°47'W, krummholz region on W side of Paso Garibaldi, Sierra Alvear, 460 m, 1971, *H. A. Imshaug* 54822 & *K. Ohlsson* (MSC); *ibid.*, 54°43'S, 68°07'W, alpine region on summit of moun-

tain to the E of Monte Olivia, Sierra de Sorondo, 970 m, 1971, *H. A. Imshaug* 55585 & *K. Ohlsson* (MSC).

Placopsis bicolor (Tuck.) B. de Lesd.

Remarks. *Placopsis bicolor* is characterized by: rusty-orange convex lobes that are never soresiate; prominent, swollen margins to the apothecia; a glossy, epruinose disc; and filiform conidia. Full descriptions are given in Galloway *et al.* (2005: 325) and Galloway (2007: 1237).

Placopsis bicolor is an austral species, known from Îles Kerguelen, Îles Crozet, Heard Island, Marion Island, South Georgia, southern South America and southern New Zealand (Lamb 1947; Dodge 1948, 1966; Dodge & Rudolph 1955; Lindsay 1977; Galloway 2002, 2007; D. J. Galloway, unpublished; Galloway *et al.* 2005; Øvstedal & Gremmen 2006, 2007).

New Records. **Chile:** XII Región: 50°01'S, 74°42'W, moorland and scattered outcrops E of Pta Brown, Pto Charrúa, 1969, *H. A. Imshaug* 43586 & *K. Ohlsson* (CANB); 50°03'S, 75°02'W, mossy forest near E shore of Isla Pilot (Pto del Morro), 1969, *H. A. Imshaug* 44713 & *K. Ohlsson* (CANB); 50°03'S, 75°02'W, open hillside with outcrops, W side of Isla Grant (Pto del Morro), 1969, *H. A. Imshaug* 44709 & *K. Ohlsson* (CANB); Península Brunswick, Puerto Cutter, along shore N of copper mine, 1967, *H. A. Imshaug* 39396, 39415, & *R. C. Harris* (MSC).

Placopsis cribellans (Nyl.) Räsänen

Remarks. *Placopsis cribellans* is characterized by: rather small, neat, rosette-forming to irregularly spreading, closely appressed thalli without a projecting prothallus; convex, rather narrow lobes that are contiguous to slightly separate from the margins to centre; a pale green to green-brown upper surface when moist, grey-white to fawnish or grey-brown when dry, usually darkening towards apices of lobes, with occasional to frequent, scattered white maculae ($\times 10$ lens), best seen when moist, smooth, glossy to matt, frequently pitted or punctate with minute scars or depressions from abrading isidia, without soredia or pruina; globose isidia, 0.1 mm diam. or less, scattered to densely crowded, easily abraded and leaving whitish to dark grey-green or blackened pits; mainly central

cephalodia that are flattened-plicate, rarely white-pruinose; rather small, solitary, sessile apothecia with swollen, thick margins and urceolate to flat, white or grey-pruinose discs; and ellipsoidal ascospores, (12–) 14–16.5(–18.5) × (5–)6–9 μm.

Placopsis cribellans is a widespread, cosmopolitan species known from Japan, Korea, Taiwan, Hawaii, Papua New Guinea, Australia, the Galápagos, Tristan da Cunha, the Aleutian Islands, British Columbia, Chile, Argentina and New Zealand (Lamb 1947; Galloway 1985, 2002, 2007; D. J. Galloway, unpublished; Brodo *et al.* 1987; Aptroot & Sipman 1991; Smith 1991; Brodo 1995; Elix & McCarthy 1998; McCarthy 2010).

New Records. Chile: Juan Fernández Archipiélago: Más Afuera, Campo Correspondencia, large scattered specimens of *Lophosoria* in grassland at E base of Cerro Correspondencia, 1000 m, 1965, *H. A. Imshaug* 37041 (MSC); Más a Tierra, Tres Puntas 200 m, 5 i 1917, *Carl & Inge Skottsberg* s. n. [“Svenska Pacific Expeditionen 1916–1917”](GB) [determined by Zahlbruckner as “*L. gelida* f. *leprosula* Zahlbr.”, and by Lamb as “*P. fuscidula* f. *leprosula* + *P. cribellans*” – I.M.L. 1/1947]. *XII Región:* Península Brunswick, Puerto Cutter, along shore N of copper mine, 1967, *H. A. Imshaug* 39396 & *R. C. Harris* (MSC).—*Argentina:* Tierra del Fuego: Isla Grande, 54°51' S, 68°35' W, Parque Nacional de Tierra del Fuego, open meadow and scrub on low hills on W side of Bahía Lapataia near Chilean frontier, 1971, *H. A. Imshaug* 554038, 55054 & *K. Ohlsson* (MSC).

Placopsis dusenii I. M. Lamb

Remarks. *Placopsis dusenii* is characterized by: a thick, tartareous, closely attached, smooth, greenish white to pinkish, distinctively areolate thallus without a marginal prothallus; angular to irregular areolae, 0.5–3 (–4.5) mm diam., separated by deep cracks 0.2–1.0 mm wide and appearing as distinctive ‘islands’ (× 10 lens), and lack of isidia, pustules, pruina and soredia. The surface of each areola is distinctively minutely cerebriform (× 10 lens). Cephalodia are attached to areolae or discrete, separated by deep cracks, pale pinkish when dry, purplish when wet, level with the thallus surface or spreading very slightly above the surface. The apothecia are scattered, rather rare, somewhat immersed to ± sessile, (0.1–)0.5–1.0(–1.2) mm diam., solitary or 4 or 5 together, rounded to

contorted through mutual pressure, margins swollen, prominent, 0.1–0.2 mm thick, glossy, smooth to subcrenulate, concolorous with thallus; the disc is pale to dark red-brown, plane to concave, epruinose. The hymenium is 130–250(–300) μm tall. Ascospores are broadly ellipsoidal, 17.5–22.5 × (9–)10–12.5 μm. Conidia are filiform, 18–21 × 0.5–1 μm.

Placopsis dusenii is an austral species still only rarely collected in southern Chile and known also from southern New Zealand and Campbell Island (Galloway 2002, 2007; D. J. Galloway, unpublished), and Îles Kerguelen (D. J. Galloway, unpublished).

New Records. Chile: *XI Región:* 48°04' S, 74°38' W, moorland on ridge, Puerto Island (Península Swett), 1969, *H. A. Imshaug* 43249 & *K. Ohlsson* (MSC); *ibid.*, 50°01' S, 74°42' W, moorland and scattered outcrops E of Pta Brown, Pta Charrúa, 1969, *H. A. Imshaug* 43597 & *K. Ohlsson* (MSC).

Placopsis fuscidula I. M. Lamb ex Räsänen

Remarks. *Placopsis fuscidula* is characterized by: closely attached, orbicular to spreading thalli, 2–5(–7) cm diam., without a prothallus; slightly swollen marginal lobes; pale greenish white or olivaceous upper surface when moist, pale creamish, ivory to pale brownish pink or greyish blue when dry, smooth, matt or occasionally glossy at or near the margins, commonly with a fine greyish to grey-white pruina (× 10 lens), giving the surface a finely velvety appearance; absence of isidia, maculae, pseudocyphellae or soredia; scattered, sessile apothecia, solitary or 2–3–together, rounded to subirregular through mutual pressure, 0.5–1.5(–2) mm diam., the thalline margins thick at first and almost obscuring the disc, to ± excluded at maturity, concolorous with the thallus, smooth, entire, thinly white-pruinose; discs that are concave at first, becoming plane to subconvex, pale to dark red-brown, translucent when moist, smooth to minutely papillate, with or without a fine, white pruina; a colourless hymenium (150–)170–200(–225) μm tall; ellipsoidal ascospores 17.5–22.5(–25) × (9–)10–12.5 μm; and filiform conidia, curved to straight, 17–21 × 0.5–1 μm.

Placopsis fuscidula is an austral species known from Venezuela (Follmann 1973) southern Chile, Juan Fernández, Tristan da Cunha New Zealand (Lamb 1947; Jørgensen 1979; Galloway 2002, 2007; D. J. Galloway, unpublished) and Îles Kerguelen (D. J. Galloway, unpublished).

New Records. Chile: Juan Fernández Archipiélago: Más Afuera, Campo Correspondencia, large scattered specimens of *Lophosoria* in grassland at E base of Cerro Correspondencia, 1000 m, 1965, *H. A. Imshaug* 37037, 37046, 37048, 37052 (MSC); Los Inocentes, south summit, heath with *Lophosoria*, 1300 m, 1965, *H. A. Imshaug* 37381, 37402A (MSC); Casatales, 1100–1140 m, 5 iii 1917, *Carl & Inge Skottsgberg* s. n. [*“Svenska Pacific Expeditionen 1916–1917”*] (GB) [determined by Zahlbruckner as “*Lecanora patagonica* f. *sorediosula* Zahlbr.”]; Hochplateau, St. 26, c. 1150 m, 25 ii 1917, *Carl & Inge Skottsgberg* s. n. [*“Svenska Pacific Expeditionen 1916–1917”*] (GB) [determined by Zahlbruckner as “*Lecanora (Placopsis) gelida* f. *leprosula* Zahlbr., and *Lecanora (Placopsis) patagonica* f. *sorediosula* Zahlbr.”]. XII Región: Isla Desolación, 53°04'S, 73°56'W, mossy forest near W shore of Fondeadero Nassau, Pto Churruca, 1969, *H. A. Imshaug* 49854 & *K. Ohlsson* (MSC).

***Placopsis gelida* (L.) Linds.**

Remarks. *Placopsis gelida* is a cosmopolitan species, characterized by: neat rosettes with well-defined, slightly swollen, plicate margins free of prothallus; a matt to shining, somewhat polished and ivory-like upper surface with occasional patches of pruina; large central, deeply plicate cephalodia without pruina; eroding soralia generally delimited by a sharply-defined and slightly raised margin, either scattered and discrete to confluent and covering much of the thallus; farinose greenish to green-grey soredia; rather rare, scattered, sessile apothecia with a vivid red-pink disc, with or without a whitish pruina; a poorly developed thalline margin of farinose granules; broadly ellipsoidal to subglobose ascospores, (13.5–)18–23.5(–25) × 8.5–12 (–15) µm; and a chemistry of gyrophoric and hiassic acids.

Placopsis gelida is a cosmopolitan species discussed in Lamb (1947), Coppins & James (1984), Moberg & Carlin (1996) and Galloway (2007; D. J. Galloway, unpublished).

New Records. Chile: Juan Fernández Archipiélago: Más Afuera, Correspondencia Torres, 1360 m, 14 ii

1917, *Carl & Inge Skottsgberg* s. n. [*“Svenska Pacific Expeditionen 1916–1917”*] (GB); Casatales, 1100–1140 m, 5 iii 1917, *Carl & Inge Skottsgberg* s. n. [*“Svenska Pacific Expeditionen 1916–1917”*] (GB) [determined by Zahlbruckner as “*Lecanora patagonica* f. *sorediosula* Zahlbr.”].

***Placopsis microphylla* (I. M. Lamb) D. J. Galloway**

Remarks. *Placopsis microphylla* is characterized by: small flattened squamules with a central, white-pruinose spot (×10 lens); shallowly eroding, vesicular-excavate soralia, with a sharply defined and often elevated margin, exposing green, granular soredia; pale pink apothecia with elevated papillae around the margins; a colourless hymenium, 169–180 µm tall; broadly ellipsoidal ascospores, uniseriate in the ascus, 21.5–27 (–30) × 13.5–15 µm, contents granular, vacuolate, pinkish when fresh, scattered, immersed, mainly central pycnidia, ostiole 0.08–0.12 mm diam., dark brown, papillate to punctiform; and filiform, straight or slightly curved conidia, 8.5–11.5(–12) × 1 µm.

Placopsis microphylla is an austral species known from Argentina and Chile in southern South America (Lamb 1947; Galloway 2002), and also from Australia (Louwhoff *et al.* 1997), and New Zealand (Galloway 2007; D. J. Galloway, unpublished).

New Records. Chile: XII Región: 50°22'S, 75°20'W, limestone dome on summit of mountain behind mine, Bahía Corbeta Papudo, 1969, *H. A. Imshaug* 44094 & *K. Ohlsson* (MSC); *ibid.*, 53°51'S, 71°07'W, grassy area, W shore of Bahía San Nicolás, 1969, *H. A. Imshaug* 45618 & *K. Ohlsson* (MSC).

***Placopsis parellina* (Nyl.) I. M. Lamb**

Remarks. *Placopsis parellina* is characterized by: a small, spreading thallus of contiguous to overlapping squamules (when growing on soil), or flattened and rosette-forming (when growing on rock); absence of isidia or soredia; scattered, flattened to subhemispherical cephalodia 0.5–1.2 mm diam., that are minutely plicate-striate to smooth and sometimes almost immersed in thalline squamules; sessile apothecia (0.2–)0.5–2 (–2.5) mm diam., with a prominent, swollen, *Ochrolechia*-like thalline margin, concolorous

with the thallus; a pale to dark red-brown or brown-black, epruinose disc; a colourless hymenium, 200–240 μm tall; and broadly ellipsoidal ascospores, 16–20(–25) \times (8.5–) 10–15 μm .

Placopsis parellina is endemic to South America (Galloway 2002; Galloway & Arvidsson 2007), where it is known from Ecuador to southern Chile. It is recorded here for the first time from Juan Fernández.

New records. Chile: Juan Fernández Archipiélago: Más Afuera, Ad Campo Correspondencia, St. 26, 1130 m, 25 ii 1917, Carl & Inge Skottsberg s. n. [“Svenska Pacific Expeditionen 1916–1917”] (GB) [determined by Zahlbruckner as “*Lecanora (Placopsis) gelida*”, and by Lamb as “*P. parellina v. rhodocarpa*” – I.M.L. 1/1947]; Más a Tierra, stark erodierten Boden in unter Teil als Kolonia-Tals, 1916, Carl & Inge Skottsberg 328 [“Svenska Pacific Expeditionen 1916–1917”] (GB) [determined by Zahlbruckner as “*Lecanora (Placopsis) argillacea f. rhodophthalma*” and by Lamb as “*P. parellina var. rhodocarpa*” – I.M.L. 1/1947].

Placopsis ferrugosa (Nyl.) Nyl.

Remarks. *Placopsis ferrugosa* is characterized by: closely appressed thalli forming neat rosettes to irregularly spreading and coalescing patches, 1–10(–15) cm diam.; marginal lobes that are discrete, often furcate or divergent, flattened; and a distinctive upper surface that is shallowly verrucose-areolate resembling snakeskin. A full description of the species is given in Galloway (2002: 95).

Placopsis ferrugosa is a widespread austral species being known from southern South America, (where it occurs in both Argentina and Chile from lat. 37°S to lat. 55°S), Australia, Papua New Guinea, New Ireland, the Galápagos Islands, the Falkland Islands, Gough Island, Tristan da Cunha and New Zealand (Lamb 1947; Galloway 2002, 2007; D. J. Galloway, unpublished; McCarthy 2010).

New records. Chile: XII Región: Isla Desolación, 52°51'S, 74°28'W, *Hebe* scrub along S shore of Caleta San José, Bahía Tuesday, 1969, H. A. Imshaug 44738 & K. Ohlsson (MSC); Península Brunswick, rock in tidal pool, Seno Orway, *Nothofagus* and *Drimys* forest at Bahía Camden, H. A. Imshaug 39069 & R. C. Harris (CANB).—*Argentina:* Tierra del Fuego: Isla Grande, 54°51'S, 68°35'W, Parque Nacional de Tierra del Fuego, open meadow and scrub on low hills on W side of Bahía Lapataia, near Chilean frontier, 1971, H. A. Imshaug 55029, 55058 & K. Ohlsson (MSC); 54°45'S, 68°13'W, cut-over and grazed area at base of cliffs on W

side of Río Olivia Valley (W of Monte Olivia), along Ruta Nacional No. 3, 120 m, 1971, H. A. Imshaug 55265 & K. Ohlsson (MSC).

Placopsis pycnotheca I. M. Lamb

Remarks. *Placopsis pycnotheca* is characterized by: a crustose, spreading thallus of swollen warts or squamules, encrusting sand, soil and small pebbles; simple, subglobose to finger-like isidia; scattered, subpedicellate apothecia with swollen thalline margins and roughly papillate to irregularly cracked discs; elongate-ellipsoidal ascospores, (15–)18–24 \times (6–)7–9(–10) μm ; and filiform conidia, 16–20 \times 0.5 μm .

Placopsis pycnotheca is known from Argentina and from the VII to XII Regiones of Chile (Galloway 2002). It is reported here for the first time from Juan Fernández.

New records. Chile: Juan Fernández Archipiélago: Más Afuera, Los Inocentes, south summit, heath with *Lophosoria*, 1300 m, 1965, H. A. Imshaug 37389, 37415B (MSC); Campo Correspondencia, large, scattered specimens of *Lophosoria* in grassland at east base of Cerro Correspondencia, 1000 m, 1965, H. A. Imshaug 36991, 37006 (MSC; CANB).

Placopsis rhodocarpa (Nyl.) Nyl.

Remarks. *Placopsis rhodocarpa* is characterized by: a dark green to pale greenish to whitish placodioid thallus; small, scattered, capitate soralia with granular, green soredia; flat, pink, delicately wrinkled-folded to radially cracked cephalodia; scattered thick-margined *Ochrolechia*-like apothecia with rose-pink to red-brown, epruinose discs; and ellipsoidal ascospores, (16.5–) 18–20 \times 6.5–10 μm . It is a rather variable species exhibiting a range of morphologies depending on whether its substratum is clayey soil or rock, and also on the degree of exposure of the substratum.

Placopsis rhodocarpa is an austral species known from Ecuador (Galloway & Arvidsson 2007), Bolivia (Nylander 1861; Lamb 1947; Galloway 2002), the VIII Región of Chile (Galloway 2002), Australia (McCarthy 2010), and New Zealand (Galloway 2007; D. J. Galloway, unpublished). It is reported here for the first time from Juan Fernández.

New records. Argentina: Tierra del Fuego: Isla Grande, 54°45' S, 68°13' W, cut-over and grazed area at base of cliffs on W side of Río Olivia Valley (W of Monte Olivia), along Ruta Nacional No. 3, 120 m, 1971, *H. A. Imshaug* 55265 & *K. Ohlsson* (MSC).—*Chile: Juan Fernández Archipiélago:* Más Afuera, Correspondencia Torres, 1360 M, 14 ii 1917, *Carl & Inge Skottsberg* s. n. ["*Svenska Pacific Expeditionen 1916–1917*"] (GB); Más a Tierra, Tres Puntas 200 m, 5 i 1917, *Carl & Inge Skottsberg* s. n. ["*Svenska Pacific Expeditionen 1916–1917*"] (GB) [determined by *Zahlbruckner* as "*L. gelida* f. *leprosula* Zahlbr.", and by *Lamb* as "*P. fuscidula* f. *leprosula* + *P. cribellans*" – I.M.L. 1/1947].

Placopsis roivainenii I. M. Lamb

Remarks. *Placopsis roivainenii* is a distinctive lichen characterized by: a tartareous, crustose, rosette-forming thallus (0.5–1 mm thick), with plicate-effigurate margins that are ±continuous or intersected by narrow cracks (but not forming discrete lobes) and that is areolate centrally, the areolae cut off by deep and often gaping cracks; a continuous, smooth pale grey-white upper surface, that is patchily minutely scabrid or white-pruinose, the pruina often glistening (×10 lens); sparse, central large, radiate-plicate cephalodia (1–9 mm diam.), sometimes developing in arcs or circles and secondarily recolonized by thalline tissue; scattered, sessile apothecia with thick, in-rolled thalline margins, and a pale pinkish to red-brown disc that becomes irregularly and deeply fissured, minutely roughened-papillate and thinly buff-pruinose; a colourless hymenium 180–225 µm tall; ellipsoidal ascospores, 18–20 × 9–10.5 µm; and filiform, curved, conidia, 18–24 × 0.5 µm.

Placopsis roivainenii appears to be endemic to Chile (Galloway 2002: 98) where it grows on rocks in mainly coastal areas between latitudes 40°S and 55°S.

New Record. Chile: XI Región: 48°04' S, 74° 38' W, moorland on ridge, Puerto Island (Península Swett), 1969, *H. A. Imshaug* 43249 & *K. Ohlsson* (MSC).

Placopsis subcribellans (I. M. Lamb) D. J. Galloway

Remarks. *Placopsis subcribellans* is an austral species characterized by: neatly orbicular, closely attached thalli, with continuous, flat, scalloped margins; a glossy upper surface (resembling polished ivory) that is continuous to incised with radiating, narrow cracks; subglobose to flattened isidia developing along cracks in the upper surface; shallowly hemispherical cephalodia that are mainly central or developed in concentric arcs; rather sparse, sessile apothecia with pale pinkish to rusty-brown, roughened-papillate to cracked discs, with or without a fine, white pruina; a hymenium 190–210 (–240) µm tall, interspersed with oil droplets; oval-ellipsoidal ascospores, 15–21 (–24) × (8.5–)9–12 µm; and curved, thread-like, conidia, 21–24 × 1 µm.

Placopsis subcribellans is known from southern South America in heavily glaciated, high-rainfall areas of southern Chile from lat. 44°S to 55°S (Lamb 1947; Galloway 2002) and from southern New Zealand (Galloway 2007; D. J. Galloway, unpublished).

New records. Chile: XII Región: Isla Desolación, 52°51' S, 74°28' W, *Hebe* scrub along S shore of Caleta San José, Bahía Tuesday, 1969, *H. A. Imshaug* 44738 & *K. Ohlsson* (MSC).—*Argentina: Tierra del Fuego:* Isla Grande, Bahía Buen Suceso, 54°47' S, 65°16' W, open landslide area on slope, inland from N side of head of bay, 1971, *H. A. Imshaug* 50230 & *K. Ohlsson* (MSC). *Isla de los Estados:* Puerto Hoppner, 54°47' S, 64°25' W, littoral zone at head of inner bay, s. lat., 1971, *H. A. Imshaug* 53784 & *K. Ohlsson* (MSC); Puerto Alexander, 54°50' S, 64°25' W, densely shaded scrub at base of mountain at head of cove, 1971, *H. A. Imshaug* 52863 & *K. Ohlsson* (MSC).

Revised key to species of *Placopsis* and *Aspiciliopsis* in southern South America

1	Thallus with soredia or isidia	2
	Thallus without isidia or soredia	10
2(1)	Sorediate	3
	Isidiate	7

- 3(2) Thallus rosette-forming, not of small squamules; soralia eroding, often with a well-defined margin 4
Thallus of small squamules 6
- 4(3) Soralia with pale greenish, whitish or greyish soredia. 5
Soralia with dark green to blackish soredia **P. lambii**
- 5(4) Thallus olive greenish to brownish with a pale-lilac tinge, uniformly velvety pruinose ($\times 10$ lens); hymenium 115–140(–160) μm tall. **P. fusciduloides**
Thallus pale greenish white to fawnish ivory, with occasional, scattered patches of pruina or epruinose; hymenium 160–210 μm tall **P. gelida**
- 6(3) Marginal squamules with spots of white pruina ($\times 10$ lens); soralia excavate to spreading. **P. microphylla**
Marginal squamules without spots of white pruina; soralia capitate **P. rhodocarpa**
- 7(2) Isidia small, fragile, easily dislodged and leaving pits ($\times 10$ lens) 8
Isidia large, globose to finger-like, not leaving pits 9
- 8(7) Thallus small [1–3(–5) cm diam.]; lobes separating at apices; upper surface not glossy. **P. cribellans**
Thallus larger [2–5(–8) cm diam.]; lobes contiguous, separated by long, narrow cracks; upper surface glossy (like polished ivory). **P. subcribellans**
- 9(7) Marginal prothallus present; isidia globose; ascospores 10–15 \times 5–8 μm ; stictic acid present **P. tuberculifera**
Marginal prothallus absent; isidia subglobose to finger-like; ascospores (15–)18–24 \times (6–)7–9(–10) μm ; stictic acid absent **P. pycnotheca**
- 10(1) Thallus of small squamules, 0.1–0.5 mm diam. 11
Thallus crustose or crustose-lobate, continuous, not squamulose 12
- 11(10) Thallus effuse, indeterminate; squamules minute, 0.05–0.2 mm diam. **P. effusa**
Thallus determinate; squamules thicker 0.1–0.5 mm diam. **P. parellina**
- 12(10) Thallus rust-coloured, orange to reddish 13
Thallus not rust-coloured 15
- 13(12) Conidia filiform, curved, 18–35 μm long 14
Conidia rod-shaped, 5.4–7.5(–10) μm long. **P. baculigera**
- 14(13) Thallus lobes with a pale, grey-brown marginal zone; hymenium 200–300 μm tall; ascospores 25–30 \times 15–18 μm **P. imshaugii**
Thallus lobes without a pale grey-brown marginal zone; hymenium 160–240 μm tall; ascospores 18–24 \times 10–15 μm **P. bicolor**
- 15(12) Apothecia sessile at maturity 16
Apothecia immersed (aspicilioid) at maturity. **Aspiciliopsis macrophthalma**
- 16(15) Upper surface pruinose 17
Upper surface not pruinose 18
- 17(16) Thallus thick, tartareous; glistening white-pruinose in patches towards margins; marginal lobes swollen **P. roivainenii**
Thallus not tartareous; \pm uniformly grey-white pruinose; marginal lobes flattened **P. fuscidula**
- 18(16) Upper surface deeply areolate-cracked or verrucose-papillate, especially centrally. 19
Upper surface plane, not areolate-cracked or verrucose-papillate 22

- 19(18) Upper surface verrucose-papillate or wrinkled-knobably centrally 20
 Upper surface areolate-cracked centrally, not verrucose-papillate 21
- 20(19) Thallus brown-grey, olive-brown or brown-black; marginal lobes discrete, flattened; apices furcate or divergent, surface glossy **P. perrugosa**
 Thallus grey-white to rusty brownish; marginal lobes contiguous or overlapping, swollen; apices not furcate or divergent, surface matt **P. contortuplicata**
- 21(19) Surface of areolae minutely cerebriform ($\times 10$ lens); areolae separated by deep cracks and appearing as distinctive 'islands'; lobes flat not convex-bullate . . . **P. dusenii**
 Surface of areolae not minutely cerebriform; lobes convex-bullate, in distinctive, parallel lines **P. gelidioides**
- 22(18) Thallus crustose, thin, forming mosaics and delimited by a narrow line of prothallus; surface delicately white-maculate ($\times 10$ lens); cephalodia immersed. **P. tararuana**
 Thallus lobate, rosette-forming, without a marginal prothallus; surface glossy, like polished ivory, without maculae; cephalodia sessile **P. stenophylla**

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