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South Georgia Field Identification Training Guide

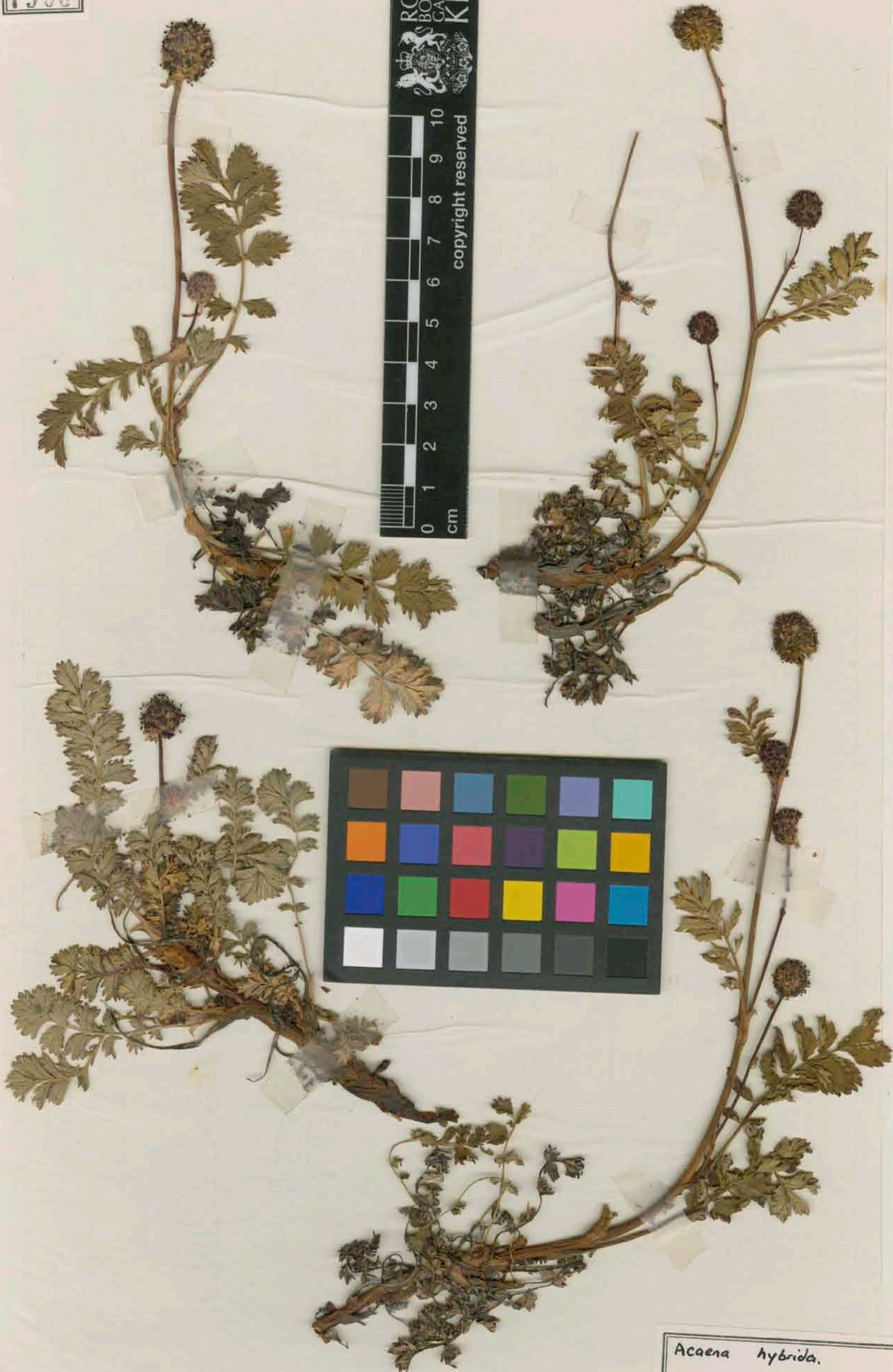
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South
Georgia
7906

ROYAL
BOTANIC
GARDENS
KEW



Acaena hybrida.

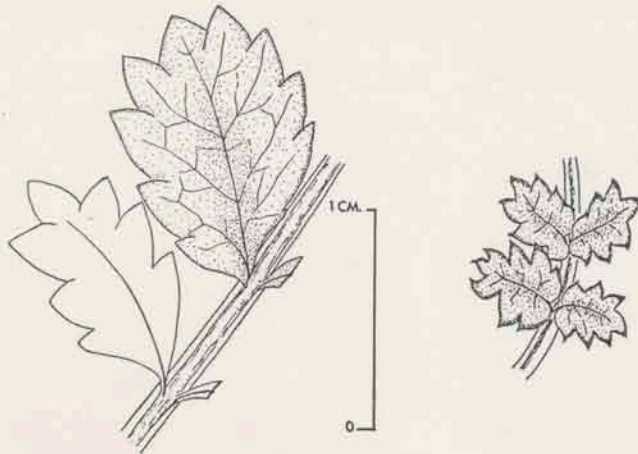
Sanguisorba officinale sensu Forster, 1776; *Ancistrum decumbens* sensu Forster, 1789; *A. adscendens* Vahl sensu Engler, 1886 and Skottsberg, 1905; *A. adscendens* var. *austro-georgiae* Bitter sensu Skottsberg, 1912.

Perennial prostrate herbs, forming extensive carpets as a result of intertwining of the elongated woody rhizomes. **Leafy shoots** 10–25 cm. long (including peduncles), decumbent to ascending, often abundantly branched, rather woody at base. **Leaves** 5–10 × (1–) 1.5–2.5 (–3) cm., *imparipinnate*, with 4–6 pairs of leaflets, the lower leaflets smaller and more widely spaced than the upper, the largest (0.5–) 1–1.5 (–2) cm. long, *elliptical to obovate*, *obtuse at apex*, *cuneate at base*, the margins *crenate to dentate*, usually shallowly so, *glabrous or with occasional hairs on upper surface*, the lower surface and rachis *pilose with silky hairs*, *pale glaucous green in colour*, the upper surface of the teeth *infrequently edged with red*. **Stipules** sheathing below, fused to the petiole but with a free leaf-like apex. **Flowers** numerous in globose heads, hermaphrodite, actinomorphic. **Heads** (0.5–) 1–1.5 cm. diameter when in flower and then without evident spines, solitary on erect or weakly curving terminal peduncles, (2–) 8–12 (–16) cm. long. **Epicalyx** absent. **Sepals** 3–5 mm. long, (3–) 4 fused below, oblong, obtuse or subacute, pilose on back, *green to reddish purple*, *persistent*. **Petals** absent. **Stamens** (3–) 4, exceeding the sepals. **Ovary** superior, 1-celled, enclosed by the calyx, stigma feathery. **Fruiting heads** enlarged, individual fruits surrounded by the hardened bases of the sepals which lack conspicuous swollen groups of shining cells on their surfaces, each armed with 4 spines, the latter 5–8 mm. long, each barbed at the tip, Fig. 5.

Native. On mobile to stable screes and moraines, in *Festuca* grassland, and amongst tussock, in seepage areas, in bog and on wet rocks. Altitude 0–750 ft. (c. 0–225 m.). Abundant. South Georgia, Map 16. ? Endemic.

Notes. Owing to the presence of pinnate leaves and stalked globular flowering heads, *A. adscendens* is very distinct and is only likely to be confused with *A. tenera*, the differences being summarized under that plant. When the fruits are mature they become detached from the heads (or the head as a whole detaches) and adhere to clothing, feathers, etc., proving difficult to remove owing to the barbed spines.

Bitter (1911) created the new subspecies *georgiae-australis* Bitter for the South Georgian form of *A. adscendens*, and he further subdivided the subspecies into two new varieties—var. *majuscula* Bitter and var. *minuscula* Bitter. From an examination of the South Georgian material in Munich, collected by Will and determined by Bitter as *A. adscendens* Vahl ssp. *georgiae-australis* Bitter var. *majuscula* Bitter and var. *minuscula* Bitter, it is clear that Bitter's varieties are nothing more than large and small plants respectively of the normal South Georgian form of *A. adscendens*. For this reason the varieties have been omitted from the present work, although Philcox (1962) has referred recent collections from South Georgia



Mature leaflets of *Acaena adscendens* (on left) and *Acaena tenera* (on right).

to both varieties. From an examination of the specimens cited by Philcox, it is clear that his use of the var. *majuscula* corresponds to the form here referred to ssp. *georgiae-australis*, while the var. *minuscula*, as understood by Philcox, comprises the plants referred to *Acaena tenera* in the present work.

The Will material of *A. adscendens* in Zürich has also been determined by Bitter as *A. adscendens* Vahl ssp. *georgiae-australis* Bitter, and Will's specimens in Munich and Zürich are cited by Bitter in his monograph of the genus *Acaena* (Bitter, 1911). Bitter's herbarium at Göttingen contains 3 leaves used to illustrate Fig. 39 on p. 181 of this monograph and, although no collecting data is given with the leaves, they must be part of the material at Munich or Zürich. Two South Georgian specimens of *A. adscendens*, one at Zürich, leg. Will and one from the H.M.S. *Sappho* collection at Kew, were identified in 1957 and 1959 respectively as *A. magellanica* (Lam.) Vahl by E. Grondona of Belcarce, Argentina, who is of the opinion (personal communication) that the two taxa are synonymous.

Field experience has shown that *A. adscendens* is extremely variable and that it occupies a wide range of habitats. It is quite likely that the South Georgian plants will prove to be indistinguishable from material of *A. adscendens* from other parts of its range, as has already been suggested by Taylor (1914), but until the results of a thorough revision of the species are available for evaluation it seems best to propose no changes in nomenclature. Plants in cultivation differ little from those seen in the field.

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Acaena magellanica

A. laevigata Ait. sensu Engler, 1886.

Similar in general structure to *A. adscendens* but smaller in all its parts and differing as follows: *Leaves* (2-) 3-5 (-6) \times 0.8-1.2 cm., *the largest leaflets* 4-5 (-6) mm. long, *broadly elliptical to \pm circular, truncate to cordate at base, the margins sharply and deeply incised, glabrous on both surfaces or with occasional hairs below, dark green above, the teeth normally edged with red on their upper surfaces. Flowering heads* 4-5 mm. diameter, elevated on a peduncle 4-8 cm. long. *Fruiting heads* with the hardened bases of the sepals covered by conspicuous swollen groups of shining cells, each group comprised of irregular moniliform units, spines 1.5-2 mm. long, Fig. 5.

Native. On screes near junction with rock faces and on moraines, more rarely on rocks and in open *Festuca* grassland. Altitude 0-1,000 (-1,250) ft. [c. 0-300 (-375) m.]. Common. South Georgia, Map 17; Fuegia, Andean Patagonia.

Notes. When vegetative, *A. tenera* may be most easily distinguished from typical plants of *A. adscendens* by the nature of the mature leaflets. The fruiting heads of the two species not only differ strikingly in size, but the presence of irregular groups of shining cells on the sides of the fruit of *A. tenera* give it a distinctive appearance, which is quite unlike the smooth-sided fruits of *A. adscendens*.

Bitter (1911) referred the South Georgian plants to ssp. *epilis* Bitter and a typical South Georgian specimen in Munich, collected by Will, has been so determined by him. E. Grondona of Belcarce, Argentina, is of the opinion (personal communication) that *A. tenera* Alboff and *A. microcephala* Schlecht. are synonymous.

A. tenera, unlike *A. adscendens*, is not very variable but occasional plants occur with a leaflet structure intermediate between the two species, the commonest having the broad base and red-tipped teeth of *A. tenera* but with the bluish-green colour and hairiness of *A. adscendens*. The general size of leaflet and plant of these intermediate individuals is smaller than typical *A. adscendens* and larger than normal *A. tenera*, and while some are fertile no material with fruiting heads has been seen. The status of these intermediate plants is, as yet, unknown. Plants of *A. tenera* in cultivation differ little from the typical form seen in the field.

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Acaena tenera

South
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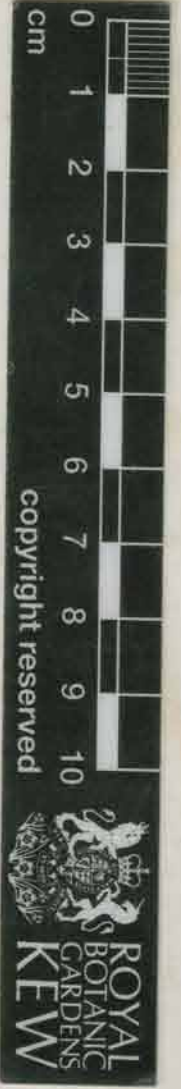
Achillea ptarmica

South
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Agropyron repens.

South
Georgia
7817



Agrostis tenuis

Alopecurus ^{magellanicus Lam.} ~~antarcticus Vahl.~~

Antarctic Foxtail

A tall slender perennial herb, with creeping stems which give rise to erect shoots. *Leaf blades* 12–18 × 0.3–0.4 cm., variable in length, linear, *spreading, flattened or channelled, with a distinct greenish-blue colour. Ligule prominent, rounded, often torn, papery. Flowering shoots* 30–50 cm. long, variable in height, erect, bearing a terminal inflorescence. *Panicle* 1.5–2.5 × 0.8–1.0 cm., *spike-like, ovoid or ± conical. Spikelets* c. 5 mm. long, crowded, of 1 hermaphrodite floret, *strongly compressed and with a silver-purple tinge. Glumes* subequal, *equalling or slightly exceeding the lemma, ovate-lanceolate, keeled, 3-nerved, on back densely clothed with silky hairs, particularly on the keels. Lemma* broadly ovate, strongly keeled, 5-nerved, membranous with margins fused below for about a quarter of their length, *with a short awn arising from about mid length of back of keel, awn a little longer than lemma and protruding for a short distance above the apices of the glumes, on back scabrid above and sparsely covered with silky hairs near the margins. Palea* 0. *Lodicules* 0. *Stamens* 3. *Ovary* smooth with 2 feathery stigmas, Plate Vd.

Native. In seepage areas and by stream sides. Altitude 0–250 ft. (c. 0–75 m.). Locally frequent. South Georgia, Map 31; Falkland Islands; Fuegia, Andean and east Patagonia.

Notes. By colour alone, this grass may be distinguished from all the known South Georgian species, and its ovoid to conical inflorescence is only likely to be confused with the more cylindrical inflorescence of *Phleum alpinum*. Owing to the abundance of silky hairs on the surface of the glumes, the spikelets of *A. antarcticus* are “softly” hairy in contrast to the “bristly” appearance of the inflorescences of *P. alpinum*. The arrangement of the awns is also different in both species.

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Alopecurus antarcticus

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Anthriscus sylvestris

Blechnum penna-marina (Poir) Kuhn

Small-fern (of Falkland Islands)

Rhizomes short, creeping, producing a *rosette-like group of spreading or erect dimorphic leaves*. *Sterile leaves* 10–15 × 0.8–1.2 cm., normally spreading, the petiole about equalling the length of the blade, the latter narrowly oblong, *simply pinnate*. *Pinnae* numerous, ± *widely spaced, oblong, flat or with their margins narrowly recurved*. *Fertile leaves* erect, normally longer than the sterile, with the margins of their pinnae more broadly revolute, so that the pinnae appear narrower than those on the sterile leaves. *Sori elongate*, on under surface of pinnae, *running the full length on either side of the midrib*, when mature sporangia apparently cover the whole undersurface of the pinna. *Indusium single, linear*, Plate IVa.

Native. On screes, in rock crevices, in seepage areas and in *Festuca* grassland. Altitude 0–100 ft. (c.0–30 m.). Frequent on north-facing slopes in the southern valley at Husvik, South Georgia, Map 5; Falkland Islands; Fuegia, west and Andean Patagonia; Prince Edward Islands, Îles Crozet, Îles de Kerguelen, Macquarie Island.

Notes. *B. penna-marina* is easily identified as it is the only fern on South Georgia that has dimorphic leaves. Even when sterile, the simply pinnate leaves will enable it to be readily recognized.

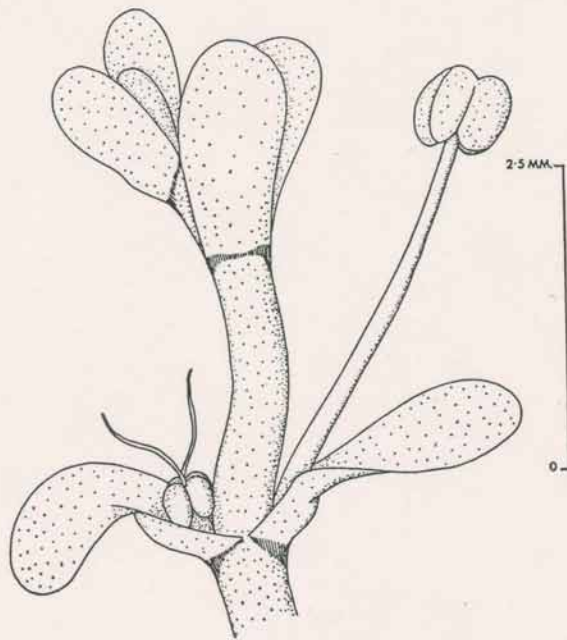
South
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BLECHNUM
PENNA-MARINA

C. verna L. forma *longistaminea* Engl. sensu Engler, 1886.

Small perennial herb with decumbent to erect leafy shoots, forming low mats or loose aggregations of straggling stems. **Shoots** 3–8 (–15) cm. long, variously branched, stems slender, *in section of internode solid (land form) or with 2 longitudinally running air canals (aquatic form)*. **Leaves** 2–4 (–7) × 1–2 (–3) mm., *in opposite decussate pairs, the upper normally recurved and usually less than half the length of the internode in all but the compact terrestrial forms, broadly elliptical to obovate, gradually narrowing to a pale green or hyaline base, which is shortly fused with the opposite member of a pair, at apex bluntly pointed to rounded, entire, glabrous, the central vein green, not pink-tinged, lateral branches spreading*. **Flowers** solitary (rarely in pairs), axillary, sessile, ebracteate, unisexual, perianth absent. **Male flowers** a solitary stamen, the slender hyaline filament up to 1 cm. long, ripe anther yellow. **Female flowers** a 4-celled ovary, with 2 long simple, erect to recurved persistent styles. **Fruit** c. 1–2 mm. diameter, sessile, 4-lobed, each lobe rounded, often with traces of narrow marginal wings, lateral grooves barely to weakly developed, Figs. 3 and 6.



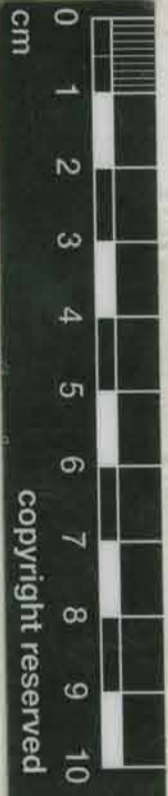
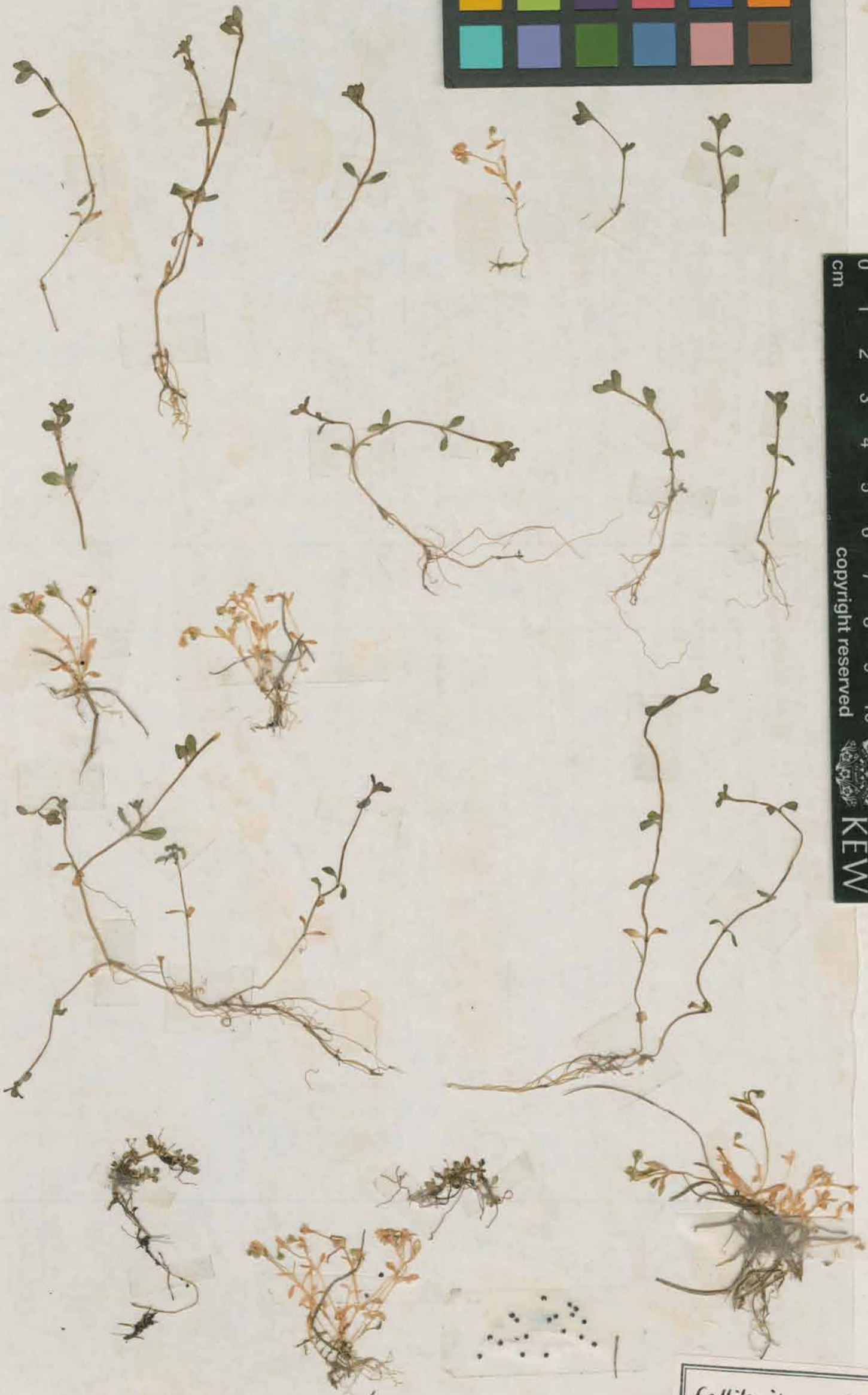
Flowering shoot of *Callitriche antarctica*.

Native. In seepage areas, by stream sides, and around pools in tussock, less commonly on wet rocks. Altitude 0–250 ft. (c. 0–75 m.). Common. South Georgia, Map 18; Falkland Islands; Fuegia, west and Andean Patagonia; Prince Edward Islands, Îles Crozet, Îles de Kerguelen, Heard Island, Macquarie Island.

Notes. *C. antarctica* is likely to be confused only with *Montia fontana*, and the differences between the taxa have been pointed out under that plant. Much variation occurs in the appearance of the present species, mainly because of the wetness of the habitat, and a complete series may be found connecting the compact terrestrial form with the attenuated aquatic state.

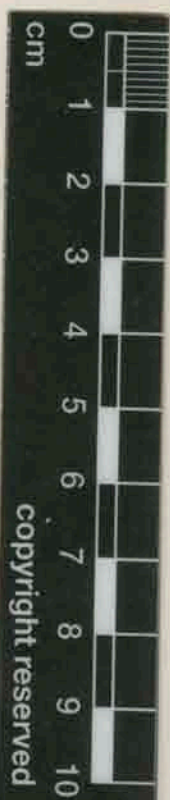
Recently Schotsman (1961) has discussed the characters of *C. antarctica* in parts of its austral range and has confirmed the identity of the South Georgian plants.

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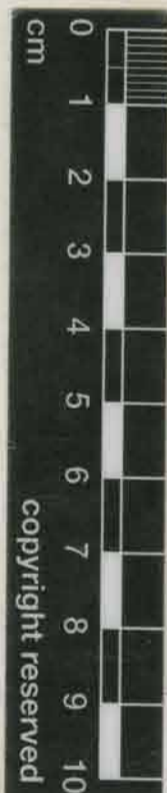
Callitriche antarctica

South
Georgia
7908



CAREX
AQUATALIS

South
Georgia
7828



fontanum Baumg.

**Cerastium holosteoides* ~~Fe.~~

Mouse-ear Chickweed

A perennial herb, with decumbent to erect, leafy, flowering and non-flowering shoots, forming loose straggling clumps. *Flowering shoots* variable in size, 8–15 (–25) cm. long, *conspicuously hairy*. *Leaves* 1–2 × 0.4–0.6 cm., arranged in *opposite, usually widely spaced pairs*, entire, sessile, elliptical to oblong, the apex broadly acute to ± rounded, *dark greyish-green and densely covered with short, white hairs*. *Flowers* in dichasial bracteate cymes, the lower bracts leaf-like, the upper smaller and with narrow scarious margins, borne on short pedicels, hermaphrodite, actinomorphic. *Sepals* 5, c. 5 mm. long, ovate-lanceolate, *hairy*, with scarious glabrous margins, *persistent*. *Petals* 5, white, equalling or shortly exceeding the sepals, *bifid one-quarter to one-half of length*. *Stamens* 10. *Ovary* superior, 1-celled, with 5 (–6) styles. *Fruit* a capsule, when mature c. 1 cm. long, *as much as twice the length of the sepals, narrowly cylindrical, straight to weakly curved, scarious, shining*, dehiscing by 10 short apical teeth.

Introduced. Between rocks and on loose scree, in seepage areas, on storm beaches, rarely in *Festuca* grassland, also on bare ground around the whaling stations. Altitude 0–650 ft. (c. 0–200 m.). Locally frequent. South Georgia, Map 12.

Notes. The straggling, densely hairy shoots of *C. holosteoides*, with their wide-spaced pairs of opposite leaves, conspicuous white flowers with deeply cleft petals, and elongated cylindrical papery fruits are unmistakable and quite unlike any of the other native or naturalized South Georgian plants.

Cerastium holosteoides



South
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7827

cm

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Colobanthus ^{*quitensis*} ~~*crassifolius*~~ (D'Urv.) Hook.f.

Antarctic Pearlwort

A perennial herb forming low, *loosely compacted cushions* 3–4 cm. high \times 3–8 cm. diameter *Leafy shoots* 1.5–3 cm. long, erect or spreading, sparingly branched, arising as a group from the apex of the central stem, *the terminal leaves generally spreading to give a \pm star-like appearance to the apices of individual shoots.* *Leaves* 3–5 \times 1 mm., sessile, in opposite decussate pairs, close-set, *spreading or weakly recurved*, from a loose, sheathing, hyaline base, which is fused with the opposite member of the pair, the blades narrowly triangular to linear, gradually tapering to a blunt or shortly cuspidate point, *not, or weakly, channelled on the upper surface*, margins entire with a narrow hyaline border, glabrous. *Flowers* c. 2 mm. diameter, borne singly at the apices of short peduncles from below the terminal leaves on the main shoots or lateral branches, hermaphrodite, actinomorphic. *Sepals* 4–5, c. 2 mm. long, *all \pm equal triangular to ovate, gradually tapering to rounded apices*, green, the margins hyaline or purplish, *persistent.* *Petals* absent. *Stamens* 4–5, alternating with the sepals. *Ovary* superior, 1-celled with 4–5 short spreading styles. *Fruit* a capsule, slightly shorter than the sepals, opening by 4–5 valves, the latter often recurving with age, *elevated by an elongated peduncle, c. 0.5–1.5 cm. above the leaves.*

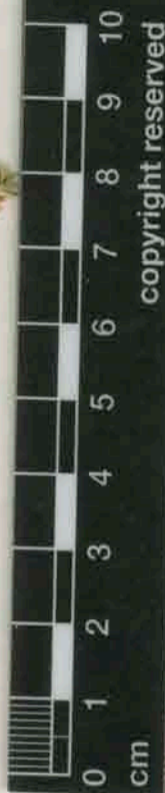
Native. On gravelly or stony ground of young moraines and stream sides, less commonly in seepage areas. Altitude 0–550 (–1,000) ft. [c. 0–170 (–300) m.]. Common. South Georgia, Map 13; South Orkney Islands southwards to Marguerite Bay, Antarctic Peninsula; Falkland Islands; Fuegia, west Andean and east Patagonia; Macquarie Island.

Notes. The low, moss-like cushions of *C. crassifolius* are distinct from all other South Georgian plants except the closely related *C. subulatus*. When vegetative the two species may best be distinguished by the arrangement of the leaves, particularly those at the apices of the shoots: differences also exist in the relative compactness of the cushions. The two species are most easily separated when in fruit, for the seed capsule, surrounded by its sepals, may be either lifted clear of the surface of the cushions, as in the present species, or be at or below its surface, as in *C. subulatus*. Further differences occur in the shape of the sepals.

C. crassifolius, like the next species, shows little variation in the field apart from a slight increase in vigour in sheltered habitats. In cultivation, however, its size is at least doubled. Plants from more southerly latitudes differ in having more tightly compacted cushions and shorter fruiting pedicels, often with the capsules not, or only barely, clear of the top of the cushion. Engler (1886) recognized a var. *brevifolius* Engl. from South Georgia, in addition to the normal form. This variety was at first accepted by Skottsberg (1905), but later rejected (Skottsberg, 1912). A specimen in the Will collection at Kew and a Mosthaff specimen at Stockholm, named by Engler, do not differ significantly from the normal South Georgian form.

Colobanthus crassifolius

South
Georgia
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Colobanthus subulatus (D'Urv.) Hook.f.

Sessile Pearlwort

A perennial herb forming low, usually tightly compacted cushions 3–6 cm. high \times 4–8 cm. diameter. *Leafy shoots* 1.5–5 cm. long, mostly erect or some spreading, variously branched, the terminal leaves \pm erect and not giving a star-like appearance to the apices of individual shoots. *Leaves* 3–5 \times 1 mm. sessile in opposite decussate pairs, close-set, stiff, imbricate, erect to little spreading, from a loose, sheathing, hyaline base, which is fused with opposite member of a pair, the blades narrowly triangular to linear, gradually tapering to a distinctly cuspidate point, usually conspicuously channelled on the upper surface, margins entire with a yellowish or hyaline shining border, glabrous. *Flowers* c. 2 mm. diameter, borne singly at the apices of the short peduncles from below the terminal leaves on lateral branches, hermaphrodite, actinomorphic. *Sepals* 4 (–5), 1.5–2 mm. long, 2 slightly shorter than others, triangular to narrowly ovate, gradually tapering to a cuspidate point, green with yellowish or hyaline shining margins, channelled on the inner surface, persistent. *Petals* absent. *Stamens* 4 (–5) alternating with the sepals. *Ovary* superior, 1-celled with 4 (–5) short erect styles. *Fruit* a capsule, slightly shorter than the sepals, opening by 4 (–5) valves, the peduncle not or only slightly longer than in flower, at or just below the apices of the terminal leaves.

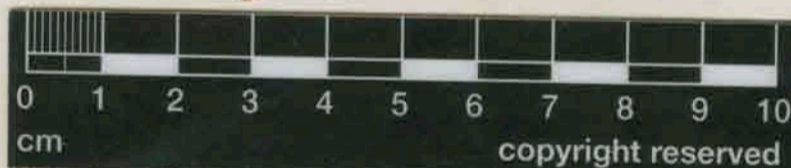
Native. Mainly on wet, rock faces, rarely on moraines. Altitude 0–550 (–900) ft. [c. 0–170 (–275) m.]. Common in coastal areas, less so further inland. South Georgia, Map 14; Falkland Islands; Fuegia, west Patagonia.

Notes. *C. subulatus* is only likely to be confused with *C. crassifolius* and the differences between the two species have been pointed out under that plant. Plants in cultivation differ little from those in the field.

Colobanthus subulatus

South
Georgia

7822



Cystopteris fragilis (L.) Bernh.

Brittle Bladder-fern

Rhizomes short, bearing at their apices a crown of erect or spreading leaves. Leaves 10–15 cm. long, normally bipinnate, petiole brown at base and shorter or as long as the blade, the latter 6–9 × 3–5 cm., vegetative branches. It is more likely to be passed over as a bryophyte than to be mistaken for any of the other vascular plants.

There appears to be much confusion about the correct name of the present species. Two specimens in Uppsala, collected by Skottsberg on South Georgia, one in 1902 and the other in 1909, have been named by Roivainen as *L. magellanicum* f. *skottsbergii* Herter. However, Roivainen (1936) expressed doubts about the justification for treating the South Georgian forms as a separate taxon and pointed to the need for experimental studies. According to C. Jermy (personal communication) the epithet *skottsbergii* was not validly published by Herter till 1940, when he used it for a plant from Juan Fernandez which he named *L. scariosum* var. *gayanum* f. *skottsbergii* Hert., at the same time calling Skottsberg's South Georgian plants *L. magellanicum* var. *pusillum* Hert. Then, in 1949, in his *Index Lycopodiorum*, Hert. raised both these taxa to the rank of species, now calling the Juan Fernandez plant *L. skottsbergii* (Hert.) Hert., and the South Georgian plants *L. urani* Hert. nom. nov. It seems better to retain the South Georgian plants as *L. magellanicum* Sw., pending a full revision of the taxon.

Cystopteris fragilis

South
Georgia
7814



Deschampsia antarctica

GEORGE ENGELMANN
7843



Deschampsia antarctica
-form typical of wet sheltered
habitat.

Deschampsia antarctica Desv.

Antarctic Hair-grass

Aira antarctica Hook. sensu Engler, 1886, and Skottsberg, 1912; *D. antarctica* (Hook.) Desv. sensu Skottsberg, 1905; *D. elegantula* (Steud.) Parodi sensu Greene and Greene, 1963.

A perennial herb with erect vegetative shoots forming low dense mats which at times coalesce to form a sward. **Leaf blades** 3–8 × 0.1–0.2 cm., linear, flattened or compressed, with conspicuous longitudinal grooves on their upper surfaces. **Ligule** 3–7 mm. long and pointed, papery. **Flowering shoots** 8–20 cm. long or longer, very variable in size, erect, with a terminal, freely branched, inflorescence. **Panicle** 5–10 cm. long, the branches spreading with maturity. **Spikelets** 4–6 mm. long (excluding awn), compressed, of 2 rarely 1, hermaphrodite florets, the upper slightly smaller than the lower, silvery green becoming purple-tinged at maturity. **Glumes** subequal, ovate-lanceolate, keeled, the lower 1-nerved, the upper 3-nerved, with broad membranous margins which are finely toothed above, minutely scabrid on back, particularly on nerves. **Rhachilla** with a group of silky hairs at the base of each floret, produced above the upper floret into a slender appendage which bears two opposite rows of silky hairs. **Lemma** broadly oblong, irregularly toothed at apex, indistinctly 4–5 nerved, rounded on back and minutely scabrid above, bearing from the middle, or below, a scabrid awn, the latter straight or weakly curved and about twice the length of the lemma. **Palea** slightly shorter than lemma, narrowly oblong, 2-nerved, irregularly toothed at apex, finely hairy on backs of the nerves. **Lodicules** 2, minute, lanceolate. **Stamens** 3. **Ovary** smooth, with 2 feathery stigmas, Plate VIc.

Native. On screes and moraines, in seepage areas, by streams, on storm beaches and in rock crevices, less commonly in bogs and amongst tussock. Altitude 0–1,250 ft. (c. 0–375 m.). Abundant. South Georgia, Map 29; South Sandwich Islands southwards to Marguerite Bay, Antarctic Peninsula; Falkland Islands; Fuegia, Andean Patagonia; Îles Crozet, Îles de Kerguelen, Heard Island.

Notes. The branched spreading inflorescences of this species readily distinguish it from all other known native grasses. It is only likely to be confused with *Poa annua* or *Poa pratensis* and it may readily be separated from both by the presence of the awns and the longer panicle branches. When vegetative, the long narrow pointed ligule and the narrow compressed leaf prevent confusion with the flat-leaved, shorter liguled, species of *Poa*.

D. antarctica, which Skottsberg (1954) reported as being cleistogamous, is extremely variable, its robustness apparently depending upon the degree of exposure of the habitat. Material from the South Sandwich Islands, South Orkney Islands, South Shetland Islands and the Antarctic Peninsula differs from South Georgian plants in being more stunted with short unexpanded or only slightly spreading inflorescences and dwarfed shoots. However, plants in cultivation, raised from South Georgian seed, are more luxuriant than anything seen in the field, having leaf blades up to 13–17 cm. × 2 mm., and the ligule 7–10 mm. long. While flowering freely in most habitats in South Georgia, a robust form occurs very commonly in seepage areas and by streams and it appears to be habitually sterile.

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DESCHAMPSIA
CAPSITOSA
BREVI-FOLIA

contracta T. Kirk
Festuca ~~*erecta* D'Urv.~~

Tufted Fescue. "Land tussac" of the Falkland Islands

An erect, densely tufted perennial herb, with the erect leafy shoots inserted \pm on opposite sides of the erect stems giving a conspicuously flattened appearance to the culms. Leaf blades 8–12 \times 0.1 cm. linear-setaceous, the upper surface minutely hairy, and usually strongly channelled particularly on the sterile shoots, less so on flowering shoots, borne stiffly erect. Ligule very short in the centre but raised into a conspicuous rounded flap at either side, papery. Flowering shoots 18–25 cm. long, erect, with a terminal branched inflorescence. Panicle 6–10 \times c. 1 cm., the branches remaining erect and appressed, being arranged \pm along one side of the inflorescence axis. Spikelets 8–10 mm. long, of 3–5 hermaphrodite florets, flattened, purplish green to purplish at maturity. Glumes a little shorter than spikelet, unequal to subequal, ovate-lanceolate, acute, keeled, normally both 3-nerved, lower rarely 2-nerved, upper rarely 4-nerved, margins membranous and shortly ciliate at apex, keel scabrid on back, the glume surfaces often finely so. Lemma ovate-lanceolate, acute, emarginate at apex, tapering into a short scabrid terminal awn, 5-nerved, margins membranous and shortly ciliate, scabrid on back. Palea \pm equalling length of lemma, ovate-lanceolate, membranous, 2-nerved, emarginate at apex, scabrid on back. Lodicules 2, minute, lobed. Stamens 3. Ovary smooth with 2 feathery stigmas, Plate Vd.

Native. On stable, well drained moraines, rarely on screes and in bogs. Altitude 0–500 (–1,250) ft. [c. 0–150 (–375) m.]. Abundant. South Georgia, Map 25; Falkland Islands; Fuegia; Îles de Kerguelen, Macquarie Island.

Notes. This grass, by virtue of its tufted habit and inflorescence with erect appressed branches bearing flattened spikelets, cannot be confused with any other species known from the island. The setaceous leaf blades are more reminiscent of *Rostkovia magellanica* than of any of the other grasses, and characters that will separate vegetative plants of the two species are pointed out in the notes under that plant. Plants in cultivation are more luxuriant than any seen in the field, having leaf blades up to 15–22 cm. long.

South
Georgia
7819



Festuca arctica

South
Georgia
7832

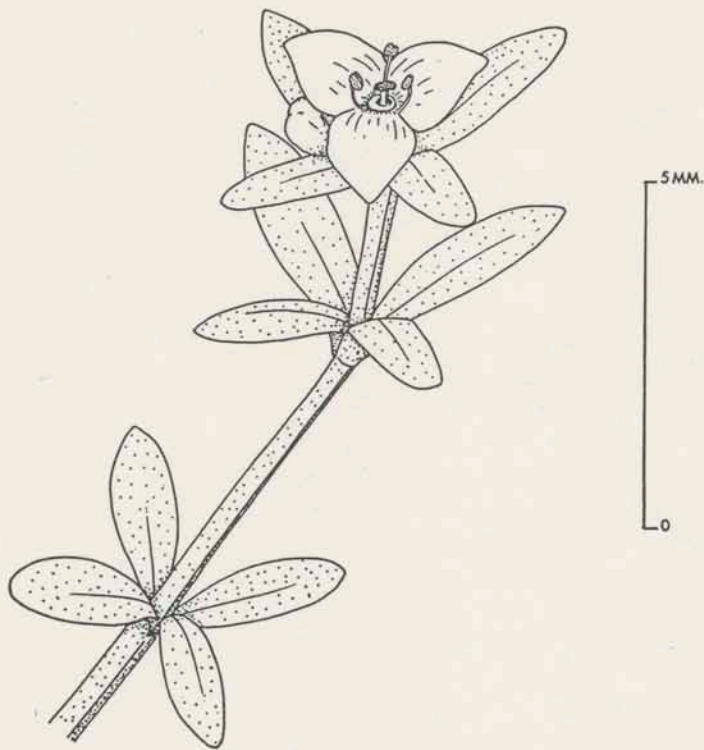


Festuca rubra

Galium antarcticum Hook.f.

Antarctic Bedstraw

A small perennial herb with slender decumbent or erect leafy shoots, forming loose tufts. *Shoots* 4–8 cm. long, mostly sparingly branched, *stems square in section*. *Leaves* (including leaf-like stipules) 3–5 × 1–2 mm., in whorls of 4, all the members of each whorl being ± similar in length, narrowly elliptical to obovate, rounded at apex, entire, ± sessile, glabrous, spreading to recurved. *Flowers* 2–3 mm. in diameter, 1–2 (–3) at the apex of the shoot or axillary from the side of the stem, hermaphrodite, actinomorphic. *Sepals* absent. *Petals* 3 (–4), tube short with spreading lobes, white to creamy white. *Stamens* epipetalous, similar in number and alternating with the petals. *Ovary* inferior, 2-celled, styles fused, capitate. *Fruit* c. 2 mm. in diameter, of two 1-seeded mericarps, glabrous, borne on short thick pedicels, Fig. 7.



Flowering shoot of *Galium antarcticum*.

Native. Amongst *Festuca* grassland, rarely on scree. Altitude 0–550 ft. (c. 0–170 m.). Locally frequent. South Georgia, Map 19; Falkland Islands; Fuegia, Andean Patagonia; Îles Crozet, Îles de Kerguelen.

Notes. *G. antarcticum* is unique amongst the South Georgian vascular plants in having a square stem with leaves arranged in whorls. It is relatively inconspicuous in the vegetative state, but the presence of the small creamy white flowers render it more noticeable.

South
Georgia
7835



Gallium antarcticum

South
Georgia
8092



Grammitis ^{*poepigiana*} ~~*kerguelensis* Tard.~~

Strap Fern

G. billardieri Willd. sensu Philcox, 1962.

Rhizomes ascending, wiry, giving rise to abundant, closely set, erect leaves, which form low dense tufts, 2-3 cm. high. *Leaves simple*, 1-2 x c. 0.3 cm., narrow at base and widening a little towards the apex, glabrous, central nerve weak and inconspicuous, laterals absent. *Sori naked*, on under surface of upper half of leaf, coalescing when mature, to give a more or less continuous cover of sporangia over the surface, Plate IVa and b.

Native. In sheltered rock crevices, rarely at junction of scree and rock face, north-facing. Altitude (0-) 250-1,000 (-1,250) ft. [c. (0-) 75-300 (-375) m.]. Occasional. South Georgia, Map 8; Prince Edward Islands, Îles Crozet, Îles de Kerguelen.

Notes. The narrow, non-pinnate, strap-like leaves of this species are quite unlike those of any other South Georgian fern except *Ophioglossum opacum*, with which it is unlikely to be confused. However, *G. kerguelensis* forms dense tufts in rock crevices which, without care, could easily be passed over as bryophytes. It often occurs with *Hymenophyllum* and on one occasion it was seen not forming tufts, but growing scattered amongst *H. falklandicum*.

G. kerguelensis was first described from Kerguelen material by Tardieu-Blot (1962) who has confirmed the determination of the South Georgian plants.

Grammitis kerguelensis

South
Georgia
7823



Hymenophyllum falklandicum Baker

Filmy-fern

H. peltatum Desv. sensu Prantl, 1890 and Skottsberg, 1905.

Rhizomes elongate and wiry, creeping, producing many erect leaves which form densely crowded tufts owing to intertwining of the stems. *Leaves* variable in size, 2-5 × 0.5-1.0 cm. including a petiole of variable length, *blade pinnate*. *Pinnae* delicate and translucent, simple or divided into two lobes, each pinna, or its lobes, being ± elongate and conspicuously toothed on its margin, with a single, prominent, central vein. *Sori* marginal, at or near the apices of the leaves. *Indusium* consisting of two flap-like valves with entire margins, forming a ± cup-like structure, brown at maturity, Plate IVa.

Native. In crevices of north- or south-facing rocks. Altitude 0-750 (-1,250) ft. [c. 0-225 (-375) m.]. Locally frequent. South Georgia, Map 4; Falkland Islands; Fuegia, west Patagonia.

Notes. There is never any difficulty in recognizing this small fern because of the "filmy" nature of its dark green, translucent leaves. When poorly developed, however, the very compact tufts of the plant can easily be mistaken for a bryophyte.

*Hymenophyllum
falklandicum*

South
Georgia
7805



Juncus inconspicuus (D'Urv.) Hook.f.

Lesser Rush

Similar to *J. scheuchzerioides* but normally smaller in all its parts. *Flowering shoots* 1–2 cm. long. *Leaf blades* 0.5–1.5 cm. long, in section similar to *J. scheuchzerioides*. *Inflorescence* 1 (–2) flowered, sessile or almost so. *Perianth segments* ovate, acute to obtuse, the inner with broad hyaline margins. *Fruit* when mature obovate, brown, its length (to base of style) much exceeding the perianth.

Native. In seepage areas and by streams. Altitude 150–250 ft. (c. 45–75 m.). Rare. South Georgia, Map 22; ? Falkland Islands; Fuegia, ? west Patagonia.

Notes. The normally sessile 1 (–2) flowered inflorescence of the present plant contrasts with the peduncled 2–3 flowered inflorescence of *J. scheuchzerioides*, and further differences are to be found in the shape of the perianth members and the fruits. Although plants of *J. inconspicuus* show little variability in these characters, 1–2 flowered shoots may be encountered attached to plants of *J. scheuchzerioides* bearing 2–3 flowered inflorescences; also plants of *J. scheuchzerioides* may, rarely, have the inner perianth members with hyaline margins. Accordingly, the status of the present species must remain doubtful until its relationship with the forms of *J. scheuchzerioides* has been fully elucidated.

Juncus inconspicuus

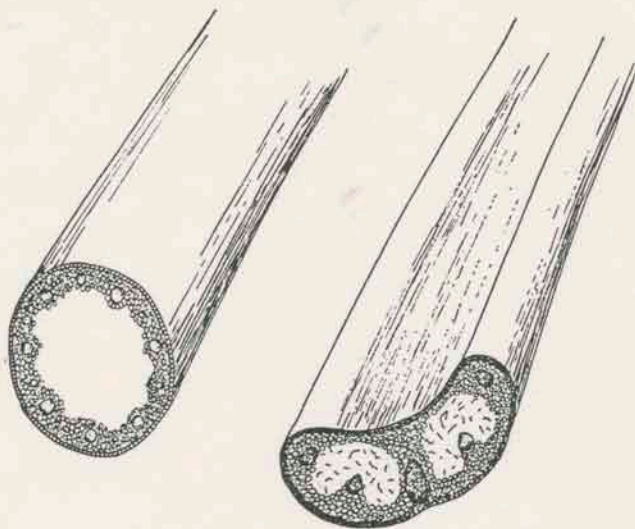
J. Novae Zealandiae Hook.f. sensu Engler, 1886.

Perennial, ± tufted herb, with short erect or ascending leafy stems. *Leaves* sheathing at base, with linear-subulate blades, blade 3–10 × 0.1–0.2 cm., very variable in size, in section circular to oval with a single internal cavity filled with a variable amount of pith and periodically interrupted by transverse septa. *Flowering shoots* 5–12 cm. long. *Flowers* 2–3 mm. long, hermaphrodite, in a ± compact terminal (1–) 2–3 flowered inflorescence, borne on a peduncle 1–3 cm. long, subtended by bracts less than, or 1–1.5 times the length of the perianth. *Perianth segments* 6, ovate-lanceolate, tapering to narrow apices, greenish. *Stamens* 6. *Ovary* superior with trifid stigma. *Fruit* a capsule, when mature trigonous, brown, in length (to base of style) not, or only slightly, exceeding perianth, Fig. 8 and Plate Va.

Native. In seepage areas, by streams and in bogs. Altitude 0–250 (–500) ft. [c. 0–75 (–150) m.]. Frequent. South Georgia, Map 21; Falkland Islands; Fuegia, Andean Patagonia; Macquarie Island.

Notes. *J. scheuchzerioides* is unlikely to be confused with any other species except *J. inconspicuus*, the differences being enumerated under that plant. When vegetative, the septate leaves, oval to circular in section with a single pith-filled cavity, will distinguish both species of rushes from *Rostkovia magellanica* as well as from all known South Georgian grasses and the sedge.

J. scheuchzerioides is extremely variable in size. In addition to the forms included in the above description, there exist on South Georgia sterile forms which are commonly larger than the fertile plants, having leafy shoots up to 25 cm. long and leaf blades 6–15 × 0.2–0.3 cm. These forms may be abundant beside streams and in seepage areas and occur with the fertile plants, but their relationships are unknown; herbarium material of these forms has been identified as *Juncus* sp.

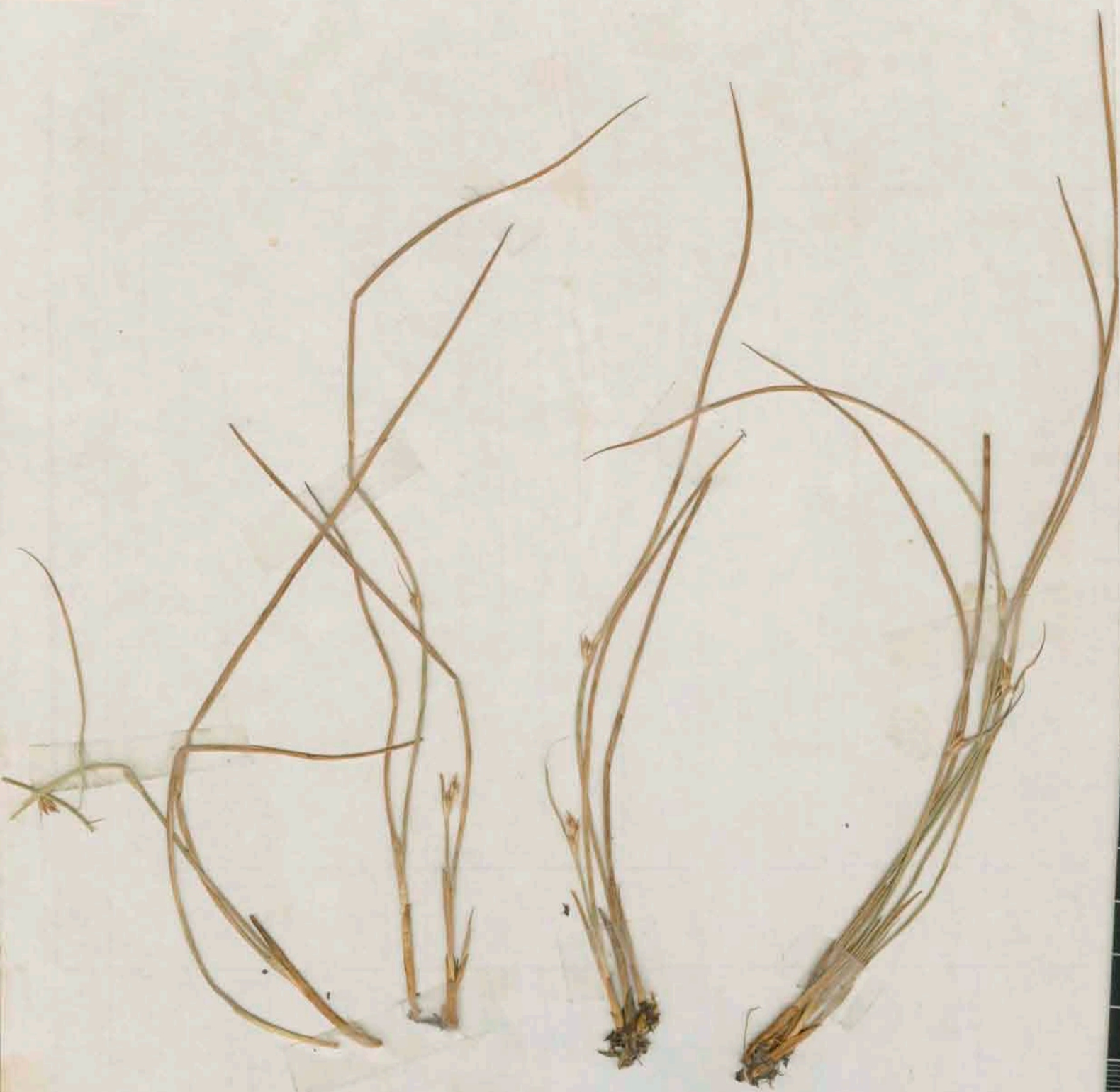


Leaf sections (at mid-length of blade) of *Juncus scheuchzerioides* (left) and *Rostkovia magellanica* (right).

Skottsberg (1905) referred to another species of *Juncus* on South Georgia as “*Juncus* sp. . . . Dubiosus restat.” The plant was not referred to in his later publication on the South Georgian flora (Skottsberg, 1912), but his specimen in Stockholm was determined by him in 1953 as *J. scheuchzerioides* Gaud. f. *depauperata*; the plant appears to be nothing more than a small form of *J. scheuchzerioides*.

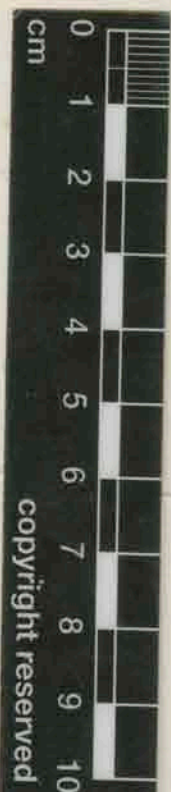
South
Georgia

7804



Juncus scherzerioides

South
Georgia
7904



Juncus sp

South
Georgia
7821



Lycopodium magellanicum Sw.

Magellanic Clubmoss

Rhizomes elongate, creeping, giving rise to erect shoots which bear at their apices a group of leafy prostrate or ascending branches. *Branches* small 1-2 × 0.3-0.5 cm. ± cylindrical, densely covered by short (3-4 mm.) narrow, linear-lanceolate, sessile, leaves. *Strobili* (0.7-) 1-1.8 × 0.3-0.5 cm. ± cylindrical, sessile, erect at the apices of leafy branches, the bracts with hyaline irregularly toothed margins, yellow in colour with the apices of the bracts reflexed when mature, Plate IVa.

Native. On bare, well drained, stable, stony ground. Altitude 0-100 (-500) ft. [0-30 (-150) m.]. Often locally abundant in open communities on younger parts of moraines. South Georgia, Map 3; Falkland Islands; Fuegia, west and Andean Patagonia; Prince Edward Islands, Îles Crozet, Îles de Kerguelen.

Notes. Since the short leafy branches are normally pressed closely to the surface of the ground with only the cones standing erect, *L. magellanicum* is an inconspicuous species and does not usually attract attention. However, it is more conspicuous at maturity when the yellow cones contrast with the green lanceolate. *Pinnae* longest at or below the middle of the blade, ± lanceolate in outline, the pinnules being variously toothed from dentate to deeply pinnatifid. *Sori* circular, on underside of pinnules, normally arranged in a single row on either side of the midrib. *Indusium* basal, delicate, ovate-lanceolate in outline, Plate IVa.

Native. In rock crevices, and at junction of scree and rock faces, north-facing. Altitude 100-750 (-1,250) ft. [c. 30-225 (-375) m.]. Locally frequent. South Georgia, Map 6; Falkland Islands; Fuegia, west and Andean Patagonia; Îles de Kerguelen.

Notes. The individual pinnae, particularly the lower ones, are usually separated a little from each other and this character, together with the bipinnation, gives a "feathery" appearance to the leaves. Since plants of this species often grow close together, *C. fragilis* forms clumps of a very characteristic appearance which do not resemble any of the other South Georgian pteridophytes. Plants in cultivation do not differ from those seen in the field.

Lycopodium magellanicum

Montia fontana L. ssp. *fontana*

Water Blinks

M. fontana L. sensu Engler, 1886; *M. rivularis* Gmel. var. *lamprosperma* Cham. sensu Skottsberg, 1905; *M. rivularis* Gmel. sensu Skottsberg, 1912.

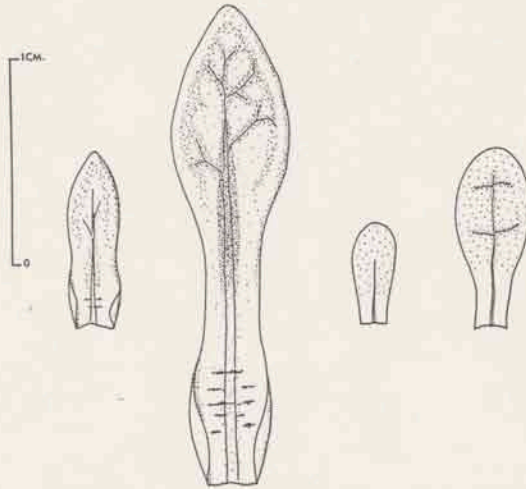
Annual herb with decumbent to erect leafy shoots, loosely tufted. *Shoots* 2-5 (-10) cm. long, usually freely branched, *solid in section of internode*. *Leaves* 6-10 (-20) × 2-3 (-4) mm. in opposite, *decussate pairs*, the upper erect to spreading, normally equalling or exceeding the length of the internodes, the lower recurved, *spathulate to obovate*, narrowing below and then expanding at the extreme base into a sheathing portion which is fused with opposite member of a pair, bluntly pointed at apex, entire, glabrous, rather fleshy, *central vein pink-tinged particularly so in leaf base*, lateral veins ascending. *Flowers* 2-3 mm.

Native. In seepage areas, by stream sides, on wet rocks and around pools in tussock, north-facing. Altitude 0-250 (-550) ft. [c. 0-75 (-170) m.]. Frequent. South Georgia, Map 15; Îles Crozet, Macquarie Island.

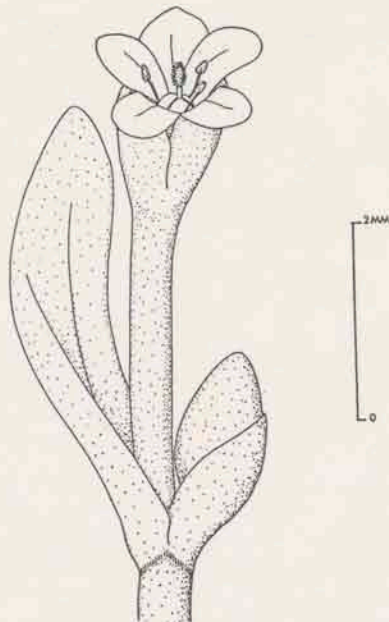
Notes. *M. fontana* is likely to be confused only with *Callitriche antarctica*. Plants in flower or fruit may be readily separated but, without care, the long stalked stamens of *C. antarctica* might be confused with the fruits of *M. fontana*. When vegetative, the differences in shape and venation of the leaves are reliable distinguishing characters, as is the distinctive pinkish tinge of the veins of living *M. fontana*, a colour which is absent from the veins of *C. antarctica*.

M. fontana is very variable in habit and size, and a range of forms may be obtained connecting the more compact plants of drier habitats to the more attenuated forms of aquatic habitats. Plants in cultivation differ little from aquatic forms in the field. O. Nilsson of Lund (personal communication) is of the opinion that the South Georgian plants should not be referred to *M. fontana* L., and that they have their closest affinities with certain South American species. However, Moore (1963) has referred all South Georgian material to *M. fontana* L. ssp. *fontana*.

diameter, 1-3 in terminal cymes, but often appearing lateral due to later growth of shoot, hermaphrodite, actinomorphic. *Sepals* 2, broadly ovate, rounded at apex with a narrow hyaline margin, persistent. *Petals* 5, white. *Stamens* 3, attached to petals. *Ovary* superior, 1-celled, style simple, pedicel shorter than leaves, erect in flower, in fruit recurving at first, later erect. *Fruit* a small globose capsule, in length slightly exceeding the sepals, elevated on a short pedicel. *Seeds* when ripe, black, smooth and shiny, lacking tubercles, Figs. 3 and 4.



Immature (small) and mature (large) leaves of *Montia fontana* (left-hand pair) and *Callitriche antarctica* (right-hand pair).



Flowering shoot of *Montia fontana*.

South
Georgia
7810



Montia fontana

South
Georgia
7820



Ophioglossum ^{*crotalophoroides*} ~~*opacum* Carmichael~~ Walt.

Adder's Tongue

Rhizomes short, swollen, and normally producing only one leaf per season. Leaves fleshy, with a slender basal portion sheathing the stalk of the fertile spike, about equalling the length of the upper portion which is expanded into a non-pinnate blade. Blade 2-4 × 1-2 cm., ovate to oblong, concave and tapering to a blunt point, borne \pm at right angles to the sheathing basal portion. Sporangia borne in a spike, the latter when mature having the form of a flattened cylinder. Spike 0.5-1 cm. long, elevated on a slender stalk some 2-4 cm. above the level of the sterile blade, Plate IVc.

Native. In seepage areas, by stream banks, rarely on moist moraines, north-facing. Altitude 0-350 ft. (c. 0-110 m.). Locally frequent. South Georgia, Map 9.

Notes. *O. opacum* is at once distinct from all other South Georgian ferns both by the form of its leaf and by the arrangement of the sporangia in a stalked spike and not on the underside of the leaf. The plants usually occur singly or in small groups and while the non-pinnate sterile blade is somewhat reminiscent of the leaves of *Grammitis kerguelensis*, the appearance of the present plant, as well as its habitat, is totally different.

Plants from the Falkland Islands and central Chile are referred to *Ophioglossum crotalophoroides* Walter. According to C. Jermy (personal communication) the South Georgian plants are very similar to this taxon, but they agree more closely with *O. opacum* Carmichael from Tristan da Cunha and St. Helena in having usually only one leaf coming from the bulbous rhizome at any one time.

Ophioglossum opacum

Poa flabellata (Lam.) Hook.f.

Tussock or Tussac Grass

Dactylis glomerata sensu Forster, 1776, 1777, and Sparrman in Rutter, 1953.

A robust erect growing herb forming dense tufts, *the shoots aggregating to form a low stool which is crowned by spreading leaves*, well grown tufts 1 m. or more in diameter. *Leaf blades* 30–50 × 1–1.5 cm., linear, channelled, minutely scabrid on upper surface, usually recurved at apex. *Ligule* long and irregularly torn, papery. *Flowering shoots* variable in size averaging 1 m. in length, erect, with a terminal inflorescence. *Panicle* 5–10 × 1 cm., *spike-like, the branches standing erect and appressed to the inflorescence axis so that the whole has an ovoid or cylindrical, usually rather lobed, appearance.* *Spikelets* 7–9 mm. long, usually of 3–4 hermaphrodite florets, flattened, yellowish green, tinged with purple. *Glumes unequal*, the upper a little longer than the lower, ovate-lanceolate, the upper 1–3 nerved, the lower 1-nerved, mucronate, membranous, smooth with shortly ciliate margins. *Lemma* ovate-lanceolate, *tapering gradually to ± abruptly contracted, at apex produced into a short terminal awn*, keeled, 3–5 nerved, the margins membranous and shortly ciliate, scabrid on back, particularly on the nerves. *Palea* variable in length but shorter than lemma, oblong and broadest above middle, membranous, 2-nerved, emarginate at apex with 2 prominent points, a nerve running into each, margins shortly ciliate, scabrid on back of nerves and with a longitudinally running central groove. *Lodicules* 2, minute, lobed. *Stamens* 3. *Ovary* smooth with 2 feathery stigmas, Plate Vd.

Native. On dry or wet peat, scree or rock surfaces in coastal regions, rarely extending far inland. Altitude 0–500 ft. (c. 0–150 m.). Abundant. South Georgia, Map 26; Falkland Islands; Fuegia, west Patagonia.

Notes. *Poa flabellata*, by nature of its growth form and size, as well as the shape and size of its spike, is unlikely to be confused with any other species known from South Georgia; the spike-like panicle is totally different from the spreading inflorescences of the remaining two species of the genus.

South
Georgia
7802



Parodiöchia
Poa flabellata
(Lam.) E. Hubbard

Phleum alpinum L.

Alpine Cat's-tail

P. commutatum Gaud. sensu Hubbard, 1954.

A rather stout perennial herb, with creeping stems and \pm erect vegetative shoots. *Leaf blades* 5–9 \times 0.3–0.6 cm., very variable, linear-lanceolate, *flattened and often with a purplish tinge*. *Ligule* short and rounded, *papery*. *Flowering shoots* 10–18 cm. long or longer, variable in height, usually creeping at first, later erect, *the leaf blades being shorter than on the vegetative shoots and with conspicuously inflated leaf sheaths*, bearing a terminal inflorescence. *Panicle* 1.5–3.0 \times 0.5–1.0 cm., *spike-like, shortly ovoid to broadly cylindrical*. *Spikelets* 5–8 mm. long (including awn), of 1 hermaphrodite floret, *strongly compressed and with a distinct purplish tinge*. *Glumes* subequal, oblong, keeled, 1–3 nerved, *rounded at apex and produced into a straight or curved awn which is about half the length of the glume*, margins membranous to purplish, *on back densely covered with minute hairs which on the keel are long and stiffly spreading, forming a conspicuous fringe almost to the base of the scabrid awn*. *Lemma* half to two-thirds the length of the glume, \pm oblong, keeled, 3-nerved, membranous, at apex truncate and bluntly toothed, on back minutely hairy on nerves, the hairs being most conspicuous on the keel. *Palea* shorter than lemma, ovate-lanceolate, 1–3 nerved, membranous, rounded at extreme apex, hairy like the lemma. *Lodicules* 2, minute, lobed. *Stamens* 3. *Ovary* smooth, with 2 feathery stigmas, Plate Vd.

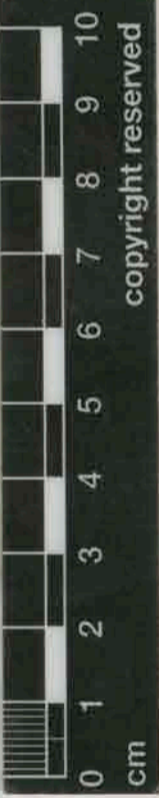
Native. On screes and moraines, in *Festuca* grassland, and in rock crevices, rarely in bogs and by streams. Altitude 0–750 (–1,250) ft. [c. 0–225 (–375) m.]. Very common. South Georgia, Map 30; Fuegia, Andean Patagonia.

Notes. This grass has a unique appearance due to the presence of broad leaves with conspicuously inflated sheaths on the flowering stems. The stout, normally cylindrical inflorescence, which on close examination is “bristly” because of the abundance of rigid hairs on the surfaces of the glumes, is also distinctive. It is only likely to be confused with *Alopecurus antarcticus*, but the two species may be readily distinguished by characters of the leaves and spikelets.

South
Georgia
7815



ROYAL
BOTANIC
GARDENS
KEW



Phleum alpinum

***Poa annua L.**

An annual or short-lived perennial herb with slender, erect, leafy shoots forming loose to compact tufts, lacking distinct creeping rhizomes; shoots spreading to erect, sometimes with a creeping base. *Leaf blades* (2-) 3-4 (-7) \times 0.2-0.3 cm., variable in length, linear, flat or slightly keeled, often with distinct transverse undulations near the hooded apex, erect to spreading. *Ligule* 2-3 mm. long, membranous. *Flowering shoots* 5-15 (-25) cm. long, variable in height, bearing a terminal freely branched inflorescence. *Panicle* 2-4 (-8) cm. the branches arising 1-2 (-3) together, spreading at maturity. *Spikelets* 3-5 mm. long, composed of 3-5 hermaphrodite florets, flattened, green, tinged with purple at maturity. *Glumes* unequal, ovate-lanceolate to elliptical, keeled, the lower 1 (-2) nerved, the upper 3-nerved, margins hyaline, entire, back of central nerve scabrid. *Lemma* broadly ovate to oblong, rounded or bluntly pointed at apex, keeled, 5-nerved, margin entire, hyaline below, becoming broader and minutely and irregularly lobed or toothed at apex, nerves smooth, or keel with short straight hairs from base to about mid-length, smooth above. *Palea* slightly shorter than lemma, narrowly oblong, hyaline, 2-nerved, irregularly lobed or toothed at apex, with longitudinally running central groove, finely hairy on backs of nerves. *Lodicules* 2, minute, lanceolate. *Stamens* 3. *Ovary* smooth with 2 feathery stigmas, Plate VIa.

Introduced. On moraines, on storm beaches, and on bare stony ground around the whaling stations, less commonly on screes, by stream sides in bogs and seepage areas. Altitude 0-250 (-1,000) ft. [c. 0-75 (-300) m.]. Locally frequent. South Georgia, Map 27.

Notes. Owing to its small size and branched panicle *P. annua* will not be confused with *P. flabellata*; the differences between *P. annua* and *P. pratensis* are enumerated under that plant. For a comparison with *Deschampsia antarctica* see notes under that plant.

South
Georgia
7834



Poa annua

**Poa pratensis* L.

Meadow Grass

Similar in vegetative form and panicle type to *Poa annua* but differing in the following characters: perennial with distinct creeping rhizomes, forming \pm compact tufts; erect flowering shoots, 30–50 cm. long. **Leaf blades** (4–) 8–15 (–25) \times 0.3–0.4 cm., very variable in length, normally lacking transverse undulations near the hooded apex. **Ligule** short, 1 (–2) mm. **Panicle** (2–) 5–10 (–13) cm. long, branches erect to ascending, arising 2–5 together at a node. **Glumes** unequal, acute, both 3-nerved. **Lemma** acute, scabrid near apex, hairy on keel and backs of marginal nerves from mid-length or just above, the hairs getting longer and more crinkled towards the base. **Lodicules** lobed, Plate VIb.

Introduced. In seepage areas, and on bare ground around whaling stations, rarely around pools amongst tussock. Altitude 0–50 ft. (c. 0–15 m.). Locally frequent. South Georgia, Map 28.

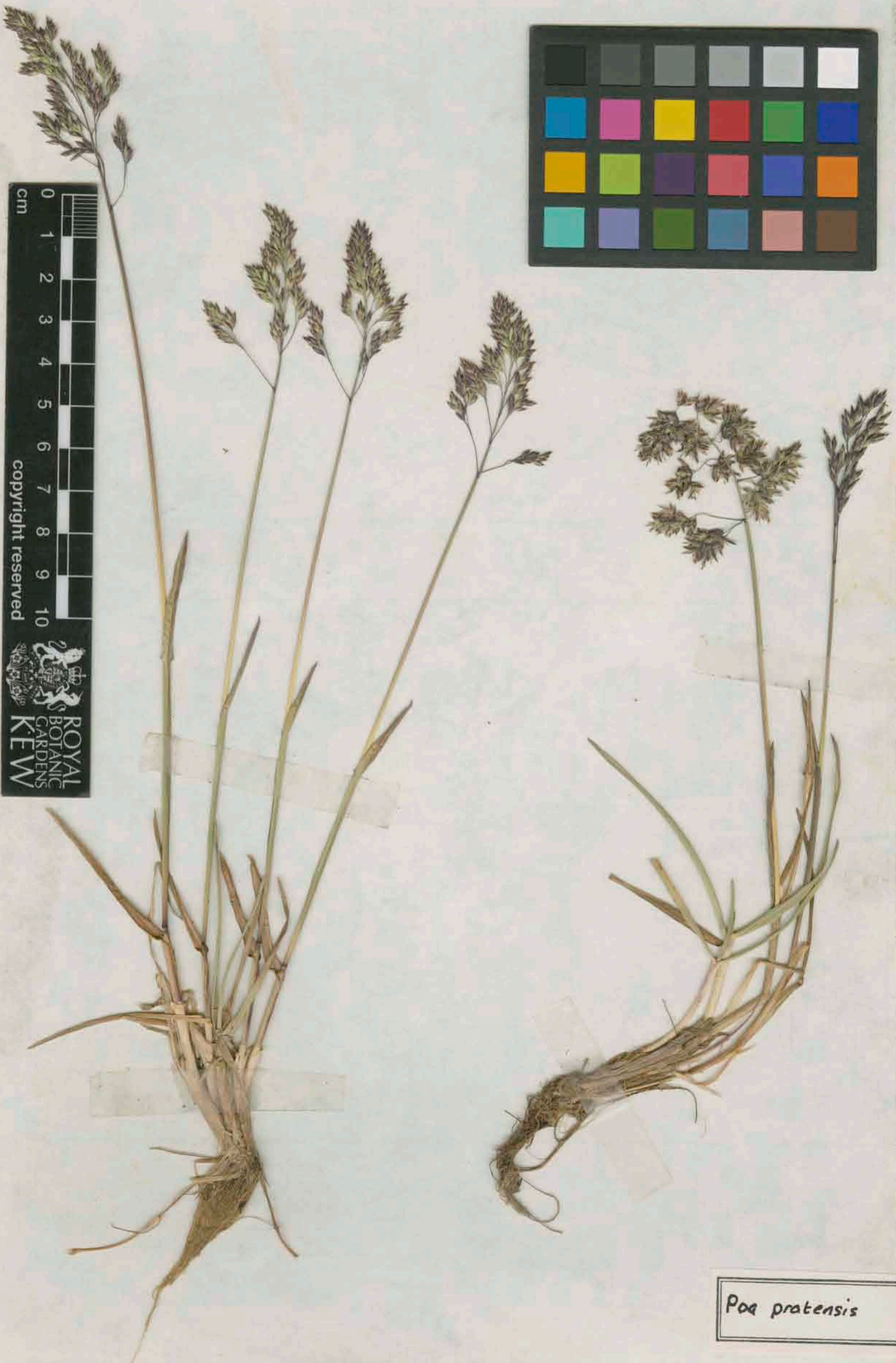
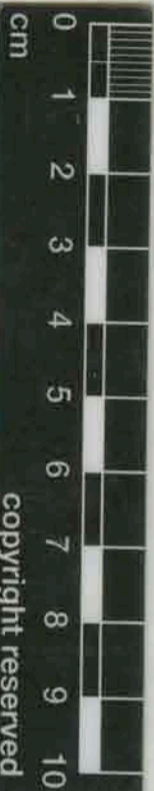
Notes. *P. pratensis* is likely to be confused only with *P. annua*. When flowering, the two species are most easily separated by a comparison of the number of branches arising together at the lowest nodes of the inflorescence, but important differences also exist in the nature of the hairs on the backs of the lemmas. Vegetative plants are most easily identified by examining the bases of the erect shoots for the presence or absence of creeping underground stems, but characters of leaf blade and ligule may also be used. For a comparison with *Deschampsia antarctica* see the notes under that plant.

South
Georgia
7801



Poa pratensis

South
Georgia
7808



Poa pratensis

South
Georgia
7824



Polystichum mohrioides (Bory) C. Presl. var. *plicatum* (Poepp.) C. Chr.

Shield-fern

Aspidium mohrioides Bory sensu Prantl, 1890; *Polystichum* (*Aspidium*) *andinum* Phil. sensu Skottsberg, 1905; *Polystichum andinum* Phil. sensu Christ, 1905.

Rhizomes short, bearing at their apices a crown of \pm erect leaves. *Leaves* 12–20 cm. long including a petiole of 5–7 cm., the latter usually abundantly clothed with dark-coloured scales, the blades, 8–12 \times (1.5–) 2–3 cm. *Simply pinnate*, \pm parallel sided for most of their length, having the rachis clothed with scales along the underside. *Pinnae crowded and overlapping, variously lobed towards their apices but bearing \pm distinct, toothed pinnules towards their bases.* *Sori circular*, on underside of the upper pinnae, when mature coalescing to cover the surface with densely packed brownish sporangia. *Indusium* persistent, *peltate, orbicular*, Plate IVa.

Native. At junction of scree and rock faces, occasionally on \pm stable screes, north facing. Altitude (0–) 250–1,000 (–1,250) ft. [c. (0–) 75–300 (–375) m.]. Common to abundant, sometimes forming dense stands. South Georgia, Map 7; Fuegia, Andean Patagonia.

Notes. A distinctive plant which is easily identified by the crowded, overlapping, arrangement of the pinnae, which are rather rigid and have a somewhat leathery texture.

Polystichum mohrioides

• *Ranunculus biternatus* Sm.

Antarctic Buttercup

A small perennial, stoloniferous herb, with prostrate far-creeping leafy stems. *Leaves* arranged in groups at the nodes, very variable in size, petioles 1–5 cm., blades 0.5–1.5 (–2) × 0.5–1 cm., *glabrous and somewhat fleshy, regularly biternate or divided into a variable number of acute, stalked, toothed lobes*, the central lobe projecting beyond the laterals because of its longer stalk. *Flowers* 0.6–1 cm. diameter, solitary or in pairs, borne on a glabrous pedicel 0.5–2 cm. long, hermaphrodite, actinomorphic. *Sepals* 4–5 (–6) ovate, *glabrous, reflexed*, green to yellow-green, with scarious, hyaline to purplish border. *Petals similar in length and number to sepals*, narrow spatulate, with claw about half the length of the petal, widely spaced and spreading, *yellow*. *Stamens* numerous. *Ovary* superior, apocarpous, carpels smooth with papillose stigmas. *Fruit* a globular head of smooth achenes, yellow to purplish when mature, each achene inflated with a short curved beak, *receptacle smooth*.

Native. In seepage areas and by stream banks, rarely on wet rocks. Altitude 0–500 (–1,000) ft. [c. 0–150 (–300) m.]. Locally frequent. South Georgia, Map 11; Falkland Islands; Fuegia, west and Andean Patagonia; Prince Edward Islands, Îles Crozet, Îles de Kerguelen, Macquarie Island.

Notes. Owing to the presence of yellow petals, the distinctive lobing of the leaves and the creeping habit of the plants, *R. biternatus* is unlikely to prove difficult to recognize. *R. repens* is the only other plant which is at all similar, and that plant may be readily distinguished by its more robust size, the normally hairy non-fleshy leaves, and the larger flowers with non-reflexed hairy sepals, etc. Plants in cultivation differ little from those in the field.

The identity of specimens of *R. biternatus* at Kew and Stockholm has been confirmed by A. Lourteig; they have been cited in her revision of the Ranunculaceae of southern South America (Lourteig, 1952).

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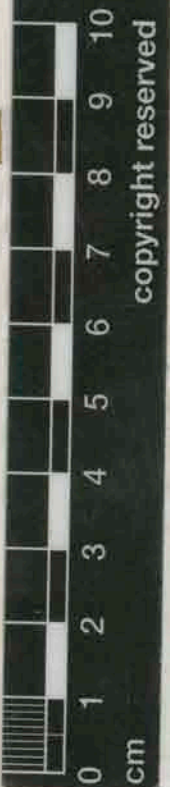


Ranunculus biternatus

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**Ranunculus repens* L.

Creeping Buttercup

A robust perennial, stoloniferous herb, rooting at the nodes. *Flowering stems* 20–40 cm. long, erect, leafy, hairy. *Lower leaves* variable in size, 10–15 cm., *petioled*, with the blade usually divided into 3 leaflets, each of which is variously subdivided into toothed segments, leaflets stalked, the central stalk much exceeding those of the laterals so that its leaflet projects beyond the others. *Upper leaves* smaller, *sessile*, with narrower segments, all leaves somewhat hairy or glabrous. *Flowers* 1.5–2 cm. diameter, terminating the branches of irregular cymes, *pedicels* hairy, furrowed, hermaphrodite, actinomorphic. *Sepals* 5, hairy, not reflexed. *Petals* 5, exceeding the sepals, obovate, sub-erect to spreading, often widely spaced, golden yellow, shining. *Stamens* numerous. *Ovary* superior, apocarpous, carpels smooth. *Fruit* a globular head of smooth achenes, each with a short curved beak, *receptacle* hairy.

Introduced. In seepage areas and on bare ground around present and former whaling stations. Altitude 0–50 ft. (c. 0–15 m.). Rare. South Georgia, Map 10.

Notes. *R. repens*, the familiar creeping buttercup of the Northern Hemisphere, is readily distinguished by its yellow petals from all other members of the South Georgian flora except *R. biternatus*; the differences between the two plants are pointed out in the notes under that species.

Ranunculus repens

Rostkovia magellanica (Lam.) Hook.f.

Brown Rush

Perennial herb with creeping underground stems which periodically produce erect, \pm tufted, leafy shoots. *Leaves* \pm erect, with sheathing base and *linear, channelled blades, smooth*, blade, 8–15 \times 0.1 cm., in colour brown to greenish-brown, *in section* \pm *bi-convex*, with two internal cavities loosely filled with pith. *Ligule* $<$ 1 mm., papery, formed of 2 rounded overlapping flaps, each distinct to base at centre. *Flowering shoots* 10–18 cm. long (to top of longest bract) variable in size, with the upper leaves at least overtopping the long bract. *Flowers* 6–8 mm. long, hermaphrodite, *solitary, borne terminally on a long peduncle from the apex of the erect shoot*, subtended by 2 unequal leaf-like bracts, lower bract about equalling the length of the flower, the upper much exceeding it, 2.0–3.5 cm. long, broad at base subulate above. *Perianth segments* 6, ovate-lanceolate, \pm *scarious with reddish brown centre and narrow pale margins*, persistent. *Stamens* 6. *Ovary* superior, with an elongate style and trifold stigma. *Fruit* a capsule, *when mature globular, black to reddish-brown, shining*, reaching or just exceeding the top of the perianth, the base of the style usually remaining as a short beak, indehiscent, Fig. 8 and Plate Vb.

Native. In bogs, seepage areas, stream banks and in moist areas of *Festuca* grassland. Altitude 0–750 (–1,000) ft. [c. 0–225 (–300) m.]. Abundant. South Georgia, Map 23; Falkland Islands; Fuegia, west and Andean Patagonia.

Notes. When flowering or fruiting, *Rostkovia magellanica* is not likely to be mistaken for any other species except, perhaps, a species of *Juncus*, but the solitary large brownish flowers are strikingly distinct from the smaller, greener, 1–3 flowered heads of *Juncus*. When vegetative, the two genera may be readily separated by the nature of the leaf section and the presence or absence of transverse septa in the leaf blade. Individual leaves of *R. magellanica* bear a distinct resemblance to the leaves of *Festuca erecta*, but the presence of minute hairs on the upper surface of the *Festuca* leaves as well as their arrangement and colour, combined with the different growth form of that species, will enable the vegetative plants of the two species to be separated with confidence.

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Rostkovia magellanica

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Rumex acetosella

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Sagina procumbens.

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7901



STELLARIA MEDIA

**Taraxacum officinale* Weber, sensu lato

Dandelion

Perennial herb with erect shoots, *giving a white milky latex on crushing*. *Leaves* 12–25 × 2–8 cm., widest at or above mid-leaf and tapering below into a short petiole, *almost entire to deeply divided into variously toothed, runcinate segments*, glabrous. *Flowers* small, *arranged in capitula* c. 3–4 cm. in diameter, the latter solitary at the apex of unbranched scapes 8–20 cm. long. *Capitulum* surrounded by a calyx-like involucre of bracts, the outer lanceolate, more than three times as long as broad, spreading to reflexed, the inner erect, linear, about twice the length of the outer, lacking appendages near the tip. *Florets all ligulate, hermaphrodite, yellow*. *Pappus of simple, rough, white, hairs*. *Fruit* an achene c. 4 mm. long, brownish green, muricate above with a conical point prolonged into a slender beak, c. 1 cm. long, the beak expanded at apex into a disk to which the pappus is attached.

Introduced. On storm beaches and on bare ground around present and former whaling stations. Altitude 0–50 ft. (c. 0–15 m.). Occasional. South Georgia, Map 20.

Notes. *T. officinale*, the common dandelion of the Northern Hemisphere, may be readily identified by the characteristic, irregularly dissected leaves and the yellow “composite” flower head, white and feathery in fruit.

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Taraxacum officinale

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Trifolium repens

meridensis Steyermark
Uncinia ~~*smithii* Philcox~~

Smith's Sedge

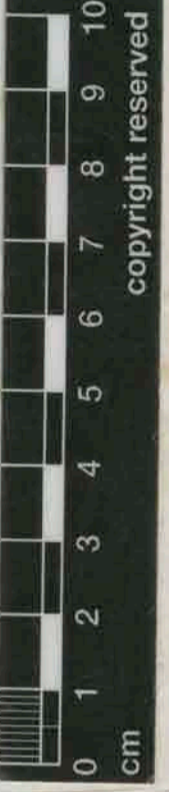
Perennial herb, with creeping rhizomes which periodically give rise to erect leafy shoots. *Leaves arranged in 3 distinct rows, with their blades recurved, blades 8-12 × 0.1-0.2 cm. linear, channelled or keeled, with fine ridges on upper surface, margins and back of midrib scabrid above, bases sheathing, with a short ligule at junction of base and blade. Inflorescence a simple spike, 1-2 × 0.2-0.3 cm., narrowly cylindrical, elevated on a straight or curved peduncle 6-10 cm. long (excluding spike), normally overtopped by the leaves, androgynous. Flowers unisexual, the male forming a group at the apex of spike, the female comprising most of its length. Male glumes 4-5 mm. long, oblong, at apex rounded and often lacinate, green to brown at centre with scarious margins. Stamens 3. Female glumes 4-5 mm. long, broadly ovate, amplexicaul at base, tapering to an acute or rounded apex, green to brown at centre with moderately broad, scarious, entire, margins. Stigmas 3. Fruit 4-5 mm. long, when mature surrounded by an inflated utricle which slightly exceeds the top of the glume, narrowly elliptical in outline and shortly beaked, biconvex in section, scabrid above particularly on margins. Rhachilla exceeding beak of utricle by 3-5 mm., hooked at apex, smooth, Plate Vc.*

Native. In *Festuca* grassland. Altitude 0-550 (-1,250) ft. [c. 0-170 (-375) m.]. Locally frequent. South Georgia, Map 24; Endemic.

Notes. The stems, because of their recurved leaves arranged in 3 rows, are quite unlike those of any other species known from South Georgia and enable *U. smithii* to be easily identified in the vegetative state. When fertile, the spike-like inflorescences, with prominent hooked appendages protruding from the fruits are unmistakable. The species was first collected between the Harker and Hamberg Glaciers on 10 February 1957 by Jeremy Smith, in whose honour it was named (Philcox, 1961). The holotype is preserved at Kew.

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Uncinia smithii

