



## Preliminary key to the mosses of Isla Navarino, Chile (Prov. Antártica Chilena)

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With 6 figures

**Abstract:** Isla Navarino is the southernmost permanently inhabited island in the world. The forests are dominated by *Nothofagus* spp. and the bedrock is acidic. To date 157 taxa of mosses have been collected from the island. The taxa are keyed and a checklist provides the voucher specimen information upon which the key was based.

**Key words:** Chile, Isla Navarino, Provincia Antártica Chilena, subantarctic bryoflora.

### Introduction

Isla Navarino is the largest of the Chilean Antarctic Islands, lying directly south of the Beagle Channel, opposite Argentinean Tierra del Fuego (Fig. 1). It is ca. 4000 km<sup>2</sup>. The island is the southernmost permanently inhabited island in the world, but it is not heavily populated. The provincial capital, Puerto Williams, hosts most of the population and has only about 1100 people, mostly connected with the military base there. The entire Cape Horn Archipelago (including I. Navarino) has been declared a Biosphere and World Heritage Site by UNESCO (Rozzi et al. 2004).

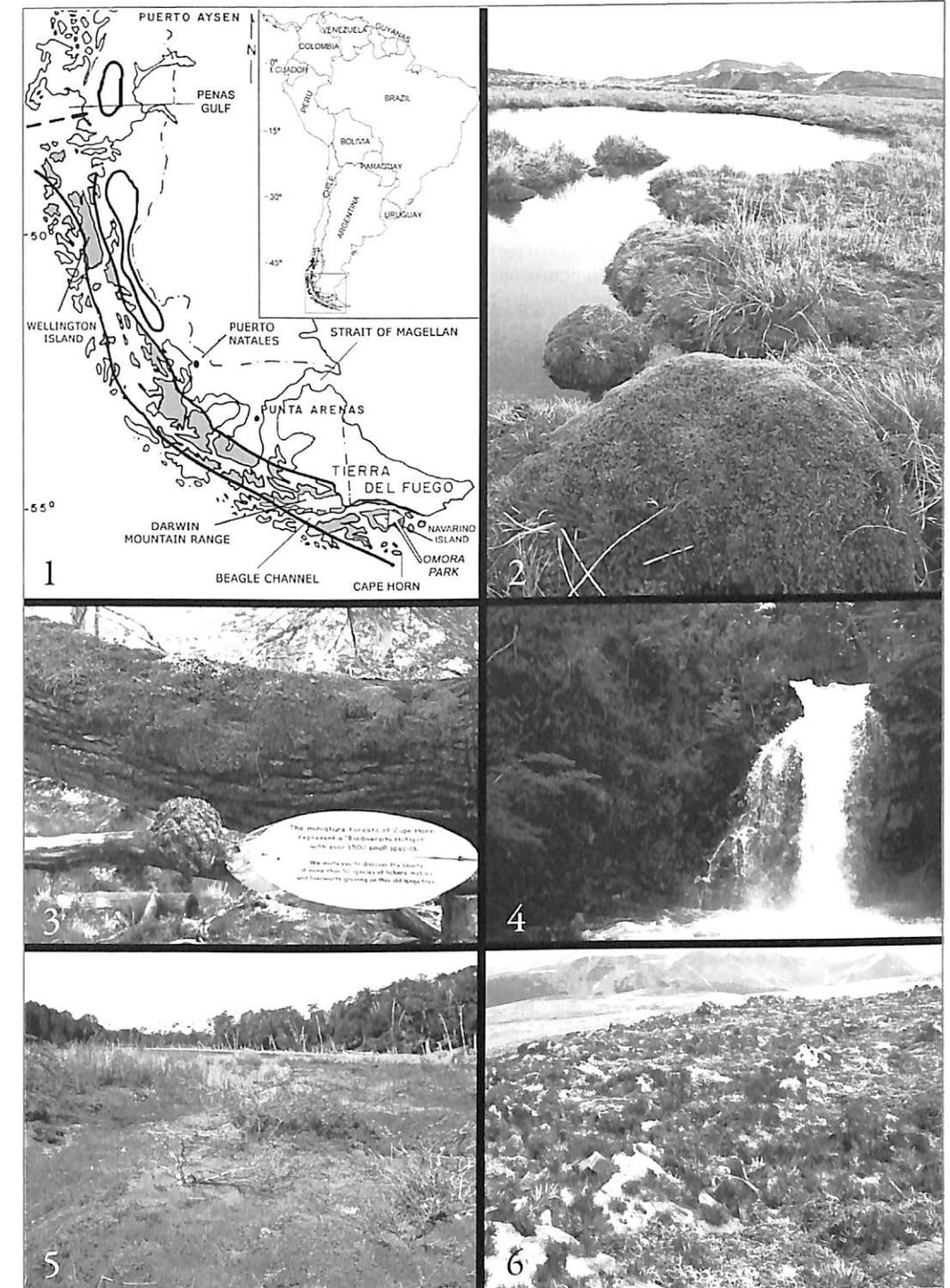
Although lying between 54° 52' S and 55° 18' S latitude (and between 67° 03' W and 68° 22' W longitude), the temperature is reasonably mild because of the oceanic conditions. At lower elevations, the forests are dominated by three species of *Nothofagus*. Many of the forests are essentially undisturbed. Extensive peatlands can be found throughout the island at lower elevations (Fig. 5). Because of the southern latitude, tree line is reached at about 600 m. Above that, typical alpine vegetation is found, with many small, cushion plants and a diversity of lichens (Figs. 2, 6). Permanently snow-capped mountains are found at the highest elevations (ca. 1100 m). These, and the moderate rainfall, result in relatively numerous small and medium-sized streams and rivers. Along the waterways, as well in the alpine zone, acidic rock outcroppings and individual boulders are abundant (Fig. 4).

Because of the moderate climate, the relatively high rainfall, and the diversity of habitats, mosses are an abundant and conspicuous component of the Navarino flora. In fact, subantarctic

South America was recently considered a hotspot for cryptogams (Rozzi et al. 2008). The number of tree species is relatively few, but under the right conditions (which are frequent on the island) tree trunks are thickly sheathed with bryophytes and lichens. There are relatively few vascular plant epiphytes, although filmy ferns (Hymenophyllaceae) are not uncommon but often are camouflaged by the bryophytes. The woodland habitats and the banks of waterways offer a wealth of moss diversity. The peatlands of the region have a huge biomass of bryophytes, but diversity is relatively low. The peatlands often extend almost as far as the eye can see, but are dominated by only two species of *Sphagnum*, and one of these, *S. magellanicum*, is by far the more common. In the alpine zone, another open habitat, diversity is very high, and this is where a large number of mosses with bipolar distributions are found.

The indigenous people of the island, the Yahgan, had pointed out to the Chilean government that plant biodiversity on the island is dominated by cryptogams, especially bryophytes and lichens. Admirably, the Chilean government actually listened. At about the same time a national park, Parque Etnobotánico Omora, was founded about 3 km west of Puerto Williams, on the north-central shore of the island. Dr. Ricardo Rozzi and Dra. Francisca Massardo, both associated with the Universidad de Magallanes in Punta Arenas as well as residents on Isla Navarino, were instrumental in not only establishing the ethnobotanical park, but also for encouraging biodiversity research on the island and for integrating cryptogam diversity in the development of ecotourism on the island (Goffinet et al. 2006) (Fig. 3). The park is also central to research, education and conservation efforts undertaken in the recently created Cape Horn Biosphere Reserve (Hargrove et al. 2008).

Undoubtedly, more moss species will be found on the island, but we hope that this preliminary treatment will allow students of all levels access to a fascinating and, might we even dare to have the audacity to say, charismatic moss flora.



**Figs. 1–6.** 1. Geographic location of Isla Navarino. (modified from Rozzi et al. 2008; greyish: evergreen rainforests; gray Magellanic moorland). 2. Alpine vegetation. 3. Interpretative trail at Omora Ethnobotanical Park highlighting the diversity of bryophytes and lichens. 4. Waterfall in forest providing optimal habitats for a diversity of mosses and liverworts. 5. Peatland dominated primarily by *Sphagnum magellanicum*. 6. Rocky alpine vegetation with abundant saxicolous lichens and terricolous mosses.

## Key to the genera and species of mosses from Isla Navarino

- 1 Laminal cells dimorphic, consisting of narrow green cells between large colorless cells . . . *Sphagnum* 2  
 1' Laminal cells all similar (excluding a possible border) . . . . . 3  
 2 Stem and branch cortex with fibrils; branch leaves bluntly cucullate . . . . . *S. magellanicum*  
 2' Stem and branch cortex lacking fibrils; branch leaves acuminate . . . . . *S. fimbriatum*  
 3 Median laminal cells with strongly wavy walls . . . . . *Racomitrium* s.l. 4  
 3' Median laminal cells with mostly straight walls . . . . . 8  
 4 Hyaline apical part of leaves long, decurrent, and roughly papillose . . . . . *R. geronticum*  
 4' Apical part of leaf hyaline and smooth, or not hyaline . . . . . *Bucklandiella* 5  
 5 Costa asymmetric (better seen in the proximal part of the leaves); leaves never ending in a hyaline point or mucro, often with obtuse apex . . . . . *B. pachydictyon*  
 5' Costa symmetric throughout; leaves ending in a hyaline point or mucro (sometimes made up of a few hyaline cells) . . . . . 6  
 6 Costa wide and flattened dorsally, with 6–12 ventral cells at midleaf . . . . . *B. striatipila*  
 6' Costa narrower and dorsally convex, with 2–5 ventral cells at midleaf . . . . . 7  
 7 Plants small, with a prostrate stem and ascending branches; margins with scattered bistratose spots in the distal part . . . . . *B. heterostichoides*  
 7' Plants medium sized to robust, with simple or dichotomous ascending stems, sometimes bearing multiple pinnate branchlets; margins commonly bistratose in one to several cell rows (rarely monostratose throughout) . . . . . *B. didyma*  
 8 Stems erect, simple or sparsely forked, generally in tufts; archegonia and sporophytes terminal (those sometimes appearing lateral because of innovating branches): acrocarpous mosses . . . 9  
 8' Stems creeping or ascending, freely branched, usually in interwoven mats; archegonia and sporophytes lateral (or at the ends of branches): pleurocarpous mosses . . . . . 130  
 9 Leaves with lamellae on the upper surface . . . . . 10  
 9' Leaves lacking lamellae on the upper surface . . . . . 16  
 10 Leaves with leaf base not differentiated from the upper lamina, except that the lamellae are restricted to the upper part of the leaf . . . . . *Notoligotrichum* 11  
 10' Leaves with leaf base well differentiated from upper lamina . . . . . 12  
 11 Lamellae 5–9 cells tall, with apical cells smooth . . . . . *N. trichodon*  
 11' Lamellae 3–4(–5) cells tall, with apical cells papillose . . . . . *N. minimum*  
 12 Plants dendroid, strongly branched from an erect stipe . . . . . *Dendroligotrichum squamosum*  
 12' Plants not or scarcely branched . . . . . 13  
 13 Upper lamina flat, strongly toothed . . . . . *Polytrichadelphus magellanicus*  
 13' Upper lamina infolded, entire, obscuring the lamellae . . . . . *Polytrichum* 14  
 14 Leaves with a long, hyaline hair-point . . . . . *P. piliferum*  
 14' Leaves with a reddish awn . . . . . 15  
 15 Plants growing in *Sphagnum* bogs; stems with a dense, whitish tomentum . . . . . *P. strictum*  
 15' Plants growing in drier habitats; stems without a whitish tomentum . . . . . *P. juniperinum*  
 16 Plants distichous, with leaves in only two ranks . . . . . 17  
 16' Plants with leaves in more than two ranks, but sometimes flattened . . . . . 18  
 17 Plants aquatic; leaves broad, with vaginant laminae . . . . . *Fissidens rigidulus*  
 17' Plants terrestrial; leaves linear-subulate, without vaginant laminae . . . . . *Distichium capillaceum*  
 18 Alar cells well developed and conspicuous . . . . . 19  
 18' Alar cells not or only weakly differentiated . . . . . 29  
 19 Costa wide, occupying more than 1/2 of the leaf base . . . . . 20  
 19' Costa narrower, occupying less than 1/4 of the leaf base . . . . . 23  
 20 Costa at back strongly mammillose; hair-point lacking . . . . . *Platyneuron praealtum*  
 20' Costa at back smooth or with low lamellae; hair-point present . . . . . *Campylopus* 21  
 21 Hair-point reflexed . . . . . *C. introflexus*  
 21' Hair-point ± straight . . . . . 22  
 22 Costa with ventral hyalocysts; upper laminal cells quadrate . . . . . *C. incrassatus*  
 22' Costa with ventral stereids; upper laminal cells oval . . . . . *C. clavatus*  
 23 Laminal cells prorulose; alar cells in ca. 2 rows, extending up the margins . . . . . *Breutelia* 24

- 23' Laminal cells smooth; alar cells in more rows . . . . . 25  
 24 Leaf margins entire . . . . . *B. integrifolia*  
 24' Leaf margins serrate . . . . . *B. plicata*  
 25 Relatively small, saxicolous plants, stems mostly less than 1 cm long; leaves small, less than 2 mm long; laminal cells short, not porose . . . . . 27  
 25' Relatively large, terrestrial or epiphytic plants, stems mostly more than 2 cm long; leaves large, more than 5 mm long; laminal cells elongate, thick-walled and porose . . . *Dicranoloma* 26  
 26 Plants robust, to more than 10 cm tall; leaves weakly falcate, ca. 1.5–2 cm, ca. 2 mm wide at base . . . . . *D. robustum*  
 26' Plants large, ca. 3–5 cm tall; leaves strongly falcate, ca. 1 cm long, ca. 1 mm wide at base . . . *D. chilense*  
 27 Plants growing on shaded, wet rocks along waterways . . . . . *Blindia magellanica*  
 27' Plants growing on dry rocks . . . . . 28  
 28 Costa short-excurrent; setae ca. 1 cm long; plants on coastal rocks . . . . . *Kiaeria pumila*  
 28' Costa long-excurrent; seta ca. 0.5 cm long; plants on alpine rocks . . . . . *Arctoa fulvella*  
 29 Plants various colors; capsules dehiscing by an apical operculum . . . . . 34  
 29' Plants reddish-black; capsules dehiscing by four lateral valves . . . . . *Andreaea* 30  
 30 Leaves with strong, single costa . . . . . *A. subulata*  
 30' Leaves lacking a costa . . . . . 31  
 31 Basal leaf margins entire, the cells ± isodiametric . . . . . *A. mutabilis*  
 31' Basal leaf margins crenate to toothed, the cells clearly longer than wide . . . . . 32  
 32 Leaf cells strong papillose . . . . . *A. regularis*  
 32' Leaf cells smooth or rarely weakly papillose . . . . . 33  
 33 Leaves strongly panduriform with sinus strongly contracted; basal marginal cells oblique and crenate to toothed to within 1–2 cells of insertion . . . . . *A. alpina*  
 33' Leaves weakly panduriform with sinus weakly contracted; basal marginal cells strongly toothed from projecting cells to within 3 or more cells from leaf insertion . . . *A. appendiculata*  
 34 Laminal cells with longitudinal cuticular thickenings (appearing papillose in cross-section) . . . . . *Dicranoweisia crispula*  
 34' Laminal cells smooth or variously papillose, but not as above . . . . . 35  
 35 Laminal cells papillose, prorulose or mammillose . . . . . 36  
 35' Laminal cells smooth or slightly bulging . . . . . 75  
 36 Lamina 2–3-stratose either throughout or in extensive continuous areas adjacent to the costa . . . 37  
 36' Lamina unistratose throughout or with occasionally bistratose streaks . . . . . 43  
 37 Laminal cells unipapillose with papillae centered over lumina . . . . . *Philonotis scabrifolia*  
 37' Laminal cells prorulose . . . . . 38  
 38 Leaves without sheathing leaf base, in 5 well-defined rows . . . . . *Conostomum* 39  
 38' Leaves with sheathing leaf base, not in well-defined rows . . . . . 40  
 39 Leaves oblong-ovate, obtuse . . . . . *C. magellanicum*  
 39' Leaves lanceolate, acuminate . . . . . *C. tetragonum*  
 40 Stems lacking hyalodermis; capsules long-cylindric . . . . . *Ditrichum cylindricarpum*  
 40' Stems with hyalodermis; capsules more or less spherical . . . . . *Bartramia* p.p. 41  
 41 Lamina in cross-section mostly 2-stratose throughout . . . . . *B. ithyphylloides*  
 41' Lamina in cross-section mostly 3-stratose, especially near the costa . . . . . 42  
 42 Costa in cross-section very weakly convex at back . . . . . *B. patens* var. *patens*  
 42' Costa in cross-section strongly convex at back . . . . . *B. patens* var. *robusta*  
 43 Laminal cells mammillose . . . . . *Oreoweisia* cf. *chilensis*  
 43' Laminal cells prorulose or papillose . . . . . 44  
 44 Laminal cells prorulose . . . . . *Bartramia mossmaniana*  
 44' Laminal cells papillose . . . . . 45  
 45 Cylindric capsules completely covered by campanulate calyptrae . . . . . *Encalypta cilata*  
 45' Capsules variously shaped; calyptrae never completely enclosing the capsules . . . . . 46  
 46 Leaves with upper margins bordered by elongate cells or by shorter, smooth cells . . . . . *Hemmediella* 47  
 46' Leaves unbordered or only bordered at base . . . . . 49  
 47 Leaves oblong-lanceolate; border prominent, bistratose . . . . . *H. densifolia*  
 47' Leaves oblong-ovate; border less prominent, unistratose . . . . . 48

- 48 Leaf border obscure; laminal cells more than 15  $\mu\text{m}$  wide, often smooth ..... *H. heimii*  
 48' Leaf border usually obvious; laminal cells less than 15  $\mu\text{m}$  wide, always papillose ..... *H. antarctica*  
 49 Basal laminal cells hyaline and extending up the margins, thus forming a V-shaped area ..... *Tortella* 50  
 49' Basal laminal cells various, but not in V-shaped area ..... 51  
 50 Leaves contorted when dry, with undulate margins; plants autoicous, often fertile ..... *T. knightii*  
 50' Leaves  $\pm$  straight and erect when dry, with plane margins; plants dioicous, usually sterile ..... *T. fragilis*  
 51 Leaf base with internal cells elongate, bordered by short cells ..... *Ulota* 52  
 51' Leaf base with various cells, but not bordered by short cells ..... 57  
 52 Plants growing on rocks near the shore; leaves with gemmae on costa apex ..... *U. phyllantha*  
 52' Plants of various habitats, but not in salt spray; leaves without gemmae ..... 53  
 53 Leaf base bordered by 1–2 rows of short cells ..... 54  
 53' Leaf base bordered by 5–10 rows of short cells ..... 55  
 54 Endostome with 16 segments; seta 2.5–3 mm long; calyptra sparsely hairy ..... *U. magellanica*  
 54' Endostome with 8 segments; seta 2 mm long; calyptra hairy ..... *U. pygmaeothecia*  
 55 Endostome with 16 segments; seta 3.5–4 mm long; calyptra hairy ..... *U. germana*  
 55' Endostome with 8 segments; seta and calyptra various ..... 56  
 56 Seta 2 mm long; calyptra naked ..... *U. macrocalycina*  
 56' Seta 3–5 mm long; calyptra hairy ..... *U. fuegiana*  
 57 Costa (as seen in section) homogeneous ..... 58  
 57' Costa (as seen in section) with large, hyaline cells and small stereids ..... 67  
 58 Calyptrae cucullate, not plicate, rarely hairy; capsules long-exserted ..... *Zygodon* 59  
 58' Calyptrae mitrate,  $\pm$  plicate, often hairy; capsules immersed to short-exserted ..... *Orthotrichum* 60  
 59 Plants dioicous, sporophytes unknown; leaf cells mostly with 3–5 papillae/cell ..... *Z. magellanicus*  
 59' Plants synoicous, sporophytes common; leaf cells mostly with 6–9 papillae/cell ..... *Z. hookeri* var. *leptobolax*  
 60 Plants growing on rocks near the sea; upper lamina bistratose with margins 3–5-stratose ..... *O. crassifolium*  
 60' Plants in other habitats; upper lamina unistratose and margins 1–2-stratose ..... 61  
 61 Stomata superficial ..... 63  
 61' Stomata immersed ..... 62  
 62 Leaf cells papillose ..... *O. inclinatum*  
 62' Leaf cells smooth ..... *O. compactum*  
 63 Plants on rock, dark green; capsules immersed to emergent ..... *O. rupestre*  
 63' Plants epiphytic, paler; capsules exserted ..... 64  
 64 Leaves acute to short-acuminate with both margins recurved almost throughout ..... *O. bicolor*  
 64' Leaves long-acuminate with margins recurved only near the base and often with one margin plane ..... 65  
 65 Capsules short-cylindric, strongly furrowed and contracted below the mouth dry, often 2/perichaetium ..... *O. brotheri*  
 65' Capsules long-cylindric, smooth or only furrowed below the mouth when dry, 1/perichaetium ..... 66  
 66 Spores 16–28  $\mu\text{m}$ ; capsules mostly long-exserted; leaves 1.8–3.3 mm long ..... *O. elegantulum*  
 66' Spores 26–40  $\mu\text{m}$ ; capsules short-exserted; leaves 2.8–3.5 mm long ..... *O. ludificans*  
 67 Costa (as seen in section) with a single stereid band ..... *Syntrichia* 68  
 67' Costa (as seen in section) with two stereid bands ..... 74  
 68 Leaves with conspicuous gemmae on adaxial surface of costa ..... *S. subpapillosa*  
 68' Leaves lacking gemmae on leaves ..... 69  
 69 Leaf margins entire throughout ..... 70  
 69' Leaf margins toothed, at least above ..... 71  
 70 Leaf ending in long hair point ..... *S. magellanica*  
 70' Leaf mucronate or acuminate, lacking hair-point ..... 72  
 71 Leaves lanceolate or oblong-lanceolate, acuminate ..... *S. saxicola*  
 71' Leaves oblong-lingulate, obtuse-mucronate ..... *S. anderssonii*  
 72 Leaves with long hairpoint ..... *S. princeps*  
 72' Leaves lacking hairpoint, but sometimes cuspidate ..... 73  
 73 Leaves to 4 mm long; laminal cells 7.5–12  $\mu\text{m}$  wide, very densely papillose ..... *S. gehebiaeopsis*  
 73' Leaves greater than 4 mm long; laminal cells 11–21  $\mu\text{m}$  wide, sparsely papillose ..... *S. robusta*

- 74 Leaf margins papillose above, but otherwise entire; costa excurrent; basal laminal cells subquadrate to short-rectangular, concolorous ..... *Barbula costesii*  
 74' Leaf margins sparsely toothed above; costa subpercurrent to percurrent; basal laminal cells long-rectangular, hyaline ..... *Bryoerythrophyllum recurvirostrum*  
 75 Leaves broad, oblong-ovate to orbicular ..... 76  
 75' Leaves narrow, linear to lanceolate ..... 103  
 76 Leaf margins with paired marginal teeth ..... *Philonotis vagans*  
 76' Leaf margins entire or with single teeth ..... 77  
 77 Plants epiphytic; costa long-excurrent ..... *Leptostomum menziesii*  
 77' Plants of various habitats; costa shorter, or if long-excurrent then plants terrestrial ..... 78  
 78 Leaves bordered by elongate cells ..... 79  
 78' Leaves not bordered ..... 93  
 79 Leaf margins toothed almost throughout ..... *Plagiommium ellipticum*  
 79' Leaf margins entire or only toothed near apex ..... 80  
 80 Leaves broadly obovate; limbidium merging with costa at apex; laminal cells porose ..... *Cinclidium stygium*  
 80' Leaves narrower; limbidium weaker, never merging with costa; laminal cells mostly not porose ..... *Bryum* 81  
 81 Plants small; leaves less than 1.5 mm long ..... 82  
 81' Plants medium-sized to robust; leaves longer than 1.5 mm ..... 84  
 82 Leaves with a rounded to obtuse apex ..... *B. orbiculatifolium*  
 82' Leaves with an acute to acuminate apex ..... 83  
 83 Plants silvery, often in disturbed habitats ..... *B. argenteum*  
 83' Plants dark green, usually in more natural habitats ..... *B. funkii*  
 84 Upper laminal cells ca. 6–7:1, ca. 100–150  $\mu\text{m}$  long ..... *B. caespiticium*  
 84' Upper laminal cells 2–5:1, mostly less than 85  $\mu\text{m}$  long ..... 85  
 85 Plants robust; stems over 2 cm tall; leaves ca. 3.5–4 mm long ..... *B. laevigatum*  
 85' Plants smaller; stems usually less than 1.5 cm tall; leaves usually less than 3 mm long ..... 86  
 86 Upper laminal cells more than 25  $\mu\text{m}$  wide ..... 87  
 86' Upper laminal cells less than 20  $\mu\text{m}$  wide ..... 89  
 87 Capsules 3–4 mm long, with a noticeably small mouth ..... *B. uliginosum*  
 87' Capsules 2–2.5 mm long, with mouth as wide as capsule ..... 88  
 88 Capsule neck about same length as urn but obviously narrower; leaves broadly lanceolate, ca. 1 mm wide ..... *B. pallens*  
 88' Capsule neck and urn about same width; leaves ovate, ca. 1.5 mm wide ..... *B. nivalis*  
 89 Leaves (especially on sterile stems) strongly decurrent; inner basal laminal cells 14–17  $\mu\text{m}$  wide (broader toward the margins) ..... *B. pseudotriquetrum*  
 89' Leaves not or scarcely decurrent; inner basal laminal cells more than 25  $\mu\text{m}$  wide (not particularly broader toward the margins) ..... 90  
 90 Upper laminal cells very thick-walled and porose ..... 91  
 90' Upper laminal cells firm-walled, not or scarcely porose ..... 92  
 91 Leaves strongly concave and  $\pm$  cucullate at apex; border weak, only ca. 2 cells wide at midleaf ..... *B. clavatum*  
 91' Leaves flat, acuminate, not cucullate; border very broad in upper half of leaf, to 10 cells wide ..... *B. amblyodon*  
 92 Leaves broadly ovate, length:width ratio ca. 2:1; upper laminal cells 2–3:1 ..... *B. capillare*  
 92' Leaves broadly lanceolate, ca. 3:1; upper laminal cells ca. 4–5:1 ..... *B. gayanum*  
 93 Leaves less than 1.5 mm long ..... *Bryum* p.p. 94  
 93' Leaves more than 2 mm long ..... 96  
 94 Plants silvery ..... *B. argenteum*  
 94' Plants greenish to reddish ..... 95  
 95 Leaf apex obtuse; leaves laxly disposed on stems ..... *B. orbiculatifolium*  
 95' Leaf apex acuminate; leaves densely crowded toward stem tips ..... *B. funkii*  
 96 Laminal cells elongate, ca. 5:1 ..... *Pohlia* p.p. 97  
 96' Laminal cells short, ca. 1–3:1 ..... 99

- 97 Plants whitish (when moist); laminal cells ca. 20–26  $\mu\text{m}$  wide; capsules short with short, wavy-walled exothecial cells ..... *P. wahlenbergii*
- 97' Plants green; laminal cells ca. 11–14  $\mu\text{m}$  wide; capsules elongate with elongate exothecial cells ... 97
- 98 Plants glossy when dry; laminal cells thin-walled ..... *P. cruda*
- 98' Plants  $\pm$  dull when dry; laminal cells very firm-walled ..... *P. lonchochaete*
- 99 Leaves concave; capsules inclined, strongly asymmetric ..... *Funaria hygrometrica* var. *fuegiana*
- 99' Leaves flat or sometimes keeled, not concave; capsules erect and symmetric ..... 100
- 100 Leaves slenderly long-acuminate, entire ..... *Tetraplodon fuegianus*
- 100' Leaves obtuse to acuminate, if acuminate then toothed ..... *Tayloria* 101
- 101 Leaves obtuse, entire; hypophysis dark, concolorous with urn ..... *T. dubyi*
- 101' Leaves acute to acuminate, toothed; hypophysis much paler than urn ..... 102
- 102 Hypophysis broadly inflated, strikingly white when mature ..... *T. mirabilis*
- 102' Hypophysis slightly more slender than urn, pale but not pure white. .... *T. magellanica*
- 103 Leaves squarrose-recurved ..... *Neomeesia paludella*
- 103' Leaves erect to wide-spreading ..... 104
- 104 Leaf margins with paired teeth; leaves long-decurrent ..... *Hymenodontopsis mnioides*
- 104' Leaf margins entire or with single teeth; leaves not or scarcely decurrent ..... 105
- 105 Upper laminal cells long, ca. 5:1 or longer ..... 106
- 105' Upper laminal cells (not those of the leaf base) short, ca. 1–2:1 ..... 110
- 106 Leaves strongly toothed in upper half ..... *Goniobryum subbasilare*
- 106' Leaves essentially entire, or with small teeth only near apex ..... 107
- 107 Vegetative leaves subulate, the costa filling most of the subula ..... 108
- 107' Vegetative leaves broadly lanceolate (perichaetial leaves sometimes subulate), the costa ending below the leaf apex ..... *Pohlia wilsonii*
- 108 Leaves flexuose spreading when dry; capsules ca. 1.7–2.5 mm long, yellowish; peristome double 109
- 108' Leaves  $\pm$  erect when dry; capsules ca. 1–1.5 mm long, reddish; peristome single *Dicranella fuegiana*
- 109 Costa filling about half the leaf base; capsules mostly pendulous ..... *Leptobryum pyriforme*
- 109' Costa much narrower; capsules  $\pm$  erect ..... *Orthodontium lineare*
- 110 Leaves with differentiated base (of elongate cells) clasping the stem, upper lamina spreading ..... *Symblypharis krausei*
- 110' Leaf base not or scarcely differentiated, if differentiated then not clasping the stem ..... 111
- 111 Plants epiphytic ..... 112
- 111' Plants growing on soil or rock ..... 114
- 112 Costa excurrent; elongate gemmae frequent in leaf axils ..... *Leptotheca gaudichaudii*
- 112' Costa subpercurrent; gemmae absent ..... 113
- 113 Leaf bases bordered with 5–10 rows of small cells ..... *Ulota macrocalycina*
- 113' Leaf bases not bordered ..... *Orthotrichum inclinatum*
- 114 Plants growing on rocks near the sea; upper lamina bistratose with margins 3–5-stratose ..... *Orthotrichum crassifolium*
- 114' Plants growing on rocks or soil, seldom close to the sea; upper lamina unistratose, sometimes with narrow, bistratose borders ..... 115
- 115 Plants growing on soil ..... 116
- 115' Plants growing on rock ..... 122
- 116 Leaves subulate; costa filling most of the upper lamina ..... *Ditrichum* 117
- 116' Leaves not subulate; costa filling no more than 1/3 of the upper lamina. .... 119
- 117 Cells in middle of leaf base elongate (only those above shorter); capsules slenderly cylindrical, ca. 2.5 mm long ..... *D. cylindricarpum*
- 117' Cells in middle of leaf base  $\pm$  isodiametric; capsules short-cylindric, less than 2 mm long ..... 118
- 118 Leaf subula roughened; leaf base about the same length as the subula ..... *D. brotherusii*
- 118' Leaf subula smooth; leaf base somewhat less than 1/2 the length of the subula ..... *D. hyalinum*
- 119 Leaf margins recurved almost throughout ..... *Ceratodon purpureus*
- 119' Leaf margins plane or recurved only at very base ..... 120
- 120 Costa subpercurrent, occupying ca. 1/3 the leaf width throughout; plants of alpine habitats ..... *Meesia uliginosa*

- 120' Costa percurrent to excurrent, at least at leaf base occupying 1/4 or less of the leaf width; plants of lowland habitats ..... 121
- 121 Leaves broadly oblong, greater than 2.5 mm long ..... *Hemmediella heimii*
- 121' Leaves with a broad base and narrow upper portion, less than 1.5 mm long ..... *Dicranella hookeri*
- 122 Costa (as seen in section) with a band of stereid or substereid cells; columella remaining in capsule after operculum shed; annulus compound and revoluble ..... *Grimmia* 123
- 122' Costa (as seen in section) mostly homogeneous; columella falling with the operculum; annulus simple, of firm-walled cells ..... *Schistidium* 126
- 123 Perichaetial leaves 5–10  $\times$  larger in area than vegetative leaves ..... *G. kidderi*
- 123' Perichaetial leaves not much differentiated ..... 124
- 124 Leaves keeled (forming a V to the costa in section); upper lamina bistratose throughout with margins 3–5-stratose ..... *G. reflexidens*
- 124' Leaves concave (forming a U to the costa in section); upper lamina unistratose with margins 2(–3)-stratose ..... 125
- 125 Leaves widest near middle, tapering toward apex and insertion; lacking gemmae ..... *G. pulvinata*
- 125' Leaves widest near base; sometimes with gemmae on costa ..... *G. trichophylla*
- 126 Leaves falcate; costa excurrent as a stout cuspidate point ..... *S. falcatum*
- 126' Leaves straight; costa percurrent, but sometimes leaf apex hyaline. .... 127
- 127 Spores large, 15–25  $\mu\text{m}$ ; leaves muticous, sometimes toothed at apex ..... *S. rivulare*
- 127' Spores smaller, 6–13  $\mu\text{m}$ ; leaves often hyaline-piliferous, always entire ..... 128
- 128 Leaves irregularly bistratose above; exothecial cells oblong in central and lower parts of the urn ..... *S. praemorsum*
- 128' Leaves unistratose throughout (except margins) or with occasional bistratose streaks; exothecial cells isodiametric to oblate in central and lower parts of urn ..... 129
- 129 Basal marginal cells green; peristome teeth coarsely papillose, squarrose-recurved ..... *S. andinum*
- 129' Basal marginal cells hyaline; peristome teeth finely papillose to smooth, erect ..... *S. cupulare*
- 130 Leaves bordered by elongate cells ..... 131
- 130' Leaves not bordered by elongate cells ..... 133
- 131 Plants aquatic; laminal cells less than 10  $\mu\text{m}$  wide; border multistratose ..... *Vittia pachyloma*
- 131' Plants terrestrial; laminal cells more than 15  $\mu\text{m}$  wide; border unistratose ..... 132
- 132 Plants frondose-stipitate, complanate-foliate; lateral leaves and underleaves strongly differentiated; costa single ..... *Hypopterygium didictyon*
- 132' Plants not stipitate or frondose, terete-foliate; lateral leaves and dorsal leaves similar; costa short and double. .... *Calyptrochaeta apiculata*
- 133 Plants stipitate; laminal cells prurlose ..... *Rigodium* 134
- 133' Plants not stipitate; laminal cells smooth ..... 135
- 134 Stem and stipe leaves closely appressed to the stem, conspicuously auriculate ..... *R. appressum*
- 134' Stem and stipe leaves spreading to squarrose, not auriculate ..... *R. brachypodium*
- 135 Laminal cells at midleaf elongate, ca. 4:1 or longer ..... 137
- 135' Laminal cells at midleaf  $\pm$  isodiametric, ca. 1:1 ..... *Achrophyllum* 136
- 136 Margins subentire to slightly toothed ..... *A. haesselianum*
- 136' Margins coarsely toothed ..... *A. magellanicum* var. *oligodontum*
- 137 Costa single and extending to at least midleaf ..... 138
- 137' Costa short and double, or single and very short ..... 159
- 138 Leaves falcate ..... 139
- 138' Leaves straight ..... 146
- 139 Leaves plicate ..... 140
- 139' Leaves not plicate ..... 141
- 140 Stems with hyalodermis; alar cells thin-walled ..... *Sanionia uncinata*
- 140' Stems with cortex of small cells; alar cells thick-walled ..... *Brachythecium paradoxum*
- 141 Stem with complete hyalodermis; alar cells weakly differentiated, with thick,  $\pm$  porose walls ..... *Scorpidium revolvens*
- 141' Stem lacking a hyalodermis or hyalodermis incomplete (*W. exannulata*); alar cells differentiated with mostly thin walls ..... 142

- 142 Costa percurrent to short-excurrent ..... *Hygroamblystegium varium*  
 142' Costa ending well below the leaf apex ..... 143  
 143 Stems with branches emerging from only two sides (distichous); leaf margins entire or only very weakly serrulate in juvenile leaves; plants never red; leaf apices without nematogen cells ..... *Drepanocladus longifolius*  
 143' Stems with branches emerging all around; leaf margins serrulate almost throughout; plants often reddish; leaf apices with nematogen cells ..... *Warnstorfia* 144  
 144 Leaves obtuse to acute ..... *W. sarmentosa*  
 144' Leaves long-acuminate ..... 145  
 145 Alar cells enlarged but not inflated or auriculate; costa ending below the leaf acumen ..... *W. fluitans*  
 145' Alar cells inflated and auriculate; costa ending in the acumen ..... *W. exannulata*  
 146 Leaves obtuse to acute ..... *Warnstorfia sarmentosa*  
 146' Leaves short- to long-acuminate ..... 147  
 147 Leaves with channeled apex; alar cells inflated ..... *Drepanocladus polygamus*  
 147' Leaves with flat apex; alar cells various, but not inflated ..... 148  
 148 Costa percurrent to short-excurrent; paraphyllia present, but sometimes difficult to find ..... *Hygroamblystegium varium*  
 148' Costa ending below the leaf apex; paraphyllia none ..... 149  
 149 Leaves bluntly acuminate; cells in extreme apex shorter than midleaf cells; plants growing on rocks along streams ..... *Eurhynchium fuegianum*  
 149' Leaves sharply acuminate; apical cells not differentiated; plants typically in more mesic habitats ..... *Brachythecium* 150  
 150 Stem leaves falcate ..... *B. paradoxum*  
 150' Stem leaves straight or slightly homomallous ..... 151  
 151 Leaves gradually narrowed to short or long apices ..... 152  
 151' Stem leaves abruptly narrowed to short or long apices ..... 155  
 152 Leaf apex short-acuminate; setae papillose above ..... *B. plumosum*  
 152' Leaf apex long-acuminate; setae smooth throughout ..... 153  
 153 Bases of stem leaves straight and continuous into long decurrencies; alar cells extensive, extending into decurrencies ..... *B. albicans*  
 153' Bases of stem leaves rounded into short decurrencies; alar cells in small groups, not extending into decurrencies ..... 154  
 154 Stems leaves  $\pm$  entire; midleaf laminal cells porose; setae smooth ..... *B. austroglareosum*  
 154' Stem leaves serrulate in upper half and at base; midleaf laminal cells not porose; setae papillose ..... *B. praelongum*  
 155 Stem leaves deltoid to ovate-deltoid; plants small to medium-sized, prostrate ..... 158  
 155' Stem leaves broadly ovate to oblong-ovate; plants large, often erect ..... 156  
 156 Stem apices blunt; leaves oblong-ovate; setae smooth ..... *B. subplicatum*  
 156' Stem apices tapering; leaves broadly ovate; setae smooth or papillose ..... 157  
 157 Plants mostly erect, rarely prostrate, weakly branched; leaf decurrencies short; alar region  $\pm$  auriculate; setae smooth ..... *B. austrosalebrosum*  
 157' Plants mostly prostrate, rarely erect, irregularly branched; leaf decurrencies  $\pm$  long; alar region not auriculate; setae roughened ..... *B. rutabulum*  
 158 Stem leaves weakly decurrent; alar cells small and quadrate to rectangular ..... *B. subpilosum*  
 158' Stem leaves with long, narrow decurrencies; alar cells lax to inflated ..... *B. filirepens*  
 159 Leaf apices obtuse, broadly rounded ..... 160  
 159' Leaf apices acute to acuminate ..... 161  
 160 Plants growing on rocks along streams; leaves broadly oblong-lanceolate; alar cells weakly differentiate ..... *Cladomniopsis crenato-obtusa*  
 160' Plants mostly epiphytic; leaves broadly oblong-ovate; alar cells well differentiated in excavate group ..... *Acrocladium auriculatum*  
 161 Leaves strongly decurrent with alar cells extending into the decurrencies ..... *Plagiothecium* 162  
 161' Leaves not or scarcely decurrent ..... 163  
 162 Plants julaceous; leaves often obovate, concave; margins plane ..... *P. lamprostachys*  
 162' Plants complanate; leaves ovate; margins recurved ..... *P. ovalifolium*

- 163 Leaves conduplicate; plants strongly complanate, very shiny ..... *Catagonium nitens*  
 163' Leaves not conduplicate; plants mostly terete, not or scarcely shiny ..... 164  
 164 Plants robust, ca. 10 cm tall; leaf apices usually twisted; leaf margins strongly toothed in the upper half ..... *Ptychomnion cygnisetum*  
 164' Plants smaller, usually less than 5 cm; leaf apices not twisted; leaf margins entire or weakly toothed near apex ..... 165  
 165 Leaves falcate-secund; plants mostly prostrate ..... *Hypnum* 166  
 165' Leaves straight; plants mostly erect ..... 167  
 166 Branches long and usually flagelliform; alar region usually excavate, composed of many subquadrate yellow to brown cells; plants dioicous ..... *H. cupressiforme* var. *mossmanianum*  
 166' Branches shorter and rarely flagelliform; alar region not or scarcely excavate, composed of fewer subquadrate yellow or hyaline cells; plants autoicous ..... *H. skottsbergii*  
 167 Plants small and delicate, in small patches, uncommon; leaves gradually acute to short-acuminate ..... *Sauloma tenella*  
 167' Plants medium-sized, sturdy, often in large colonies, very common; leaves abruptly short-acuminate ..... *Lepyrodon lagurus*

### Checklist of the mosses of Isla Navarino (based on specimens examined; Buck specimens in NY and Goffinet specimens in CONN, others as noted)

- Achrophyllum haesselianum* (Matter) Matter [Buck 41316, 43291]  
*Achrophyllum magellanicum* (Besch.) Matter var. *oligodontum* (Matter) Matter [Buck 41203, 41325, 43467, 45973; Goffinet 9504]  
*Acrocladium auriculatum* (Mont.) Mitt. [Buck 40800, 40805, 43286, 45848, 45930]  
*Andreaea alpina* Hedw. [Allen 26514 p.p. (MO)]  
*Andreaea appendiculata* Schimp. [Buck 45831]  
*Andreaea mutabilis* Hook.f. & Wilson [Buck 45854]  
*Andreaea regularis* Müll. Hal. [Buck 41167A, 41391, 41426; Goffinet 6813, 6817]  
*Andreaea subulata* Harv. [Buck 41208]  
*Arctoa fulvella* (Dicks.) Bruch & Schimp. [Buck 41436]  
*Barbula costesii* Thér. [Buck 41171A]  
*Bartramia ithyphylloides* Schimp. ex Müll. Hal. [Buck 41020, 41219, 43602, 45866, 45868, 45895, 45914; Goffinet 6954]  
*Bartramia mossmaniana* Müll. Hal. [Buck 40680, 40825, 41046A, 41163, 45880, 45901, 45913, 45925; Goffinet 6777, 8297, 8354]  
*Bartramia patens* Brid. [Buck 40677, 41008, 41096, 41126, 41253, 41423, 41446, 43356, 46312; Goffinet 6793, 7068, 8544, 8669]  
*Bartramia patens* var. *robusta* (Hook.f. & Wilson) Matter [Buck 40635]  
*Blindia magellanica* Schimp. [Buck 41013, 41039, 41077, 41146, 41350, 43423, 45853, 45879, 45959; Goffinet 8448, 8451]  
*Brachythecium albicans* (Hedw.) Schimp. [Buck 41072, 41185, 45828, 45981]  
*Brachythecium austroglareosum* (Müll. Hal.) Paris [Buck 40890, 41222, 41266, 41379, 43325, 46295]  
*Brachythecium austrosalebrosum* (Müll. Hal.) Kindb. [Buck 43325]  
*Brachythecium filirepens* Dusén [Buck 41040, 41166B]  
*Brachythecium paradoxum* (Hook.f. & Wilson) A. Jaeger [Buck 40693, 40814, 40980, 45872, 45874, 45877, 45984, 46280]  
*Brachythecium plumosum* (Hedw.) Schimp. [Goffinet 8419]  
*Brachythecium praelongum* Müll. Hal. [Buck 40927, 41392, 41419]

*Brachythecium rutabulum* (Hedw.) Schimp. [Buck 46292, 46294]  
*Brachythecium subpilosum* (Hook.f. & Wilson) A. Jaeger [Buck 41298, 43339, 43384]  
*Brachythecium subplicatum* (Hampe) A. Jaeger [Buck 40675, 40986, 41388, 45940, 45951, 45973A, 45977; Goffinet 8437]  
*Breutelia integrifolia* (Taylor) A. Jaeger [Buck 41158, 43446, 45809, 45936; Goffinet 8458]  
*Breutelia plicata* Mitt. [Buck 43414]  
*Bryoerythrophyllum recurvirostrum* (Hedw.) P. C. Chen [Buck 41053, 41054, 41228]  
*Bryum amblyodon* Müll. Hal. [Buck 41181, 41186, 41188]  
*Bryum argenteum* Hedw. [Buck 40899; Goffinet 6765]  
*Bryum caespiticium* Hedw. [Buck 40942]  
*Bryum capillare* Hedw. [Buck 41198]  
*Bryum clavatum* (Schimp.) Müll. Hal. [Buck 41059]  
*Bryum funkii* Schwägr. [Buck 40895]  
*Bryum gayanum* Mont. [Buck 40740, 40745, 40959]  
*Bryum laevigatum* Hook.f. & Wilson [Buck 40985, 41075]  
*Bryum nivale* Müll. Hal. [Buck 41449]  
*Bryum orbiculatifolium* Cardot & Broth. [Buck 40876]  
*Bryum pallens* Sw. [Buck 41272]  
*Bryum pseudotriquetrum* (Hedw.) P. Gärtner, B. Meyer & Scherb. [Buck 40676, 40846, 40974]  
*Bryum uliginosum* (Brid.) Bruch & Schimp. [Buck 41448]  
*Bucklandiella didymum* (Mont.) A. Jaeger [Buck 40894, 40921, 41049, 41241, 41490]  
*Bucklandiella heterostichoides* Cardot [Buck 41385, 41438]  
*Bucklandiella pachydictyon* Cardot [Buck 41375]  
*Bucklandiella striatipilum* Cardot [Buck 40940, 41509]  
*Calypstrochaeta apiculata* (Hook.f. & Wilson) Vitt [Buck 45965; Goffinet 6972]  
*Campylopus clavatus* (R. Br.) Wilson [Buck 40727]  
*Campylopus incrassatus* Müll. Hal. [Buck 41513]  
*Campylopus introflexus* (Hedw.) Brid. [Buck 41505, 45950, 45954, 46286, 46290, 46299]  
*Catagonium nitens* (Brid.) Cardot [Buck 40776, 41028, 41046, 41048, 41098, 45893, 45961; Goffinet 6792, 8270]  
*Ceratodon purpureus* (Hedw.) Brid. [Buck 40674, 40966, 41011; Goffinet 6990, 7041, 8371, 8421, 9502]  
*Cinclidium stygium* Sw. [Buck 41458, 43235]  
*Cladoniopsis crenato-obtusa* M. Fleisch. [Buck 41151, 41360, 45845, 45928]  
*Conostomum magellanicum* Sull. [Buck 41418]  
*Conostomum tetragonum* (Hedw.) Lindb. [Buck 41453; Goffinet 6828, 6829, 6830]  
*Dendroligotrichum squamosum* (Hook.f. & Wilson) Cardot [Buck 41247, 41403; Goffinet 7070, 8588]  
*Dicranella fuegiana* Cardot & Broth. [Buck 41155]  
*Dicranella hookeri* (Müll. Hal.) Cardot [Buck 45811, 45964, 45970, 46281]  
*Dicranoloma chilense* (De Not.) Ochyra & Matteri [Buck 40701; Goffinet 8362]  
*Dicranoloma robustum* (Hook.f. & Wilson) Paris [Goffinet 6783, 8312, 8473]  
*Dicranoweisia crispula* (Hedw.) Milde [Buck 40922, 41093, 41225, 41291, 41394, 41413, 41414; Goffinet 6807, 6816]  
*Distichium capillaceum* (Hedw.) Bruch & Schimp. [Buck 41083, 45857, 45905; Goffinet 8480]  
*Ditrichum brotherusii* (R. Br. ter) Seppelt [Buck 41454]  
*Ditrichum cylindricarpum* (Müll. Hal.) F. Muell. [Buck 41115]  
*Ditrichum hyalinum* (Mitt.) Kuntze [Buck 41268, 41401, 41445]  
*Drepanocladus longifolius* (Mitt.) Paris [Buck 40695, 40722, 40962; Goffinet 9537b]  
*Drepanocladus polygamus* (Schimp.) Hedenäs [Buck 43480, 45805]

*Encalypta ciliata* Hedw. [Buck 45804]  
*Eurhynchium fuegianum* Cardot [Buck 41017, 41055, 41073, 41081, 41162, 45851, 45943; Goffinet 8440]  
*Fissidens rigidulus* Hook.f. & Wilson [Buck 41015, 41138, 41166, 41204, 43438, 45858, 45873]  
*Funaria hygrometrica* Hedw. var. *fuegiana* (Müll. Hal.) Besch. [Buck 41170, 41531, 41536, 45818]  
*Goniobryum subbasilare* (Hook.) Lindb. [Buck 40815, 40870, 40873, 41301, 41308, 45829; Goffinet 9544]  
*Grimmia kidderi* T. P. James [Buck 41417]  
*Grimmia pulvinata* (Hedw.) Sm. [Buck 41173]  
*Grimmia reflexidens* Müll. Hal. [Buck 40904, 41447]  
*Grimmia trichophylla* Grev. [Buck 40915, 41236, 41239]  
*Hennediella antarctica* (Ångstr.) Ochyra & Matteri [Buck 40719, 41262, 45819]  
*Hennediella densifolia* (Hook.f. & Wilson) R. H. Zander [Buck 40966A, 41294, 45953]  
*Hennediella heimii* (Hedw.) R. H. Zander [Buck 40897, 41263, 41273, 41470, 41486, 45982]  
*Hygroamblystegium varium* (Hedw.) Mönk. [Buck 40678, 40757, 40889, 40930, 40972, 40988, 41069, 41153, 41265, 41480, 41496, 43348, 45969; Goffinet 6797, 6968, 7021, 7079]  
*Hymenodontopsis mnioides* (Hook.) N. E. Bell, Ang. Newton & Quandt [Buck 40957, 43400, 45878, 45924; Goffinet 6784, 6976, 8610]  
*Hypnum cupressiforme* Hedw. var. *mossmanianum* (Müll. Hal.) Ando [Buck 40937, 41317, 43487; Goffinet 8432]  
*Hypnum skottsbergii* Ando [Buck 40779, 40989, 43277; Goffinet 6785]  
*Hypopterygium didictyon* Müll. Hal. [Buck 41002, 45822; Goffinet 6783b, 6969]  
*Kiaeria pumila* (Mitt.) Ochyra [Buck 41469]  
*Leptostomum menziesii* R. Br. [Buck 40756, 41090, 41223]  
*Leptotheca gaudichaudii* Schwägr. [Buck 41111, 41341, 43290, 43448, 45823, 45902; Goffinet 6844, 6933, 8272, 8283, 8550, 9525]  
*Lepyrodon lagurus* (Hook.) Mitt. [Buck 40827, 40877, 40883, 40963, 43582, 45883, 45912, 46297; Goffinet 6782, 6965, 8311]  
*Leptobryum pyriforme* (Hedw.) Wilson [Goffinet 8243]  
*Meesia uliginosa* Hedw. [Buck 41389]  
*Neomeesia paludella* (Besch.) Deguchi [Buck 41366, 43330, 43500; Goffinet 8667]  
*Notoligotrichum minimum* (Cardot) G. L. Sm. [Buck 45944, 46289]  
*Notoligotrichum trichodon* (Hook.f. & Wilson) G. L. Sm. [Buck 41373, 41380; Goffinet 8658, 8659]  
*Oreoweisia* cf. *chilensis* (Müll. Hal.) Kindb. [Buck 41076]  
*Orthodontium lineare* Schwägr. [Buck 40714, 40868; Goffinet 8247]  
*Orthotrichum bicolor* Thér. [Goffinet 8424, 8426]  
*Orthotrichum brotheri* Dusén ex Lewinsky [Buck 445918A]  
*Orthotrichum compactum* Dusén [Goffinet 8341]  
*Orthotrichum crassifolia* Hook.f. & Wilson [Buck 40916, 41285, 41466, 41482, 41493, 45897, 45922, 46310; Goffinet 6911, 6952, 6971, 6992, 7005, 7056, 8595, 8684, 8691]  
*Orthotrichum elegantulum* Mitt. [Buck 40763, 40769, 40806, 40808, 40832, 40851, 40907, 40909, 40920B, 40947, 40993; Goffinet 8260, 8705]  
*Orthotrichum inclinatum* Müll. Hal. [Buck 40845, 40891]  
*Orthotrichum ludificans* Lewinsky [Goffinet 8342]  
*Orthotrichum rupestre* Schwägr. [Buck 40923, 41182, 41187, 41209, 41248, 41283; Goffinet 8581, 8629, 8705]  
*Philonotis scabrifolia* (Hook.f. & Wilson) Braithw. [Buck 40667, 41212, 41344, 45807, 45885, 45895A, 45934; Goffinet 6946, 8543, 8547, 8574]

- Philonotis vagans* (Hook.f. & Wilson) Mitt. [Buck 40672, 41320, 41345, 41422, 45856, 45911; Goffinet 6978, 9503]  
*Plagiomnium ellipticum* (Brid.) T. J. Kop. [Buck 40984, 43466, 45971]  
*Plagiothecium lamprostachys* (Hampe) A. Jaeger [Buck 41408]  
*Plagiothecium ovalifolium* Cardot [Buck 41238, 43289, 43304, 43514, 45898]  
*Platyneuron praealtum* (Mitt.) Ochyra & Bednarek-Ochyra [Buck 40706, 40724, 40750, 40900, 40956, 41384, 41402, 41412, 41437; Goffinet 8273]  
*Pohlia cruda* (Hedw.) Lindb. [Buck 40694, 40697, 41023, 41165; Goffinet 6775, 8250]  
*Pohlia lonchochaete* (Dusén) Broth. [Buck 40720, 40744, 41433, 41448A, 41498, 41508]  
*Pohlia wahlenbergii* (F. Weber & D. Mohr) A. L. Andrews [Buck 40970, 40999, 41042, 41169, 41221, 41337]  
*Pohlia wilsonii* (Mitt.) Ochyra [Buck 40689, 40991]  
*Polytrichadelphus magellanicus* (Hedw.) Mitt. [Buck 41018, 41092, 41161, 45887]  
*Polytrichum juniperinum* Hedw. [Buck 41439; Goffinet 6787]  
*Polytrichum piliferum* Hedw. [Buck 41179, 45952]  
*Polytrichum strictum* Brid. [Buck 40700, 41106, 46303; Goffinet 6826, 8361]  
*Ptychomnion cygnisetum* (Müll. Hal.) Kindb. [Buck 41004; Goffinet 6982, 8523]  
*Racomitrium geronticum* Müll. Hal. [Buck 43313, 45667, 45692, 45741, 45766, 46024, 46039, 46055, 46187, 46219; Goffinet 9549]  
*Rigodium adpressum* Zomlefer [Buck 45863]  
*Rigodium brachypodium* (Müll. Hal.) Paris [Buck 41462]  
*Sanionia uncinata* (Hedw.) Loeske [Buck 40718, 41014, 41367; Goffinet 8401]  
*Sauloma tenella* (Hook.f. & Wilson) Mitt. [Buck 41047, 43274, 43298]  
*Schistidium andinum* [Buck 40920A, 40928, 41152, 41200, 41207, 41472, 41441]  
*Schistidium cupulare* (Müll. Hal.) Ochyra [Buck 40884]  
*Schistidium falcatum* (Hook.f. & Wilson) B. Bremer [Buck 41147]  
*Schistidium praemorsum* (Müll. Hal.) Herzog [Buck 40759]  
*Schistidium rivulare* (Brid.) Podp. [Buck 41085, 41395]  
*Scorpidium revolvens* (Sw.) Rubers [Buck 43388]  
*Sphagnum fimbriatum* Wilson [Buck 40682, 40726; Goffinet 8365, 8388]  
*Sphagnum magellanicum* Brid. [Buck 40690; Goffinet 8378]  
*Symblepharis krausei* (Lorentz) Ochyra & Matteri [Buck 41021; Goffinet 6833]  
*Syntrichia anderssonii* (Ångstr.) R. H. Zander [Buck 41070, 41213A, 41217, 45909, 46293, 46303; Goffinet 6780]  
*Syntrichia gehebiaeopsis* (Müll. Hal.) R. H. Zander [Buck 41381, 45945; Goffinet 8445, 9552]  
*Syntrichia magellanica* (Mont.) R. H. Zander [Goffinet 6809, 8612]  
*Syntrichia princeps* (De Not.) Mitt. [Buck 41421; Goffinet 8319]  
*Syntrichia robusta* (Hook. & Grev.) R. H. Zander [Buck 40802, 41381A, 46308]  
*Syntrichia saxicola* (Cardot) R. H. Zander [Buck 40692, 45832, 45869, 45881, 45889, 45906; Goffinet 6766]  
*Syntrichia subpapillosa* (Cardot & Broth.) Matteri [Buck 40854, 46311; Goffinet 6769]  
*Tayloria dubyi* Broth. [Buck 41275, 45942; Goffinet 7007, 7025, 7027]  
*Tayloria magellanica* (Brid.) Mitt. [Buck 41321, 43307, 43308, 43434, 45826; Goffinet 7008]  
*Tayloria mirabilis* (Cardot) Broth. [Buck 41211; Goffinet 6773, 6967, 8267, 8562, 9510]  
*Tetraplodon fuegianus* Besch. [Goffinet 7009, 7028]  
*Tortella fragilis* (Hook. & Wilson) Limpr. [Goffinet 6839]  
*Tortella knightii* (Mitt.) Broth. [Buck 45813, 45926]  
*Ulota fuegiana* Mitt. [Goffinet 8688]  
*Ulota germana* (Mont.) Mitt. [Godley 943c (NY)]  
*Ulota macrocalycina* Mitt. [Buck 40679A, 40829, 40865, 40901A; Goffinet 6795, 8616]

- Ulota magellanica* (Mont.) A. Jaeger [Buck 40679; Goffinet 8618]  
*Ulota phyllantha* Brid. [Buck 41502; Goffinet 8678]  
*Ulota pygmaeothecia* (Müll. Hal.) Kindb. [Buck 40901, 41025, 41119, 41145, 41335]  
*Vittia pachyloma* (Mont.) Ochyra [Buck 41026, 41041, 41089, 41202, 41352, 41358, 41407, 45817, 45855, 45870, 45958; Goffinet 8540]  
*Warnstorfia exannulata* (Schimp.) Loeske [Goffinet 7020]  
*Warnstorfia fluitans* (Hedw.) Loeske [Buck 40721; Goffinet 7031]  
*Warnstorfia sarmentosa* (Wahlenb.) Hedenäs [Buck 41372, 43342, 43349]  
*Zygodon hookeri* Hampe var. *leptobolax* (Müll. Hal.) Calabrese [Buck 45918]  
*Zygodon magellanicus* Dusén ex Malta [Buck 45836]

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