NEW RECORDS OF POA (POACEAE) AND POA PFISTERI:  
A NEW SPECIES ENDEMIC TO CHILE  

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ABSTRACT

The distributions of several narrowly endemic species of Poa in Chile and Argentina are discussed. Poa hachadoensis var. pilosa and P. mendocina are newly reported for Chile. Poa pfisteri is described as a new species endemic to Chile. A key to Nicoraepoa and Poa species (except species of Poa sect. Dioicopoa) that grow in Chile from Coquimbo southward is provided.

RESUMEN

Se discuten las distribuciones restringidas de varias especies endémicas de Poa en Chile y Argentina. Tanto P. hachadoensis var. pilosa como P. mendocina se citan nuevamente para Chile. Poa pfisteri se describe como una nueva especie endémica de Chile. Se da una clave de las especies de Nicoraepoa y de Poa (excepto las especies de Poa sect. Dioicopoa) que crecen en Chile de Coquimbo hacia el sur.

The genus Poa L. is highly developed in Argentina and Chile with 58 and 39 species, respectively, accepted by Soreng et al. (2003, on-line version updated Jan 2008) in the Catalogue of New World Grasses (http://mobot.mobot.org/W3T/Search/nwgc.html). Most of the Chilean species are shared with Argentina. Only two species of Poa sect. Dioicopoa E. Desv. (P. cumingii Trin. and P. paposana Phil.), and one new species described here, are thought to be endemic to Chile whereas 20 species are considered to be endemic to Argentina (Soreng et al. 2003, updated Jan 2008). Other than the Soreng et al. (2003) index, Poa has not been systematically treated in Chile since the early accounts by Desvaux (1854), Steudel (1854), and by R.A. Philippi who named 36 new species between 1858 and 1891 (see Muñoz Pizarro 1960). Regional floras for Patagonia (Nicora 1978) and Tierra del Fuego (Moore 1983) include species of Poa that occur in the southern third of Chile; these include keys, descriptions, and illustrations. Negritto and Anton (2000) revised the genus for the five northwestern provinces of Argentina, and Giussani (2000) revised Argentina’s taxa of Poa sect. Dioicopoa. These treatments leave a major gap in our knowledge for the occurrence of Poa in Chile, especially for the northern two-thirds of the country. Marticorena and Quezada (1985), with assistance of Oscar Matthei, pared down the number of accepted species of Poa in Chile to 65 (no synonyms were listed). As Marticorena and Quezada (1985) suggested, the nomenclature and taxonomy of many large genera in Chile was in chaos, and their listing of taxa in these genera was only provisional. For example, of the 36 species of Poa named by R.A. Philippi only three are accepted today (Soreng et al. 2003, updated on-line in Jan 2008; includes distribution by country, synonymy, and classification with species placed in an infrageneric arrangement).

From November 2001 to February 2002 RJS (R.J. Soreng) visited Chile to collect and study the genus Poa in the region. In CONC (Universidad de Concepción) and SGO (Museo Nacional de Historia Natural, Santiago), the two main herbaria in Chile, herbarium specimens were found that appeared to represent seven new taxa and another specimen was newly collected that potentially seemed to be new to science. RJS was able to recollect all but one of them in Chile or on subsequent trips with PMP (P.M. Peterson) to Argentina (2003 and 2006). This paper describes the fate of these eight unknowns, five of which were recently identified as occurring in Chile (Soreng et al. 2003), and one that is described here as a new species endemic to Chile.

Three of these unknowns, Poa planifolia Kuntze, P. subenervis var. spegazziniana Nicora, and P. pugioni-
**RESULTS AND DISCUSSION**

**Poa mendocina** Nicora & F.A. Roig.—One specimen from the high Andes east of Santiago (Villagráñ et al. 8484) certainly seemed new, until in 2003 a similar herbarium specimen from 3100 m in the Province of Mendoza, Argentina, named “Poa mendocina ined.” was discovered at BAA. This isotype had been filed in the general collections rather than with the types at BAA, and thus was buried in this large genus. Only later was it realized that *Poa mendocina* was already published and illustrated by Nicora & Roig (1998). This name had made it into the Catalogue of New World Grasses as a tentatively accepted taxon, endemic to Argentina (Zuloaga et al. 2008), as it was then known only from the type and a paratype that had not been verified as occurring on their side of the border. On another collecting trip to Argentina in 2006 we recollected this species in the same region of Mendoza as the type.

**Poa mendocina** is a distinctive species of *Poa*, now known from four localities in Argentina and Chile. However, *Poa mendocina* is not included in a key, descriptive floristic account, or revision of the genus in Chile. *Poa mendocina* has bisexual spikelets, short anthers (ca. 1 mm long), and lemmas with soft hairs along the lower portion of the keel and marginal nerves. Most of the lower florets have a sparse but distinct web between the lemma keel and marginal veins.

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that have steeply ascending branches to 1 cm long (versus 18–50 cm tall, with wide open, [4–]4.5–12 cm long panicles with spreading branches 1.5–4 cm long). Nicora and Roig (1998) were uncertain whether the species is rhizomatous or not, but further collections reveal it is cespitose, although its stems may be buried and elongated when rooted in thatch of wet meadows (vegas).

Known specimens of *Poa mendocina* from Argentina and Chile: ARGENTINA. Mendoza: Department of San Rafael, district of El Susocondo, cerro Volcán Overo, [ca. 34°36’21”S, 70°04’48”W], 3100 m, en la ultima vega alta, sobre el agua entre cojines de musgos, frecuente, 10 Feb 1955, A. Ruiz Leal 16894 (holotype: MERL; isotype: BAA!); Department of Las Heras, Cerro Pelado, [ca. 32°47’5”, 69°09’15”W], 3000 m, formando matas compactas, 19 Dec 1954, A. Ruiz Leal 16456 (paratype: MERL); Department of Maldonado, Rio Salado headwaters, lago on northwest flank of cerro Torrecillas, ca. 6 km northwest of Las Leñas, 35°06’44”S, 70°07’39.6”W, 3075 m, wet meadow and rocky slopes, 6 Mar 2006, P.M. Peterson, R.J. Soreng, D.L. Salariato & A.M. Panizza 19202 (SI! US!). CHILE. Región Metropolitana de Santiago: Cajón del Maipo, Hito Paso Internacional Maipo, [ca. 34°11’31”S, 69°49’55”W], 3325 m, 17 Feb 1995, C. Villagrán, R. Villa & F. Hinojosa 8484 (SGO!).

**Poa hachadoensis** Nicora.—A second set of specimens that RJS thought might represent two new species are attributable to two varieties of *Poa hachadoensis*. Nicora (1977, 1978) reported *P. hachadoensis* var. *hachadoensis*, from Chile, Región de Bio-Bio, Las Lajas, along with three specimens in Argentina, Province of Neuquén, Departments of Picunches and Aluminé, and illustrated it. In 2002 R.J. & N. Soreng collected this variety in the regions of Araucanía and Bio-Bío, in Chile, and in 2006 we collected this variety in the same Departments of Neuquén, Argentina, as cited by Nicora (1977, 1978).

Nicora (1977, 1978) reported *P. hachadoensis* var. *pilosa* from Argentina, Province of Neuquén, Departments of Minas, Lácar, and Province of Chubut, Departments of Río Senguerr and Futaleufú. Three old collections by F.W. Pennell from Chile, Región Libertador General Bernardo O’Higgins, from the vicinity of Sewell, belong to *P. hachadoensis* var. *pilosa*. These represent the only known locations for the species in Chile. In 2006 Peterson et al. made the first collection of this variety in the province of Mendoza, Argentina.

*Poa hachadoensis* var. *pilosa* and *hachadoensis* have curious distributions. The range of *P. hachadoensis* var. *pilosa* extends for 1300 km from 34° to 46° S latitude along the Andes. The range of *P. hachadoensis* var. *hachadoensis* covers 220 km north to south in the middle of the range of *P. hachadoensis* var. *pilosa* (which has three allopatric stations to the north and four to the south of the typical variety), where the latter variety appears to be absent. The two varieties have not been collected together. Both varieties have a distinct dorsal tuft of wooly hairs on the callus. *Poa hachadoensis* var. *pilosa* has hairs along lemma keel and marginal veins, whereas the typical variety has glabrous lemmas. After viewing a series of collections and finding no other characteristics to satisfactorily divide them, we are not inclined to separate them at the species rank. However, because they are geographically isolated, they appear to warrant subspecific status. Both varieties occur in mossy waterlogged habitats in meadows in Araucaria forests to lower alpine.

**Poa hachadoensis** var. *hachadoensis* new collections from Argentina and all vouchers for Chile: ARGENTINA. Neuquén: Picunche, 2 km E of Paso Pino Hachado, 38°39’41”3°S, 70°53’19”8”W, 1800 m, open, wet meadows with Carex, Cortaderia, and Festuca, 4 Feb 2003, P.M. Peterson, R.J. Soreng & N.F. Refulio-Rodríguez 17466 (SI! US!); Aluminé, 19 km S of Moquehue on highway 11 towards Lago Norquincó, 39°05’2.7”S, 71°19’41”3”W, 1050 m, meadow with Juncus, Carex, and scattered Escallonia on slopes with Araucaria araucana and Nothofagus antarctica, 3 Feb 2003, P.M. Peterson, R.J. Soreng & N.F. Refulio-Rodríguez 17409 (SI! US!), other collections from Argentina are cited by Nicora (1977, 1978). CHILE. [without other location] in “02/03/1939”, A. Burkart, 9510 (SI! US!), Region VIII: Bio-Bio, La Laja, [ca. 37°27’S, 71°19’W], A. Burkart 27449 (SI, BAA!), Parque Nacional Laguna Laja, southeast slope of Volcán Antuco, Estero el Aguado o del Volcán, above Vado, below a loma Araucaria, east of Los Angeles ca. 90 km, 37°27’43”S, 71°19’03”W, 1430 m, broad, nearly treeless, volcanic valley, scattered along creek bed in wet cobbly muck, 21 Jan 2002, R.J. Soreng & N.L. Soreng 7177 (US! CONCO), Region IX: Araucanía, west entrance to Parque Nacional Conguillío, east end of Laguna Captrén, in valley between Volcán Llaima and Sierra Nevada, east of Temuco ca. 70 km, 38°38’22”S, 71°41’49”W, 1284 m, wet grassy, mossy meadow at upper end of the lake surrounded by old Araucaria araucana—Nothofagus betuloides forest, common in the open meadow, 22 Jan 2002, R.J. Soreng & N.L. Soreng 7192 (US! CONCO).

**Poa hachadoensis** var. *pilosa*, a new collection in Argentina and all vouchers for Chile. ARGENTINA. Mendoza: Department of Malargue, Andes, Rio Salado headwaters, Valle de Las Leñas, ca. 36 km northwest of Las Leñas on Highway 222, northwest of Malargue 65 km, 35°05’41”7”S, 70°08’10”6”W, 2740 m, grassy wet meadow with Poa, Festuca, and Deschampsia, 5 Mar 2006, P. M. Peterson, R.J. Soreng, D.L. Salariato, A.M. Panizza 19188 (SI! US!), other collections from Argentina are cited by Nicora (1977, 1978). CHILE. Region VI: Libertador General Bernardo O’Higgins, Sewell ca. 34°04’5”, 70°22”W, in 1925, F.W. Pennell 12312 (SGO!), 12314 (SGO!), 12324 (US!).

One last collection turned up at CONCO, SGO, and US that appears to actually be a new species. By the time
RJS realized this was new, it was too late in the growing season to effectively search for it, as it flowers in early November. A cursory search was made for it around the crossing of Rio Renaico by Highway 5, southeast of Mininco. However, the grasses were in poor shape by the time we passed through the area in late January. The species is considered to be dioecious. The SGO specimen appears to have been pulled up as a clump, the staminate and pistillate panicles are not attached to a single base and may be from different individuals. The US sheet appeared to have two separate clumps, one of each sex (they have been separated and remounted on the holotype). In any case, the specimens are quite different from the other dioecious species of Poa in South America, all 22 members of which belong to Poa sect. Dioicopoa E. Desv. Unlike Dioicopoa species, the Pfister specimens have sparse to moderately congested, somewhat lax, slender panicles with slender branches that are naked in the lower 1/2, and the pistillate and staminate spikelets are undifferentiated in size, form, floret number, and pubescence. The lemmas are glabrous and the calluses have a well developed web, as in Poa hachadoensis var. hachadoensis, but the anthers are 2–2.5 mm long. The blades are densely hispidulous-strigulose adaxially on and between the veins, as in Poa sect. Madropoa Soreng subsect. Madropoa and subsect. Epiles Soreng (seven and five spp. respectively, in North America, Soreng 2007). The new species is tentatively placed in Poa subsect. Madropoa where it most closely resembles Poa diafoli Soreng & D.J. Keil, a rare species of the California Floristic Province (Soreng & Keil 2004). If Poa pfisteri is confirmed to belong to one of the above Madropoa subsections it would be the only occurrence of any species of either of these anywhere south of the state of Durango, Mexico. The infrageneric relationships of some or all native gynomonoecious species of South American Poa may be with “Poa nervosa” complex of Poa sect. Madropoa (eight spp. of North America; Soreng 2007; Soreng & Keil 2003), but this needs further study. Curiously, there is only one species of Poa sect. Dioicopoa in North America (Soreng 2007), Poa arachnifera Torr., nearly all species of which have tightly contracted panicles with crowded spikelets, and none have hispidulous-strigulose adaxial leaf surfaces.

The new species is here named for the collector, Don Augusto Pfister, who collected in Chile from 1941 to 1945 (according to Harvard University Herbaria, Index of Botanists, Index Herbariorum - Collectors, http://asaweb.huh.harvard.edu:8080/databases/botanist_index.html [accessed May 2008]), but from 1932 to 1964 (according to CONC herbarium records database; Clodomiro Marticorena, pers. comm.). There are 5080 sheets collected by Pfister in CONC, with duplicates in SGO, and US (at least for grasses). Pfister collected plants in all regions of Chile, with the majority coming from around the Termas de Chillán, in the Region of Bio-Bio, where he frequently bathed to alleviate his rheumatoid arthritis (Clodomiro Marticorena, pers. comm.).

**Poa pfisteri** Soreng, sp. nov. (Figs. 1a–n; 2). **Type. CHILE. REGION XIII: Bio-Bío, Province of Santa Barbara, Puente Mininco, 1 Nov 1943, A. Pfister s.n. (HOLOTYPE (pistillate and staminate plants): US-2150300!, ISOTYPES (pistillate and staminate plants): CONC-6191!, SGO-73895!).**

A *Poa diaboli* Soreng & D.J. Keil plantis dioeciis? (versus sequente gynomonoeciosis), surculo sterili tantum extravaginali (versus extravaginali et intravaginali), vaginis conatis 1/5–1/2 (versus 2/5–7/10), laminis caulis 0.8–1.4 mm latis (versus 1.5–2.4 mm), conduplicatis cum marginis involutos (versus planis), laminis suprahispidulis lanceolatis (versus subaequalibus), ramos paniculosis 2–3 pro nodo (versus 1–2), teretetetervelangulato(sus)velangulato(sus)uncisparvispaucdistantiis suprafusapapudangulosobtusos(versusmanifestelongioribus et accumulatissupra distinctosangulos),flosculisplerumque3velinterdum4(versus3–6(–7)),rachillinstitrinitadobusaequarioseaequaraoapiceveservelinfrequenterlatexaequis,glumisprimis2–3mmlongis(versus2–2.7–3.8mm),1-nervasis(versus3-nervis),callipilorigine magispapudorsumconcentrataversusdiffusa),lemmatissuperficiesaequarioseaequarapasinapicierveservelinfrequenterrapinapiscabrisomnino),palearumcarinisparisscarioscarios(asversusdenseoblongaequarapinatiss).difift.

Plants perennial; dioecious (?); short rhizomatous and stoloniferous, loosely tufted, tillers extravaginal. Culms 45–50 cm tall, 0.5–0.8 mm diam, geniculate above, slender, bases erect, frequently branching above the base, terete; nodes terete, 1 exerted in distal 1/2–1/3 of culm. Leaf sheaths, uppermost closed 1/5–1/2 their length, weakly keeled, moderately to densely scabrous distally, sometimes lightly strigulose distally, basal sheaths becoming gray-brown, fibrous, bases scabrous, glabrous, distal sheaths 2–3 times longer than their blades; collars slightly thickened; ligules (0.2–0.5)–2.5 mm long, uppermost 1.5–2.8 mm long; lower
Fig. 2. *Poa pfisteri* Soreng, holotype, *A. Pfister 6191* (US-2150300). The upper tuft is staminate (one pistillate inflorescence is not attached to this tuft but is mixed in with the staminate inflorescences). The lower tuft is pistillate.
ligules abaxially densely scabrous, apices obtuse or truncate; upper ligules abaxially smooth or sparsely scabrous, apices acute, erose; sterile shoot blades to 25 cm long, involute with tightly enrolled margins, abaxially smooth or very sparsely scabrous, adaxially densely hispidulous-strigulose on and between the veins, ligules of sterile shoots like those of the distal shoots of the culm; cauline blades 4−8 cm long, 0.4−0.7 mm wide in side view, involute with tightly inrolled margins, abaxially smooth or very sparsely scabrous, adaxially densely hispidulous-strigulose on and between veins, narrowly prow-tipped, mid-culm blades to 31 cm, uppermost 2.7−5.3 cm long, the longest on the culm. Panicles 4−11 cm long, lax, broadly lanceoloid, loosely contracted, with 10−90 spikelets, lower axis smooth, proximal internodes 1.5−2.8 cm long, with 2 or 3 branches per node; branches, the longest 2−3.5 cm long, loosely ascending, lax, capillary, terete to slightly angled, sparsely to moderately scabrous proximally, moderately to densely scabrous distally, with 3−9 spikelets these mostly loosely overlapping in the upper 1/2, pedicels commonly ca. 1 mm long, mostly shorter than their spikelets. Spikelets 5−6 mm long, to 3 times longer than wide, laterally compressed, staminate and pistillate spikelets undifferentiated; purplish at anthesis, florets (2−)3−4; rachilla internodes 0.5−1.5 mm long, visible from the side, smooth, glabrous; glumes, distinctly keeled, slightly unequal, keels smooth or sparsely scabrous, sometimes with a few hooks on the sides near the apex, margins with few hooks; lower glumes 2−3 mm long, 0.3−0.4 mm wide in side view, subulate, 1-veined; upper glumes 2.9−3.5 mm long, 0.4−0.5 mm long in side view, narrowly lanceolate, 3-veined; calluses with a slightly diffuse dorsally concentrated tuft of soft, wooly hairs about 1/3−3/4 the lemma in length; lemmas 3.8−4.5 mm long, 0.6−0.7 mm wide in side view, narrowly lanceolate, distinctly keeled, glabrous throughout, lightly scabrous along keel upper 1/2, smooth or lightly scabrous near the margins and apex, intermediate veins faint to moderately prominent, margins narrowly scarious, edges smooth or with a few hooks, glabrous, apices narrowly acute; paleas slightly shorter than lemmas, sparsely to moderately scabrous over the keels, in the distal 1/2, between keels smooth, glabrous; lodicules ca. 0.6 mm long, ovate, with a small lateral lobe; stamens three, anthers 2−2.5 mm long or vestigial in pistillate flowers; ovaries glabrous with two styles and stigmas, vestigial in staminate flowers. Caryopses 2 mm long (immature), fusoid, ventrally sulcate, glabrous, adhering to the palea. Chromosome number unknown.

**Distribution and Habitat.**—**CHILE. Region VIII:** Bio-Bío, Province of Santa Bárbara. Known only from the type collection in the central valley of Chile. The one collection is presumably from near the northern Región IX Araucanía border, from slopes along the Río Renaco and tributaries east of Mininco, roughly from 37°47’S, 72°48’W, where elevations range between 200 and 300 m. If the species is still extant, it likely occurs in the adjacent Región of Araucanía.

**Annotated Key to Species of Nicoraea and Poa (Except Sect. DioicoPoA Species)**

**IN CHILE REGIONS COQUIMBO TO MAGALLANES**

**Accepted taxa** also occur in Argentina unless stated to be “endemic to Chile.” Introduced taxa are marked*. See *Poa* in *Catalogue of New World Grasses* for synonyms (Soreng et al. 2003, and on-line). Authors are not given for taxa in the key if the taxon was already discussed above.

1. Ligules 6−23 mm long, apex margins conspicuously lacerated, glabrous; plants without rhizomes, forming robust tussocks, (0.5−)1−2.5 m tall; panicles tightly contracted; florets slightly contorted, twisted, glabrous; lemmas with a stiff cusp or stout mucro up to 3 mm long; plants from islands (or possibly mainland coast of Straights of Magellan), bluffs by the coast on the farthest southern reaches of Tierra del Fuego, Magallanes (*P.* subgen. *Ochlopa* sect. *Parodiochloa*) _____________________ *P.* flabellata (Lam.) Raspail

1. Ligules mostly 0.5−6 mm long, but if elongated, then apex not conspicuously lacerated; plants rhizomatous, or if non-rhizomatous, then mostly much less than 1 m tall; panicles tightly contracted to loose and open; florets not at all contorted and/or twisted, glabrous or pubescent; lemmas rarely cuspidate or mucronate, or awned, but if awned then the awn slender (but see also *P.* darwiniana); plants widespread.

2. Leaf blades adaxially with multiple ridges and valleys on either side of the midrib, ribs broader than the valleys; ligule margins ciliolate to ciliate; callus hairs (when present) forming a crown surrounding
the base of the lemma, hairs straight or slightly sinuous; plants with stout rhizomes (Nicoraepoa).
3. Plants forming low spiny mats, culms to 20 cm tall; leaf blades bluish-white, tightly fold-
ed, rigid, apex sharply pointed and pungent; plants in moist, sub-saline ground interior Patagonia (Sierra Baguales), NE Última Esperanza, Magallanes


4. Plants with viviparous spikelets.
5. Inflorescences narrowly lanceolate, erect, branches erect; florets glabrous; plants of low elevations, generally in sub-saline coastal wetlands, Magallanes


6. Florets pubescent with at least well developed crown of hairs around the callus; plants widespread.
7. Ligules ciliate, cilia as long or longer than the membranous base; leaf blades soft, flat, short, mostly 2–6 cm long; plants from mossy vegas above treeline


8. Panicles 5−15 cm long, (0.5−)1–5 cm wide, contracted or mostly open; plants of Andean Valparaíso and Región Metropolitana


9. Panicles 3−6.5−(10) cm long, ca.0.5(−1) cm wide, contracted; plants of Patagonia (Sierra Baguales), NE Última Esperanza, Magallanes


2. Leaf blades adaxially with two grooves only, one on either side of the midrib, ribs not prominent and broader than the intercostal regions; ligule margins soft or scabrous at most ciliolate; callus hairs absent or present, usually originating in dorsal tuft from below the keel of the lemma (sometimes with secondary tufts below the marginal veins), hairs plicate or woolly (web), less often forming a crown originating around the base of the lemma and then woolly or with hairs straight to slightly sinuous; plants with slender rhizomes, or without rhizomes (Poa).


10. Plants with viviparous spikelets; plants of Tierra del Fuego and southern Patagonia mountains, Los Lagos to Magallanes.
11. Plants with bulbous shoot bases; plants of disturbed ground, from northern Magallanes L. subsp. vivipara (Koeler) Arcang.


12. Plants with unisexual flowers only; anthers in staminate plants 1.3−3(−4) mm long.
13. Panicles loosely flowered, loosely contracted, somewhat lax; branches slender, plainly ex-
posed, naked in the lower 1/2; spikelets mostly 5−6 mm long; pubescence of staminate and pistillate florets undifferentiated, lemmas glabrous and calluses pubescent; callus with dorsally concentrated crinkled hairs; leaf blades adaxially hispidulous-strigulose pubescent costally and intercostally; plants of presumably of steep rocky slopes in sclerophyllous Patagonian forest openings, in the central valley in Bio-Bío and Araucanía


14. Plants without viviparous spikelets (or rarely with them, but then of Maule and more northern regions); plants widespread.
15. Panicles densely flowered (often interrupted), contracted, erect; branches stout, often hidden by the spikelets, commonly flowered in the lower half; spikelets mostly 5−8 mm long; pubescence
of staminate and pistillate florets differentiated (staminate florets usually glabrous or very sparse-
ly pubescent), or both lemmas and calluses glabrous throughout; leaf blades smooth scabrous
adaxially, sometimes densely scabrous costally and intercostally; callus glabrous or pubescent
with plicate, or crinkled hairs, from a tight dorsal tuft, and often from tufts below the marginal
veins, or with a crown of fairly straight to slightly sinuous hairs (Poa subgen. Poa sect. Dioicopoa).

Species of this section are notoriously difficult to key out, and staminate plants commonly
have glabrous or nearly glabrous lemmas and can only be keyed vegetatively (See Giussani
2000). It is not possible for us to write a satisfactory key for these until the Chilean species are
better known. However, we provide accepted names for species that are known to occur in the
region of Chile covered in this key, along with general distribution: Poa alopecurus (Gaudich.
ex Mirb.) Kunth subsp. alopecurus — plants of mesic steppe and forest openings, Magallanes; P.
bonariensis (Lam.) Kunth — This name has been commonly applied to specimens of Dioicopoa
from central Chile, but most of this material seen by RJS was redetermined as P. denudata, P.
lanuginosa, or P. paposana. Several CONC specimens from low to middle elevations in central
Chile, originally determined as P. bonariensis, need further study. The species is common in
the pampas of Argentina and it is expected as a waif in Chile; P. cumingii — plants of coastal
dunes between Coquimbo and Los Lagos (northern Chiloé), endemic to Chile; P. denudata
Steud. — plants of low elevation forest openings and coastal bluffs and cliffs, from the coast of
Bio-Bio to Los Lagos extending to Argentina; P. gayana E. Desv. — plants of the openings in
middle to upper forested to shrubby mountain slopes of the interior central Andes of Chile,
Coquimbo to Bio-Bio (name possibly misapplied). This species is highly variable and perhaps
represents a large hybrid zone between P. holciformis in the alpine and a rhizomatous species
of lower elevations with a webbed callus, perhaps P. lanuginosa. P. gayana × holciformis —
plants intermediate between these species are frequent and occur on rocky slopes from
high to medium altitudes in the Andes, Coquimbo to Maule; P. holciformis J. Presl — plants
of open treeless slopes in the high Andes, Coquimbo to Maule, expected on high dry slopes
further south also; P. lanuginosa Poir. — the typical form with webbed calluses occurs from
low elevations in the Central Valley to middle elevation forested slopes, Metropolitana to
Aisén, and a form with glabrous calluses occurs in riparian meadows in Patagonian steppe,
Magallanes; P. obvallata Steud. — plants of rocky open forest and alpine volcanic slopes in
the Andes, Bio-Bio to Los Lagos; P. paposana — plants of rocky slopes in fog zones of coastal
hills, Valparaíso to southern Antofagasta, endemic to Chile; P. spiciformis (Steud.) Hauman &
Parodi var. spiciformis — plants of dry Patagonian steppe, Magallanes; P. spiciformis var. iberi
(Phil.) Giussani — plants of dry Patagonian steppe, Magallanes.

12. Plants with some or all florets bisexual; developed anthers sometimes shorter, 0.2–3 mm long.
14. Anthers 0.2–1(−1.2) mm long.
15. Glumes exceeding or equaling the lower floret, similar in form and length; plants of ripar-
ian meadows in Patagonian steppe, from Magallanes (Dissanthelium s.l.) ______ P. atropidiformis Hack.
16. Lemmas glabrous __________________________ P. atropidiformis var. atropidiformis
17. Lemmas pubescent _________________________ P. atropidiformis var. patagonica (Parodi) Nicora
18. Anthers 0.2–0.5 mm long; branches ascending, spikelets crowded along the
branches; infrequent, distribution poorly documented, known from Valparaíso and
Metropolitana _____________________________ P. infirma Kunth
19. Anthers 0.5–1.0 mm long; branches ascending to spreading, spikelets loosely
arranged along the branches; plants common, widespread, of all Regions ______ P. annua L.
20. Plants annual (infrequently surviving more than one season); callus glabrous; palea keels softly
pubescent, not at all scabrous; terminal florets within spikelets often pistillate; primarily of
disturbed ground, coastal to above treeline (Poa subgen. Ochlopoa sect. Micrantherae).
21. Plants perennial (sometimes weakly so); callus glabrous or webbed; palea keels glabrous
and scabrous, also sometimes softly pubescent medially, all florets bisexual.
22. Florets glabrous; lemmas and rachillas densely scabrous throughout, glabrous,
lemma apexes with a short stiff scabrous micro (Poa subgen. and sect. uncertain,
possibly sect. Dasypoa); plants of rocky coastal cliffs and slopes of the outermost
islands of Tierra del Fuego, Magallanes (Cabo de Hornos) ____________ P. darwiniana Parodi
23. Florets pubescent; lemmas and rachillas not densely scabrous throughout, glabrous
or pubescent, lemma apexes without mucros; plants widespread.
20. Inflorescences congested, contracted, spikelets crowded; branches quite scabrous; lemmas pubescent between the veins; callus with a dorsal tuft of crinkled hairs, sometimes with secondary tufts below the marginal veins; plants of disturbed ground in upper forested to subalpine shrub zones, from Mexico to Tierra del Fuego, Arica & Parinacota to Magallanes in Chile (Poa subgen. Poa sect. Dasypoa) ______________________ P. scaberula

20. Inflorescences open or contracted, spikelets not crowded; branches smooth; lemmas glabrous between the veins; callus with a dorsal tuft of crinkled hairs or glabrous, secondary tufts absent; plants of more stable habitats, from Metropolitana to Araucanía (Poa subgen. Poa sect. Homalopoa s.l.).

21. Culms 4–20 cm tall; inflorescences contracted, ca. 0.5 mm wide, slightly spreading in anthesis to 1 cm wide; plants of high wet meadows and slopes in the central Andes, from Metropolitana __________________ P. mendocino

21. Culms 15–60 cm tall; inflorescences open, 2–5 cm wide; plants of wet mossy meadows and slopes in forest openings to low alpine regions, from Liberator General O’Higgins to Araucanía _________________ P. hachadoensis

22. Lemmas glabrous; plants of Bio-Bío to Araucanía _____________ P. hachadoensis var. hachadoensis

22. Lemmas pubescent; plants of Liberator General O’Higgins _____ P. hachadoensis var. pilosa

14. Anthers 1.3–3(−4) mm long.

23. Florets glabrous; blades flat, apexes abruptly naviculate; plants of wet meadows in the central Andes, from Valparaíso to Metropolitana ______________________ P. acinaciphylla E. Desv.

This taxon possibly originated from past intersectional hybridization between P. subgen. Poa sect. Acutifoliae; P. subgen. Poa sect. Dioicopoa; P. planifolia × P. holciformis.

23. Florets pubescent; blades flat, folded, or involute, apexes tapered or naviculate; plants in various habitats, widespread.

24. Blades 5–10 mm wide, prominently keeled, flat to tightly folded, apex abruptly attenuated, acuminate, and pungent; florets pubescent; lemmas thin and lustrous, usually sparsely short pubescent along the keel; callus with a dorsal tuft of woolly hairs (webbed); plants of wet subalpine to freshwater meadows, springs, and stream-sides above tree line in the central Andes, from Valparaíso to Metropolitana (Poa subgen. Poa sect. Acutifoliae) __________________________ P. planifolia

24. Blades 1–5(−7) mm wide, not prominently keeled, flat to folded, apex obtuse to acute, not pungent; florets glabrous or pubescent; lemmas dull (not reflective) or at least not especially thin and lustrous, glabrous or pubescent; callus glabrous or pubescent; plants of various habitats and distributions.

25. Lemmas pubescent only on the keel, or also sparsely so on the lower 1/4 of the marginal veins, intermediate veins pronounced; first glumes 1-nerved, often sickle-shaped; ligules acuminate; callus with a well developed dorsal tuft of woolly hairs (webbed); plants of disturbed ground in forested zones, known from Valparaíso south to Magallanes (Poa [subgen. Ochlopoa × Stenopoa] sect. Pandemos) __________________________ *P. trivialis L. subsp. trivialis

25. Lemmas pubescent on the keel and marginal veins and sometimes on intermediate veins and sometimes between the veins, intermediate veins faint to pronounced; first glumes (1)3-nerved, rarely sickle-shaped; ligules truncate to acuminate; callus glabrous or pubescent with a web or crown of hairs; plants widespread and of various distributions.

26. Sheaths compressed-keeled; panicles open; plants wet to mesic meadows, thickets, and open forests, from Tierra del Fuego to northern Magallanes, but likely in Aisén also (Poa subgen. Poa sect. Poa) __________________________ P. yaganica Speg.

Poa ayseniensis, from Rio Aisén, is known only from the type. The original description does not adequately distinguish the this taxon from P. yaganica, a species similar to P. pratensis, with a web, but with more compressed sheaths, more rounded to acute ligule apexes, and longer glumes.

26. Sheaths not noticeably compressed-keeled; panicles contracted or open.

27. Plants rhizomatous, spreading; upper culm sheaths closed more than 1/4–2/5 the length; lemmas glabrous between the veins; callus with a
well developed dorsal web of crinkled hairs (Poa subgen. Poa sect. Poa) P. pratensis L.

Poa pratensis subsp. alpigena (Lindm.) Hiitonen has lemmas with glabrous or sparingly pubescent intermediate veins, narrowly ovate spikelets, narrowly pyramidal inflorescences with mostly smooth branches, and only extragynous shoots. It is apparently indigenous in the Magallanes Region as a disjunct taxon from northern hemisphere boreal regions. Introduced *P. pratensis s.l. is known from disturbed ground from Coquimbo to Magallanes, but its races have not been sorted out taxonomically in Chile. The lemmas are glabrous between the keel and marginal veins, spikelets more ovate, inflorescences pyramidal with smooth or scabrous branches, and some shoots usually intravaginal.

27. Plants without rhizomes, strictly tufted; upper culm sheaths closed 1/10−1/5 the length; lemmas sometimes pubescent between the veins; callus glabrous or with a crown of hairs or with a dorsal web of crinkled hairs.

28. Callus with a crown of hairs 0.2−2.0 mm long around the base of the lemma (Poa subgen. Stenopoa sect. Secundae).

29. Lemmas weakly keeled, pubescent on and between the veins at least at the base, pubescence of the keel and between veins little differentiated; panicles secund, contracted to loosely contracted, much longer than wide (except when somewhat open in anthesis); plants of subalpine to lower alpine open slopes, from Valparaíso to Magallanes ____________________ P. secunda

30. Upper culm node in the lower 1/3 of the culm; upper culm leaf blades distinctly shorter than the upper sheath; lemmas with at least a few hairs between the keel and marginal veins near the base or on the intermediate veins; callus glabrous or webbed.

31. Spikelets (3.8−)4−5 times as long as wide (when closed); lemmas weakly keeled, pubescent on the keel and marginal veins and between the veins at least near the base, the hairs about the same length between the veins and those on the keel and marginal veins; callus glabrous; plants of subalpine to lower alpine open slopes, from Valparaíso to Magallanes (Poa subgen. Stenopoa sect. Secundae) ____________________ P. secunda subsp. secunda

31. Spikelets 2−3 times as long as wide (when closed); lemma distinctly keeled, pubescent between the veins at least near the base or not, sometimes pubescent on the keel and marginal veins only, or on these and the lateral veins only, the hairs shorter between the veins than those on the keel and marginal veins; callus glabrous or webbed; plants of subalpine open slopes, from Aisén to Magallanes (Poa subgen. Stenopoa sect. Stenopoa) ___________________ P. glauca Vahl subsp. glauca

30. Upper culm node in the middle to upper 1/3 of the culm; upper culm leaf blades subequal or longer than the upper sheath; lemmas glabrous between the keel and marginal veins; cal-
lus webbed; plants introduced (Poa subgen. Stenopoa sect. Stenopoa).

32. Ligules 0.2–1 mm long, apex truncate; web sparsely developed, usually less than 1/2 the lemma in length (when stretched out); rachilla usually softly puberulent; plants of mesic forest margins, known from Magallanes ________________ *P. nemoralis L.*

32. Ligules 1–4 mm long, apex obtuse to acute; web moderately well developed, usually more than 1/2 the lemma in length (when stretched out); rachilla glabrous with minute bumps or sparsely hispidulous; plants usually of riparian meadows, known from Magallanes _______________ *P. palustris* L.

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