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ORIGINAL ARTICLE

Taxonomic revision of the genus *Poa* L. (Poaceae: Pooideae: Poeae) in Chile

Revisión taxonómica del género *Poa* L. (Poaceae: Pooideae: Poeae) en Chile

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ABSTRACT

A taxonomic revision of the genus *Poa* in Chile is given. Forty-two species, 5 subspecies and 5 varieties distributed in 4 subgenera, 15 sections and one informal group "Punapoa" are recognized. Synonyms, bibliographic references, notes on distribution and habitat, distinctive characters, and keys to species and subspecific taxa are provided for each species. The names *Poa algida* Trin., *P. annua* L. var. *eriolepis* E. Desv., *P. ariguensis* Steud., *P. chilensis* Trin., *P. chrysantha* Lindm., *P. fuegiana* (Hook.f.) Hack. var. *involucrata* Hack., *P. maullinica* Phil., and *P. yaganica* Speg. are lectotypified. A new combination and status is established for *P. parviceps* Hack. [*P. scaberula* Hook.f. subsp. *parviceps* (Hack.) Finot, Giussani & Soreng]. *Poa dialystostachya* is proposed as a new synonym of the endemic *P. paposana*.

Keywords: Flora of Chile, lectotypification, nomenclature, taxonomic revision, synonyms.

RESUMEN

Se entrega una revisión taxonómica del género *Poa* en Chile. Se reconoce la presencia de 42 especies, 5 subespecies y 5 variedades, distribuidas en 4 subgéneros, 15 secciones y un grupo informal "Punapoa". Para cada especie se proveen sinónimos, referencias bibliográficas, notas sobre distribución actual y potencial, hábitat, caracteres distintivos y claves para determinar las especies y taxones infraespecíficos. *Poa atropidiformis* var. *patagonica* (Parodi) Nicora se registra por primera vez para la flora de Chile. Los nombres *Poa algida* Trin., *P. annua* L. var. *eriolepis* E. Desv., *P. ariguensis* Steud., *P. chilensis* Trin., *P. chrysantha* Lindm., *P. fuegiana* (Hook.f.) Hack. var. *involucrata* Hack., *P. maullinica* Phil., y *P. yaganica* Speg. son lectotipificados. Se establece una nueva combinación y estatus para *P. parviceps* Hack. [*P. scaberula* Hook.f. subsp. *parviceps* (Hack.) Finot, Giussani & Soreng]. *Poa dialystostachya* se propone como nuevo sinónimo de la especie endémica *P. paposana*.

Palabras clave: Flora de Chile, lectotipificación, nomenclatura, revisión taxonómica, sinónimos.

INTRODUCTION

This taxonomic treatment of the genus *Poa* L. in Chile is an augmented version of the treatment prepared by the authors for Flora de Chile, edited by the University of Concepción, in order to include aspects that could not be included in the original version, such as the studied material, lectotypifications, nomenclatural and specimens' indexes and additional observations.

The grass genus *Poa* L. belongs to the Subfamily Pooideae Benth., Supertribe Poodinae L. J. Gillespie & Soreng, Tribe Poeae R. Br., Subtribe Poinae Dumort. With about 580 species worldwide (Soreng *et al*. 2020b), it is the largest genus of the Poaceae and the most diverse of the Chilean grass flora (Rodríguez *et al*. 2018). It has a cosmopolitan distribution, occupying mainly temperate to artic climate regions (Watson & Dallwitz 1992); it reaches its maximum specific diversity at high latitudes and altitudes but is poorly represented in tropical zones, except in mountainous areas (Hartley 1961).

In Chile they grow mainly in Andean grasslands, although they are also found in forest clearings and coastal dunes, from the sea level to beyond the forest boundary (Clayton & Renvoize 1986; Watson & Dallwitz 1992). Many species are valuable as forage (e.g. *P. pratensis* L., *P. secunda* J. Presl), while others (e.g. *P. annua* L.) are common weeds (Matthei 1995).

With 42 species distributed in 4 subgenera and 16 sections, one informal and one *incertae sedis* groups (Rodríguez *et al*. 2018; Finot *et al*. 2019, 2022), *Poa* represent almost 10% of the grass flora of the country. Most species are native, only 11 introduced species have been documented for continental and insular Chile, including the Chilean Antarctic territory (Desvaux 1854; Johow 1896; Marticorena & Quezada 1985; Zizka 1991; Marticorena *et al*. 1998; Baeza *et al*. 2002, 2007; Molina-Montenegro *et al*. 2012, 2015; Finot *et al*. 2015; Rodríguez *et al*. 2018).

With a few exceptions *Poa* is morphologically a very uniform genus; the lack of discriminant characters between closely related species, frequent hybridization and apomictic reproduction, polyploidy [according to Soreng *et al*. (2010), 91% of the species whose chromosome numbers have been counted include polyploids], the phenotypic plasticity in response to environmental changes, the large number of existing species and the general similarity between them, make it difficult to determine the infraspecific taxa and pose an enormous difficulty in obtaining a satisfactory infrageneric classification (Clayton & Renvoize 1986, Giussani *et al*. 1996, Giussani & Collantes 1997, Gillespie & Soreng 2005, Gillespie *et al*. 2007, Soreng *et al*. 2010).

Poa is morphologically similar to the genera *Koeleria* Pers., *Nicoraepoa* Soreng & L. J. Gillespie, *Catabrosa* P. Beauv. and *Puccinellia* Parl., among others (Clayton & Renvoize 1985; Nicora & Rúgolo 1987; Soreng & Gillespie 2007). Other related genera such as *Anthochloa* Nees & Meyen, *Aphanelytrum* (Hack.) Hack., *Dissanthelium* Trin., *Ochlopoa* (Asch. & Graebn.) H. Scholz, *Parodiochloa* C. E. Hubb. and *Tovarochloa* T. D. Macfarl. & P. But, have recently been included in *Poa* (Gillespie *et al*. 2007, 2008; Refulio-Rodríguez *et al*. 2012, Giussani et al. 2016, Peterson & Soreng 2016).

Taxonomic studies of *Poa* in Chile

Linnaeus (1753) established the genus *Poa* with 17 species plus some varieties; six of these more one subspecies have become wild in the country, introduced from Europe: *P. angustifolia* L. [= *P. pratensis* subsp. *angustifolia* (L.) Lej.], *P. annua* L., *P. bulbosa* L., *P. compressa* L., *P. nemoralis* L., *P. pratensis* L. and *P. trivialis* L.

Jan Svatopluk Presl (1830) described two new species for Chile: *P. secunda* J. Presl and *P. holciformis* J. Presl, both based on materials collected by Tadeus P. Haenke in "Cordilleras de Chile", in his expedition during the years 1793 and 1794, approximately. Although *P. secunda* is based on a type collected in Chile, recent molecular studies suggest that it may have originated in North America (Soreng & Gillespie 2018), probably from California (www.tropicos.org 2021).

Between 1826 and 1831, the English naturalist Hugh Cuming made extensive collections of plants in Chile (Marticorena 1995), including the type of *P. cumingii* Trin., an endemic species of Chile, described by Carl B. von Trinius in 1836.

In 1854, Ernst G. von Steudel cites 23 species for Chile, of which nine are new to science (Steudel 1853-55): *Poa lepida* Nees (= *P. lanuginosa* Poir.), *P. lanigera* Nees (not currently recognized in Chile), *P. eriophora* Steud. (possibly = *P. paposana*), *P. obvallata* Steud. (= *P. tristigmatica* E. Desv.), *P. pachypogon* Nees (= *P. tristigmatica*), *P. chilensis* Trin. (= *P. holciformis*), *P. koelerioides* Trin. (= *Rhombolytrum koelerioides* (Trin.) L.N. Silva), *P. danthonioides* Steud. (probably = *R. koelerioides*), *P. tumidula* Steud. (= *R. rhomboideum* Link), *P. secunda*, *P. aestivalis* J. Presl (= *P. annua*), *P. andina* Trin. (= *Nicoraepoa andina* (Trin.) Soreng & L. J. Gillespie), *P. fulvescens* Trin. (= *P. secunda* susbp. *secunda*), *P. conformis* Nees ex Steud. (= *P. cumingii*), *P. curva* Nees (= *P. cumingii*), *P. tricolor* Nees (= *P. lanuginosa*?), *P. denudata* Steud., *P. vaginiflora* Steud. (= *P. denudata*), *P. tenuiculmis* Steud. (= *R. koelerioides*), *P. ariguensis* Steud. (= *P. trivialis*), *P. conceptionis* Steud. (= *Eragrostis polytricha* Nees), *P. holciformis*, *P. cumingii* and *P. scaberula* Hook. f.

The French botanist Étienne-Émile Desvaux (1854) recognized 18 species of *Poa*, three of which are new to Chilean flora: *P. acinaciphylla* E. Desv., *P. chorizantha* E. Desv. (= *P. stenantha* Trin.) and *P. tristigmatica* E. Desv. Desvaux

separated the species into two groups (sections) that he named 1. "*Eupoa*" - with hermaphroditic flowers, in which he included *P. annua*, *P. infirma*, *P. chorizantha*, *P. stenantha*, *P. nemoralis*, *P. pratensis*, *P. holciformis*[1] and *P. acinaciphylla* and 2. "*Dioicopoa*" - dioecious species, in which it includes *P. bonariensis*, *P. fulvescens* (= *P. secunda* var. *secunda*), *P. chilensis* (= *P. holciformis*), *P. gayana* (= *P. denudata*), *P. sellowii* (species from Brazil and Uruguay, rejected from the Chilean flora), *P. pallens* (= *P. bonariensis*), *P. tristigmatica*, *P. lanuginosa* and *P. alopecurus*.

In 1859 the German naturalist Rudolfo A. Philippi described two species new to Chile: *P. modesta* Phil. (= *P. trivialis*), non *P. modesta* Tuck. 1843, and *P. chiloensis* Phil. (= *P. denudata*).

In 1881 his son, Federico Philippi, cataloged the presence of 41 species of *Poa* in Chile, including this genus among the most diverse of the country's flora.

Later, in 1896, R. A. Philippi described 15 new taxa of the genus *Poa* for Chile: *P. araucana* Phil. (= *P. denudata*), *P. borchersi* Phil. [= *Nicoraepoa andina* (Trin.) Soreng & Gillespie var. *chonotica* (Phil.) Finot, Soreng & Giussani], *P. chilensis* Trin. var. *oligoclada* Phil. (= *P. holciformis*), *P. dialystostachya* Phil. (= *P. paposana* Phil.), *P. eremophila* Phil. (= *Puccinellia frigida* (Phil.) I.M. Johnst.), *P. ibarii* Phil. [= *P. spiciformis* (Steud.) Hauman var. *ibarii* (Phil.) Giussani], *P. maullinica* Phil. (=*P. trivialis* L.), *P. paposana* Phil., *P. patagonica* Phil. [= *P. lanuginosa* Poir. var. *patagonica* (Phil.) Giussani & Soreng], *P. pycnantha* Phil. (= *Eragrostis pycnantha* (Phil.) Parodi ex Nicora), *P. schoenoides* Phil. (application uncertain), *P. stachyodes* Phil. (=*P. cumingii*), *P. villaroelii* Phil. (= *P. acinaciphylla* E. Desv.), *P. subaristata* Phil. (= *P. ovallata*) and *P. chilensis* Trin. var. *robustior* Phil. (= *P. holciformis*).

Eduard Hackel in P. Dusén (1900) described a new Patagonian species for Chile, *P. atropidiformis* Hack. and transferred *Festuca fuegiana* Hook.f. to the genus *Poa*: *P. fuegiana* (Hook.f.) Hack. [= *P. alopecurus* subsp. *fuegiana* (Hook.f.) D. M. Moore & Dogg.]. Later, Hackel (1911) described three new species for Chile: *P. acrochaeta* Hack. [= *Nicoraepoa andina* (Trin.) Soreng & L.J. Gillespie], based on a specimen collected in the volcano Peteroa, Region of Maule; *P. ayseniensis* Hack. (= *P. glauca* Vahl) and *P. trachyantha* (= *P. yaganica* Speg.), both based on plants collected in Aysén.

The German botanist Robert Pilger (1913) described 4 species new to science and gave a new name, *Poa fallens* Pilg. to *Festuca patagonica* Phil. 1896 (non *Poa patagonica* Phil. 1896) (= *Poa secunda* J. Presl). The new species described by Pilger, based on material collected by K. Skottsberg in southern Patagonia and Tierra del Fuego are *P. acutissima* Pilg. [= *Nicoraepoa pugionifolia* (Speg.) Soreng & L.J. Gillespie], *P. breviculmis* Pilg. (= *P. yaganica* Speg.), *P. decolorata* Pilg. [= *P. ligularis* Nees var. *resinulosa* (Nees) Fern. Pepi & Giussani] and *P. limicola* (= *P. yaganica*).

Friedrich Johow (1896) in his study on the flora of Juan Fernández, mentions the presence of *P. annua* L. introduced on the Robinson Crusoe island (Más a Tierra island). Subsequently, the Swedish naturalist Carl Skottsberg cites for Juan Fernández two introduced species (Skottsberg 1921): *Poa annua*, in Robinson Crusoe and Alejandro Selkirk island (Más Afuera island) and *P. pratensis* in Alejandro Selkirk island; both species were cited for the archipelago also by Matthei *et al*. (1993), Marticorena *et al*. (1998) and Baeza *et al*. (2002, 2007).

In 1896, Carlos Spegazzini reported the presence of eight species of *Poa* in the Tierra del Fuego archipelago, including a new species for science: *P. yaganica* Speg. The other species present are *P. annua*, *P. pratensis*, *P. scaberula* Hook.f., *P. caespitosa* (Forst.) Hook. ex Speg. [= *P. flabellata* (Lam.) Raspail.], *P. controversa* Steud. (= *P. flabellata*), *P. robusta* Steud. [= *Nicoraepoa robusta* (Steud.) Soreng & L. J. Gillespie] and *P. magellanica* Phil. [= *P. alopecurus* (Gaudich. ex Mirb.) Kunth].

George Macloskie in his expedition to Patagonia between 1895-97 (Macloskie 1903-06 [1904]), cites 29 species of *Poa* for the Patagonia of Chile and Argentina; he mentions for Chile *P. alopecurus*, *P. annua*, *P. chilensis* Trin. (= *P. holciformis*), *P. commersoni* Franch. (=*P. alopecurus*), *P. denudata*, *P. forsteri* Steud. (=*P. flabellata*), *P. fuegiana* (= *P. alopecurus* subsp. *fuegiana*), *P. ibari* Phil. (=*P. spiciformis* var. *ibari*), *P. lanigera*, *P. magellanica* Phil. (= *P. lanuginosa*), *P. nemoralis* L., *P. pratensis*, *P. pratensis* subsp. *oligeria* (=*P. pratensis* subsp. *alpigena*), *P. robusta* (=*Nicoraepoa robusta*), *P. scaberula*, *P. stenantha* y *P. yaganica*.

The Catalogue of the vascular flora of Chile published by Marticorena & Quezada (1985) reported the presence of 65 species and one subspecies of the genus *Poa* s.s. in Chile, of which 5 are considered introduced: *P. annua*, *P. nemoralis*, *P. palustris*, *P. pratensis* and *P. trivialis*. They also included *Anthochloa lepidula* Nees & Meyen (= *Poa lepidula*) and *Dissanthelium calycinum* (J. Presl) Hitchc. [= *P. calycina* (J. Presl) Kunth]; this last species has been excluded from the Chilean flora (Refulio-Rodríguez *et al*. 2012). Many of the species cited in this catalog were later included as synonyms of other species of *Poa* or related genera, while the presence of other species is currently considered uncertain for Chile. Thus, in the Catalogue of vascular plants of Chile (Rodríguez *et al*. 2018) 46 species of *Poa* were cited for Chile.

[1]We currently know that *Poa holciformis* is dioecious.

Reproductive systems in the Chilean species of *Poa*

Various reproductive systems occur in *Poa*, including both monoclinous and diclinous species (Soreng *et al*. 2020b). Most have hermaphrodite flowers; dicliny is represented in 25-30% of the species of the genus, that is, some 116 species (Giussani *et al*. 2016; Soreng *et al*. 2020b); they produce functionally unisexual flowers, in the same or different individuals (Soreng *et al*. 2020a). Chilean diclinous species can be dioecious, gynodioecious, or gynomonoecious.

In Chile, 17 species have hermaphrodite (monoclinous) flowers. This reproductive system occurs in most of the introduced species (*P. bulbosa*, *P. compressa*, *P. glauca*, *P. nemoralis*, *P. palustris*, *P. pratensis*, *P. secunda*, *P. stenantha* and *P. trivialis*) as well as in 8 native species (*P. acinaciphylla*, *P. atropidiformis*, *P. darwiniana*, *P. flabellata*, *P. hachadoensis*, *P. marticorenae*, *P. mendocina*, and *P. scaberula*). Most of these species are plants from the center and south of the country.

Eleven species are dioecious, that is, staminate flowers and pistillate flowers are found on different plants. *Poa alopecurus*, *P. cumingii*, *P. denudata*, *P. gayana*, *P. holciformis*, *P. lanuginosa*, *P. ligularis*, *P. tristigmatica*, *P. paposana*, *P. pfisteri* Soreng and *P. scipiformis* are dioecious. These species are mainly distributed in the south-central zone of the country; the northern limit is established by *P. paposana* on the coast of the Antofagasta region. The three endemic species (*P. cumingii*, *P. paposana* and *P. pfisteri*) also present this reproductive system.

Ten species are gynomonoecious, two introduced (*P. annua*, *P. infirma*), and eight native (*P. grisebachii*, *P. humillima*, *P. kurtzii*, *P. laetevirens*, *P. lepidula*, *P. macusaniensis*, *P. pearsonii* and *P. serpaiana*). Native gynomonoecious species are restricted to the North of the country. *Poa grisebachii* (and possibly *P. androgyna*) has mixture of sexes within and between plants indicative of sequentially adjusted gynomonoecy (Soreng & Keil 2004), whereas the others have proximal perfect and distal pistillate florets within spikelets.

Three species are gynodioecious: *P. lilloi*, *P. planifolia* and *P. yaganica*. This system has been developed in species from both the north (*P. lilloi*) the center (*P. planifolia*) and the south (*P. yaganica*) of the country. *Poa gymnantha* and *P. perligulata* are apomictic, in which only the pistillate form is known (Negritto *et al*. 2008).

Pseudovivipary, is relatively frequent in *Poa*. Three species growing in Chile are pseudoviviparous, one introduced (*P. bulbosa* var. *vivipara*) and two native (*P. alopecurus* subsp. *fuegiana* and *P. tristigmatica*). In the spikelets of pseudoviviparous species, leafy shoots are produced instead of normal florets as a reproductive strategy under adverse climatic conditions at high latitudes, as occurs in the extreme southern part of the country (Moore & Dogget 1976; Elmqvist & Cox 1996; Vega & Rúgolo 2006), or Mediterranean climates for *Poa bulbosa*. Occasionally, species living in temperate environments can present proliferating spikelets in response to some stress conditions (Vega & Rúgolo 2006), as occurs in *Poa iridifolia* Hauman, so far not found in Chile (Giussani *et al*. 2012).

Infrageneric clasification of the Chilean species of *Poa*

The first author to subdivide the genus *Poa* was Dumortier (1824), who grouped the species into six sections (*Megastachya*, *Hydropoa*, *Spizopoa*, *Stenopoa*, *Homalopoa* and *Sclerochloa*). These sections were not recognized by Desvaux (1854), who proposed the sections *Eupoa* (invalid) and *Dioicopoa* E. Desv., to group hermaphroditic and dioecious species, respectively. In sect. *Eupoa*, Desvaux included eight species in two groups: 1) With subspiciform panicles: *P. scaberula* and 2) with loose panicles: *P. annua*, *P. infirma*, *P. chorizantha* E. Desv. (= *P. stenantha*), *P. stenantha*, *P. nemoralis*, *P. pratensis*, *P. holciformis* and *P. acinaciphylla*. In sect. *Dioicopoa* he included nine species: *P. bonariensis*, *P. fulvescens* Trin.[2] (= *P. secunda*), *P. chilensis* Trin. (= *P. holciformis*), *P. gayana*, *P. sellowii* (excluded from Chile), *P. pallens* (= *P. bonariensis*), *P. tristigmatica*, *P. lanuginosa* and *P. alopecurus*.

In Flora Patagonica, Nicora (1978) mentioned 49 species for the Argentine Patagonia. She explicitly cited the following species for Chile: *P. alopecurus*, *P. ampla* (= *P. secunda*), *P. andina* Trin. (= *Nicoraepoa andina* (Steud.) Soreng & L.J. Gillespie subsp. *andina*), *P. borchersii* Phil. (= *Nicoraepoa andina* subsp. *chonotica* (Phil.) Finot, Soreng & Giussani), *P. chrysantha* (= *P. yaganica*), *P. darwiniana*, *P. hachadoensis*, *P. holciformis*, *P. ibari* (= *P. spiciformis* var. *ibari*), *P. lanuginosa*, *P. nemoralis*, *P. oligeria* (= *P. pratensis* subsp. *alpigena*), *P. patagonica* var. *patagonica* (= *P. lanuginosa* var. *patagonica*), *P. poecila* (= *P. spiciformis*), *P. pogonantha* (= *P. alopecurus* subsp. *fuegiana*), *P. rigidifolia* (= *P. alopecurus*), *P. robusta* Steud. (= *Nicoraepoa robusta* (Steud.) Soreng & L.J. Gillespie), *P. scaberula*, *P. secunda*, *P. shuka* (= *P. alopecurus* subsp. *shuka*), *P. stenantha*, *P. subenervis* Hack. var. *subenervis* (= *Nicoraepoa subenervis* (Hack.) Soreng & L.J. Gillespie), *P. superbiens* (= *P. alopecurus* subsp. *fuegiana*) and *P. tristigmatica*.

Moore (1983) separated the species of Tierra del Fuego into three subgenera [*Poa*, *Andinae* Nicora, and *Dioicopoa* (E. Desv.) J. R. Edm.]. In the subgenus *Poa* (with hermaphroditic flowers) he added five species to those previously recognized by Desvaux (1854), *P. oligeria* (= *P. pratensis* subsp. *alpigena*), *P. yaganica*, *P. atropidiformis*, *P. darwiniana* and *P. flabellata*.

[2]*Poa fulvescens* Trin. is a synonym of *P. secunda*, which has hermaphroditic flowers. Curiously, Desvaux (1854) places it in *Dioicopoa* and gives the description of a plant with pistillate spikelets (dioecious).

In subg. *Andinae* (gynodioecious plants), now placed in the genus *Nicoraepoa* (Soreng & Gillespie 2007), he included *P. robusta* Steud. (= *Nicoraepoa robusta*) in which he included *P. pugionifolia* as "*P. pungionifolia*" (= *N. pugionifolia*). In subg. *Dioicopoa* (dioecious plants) he included *P. alopecurus* (subsp. *alopecurus* and subsp. *fuegiana*), *P. rigidifolia* (= *P. alopecurus*), *P. poecila* (*P. spiciformis* var. *ibari*), *P. shuka* (= *P. alopecurus* subsp. *shuka*) and *P. patagonica* Phil. (= *P. lanuginosa* var. *patagonica*).

Soreng & Peterson (2008) described a new species, *P. pfisteri* Soreng, assigned to sect. *Madropoa* and provided a key to identify most of the known species in Chile.

Giussani *et al*. (2012) in Flora Argentina cited the following species for Chile: *P. alopecurus* (subsp. *alopecurus* and subsp. *fuegiana*), *P. annua*, *P. atropidiformis* var. *atropidiformis*, *P. calchaquiensis*[3], *P. denudata*, *P. gymnantha*, *P. holciformis*, *P. humillima*, *P. laetevirens*, *P. lanuginosa* (var. *lanuginosa* and var. *patagonica*), *P. lepidula*, *P. obvallata* (= *P. tristigmatica*), *P. pearsonii*, *P. planifolia*, *P. pratensis* subsp. *alpigena*, *P. secunda* subsp. *secunda*, *P. stenantha* and *P. yaganica*.

Based on these works and other recent publications (Gillespie & Soreng 2005; Giussani *et al*. 2016), the classification of the species that grow in Chile is shown in Table 1.

Table 1. Infrageneric classification of the species of *Poa* growing in Chile. / Clasificación infragenérica de las especies de *Poa* que crecen en Chile.

Subg.	Supersect.	Sect.	Especies
I. Ochlopoa		1. Micrantherae	*Poa annua*, *P. infirma*
		2. Arenariae	*P. bulbosa* var. *vivipara*
		3. Parodiochloa	*P. flabellata*
II. Poa	Homalopoa	Informal group "Punapoa"	*P. gymnantha*, P. *perligulata*, *P. humillima*
		4. Anthochloa	*P. lepidula*
		5. Dissanthelium	*P. macusaniensis*, *P. serpaiana*
		6. Homalopoa s.l.	*P. atropidiformis*, *P. grisebachii*, *P. kurtzii*, *P. lilloi*, *P. pearsonii*
		7. Acutifoliae	*P. acinaciphylla*, *P. planifolia.*
		8. Dasypoa	*P. darwiniana*, *P. laetevirens*, *P. scaberula*
		9. Dioicopoa	*P. alopecurus*, *P. cumingii*, *P. denudata*, *P. holciformis*, *P. lanuginosa*, *P. ligularis*, *P. tristigmatica*, *P. paposana*, *P. spiciformis*
		10. Madropoa	*P. pfisteri*
	Poa	11. Poa	*P. pratensis*, *P. yaganica*
		Incertae sedis	*P. hachadoensis*, *P. marticorenae*, *P. mendocina*
III. Stenopoa		12. Stenopoa	*P. glauca*, *P. nemoralis*, *P. palustris*
		13. Tichopoa	*P. compressa*
		14. Pandemos	*P. trivialis*
IV. Secundae		15. Secundae	*Poa secunda*, *P. stenantha*

[3]We have not found Chilean materials of this species to confirm its presence in Chile.

MATERIALS AND METHODS

This study is based on the revision of herbarium specimens from CONC, L, SGO, SI, US (Thiers 2019). Types specimens and images of the types in B, BAA, K, P, SI, TUB, US available in JSTOR (https://plants.jstor.org) were also studied. An index of the specimens examined and a list of all the names mentioned in the text are given in Appendices 1 and 2, respectively. Type materials are cited indicating their herbarium number, which, when it corresponds to a barcode, is indicated as "*bc-*". In the additional materials examined, specimens are cited according to their presence in the administrative regions of Chile in latitudinal order from north to south. The regions Region of Libertador General Bernardo O'Higgins, Region of Aysén del General Carlos Ibañez del Campo and Region of Magallanes y Antártica Chilena are referred to as Region of O'Higgins, Region of Aysén and Region of Magallanes, respectively. In the morphological descriptions, the length given for florets was usually taken from the first or lowest floret, from the callus to the apex, excluding the mucro or awn, if present. For the analysis of potential distribution of the native species, 1420 collection data were recorded in the database of the Herbarium of the University of Concepción (CONC), of which only those collected from 1950 onwards were selected; those located at a distance less than 5 km from each other were eliminated, leaving 513 specimens. Initially, the selected records and 19 WorldClim variables were used, with a resolution of 30 arc seconds (Hijmans *et al*. 2005); for the selection of variables, Jacknife analysis was performed with MaxEnt ver. 3.4.1 (Phillips *et al*. 2019) and the variables with the greatest contribution to the model were identified. Three independent distribution analyses were carried out for the main distribution centers of the genus in Chile, northern zone (13 taxa, 54 individuals), central zone (6 taxa, 93 individuals) and southern zone (18 taxa, 365 individuals). With the DivaGis program, maps were constructed with data on presence, species richness and potential distribution.

RESULTS

Morphological variation of the genus *Poa* in Chile

Life cycle. Most of the species that grow in Chile are perennial. Only *P. annua*, *P. infirma*, *P. macusaniensis* and *P. serpaiana* are annuals. The first two are European plants introduced in central and southern Chile or in northern Chile throughout the Andes (*P. annua*); the last two are species, previously classified in the genus *Dissanthelium*, from the extreme north of the country.

Habit. The plants are generally caespitose; some species have well-developed rhizomes or stolons, or stool in some situations, such as *P. acinaciphylla*, *P. darwiniana*, *P. cumingii*, *P. pratensis*, among others.

Height of the plants. Some species are represented by dwarf plants, such as *P. darwiniana* (2-10 cm), *P. humillima* (1.5-2.5 cm), *P. lepidula* (2-5 cm), *P. macusaniensis* (2-5 cm), *P. perligulata* (2.5-7 cm) and *P. serpaiana* (3-7.5 cm). Most of the species are medium-sized plants, but *P. flabellata* can reach 150-200 cm tall.

Leaves. In *Poa* the herbaceous (or infrequently hyaline) sheath margins are fused usually between 5 and 75% of their length (infrequently to near the top). The blades are keeled, flat or folded, often with slightly to strongly involute margins, the adaxial surface usually has two median grooves, thes flanking the mid-rib.

Ligule. In *Poa* the ligule is membranous; in some species is truncate, very short, as in *P. lepidula* (0.1-1.5 mm), obtuse, acute, or long and acuminate as in *P. lanuginosa* (5-17 mm). The upper margin may be minutely ciliolate or glabrous, and the abaxial surface can be smooth, scabrous, or puberulent.

Inflorescences. The inflorescence is a panicle that can be lax, open to pyramidal or contracted to spiciform. Most of the species have a contracted to subspiciform panicle; *Poa annua*, *P. glauca*, *P. grisebachii*, *P. hachadoensis*, *P. infirma*, *P. kurtzii*, *P. lilloi*, *P. marticorenae*, *P. nemoralis*, *P. palustris*, *P. pearsonii*, *P. pfisteri*, *P. pratensis*, *P. stenantha* and *P. trivialis* have a lax, open, wide, panicle. The shortest panicles are found in *P. humillima*, *P. perligulata*, *P. serpaiana*, *P. macusaniensis* (0.5-1.5 cm long) and the largest in *P. flabellata*, *P. lanuginosa*, *P. nemoralis*, *P. palustris* and *P. trivialis* (5-20 cm long).

Spikelets. Most Chilean species have 2-3-flowered spikelets, but the number of florets can vary widely; in some species (e.g., *P. acinaciphylla*, and rarely *P. nemoralis*) there may be 1-2-flowered spikelets while in other species (e.g., *P. lanuginosa*, *P. ligularis*) there may be up to 9 or 10 flowers per spikelet. The shortest spikelets are found in *P. scaberula* (2.1-3 mm), *P. serpaiana* (2.5-3.4 mm) and the longest in *P. tristigmatica* (7.5-13 mm) and *P spiciformis* (8-11 mm).

Glumes. In most of the species the glumes are shorter than the adjacent florets; in *P. macusaniensis* and *P. serpaiana* glumes are longer than the adjacent florets and completely cover the spikelet. In general, the glumes cover ½ of the length of the spikelet, but in some species such as *P. humillima* and *P. laetevirens* they are very short, covering approximately 1/3 of the length of the spikelet. Glumes approximately as long as the adjacent florets but shorter than all of them are found in

P. atropidiformis and *P. scaberula*. In most species the lower glume is shorter and narrower than the upper glume, except in *P. atropidiformis*, *P. darwiniana* and *P. perligulata* where the lower glume is equal in width and length to the upper glume.

Lemmas. Lemmas are similar in texture to glumes or slightly firmer, usually keeled and with the apex obtuse to acute, exceptionally ending in a short mucro (*P. flabellata*, *P. darwiniana*); the lemmas are lanceolate to oval-lanceolate, except in *P. lepidula* which has flabelate lemmas; usually the lemmas are 5-veined, with intermediate veins obscure to prominent, exceptionally they have 7-9 nerves; in the pistillate florets of dioecious species, the marginal veins and the keel are usually ciliate.

Callus. The callus can be glabrous or hairy; when hairy, the hairs may be shorter or longer than the floret; the hairs can be woolly, rigid or flexuous, sometimes they are folded, sometimes curved at the apex, arranged in a single dorsal fascicle or one dorsal and two marginal fascicles of 1 to many hairs, or finally, forming a crown around the callus; in other species the callus is glabrous, as in *P. grisebachii*, *P. lilloi*, *P. androgyna*, *P. pearsonii*, among others. The callus is not at all thickened or elongated (versus *Festuca*). The callus is somewhat laterally pinched-in dorsally in most species, but is terete in some (e.g. *P. secunda*).

Rachilla. The rachilla internodes are terete in cross-section (unlike those of *Festuca*, which are somewhat compressed), and with smooth, bumpy, scabrous, hispidulous or pilulose surfaces. The uppermost section extends beyond the base of the upper floret often terminating in a rudimentary floret.

Origin and geographical distribution

Eleven introduced species were identified: *Poa annua*, *P. bulbosa* var. *vivipara*, *P. compressa*, *P. glauca*, *P. infirma*, *P. nemoralis*, *P. palustris*, *P. pratensis*, *P. secunda*, *P. stenantha* and *P. trivialis*. Most are native to Eurasia (*P. annua*, *P. compressa*, *P. glauca*, *P. infirma*, *P. nemoralis*, *P. pratensis*); *P. trivialis* is native to Europe, West Asia and North Africa, now widely distributed throughout the world (Soreng 2007). *Poa secunda* and *P. stenantha* have disjunct distribution, being distributed in North America and in the Patagonia of Chile and Argentina (Kellogg 1985; Soreng & Gillespie 2018); recent molecular phylogenetic studies suggest that both species arrived from North America (Soreng & Gillespie 2018).

In Chile, *Poa* is found throughout the entire country, from 17°38' S in the Tacora Volcano, Parinacota Province (e.g. *P. lepidula*) to 64°49' S in the Chilean Antarctic Territory (*P. annua*). Altitudinally, species have been recorded from sea-level (e.g. *P. cumingii*, *P. lanuginosa*), to around 5000 m (e.g. *P. kurtzii*, *P. lepidula*, *P. lilloi*). The distribution by administrative region throughout the country is as follows:

Arica and Parinacota Region: *P. grisebachii*, *P. gymnantha*, *P. humillima*, *P. kurtzii*, *P. laetevirens*, *P. lepidula*, *P. lilloi*, *P. macusaniensis*, *P. pearsonii*, *P. perligulata*, *P. serpaiana*.

Tarapacá Region: *P. annua*, *P. gymnantha*, *P. kurtzii*, *P. laetevirens*, *P. perligulata*, *P. grisebachii*.

Region of Antofagasta: *P. annua*, *P. humillima*, *P. lepidula*, *P. paposana*, *P. parviceps*.

Atacama Region: *P. pratensis*.

Coquimbo Region: *P. annua*, *P. cumingii*, *P. denudata*, *P. holciformis*, *P. infirma*, *P. lanuginosa*, *P. paposana*, *P. pratensis*.

Valparaíso Region: *P. acinaciphylla*, *P. annua*, *P. cumingii*, *P. denudata*, *P. lanuginosa*, *P. tristigmatica*, *P. planifolia*, *P. pratensis*, *P. secunda*, *P. trivialis*.

Metropolitan Region: *P. acinaciphylla*, *P. annua*, *P. denudata*, *P. holciformis*, *P. mendocina*, *P. planifolia*, *P. pratensis*, *P. secunda* subsp. *secunda*.

O'Higgins Region: *P. denudata*, *P. holciformis*, *P. lanuginosa*, *P. marticorenae*, *P. tristigmatica*, *P. pratensis*, *P. secunda*, *P. trivialis*.

Maule Region: *P. annua*, *P. cumingii*, *P. denudata*, *P. holciformis*, *P. lanuginosa*, *P. ligularis*, *P. tristigmatica*, *P. pratensis*, *P. spiciformis*, *P. trivialis*.

Ñuble Region: *P. annua*, *P. cumingii*, *P. denudata*, *P. holciformis*, *P. lanuginosa*, *P. tristigmatica*, *P. palustris*, *P. pratensis*, *P. stenantha*, *P. trivialis*.

Biobío Region: *P. annua*, *P. cumingii*, *P. denudata*, *P. hachadoensis*, *P. lanuginosa*, *P. pfisteri*, *P. pratensis*, *P. secunda* subsp. *juncifolia*, *P. trivialis*.

Araucanía Region: *P. alopecurus* subsp. *alopecurus*, *P. alopecurus* subsp. *fuegiana*, *P. annua*, *P. cumingii*, *P. denudata*, *P. hachadoensis*, *P. holciformis*, *P. lanuginosa*, *P. nemoralis*, *P. tristigmatica*, *P. pratensis*, *P. stenantha*, *P. trivialis*.

Los Ríos Region: *P. alopecurus* subsp. *alopecurus*, *P. alopecurus* subsp. *fuegiana*, *P. annua*, *P. cumingii*, *P. denudata*, *P. tristigmatica*, *P. pratensis*, *P. stenantha*, *P. trivialis*.

Los Lagos Region: *P. alopecurus* subsp. *alopecurus*, *P. annua*, *P. denudata*, *P. nemoralis*, *P. tristigmatica*, *P. pratensis*, *P. trivialis*.

Aysén Region: *P. alopecurus* subsp. *alopecurus*, *P. alopecurus* subsp, *fuegiana*, *P. annua*, *P. denudata*, *P. glauca*, *P. lanuginosa* var. *patagonica*, *P. ligularis* var. *ligularis*, *P. ligularis* var. *resinulosa*, *P. nemoralis*, *P. tristigmatica*, *P. pratensis*, *P. scaberula*, *P. secunda*, *P. spiciformis* var. *spiciformis*, *P. stenantha*, *P. trivialis*.

Magallanes Region: *P. alopecurus* subsp. *alopecurus*, *P. alopecurus* subsp. *fuegiana*, *P. alopecurus* subsp. *shuka*, *P. annua*, *P. atropidiformis* var. *patagonica*, *P. bulbosa* var. *vivipara*, *P. compressa*, *P. darwiniana*, *P. flabellata*, *P. glauca*, *P. lanuginosa* var. *lanuginosa*, *P. lanuginosa* var. *patagonica*, *P. nemoralis*, *P. palustris*, *P. pratensis* subsp. *alpigena*, *P. pratensis* subsp. *pratensis*, *P. scaberula*, *P. secunda* subsp. *juncifolia*, *P. secunda* subsp. *secunda*, *P. spiciformis* var. *ibari*, *P. spiciformis* var. *spiciformis*, *P. trivialis*, *P. yaganica*.

The native species are distributed in the subregions (according to Cabrera & Willink 1973) 1) of the Puna (13 spp., 17°38' - 22°55' S, between 3300 y 5000 m), 2) Chilena Central (11 spp., 30-33° S, from the see level to 3500 m) and 3) Subantartic (18 spp., 34-56° S, from the see level to 2000 m). Respect to the macroclimates according to Luebert & Pliscoff (2017), the distribution is similar: Tropical (13 spp.), Mediterranean (14 spp.) and Temperate (14 spp.), while in the Antiboreal macroclimate only *P. flabellata* and *P. darwiniana* are found. Eight species are common to the Mediterranean and Temperate macroclimates. Endemic species are exclusive to the Mediterranean macroclimate and are distributed in the WWF ecoregions (Olson *et al*. 2001) as follows: Chilean Matorral ecoregion: *P. paposana* and *P. cumingii*; Valdivian Temperate Forest ecoregion: *P. cumingii* and *P. pfisteri* (Finot *et al*. 2019).

The obtained models of potential distribution show that the best habitability of the species is found in three zones: 1. "Puna seca" ecoregion, between 3310-4925 m, 2. "Matorral chileno" ecoregion along the coast at sea level up to 820 m, and 3. "Estepa surandina" ecoregion, "bosque templado valdiviano" and "Bosque subpolar magallánico" from the sea level to 3500 m s.m. In the northern zone, the variables that most contribute to the potential distribution model are seasonal precipitation (37.6%) and average monthly temperature (26.2%). In the central zone, seasonal precipitation (38%) and precipitation of the warmest month (22.1%) contribute to the model. In the southern zone, the precipitation of the driest month (44.9%) and the precipitation of the wettest month (10%) are the variables that most contribute to explain its potential distribution (Fig. 1).

Taxonomic treatment

Poa L., Sp. Pl. 1: 67. 1753. *Paneion* Lunell, Amer. Midl. Naturalist 4: 221. 1915, nom. illeg. superfl.; *Panicularia* Heist. & Fabr., Enum. 207. 1759, nom. illeg. superfl.; *Poagris* Raf., Fl. Tellur. 1: 18. 1837, nom. illeg. superfl. TYPE: *Poa pratensis* L., Sp. Pl. 1: 67. 1753, lectotype designated by Nash 1913: 252.

Anthochloa Nees & Meyen, Reise Erde 2: 14. 1834; *Poa* sect. *Anthochloa* (Nees & Meyen) Soreng & L. J. Gillespie, Aliso 23: 431. 2007. TYPE: *A. lepidula* Nees & Meyen [= *Poa lepidula* (Nees & Meyen) Soreng & L. J. Gillespie, Aliso 23: 431. 2007].

Dissanthelium Trin., Linnaea 10(3): 305. 1836. TYPE: *D. supinum* Trin., Linnaea 10(3): 305. 1836. [= *Poa calycina* (J. Presl.) Kunth, Enum. Pl. 1: 326. 1833.].

Phalaridium Nees & Meyen, Gramineae: 29. 1841. TYPE: *Ph. peruvianum* Nees & Meyen, Gramineae: 29. 1841 [= *Poa serpaiana* Refulio, Syst. Bot. 37(1): 129. 2012].

Stenochloa Nutt., Proc. Acad. Nat. Sci. Philadelphia 4: 25. 1848. TYPE: *S. californica* Nutt., Proc. Acad. Nat. Sci. Philadelphia 4: 25. 1848 [= *Poa thomasii* Refulio, Syst. Bot. 37(1): 130. 2012].

Oreopoa Gand., Fl. Eur. 26: 186. 1891, nom. nud. [based in *P. alpina* L., Sp. Pl. 1: 67. 1753].

Dasypoa Pilg., Bot. Jahrb. Syst. 25(5): 716. 1898. TYPE: *D. tenuis* Pilg. [= *Poa scaberula* Hook. f., Fl. Antarct. 2: 378. 1846].

Aphanelytrum (Hack.) Hack., Oesterr. Bot. Z. 52: 12. 1902; *Brachyelytrum* subg. *Aphanelytrum* Hack., Nat. Pflanzenfam. 1: 42. 1897. TYPE: *A. procumbens* (Hack.) Hack., Oesterr. Bot. Z. 52: 13. 1902 [*Poa hitchcockiana* Soreng & P. M. Peterson, PhytoKeys 63: 111. 2016].

Graminastrum E. H. L. Krause, Beih. Bot. Centralbl. 32(2): 348. 1914. TYPE: *G. macusaniense* E. H. L. Krause, Beih. Bot. Centralbl., Abt. 2 32: 348. 1914 [= *Poa macusaniensis* (E. H. L. Krause) Refulio, Syst. Bot. 37(1): 129. 2012].

Libyella Pamp., Boll. Soc. Bot. Ital. 1925: 151. 1925. TYPE: *Libyella cyrenaica* (E.A. Durand & Barratte) Pamp. [= *Poa cyrenaica* E.A. Durand & Barratte].

Eremopoa Roshev., Fl. URSS 2: 429, 756. 1934. TYPE: *E. persica* (Trin.) Roshev. (= *Poa persica* Trin.).

Lindbergella Bor, Svensk Bot. Tidskr. 63: 368 1969; *Lindbergia* Bor, Svensk Bot. Tidskr. 62: 467. 1968, non Kindb. 1897. TYPE: *Lindbergella sintenisii* (H. Lindb.) Bor, Fl. Cyprus 63: 368 1969 [= *Poa sintenisii* H. Lindb.].

Austrofestuca (Tzvelev) E. B. Alexeev, Bjull. Moskovsk. Obac. Isp. Prir., Otd. Biol. 81(5): 55. 1976; *Festuca* subg. *Austrofestuca* Tzvelev, Bot. Zurn. (Mocow & Leningrad) 56(9): 1257. 1971. TYPE: *A. littoralis* (Labill.) E. B. Alexeev [= *Poa billarierei* St.-Yves].

Parodiochloa C. E. Hubb., Bull. Brit. Mus. (Nat. Hist.), Bot. 8: 395. 1981. TYPE: *P. flabellata* (Lam.) C. E. Hubb., Bull. Brit. Mus. (Nat. Hist.), Bot. 8: 396. 1981. [= *Poa flabellata* (Lam.) Raspail, Ann. Sci. Observ. 2: 86. 1829].

Tovarochloa T. D. Macfarl. & P. But, Brittonia 34(4): 478. 1982. TYPE: *T. peruviana* T. D. Macfarl. & P. But, Brittonia 34(4): 478. 1982 [*Poa apiculata* Refulio, Syst. Bot. 37(1): 131. 2012].

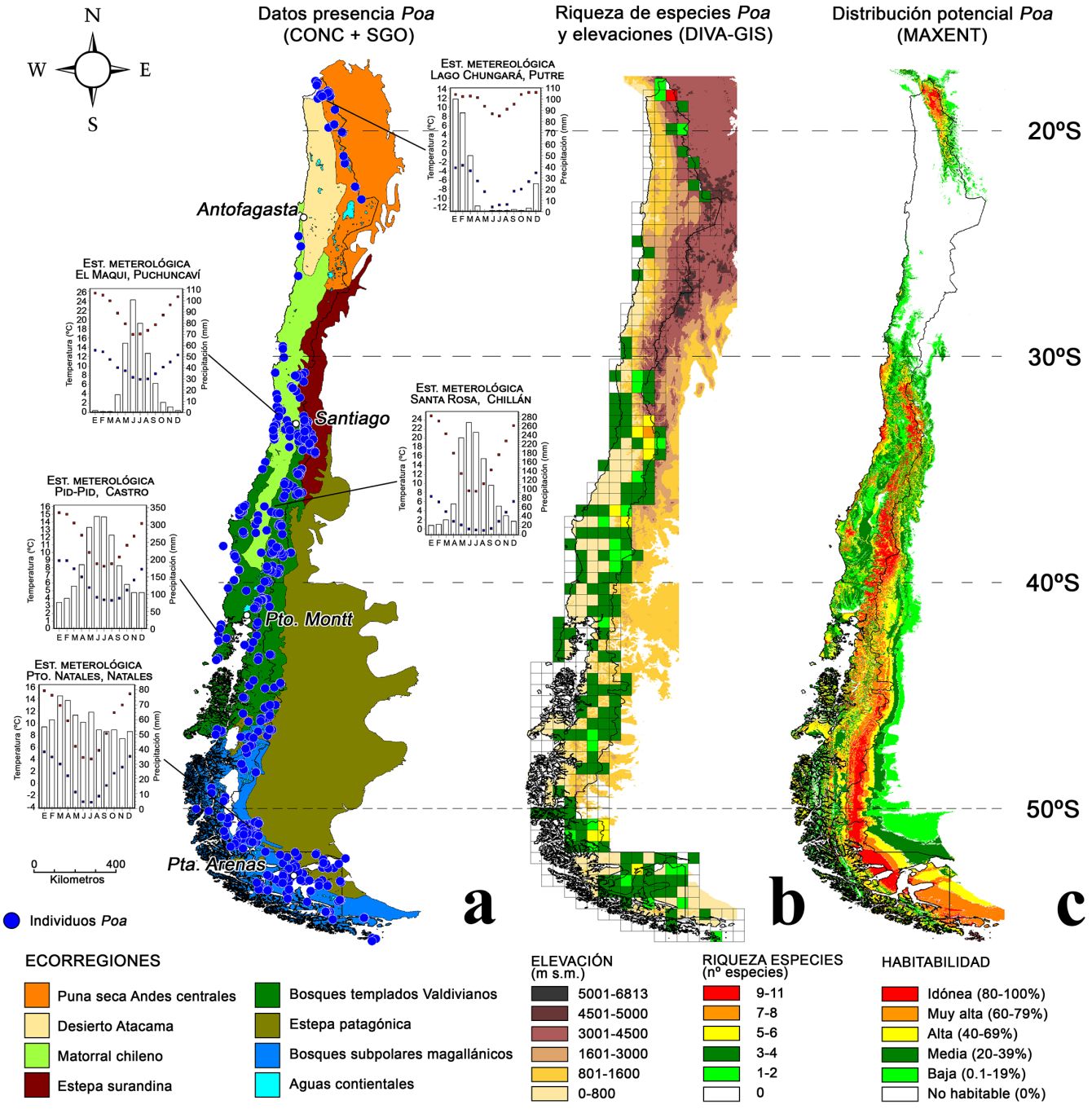

Figure 1. Current and potential distribution of native *Poa* species in the seven ecoregions of continental Chile. a. Presence data (collection points). b. Species richness. c. Potential distribution. / Distribución actual y potencial de las especies nativas de *Poa* en las siete ecorregiones de Chile continental. a. Datos de presencia (puntos de recolección). b. Riqueza de especies. c. Distribución potencial.

Neuropoa Clayton, Kew Bull. 49(4): 728. 1985. TYPE: *N. fax* (Willis & Court) Clayton (= *Poa fax* Willis & Court).

Tzvelevia E.B. Alexeev, Byull. Moskovsk. Obshch. Isp. Prir. Otd. Biol. 90(5): 103. 1985. TYPE: *T. kerguelensis* (Hook. f.) E.B. Alexeev, Byull. Moskovsk. Obshch. Isp. Prir. Otd. Biol. 90(5): 103. 1985 [=*Poa kerguelensis* (Hook. f.) Steud., Syn. Pl. Glumac. 1: 257. 1854].

Ochlopoa (Asch. & Graebn.) H. Scholz, Ber. Inst. Lanschafts-Pflanzenokologie Univ. Hohenheim Beih., 16: 58. 2003; *Poa* sect. *Ochlopoa* Asch. & Graebn., Syn. Mitteleur. Fl. 2: 387. 1900; TYPE: *O. annua* (L.) H. Scholz, Ber. Inst. Lanschafts- Pflanzenokologie Univ. Hohenheim Beih. 16: 58. 2003 [= *P. annua* L. Sp. Pl. 1: 68. 1753].

Plants herbaceous, annual or perennial; hermaphroditic, gynomonoecious, gynodioecious, dioecious, or pistillate apomictic; caespitose, often with rhizomes or stolons, forming loose or dense tufts, sometimes solitary; basal branching intravaginal and/or extravaginal. Culms 1-150(-200) cm tall. Leaf sheaths glabrous or scabrous, margins almost completely free to fused almost to the base of the blade, terete or compressed; ligules membranous, obtuse, acute, truncate to acuminate, the margin entire, lacerate or erose, never hairy, sometimes minutely ciliolate (as in *P. pratensis*, *P. glauca*, *P. nemoralis*); blades flat, folded, folded with involute margins, or involute, filiform or wide, tender herbaceous to coriaceous, glabrous or scabrous (infrequently pubescent), adaxially with 2-medial grooves flanking the central rib, without additional prominent grooves, without blocky ridges broader than the gaps between them, the apex usually prow-shaped, infrequently simply acute or acuminate. Inflorescences in loose or contracted panicles, sometimes spiciform (rarely racemes). Spikelets laterally compressed, more rarely subterete (e.g., *P. secunda*), lanceolate, sometimes ovate; florets (1-)2-6(-13); rachillas terete, sometimes prolonged beyond the distal floret, smooth, muriculate or scabrous, glabrous or rarely puberulent (e.g. *P. nemoralis*, sometimes *P. glauca*); disarticulation above the glumes and between the florets; florets bisexual or unisexual (pistillate or staminate), sometimes pseudoviviparous, forming leafy bulbils in place of flowers (e.g. *P. bulbosa* var. *vivipara*, *P. alopecurus* subsp. *fuegiana*, *P. tristigmatica*); glumes 2, persistent, herbaceous with a narrow scarious or hyaline margin, equal to or shorter than the contiguous florets, rarely longer than the spikelet (e.g. *P. serpaiana*, *P. macusaniensis*), keeled; lower glumes 1-3-veined, keeled; upper glumes usually 3-veined; lemmas lanceolate to oval-lanceolate, rarely flabelate (e.g., *P. lepidula*), 5-7(-11)-veined, intermediate veins obscure to prominent, the veins glabrous or pubescent, acute or obtuse, rarely bifid, bilobate (*P. lepidula*) or the apex 3-denticulate (ej. *P. macusaniensis*), muticous or with a mucro up to 4 mm long (ej. *P. flabellata*), surfaces smooth, scabrous or pubescent; callus blunt, slightly pinched-in dorsally or less often round, smoothly transitioning to the lemma (never annulate or angled), glabrous or hairy; callus hairs shorter or longer than the floret, woolly, stiff or flexuous, sometimes folded, sometimes curled at the apex, arranged in one dorsal or one dorsal and two marginal fascicles/tufts or as a crown around the sides and back of the callus; paleas 2-keeled, generally 2-toothed, free or attached to the caryopsis, from 2/3 to as long as the lemmas, the keels scabrous, or hairy proximally and scabrous distally, or smooth and puberulent to near the tips, lateral flanges narrower than the interkeel is wide, the interkeel thinly herbaceous, smooth or scabrous to puberulent proximally; lodicules 2, hyaline, usually with a lateral lobe or linear, glabrous; stamens 3 (rarely 1 or 2); dioecious plants with pistillate flowers bearing 3 short staminodes, and staminate flowers separated on different plants (pistillate plants only in some apomicts); gynodioecious plants with pistillate flowers bearing 3 large staminodes, and hermaphroditic flowers separated on different plants, or gynomonoecious plants with pistillate florets above perfect ones within spikelets, or sometimes among spikelets, and then pistillate florets and spikelets varying increasing in frequency in later development inflorescence in; or all plants hermaphroditic; ovaries glabrous, styles 2 and free (or partially fused at the base in *P. flabellata*). Caryopses subtrigonous, with the ventral face flattened; ventral sulcus more or less deep; hilum punctiform, round, oval or elliptical, less than 1/5 of the grain in length; endosperm solid, with lipid. Plants with C3 photosysthesis, XyMS+. Basic chromosome number x = 7, commonly tetraploids, hexaploids and octoploids, or forming polyploid series.

Poa is a cosmopolitan genus including more than 580 species from temperate and cold regions of both hemispheres throughout the world. It is found in a wide diversity of habitats, from wet grasslands to deserts and from the sea level to around 5000 m of altitude (Kellogg 1985). In Chile, 42 species, 5 subspecies and 5 varieties are found.

Key to the species of *Poa* in Chile

1. Lemmas ending in a strong, short mucro, or awn less than 5 mm long; densely scabrous over the entire surface; plants from coasts and/or remote islands in the extreme south of the country.

2. Plants forming large tussocks up to 250 cm tall, cespitose, without rhizomes; leaf sheaths with prickles and hairs; ligules 4-25 mm long; spikelets 5-8 mm long; lemmas 3.3-6.5 mm long; anthers 1.4-2.8 mm long ..... 4. ***P. flabellata***

2'. Plants forming small tufts, 2-10 cm tall, with stolons or rhizomes; leaf sheaths glabrous, without prickles or hairs; ligules 0.5-2 mm long; spikelets 3-4 mm long; lemmas 2.5-3.1 mm; anthers 0.25-0.4 mm long ..... 18. ***P. darwiniana***

1' Lemmas not ending in a mucro or apical awn; glabrous or pubescent, not densely scabrous or only scabrous along the keel and intermediate and marginal veins, or the veins puberulent, not scabrous; plants from the north, center and south of the country.

3. Plants annual, sometimes biennial; plants gynomonoecious, with pistillate florets above perfect florets or some or most flowers perfect within spikelets.

4. Glumes longer than the spikelet; palea keels glabrous and scabrous in part.

5. Lemmas lanceolate, with the apex 3-dentate, scabrous to puberulous; glumes lanceolate ..... 9. ***P. macusaniensis***

5'. Lemmas ovate, with the apex entire, glabrous; glumes ovate ..... 10. ***P. serpaiana***

4'. Glumes shorter than the spikelet; palea keels smooth and usually puberulent.

6. Rachilla internodes elongate, exposed in lateral view of the spikelet; anthers 0.1-0.55 mm long; panicle with ascending branches with the spikelets crowded on the branches ..... 2. ***P. infirma***

6'. Rachilla internodes not elongate, not exposed in lateral view of the spikelet; anthers 0.6-1.1 mm long; panicle with ascending or patent branches with spikelets scattered on the branches ..... 1. ***P. annua***

3'. Plants perennial, caespitose or producing rhizomes or stolons, sometimes with bulbous bases; plant hermaphroditic, pistillate, staminate, or with various arrangements of pistillate and perfect flowers within and among inflorescences.

7. Culms and vegetative shoots distinctly thickened at the base, bulb-like; plants with pseudoviviparous spikelets, with glumes and florets modified in foliaceous bracts, sometimes with a hermaphroditic flower below the bulbil, sometimes with some normal spikelets; plants wiafs from the southernmost part of the country ..... 3. ***P. bulbosa*** var. ***vivipara***

7'. Culms and vegetative shoots not thickened at the base; plants with normal spikelets, or pseudoviviparous in native dioecious species (*P. alopecurus* subsp. *fuegiana*, P. *tristigmatica*) from the southern part of the country.

8. Lemmas broadly flabelate, whitish-scarious, pluriveined, apex deeply bilobate ..... 8. ***P. lepidula***

8'. Lemmas lanceolate, oval-lanceolate or ovate, not flabelate, herbaceous to subcoriaceous with scarious to hyaline margins, with the apex entire or 2(-3)-dentate, never deeply bilobate.

9. Glumes (at least the second one) longer than the spikelet ..... 11. ***P. atropidiformis***

9'. Glumes shorter than the adjacent florets.

10. Gynomonoecious species – spikelets with basal florets perfect and distal florets pistilate or mixed, some spikelets pistilate, other mixed or hermaphrodite – or exclusively pistilate – staminate or hermaphroditic form unknown–; lemmas with callus, keel and lateral and marginal veins glabrous; fertil anthers usually 1 mm long or less.

11. Plants dwarf, less than 10 cm tall, with panicles usually spiciform; plants of the extreme north of the country.

12. Inflorescences spiciform 0.5-1 cm long; sheaths remarkably expanded, united at the base; ligules 0.5-2.2 mm; spikelets 2.5-4.5 mm; glumes somewhat unequal, thickened, up to 2 mm long; plants gynomonoecious ..... 6. ***P. humillima***

12'. Inflorescences contracted, with branches appressed or spiciform, 1-1.5 cm long; sheaths not remarkably expanded, not united at the base; ligules 1.5-6 mm long; spikelets 4-4.5 mm; glumes subequal, obtuses, 3 mm long; plants exclusively pistillate ..... 7. ***P. perligulata***

11'. Plants small to to medium-sized, usually 10-30 cm tall.

13. Panicles contracted to subspiciform.

14. Ligules 0.5-2 mm long; lower floret 2-2.5 (-3) mm long; plants gynomonoecious, 5-25(-30) cm tall, but usually less than 15 cm tall ..... 19. ***P. laetevirens***

14'. Ligules (1-) 3.5-7 mm long; lower floret 3.5-4.6 mm long; plants gynodioecious or exclusively pistillate, usually less than 30 cm tall ..... 5. ***P. gymnantha***

13'. Panicles lax.

15. Lemmas glabrous; glumes distinctly unequal; plants in an advanced stage of dicliny, with proximal florets perfect and distal florets morphologically perfect but functionally pistillate, with well developed or rudimentary sterile anthers ..... 12. ***P. grisebachii***

15'. Lemmas scabrous or scabrous-pilose in the lower half; glumes slightly unequal; spikelets with proximal florets perfect and distal florets pistillate with staminodes.

16. Ligules (2.5-)5-8 mm long; lemmas scabrous-piloses; inflorescences exceeding the foliage length ..... 13. ***P. kurtzii***

16'. Ligules 8-15 mm long; lemmas scabrous; inflorescences not exceeding the foliage length ..... 15. ***P. pearsonii***

10'. Dioecious species – pistillate and staminate flowers in different plants; pistillate and staminate plants usually with dimorphic spikelets; marginal veins of pistillate florets pubescent; callus glabrous or pubescent; staminate florets glabrous (except *P. holciformis* with pistillate and staminate florets entirely glabrous); pistillate plants with spikelets, glumes and flowering bracts larger than those of staminate plants; fertile anthers 1.5 mm long or more.

17. Plants with some or all spikelets pseudoviviparous.

18. Panicles lax, contracted to open, erect or nodding, with long branches; callus of the pistillate floret with long hairs, not curled, reaching or exceeding the apex of the floret or with shorter stiff hairs; lemmas lanceolate, acute; pistillate florets with the keel and marginal veins ciliate; ligules 1-4 mm long ..... 21b. ***P. alopecurus*** subsp. ***fuegiana***

18'. Panicles contracted, dense, ovoid, erect; callus of the pistillate with stiff hairs, reaching the middle of the floret or do not exceed its length; lemmas elliptical, with the keel and marginal veins glabrous in the pistillate and staminate florets; ligules 1.5-5(-9) mm long ..... 22. ***P. tristigmatica***

17'. Plants with normal spikelets, never pseudoviviparous.

19. Lemmas of the pistillate and staminate florets completly glabrous ..... 23. ***P. holciformis***

19'. Lemmas of the pistillate florets with callus, keel and marginal veins hairy; lemmas of the staminate florets glabrous or sparsely hairy.

20. Panicles lax, loose; spikelets 5-6 mm long; lemmas of the lower florets 3.8-4.5 mm; lower glume 2-3 mm long, upper glume 2.9-3.5 mm ..... 30. ***P. pfisteri***

20'. Panicles contracted, dense.

21. Plants caespitose, without rhizomes.

22. Panicles lax to contracted, not spiciform ..... 21. ***P. alopecurus***

22'. Panicles spiciform.

23. Plants 5-19 cm tall; ligules 1-9 mm long; pistillate florets 4-8 mm; staminate florets 4-5.5 mm ..... 29. ***P. spiciformis***

23'. Plants (10-)20-50(-65) cm tall; ligules 7-15 mm (var. *ligularis*), or (0.5-)2-3(-4) mm (var. *resinulosa*); pistillate florets 4-5(-6,5) mm; staminate florets 3-4 mm ..... 28. ***P. ligularis***

21'. Plants with well developed rhizomes.

24. Panicles spiciform; plants of coastal dunes and sandy soils.

25. Panicles with internodes less than 10 mm long; branches of the panicles less than 10 mm long; pistillate spikelets 6.5-7.5 mm long, 3-4-flowered; staminate spikelets 5-7.5 mm long, 4-5-flowered; ligules 2.5-8 mm; plants of coastal dunes of central and southern Chile ..... 25. ***P. cumingii***

25'. Panicles with internodes more than 10 mm long; branches of the panicles of variable length, more than mayor 10 mm long; pistillate and staminate spikelets (4-)6-8(-10) mm long, 3-7(-9)-flowered; ligules 5-10(-17) mm; plants of sandy soil of southern-central Chile ..... 26. ***P. lanuginosa***

24'. Panicles contracted, dense; plants from *Nothofagus* forests, peat bogs and highland grasslands or from rocky slopes in the zone of coastal fogs.

26. Lemmas with keel and marginal veins glabrous; callus of the pistillate florets with a crown of stiff hairs that reach or exceed the middle of the floret; staminate florets with callus glabrous or with a crown of sparse hairs; plants of the mountains, often on volcanic slopes ..... 22. ***P. tristigmatica***

26'. Lemmas with the keel and marginal veins hairy.

27. Pistillate spikelets 8 mm long; lower glume 3.5-4 mm, upper glume 4 mm; lower lemma 4-5 mm; callus glabrous or with soft, long and curly woolly hairs; keel and marginal veins with hairs up to 0.5 mm; staminate spikelets 7 mm; lower glume 3 mm long, upper glume 4 mm; lower lemma 4 mm; lemma smooth, glabrous; leaf blades flat, lax; plants from central northern coastal hills ..... 24. ***P. paposana***

27'. Pistillate spikelets 5.6-9 mm; lower glume 3.3-5.5 mm, upper glume 4-6 mm; lower lemma 4-6.5 mm; callus with long, folded, woolly hairs; keel and marginal veins hairy; staminate spikelets 4.5-7 mm; lower glume 2.2-3.8 mm, uper glume 3-4.2 mm; lower lemma 3.7-5 mm; leaf blades conduplicate to involute, heart shaped in cross section; plants from south central coasts thorough Andean slopes ..... 27. ***P. denudata***

10''. Gynodioecious species – some plants with all spikelets hermaphroditic and other plants with all spikelets pistillate.

28. Callus glabrous; plants 7-20 cm tall; leaf blades short, convolute, with acute, not sharp apices; plants from the far north of Chile ..... 14. ***P. lilloi***

28'. Callus with curly woolly hairs; plants up to 60-90 cm tall; leaf blades flat or folded, stiff, with sharp apices.

29. Ligules 3-10 mm long; inflorescences lax, open; plants from the south of Chile ..... 35. ***P. yaganica***

29'. Ligules 1-4 mm long; inflorescences contracted, 3-15 cm long, interrupted at the base; plants from wetlands (gypseous or not) on the mountain slopes of central Chile (Valparaíso and Metropolitan regions) ..... 17. ***P. planifolia***

10'''. Hermaphroditic species, flowers all hermaphroditic or infrequently with some late aborted stamens.

30. Lemmas with callus and veins glabrous; leaves coriaceous, folded, with prow-shaped apices; plants from wetlands on the mountain slopes of central Chile (Valparaíso and Metropolitan regions) ..... 16. ***P. acinaciphylla***

30'. Lemmas with woolly callus, sometimes glabrous or with a crown of short hairs; lemmas variously hairy.

31. Plants with rhizomes; callus with woolly hairs.

32. Spikelets less than 3 mm long; florets less than 2.5 mm; anthers 0.4-0.5 mm long ..... 20. ***P. scaberula***

32'. Spikelets usually more than 3.5 mm (to 7 mm long); anthers 1.2-2 mm long.

33. Culms with strongly compressed nodes and internodes; lower florets 3-3.5 mm long; panicle contracted 2-10 cm long ..... 39. ***P. compressa***

33'. Culms with more or less terete nodes and internodes; lower florets 2-4.5(-6) mm long; panicle open or somewhat contracted to 20 cm long ..... 34. ***P. pratensis***

31'. Plants without rhizomes, caespitose or stoloniferous; callus glabrous, woolly or with a short crown of hairs.

34. Callus glabrous or with a crown of hairs surrounding the base of the lemma.

35. Lemmas weakly compressed laterally (subterete) pubescent on and between the veins at least at the base; pubescence of the keel and between the veins little differentiated; panicles contracted ..... 41. ***P. secunda***

35'. Lemmas laterally compressed, keeled.

36. Callus glabrous or with a crown of short hairs (0.2-2 mm), curled or twisty; keel, marginal veins and sometimes also the intermediate veins nervios shortly villous in the lower half; anthers 1.2-2 mm long ..... 42. ***P. stenantha***

36'. Callus with a dorsal tuft of hairs below the keel, curled hairs or the callus glabrous.

37. Plants 2-15(-20) cm tall; inflorescences contracted 1-4.5 cm long x 0.5 cm wide; spikelets 4.5-5.5(-6) mm long ..... 33. ***P. mendocina***

37'. Plants (10-)15-60(-80) cm tall; inflorescences open 6-14 cm long x 2-5 cm wide; spikelets 6-8 mm long.

38. Lemmas glabrous ..... 31. ***P. hachadoensis***

38'. Lemmas pubescent on the keels and marginal veins ..... 32. ***P. marticorenae***

34'. Callus glabrous or woolly.

39. Anthers 0.5-0.6 mm long; spikelets less than 3 mm long; panicles contracted ..... 20. ***P. scaberula***

39'. Anthers more than 1.2 mm long; spikelets usually more than 3.5 mm (to 9 mm long); panicles open.

40. Callus glabrous, exceptionally with some short woolly hairs; panicles narrow, 2(-20) cm long; lemmas 2.5-4 mm long; lower glume 3-veined; disjunct from the northern hemisphere ..... 36. ***P. glauca***

40'. Callus woolly; recent introductions.

41. Lower glumes sickle-shaped, 1-veined; glumes and lemmas with prominent veins, sometime the marginal veins hairy at the base; sheaths and blades scabrous, rough; ligules to 10 mm long, acute; plants from subantartic forests; ..... 40. ***P. trivialis***

41'. Lower glumes not sickle-shaped, 3-veined; lemma intermediate veins faint to distinct, but not prominent; sheaths and blades smooth; ligules less than 5 mm.

42. Culms smooth below the panicle and below the nodes; rachillas usually pilulose; ligules 0.2-1 mm long; callus glabrous (rarely) or with sparse woolly short or medium length hairs; plants from wet grasslands and open forests ..... 37. ***P. nemoralis***

42'. Culms usually with some retrorse prickle hairs or retrorse strigose hairs below some nodes; rachillas muriculate to hispidulous, never pilulose; ligules (1-) 2-5 mm long; callus with woolly long hairs; plants from swamp forests and mallines from central-southern Chile ..... 38. ***P. palustris***

Poa subg. Ochlopoa

Poa* sect. *Micrantherae Stapf, Fl. Brit. India 7(22): 343. 1896. ***Poa* sect. *Oreinos*** Asch. & Graebn., Syn. Mitteleur. Fl. 2: 400. 1900. TYPE: *Poa annua* L.

Plants annual or perennial, without rhizomes, rarely with stolons; gynomonoecious; basal branching intravaginal; ligules truncate to obtuse; blades flat or weakly folded, with prow-shaped apices; panicles pyramidal, open or weakly contracted; spikelets laterally compressed, not bulbiferous; florets normal; glumes keeled, shorther than the adjacent lemmas, smooth; callus glabrous; lemmas keeled, glabrous or with the keel and lateral and marginal veins pilose, smooth; paleas keeled, smooth, glabrous or villous; anthers 3, sometimes vestigial in the 1-2 upper florets. It includes 8 species, all native from Eurasia and North Africa. In Chile, two species: *P. annua*, *P. infirma*.

1. **Poa annua** L., Sp. Pl. 1: 68. 1753. *Ochlopoa annua* (L.) H. Scholz, Ver. Inst. Lanschafts-Pflanzenokologie Univ. Hohenheim Beih. 15: 58. 2003. TYPE: Habitat in Europa ad vias (lectotype LINN-81.17! (plant of the right), designated by R. J. Soreng in Cafferty *et al*. Taxon 49(2): 254. 2000).

Poa aestivalis J. Presl, Reliq. Haenk. 1(4-5): 272. 1830. TYPE: Perú, Hab. in montanis Peruviae, *T. Haenke s.n.* (holotype PR-450191!; isotype US-2851274! fragm.).

Poa algida Trin., Linnaea 10(3): 306. 1836. TYPE: [Perú], Cum priori (*Dissanthelium supinum* Tr. in fragidissimis ad Cerro de Pasco), *Anonymous collector 105* (lectotype W bc-0029626!, **designated here**).

Poa annua L. var. *eriolepis* E. Desv., Hist. Chile, Bot. 6: 405. 1854. TYPE: Chile, Santiago, C. Gay s.n.; Monte La Leona, *C. Bertero 554* (lectotype Chile, Monte La Leona, *C. Bertero 554*, TUB bc-009469!, **designated here**).

Plants gynomonoecious, annual, but they can survive a second growing season, then rooting at the nodes. Culms 2-20(-45) cm tall, erect or decumbent. Sheaths smooth, closed 1/3 of their length, keeled; ligules 0.5-2(-5) mm long, obtuse or truncate; blades 1-14 cm x 2-3(-5) mm, tender,

green, glabrous, the apex prow-shaped. Panicles 1-10 x 1-6 cm, open, pyramidal, green, sometimes tinged purple, with few spikelets per branch, the branches patent or ascending. Spikelets 3-5(-10) mm long, 3-8-flowered; rachilla internodes 0.5-1 mm long, glabrous; glumes shorter than the contiguous florets, unequal, glabrous, the keel smooth, the margin scarious, the apex acute; lower glume 1.6-3 x 0.2-0.4 mm, lanceolate to oval-lanceolate, 1-3-veined; upper glume 2-4 x 0.5 mm, elliptical to oblong, 3-veined; lower lemma 2.5-4 mm long, the upper ones shorter, keeled, completely glabrous or with the keel and veins pilose, the veins more or less conspicuous; callus glabrous; palea slightly shorter than the lemma, with smooth or pubescent keels; anthers 0.6-1.1 mm long, those of the upper florets usually vestigial. Caryopses 1.5-2 mm long.

References. It was mentioned for the first time for the flora of Chile by Desvaux (1854), who described it as a new variety (*P. annua* var. *eriolepis* E. Desv.). Later it was cited by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Rodríguez *et al*. (2008b, 2018), Ugarte *et al*. (2011), Molina-Montenegro *et al*. (2012, 2015), Finot *et al*. (2019, 2022); Matthei (1995) includes it among the weeds present in the country, distributed in both continental and insular Chile. For Juan Fernández it was cited by Hemsley (1884) and Johow (1896), and for Easter Island by Zizka (1991). Molina-Montenegro *et al*. (2012, 2015) cited it for the Chilean Antarctic territory.

Iconography. Matthei (1995: 473, fig. 120 h-k); Soreng (2007: 519); Giussani *et al*. (2012: 294).

Common names. "Piojillo", "hierba de la perdiz", "pasto de la perdiz", "pasto de las liendres", "pasto de la gallina", "achahuall-cachu", "ütren-cachu" (Mösbach 1992).

Chromosome numbers. *2n* = 28 (Nannfeldt 1937; Tutin 1952; Soreng 2007; Rodionov *et al*. 2010). Nanfeldt (1937) and Tutin (1952) suggested that *P. annua* is an allotetraploid originated, probably, by hybridization between *P. supina* and *P. infirma*. DNA evidence supports P. infirma as contributor of its plastid (M^i) and P. supina as the contributor of its nrDNA (M^u) (= M^iM^u in the coding system of Soreng *et al*. 2020) (Soreng *et al*. 2010, Mao & Huff 2012).

Distribution and habitat. Species of Eurasian origin, currently cosmopolitan, introduced in Chile where it grows between the regions of Tarapacá and Magallanes (20°13'- 54°12' S), from sea level to 3750 m of altitude. It is also found in the Juan Fernández Archipelago, on Easter Island (Rapa Nui) and in the Antarctic Territory (64°49'S, 62°51' W) (Molina-Montenegro *et al*. 2012, 2015; Wódkiewicz *et al*. 2013). *Poa annua* is a pioneer and synanthropic species, and it is one of the plants with the greatest geographic distribution in the world. It grows frequently in cities, gardens, lawns, roadsides, and empty places. In Chile it is considered a weed of little importance for agriculture (Matthei 1995).

Distinctive features. Gynomonoecious, annual, but can survive a second growing season, then rooting at nodes; panicles lax, open, pyramidal; spikelets 3-8-flowered, all bracts smooth (prickle hairs absent); callus glabrous; anthers 0.6-1.1 mm long, those of the upper florets usually vestigial.

Phenology. Flowering occurs all the year where conditions are suitable.

Notes. *Poa annua* can be difficult to distinguish from *P. infirma*. The latter has a lighter green color, more crowded spikelets on more ascending branches, rachilla internodes longer, and anthers shorther (up to 0.6 or 0.6 mm long). These in turn can be separated from all other Chilean species by the combination of annual habit, smooth spikelet bracts, and glabrous callus.

Some authors (e.g. Zuloaga *et al*. 2008; Giussani *et al*. 2012; tropicos.org. 2021) include *Festuca tenuiculmis* Tovar (Mem. Mus. Hist. Nat. "Javier Prado" 16: 55, t. 12B. 1972. TYPE: Peru, Huancavelica, Salaverry 109; holotype US; isotypes US-2183155 !, USM 000742!) among the synonyms of *P. annua*. The isotype of *F. tenuiculmis* US-2183155 contains two plants, both undoubtedly belonging to the genus *Festuca*; the USM isotype also belongs to *Festuca*, so we exclude *F. tenuiculmis* as a synonym for *P. annua*. *Festuca tenuiculmis* is accepted as a good species by Tovar (1972, 1993), Brako & Zarucchi (1993) and Darbyshire *et al*. (2003).

The material filed in W bc-00292626 under *Poa algida* Trin. corresponds to *Poa annua*. It was determined by L. Pignoti as type of *P. algida* and was selected here as lectotype; the folder contains two complete plants. The Vienna material is assigned to an anonymous collector nº 105, not to E. Poeppig, as has been previously indicated (Giussani *et al*. 2012).

Poa meyenii Nees & Meyen, Gramineae 31. 1841. TYPE: Ad Lacum Titicacam, Peruviae, Aprili 1831, *F. J. F. Meyen s.n*. (holotype B; isotypes BAA bc-00001017!, col. typus 2624 fragm. ex B, LE-TRIN 2653.01A fragm., US-2851275! fragm. ex B), has been considered a synonym of *Poa annua* (Soreng *et al*. 2003 onwards). The type material belongs to the taxon known as *P. candamoana* Pilg., which is probably synonymous with *P. adusta* J. Presl (Sylvester *et al*. 2016).

The specimen in Tübingen *Poa annua* var. *eriolepis* (TUB bc-009469) of the *Bertero 554* syntype, Monte la Leona (Rancagua) was selected as lectotype. The folder consists of a whole plant, apparently stoloniferous, although this condition is not indicated in the original description. Desvaux (1854) distinguishes var. *eriolepis* from the typical variety solely by

the hairiness of the nerves of the lemma.

Additional specimens examined. CHILE, Region of Tarapacá, Prov. Iquique, Iquique, 20°13' S, 70°09' W, 10 m, VIII-2003, Díaz 1545 (CONC). Region of Antofagasta, Prov. Antofagasta, Taltal, La Quinta, 25°25' S, 70°27' W, 225 m, 9-X-1991, Quezada & Ruiz 419 (CONC 121119). Region of Coquimbo, Prov. Limarí, bosque Fray Jorge, 30°40' S, 71°40' W, 450 m, year 1940, Muñoz & Coronel 1362 (SGO). Region of Valparaíso, Easter Island, Hanga Roa, 23-VIII-2016, Villalobos 4 (CONC-CH); Juan Fernández Archipelago, La Vaquería, 33°38' S, 78°51' W, 250 m, XI-1980, Stuessy *et al*. 5488 (CONC). Metropolitan Region, Prov. Santiago, SN Yerba Loca, 33°17' S, 70°19' W, 2040 m, 16-XI-1999, Arroyo *et al*. 995084 (CONC). Región de Maule, Prov. Talca, Constitución, 35°20' S, 72°25' W, 30 m, XI-1960, Castillo s.n. (CONC). Region of Ñuble, Prov. Diguillín, autopista del Itata km 30, Pasarela Nueva Aldea, 6-XI-2015, Finot *et al*. 2764 (CONC-CH); Chillán-Portezuelo, Puente El Ala, 1-X-2006, Finot 2149 (CONC-CH); Chillán, Estación Experimental Alazán, Universidad de Concepción, 13-XII-1993, Finot *et al*. 676 (CONC-CH). Region of Biobío, Prov. Biobío, Monte Aguila, 30-IX-2009, Finot 2466 (CONC-CH); Prov. Concepción, Concepción, 36°49'S, 73°03'W, 10 m, López 152 (CONC); Cocholgue, ocean side of N end of Punta Cullin, N of Tome, W of Dichato, N of Concepcion, Bluffs above the ocean, on sandstone cliffs and clay loam under pines in garden, 36°36' S, 72°59' W, 10 m, 18-XI-2001, R.J. & N.L. Soreng 7025 (CONC, US). Region of the Araucanía, Prov. Cautín, Temuco, 38°44' S, 72°33' W, 110 m, III-1935, Montero 2288 (CONC). Region of Los Ríos, Prov. Valdivia, camino a Altos Hornos, 39°53' S, 73°26' W, 5 m, XI-1931, Gunckel 16561 (CONC). Region of Los Lagos, Prov. Osorno, fundo Inca, camino Osorno a Puerto Octay, 40°49' S, 72°57' W, 110 m, III-1990, Matthei & Quezada 1078 (CONC); Prov. Chiloé, NW end of Isla Chiloe, small bay N of Bahia Cocotue, W of Ancud ca 15 km, Pacific Ocean, rear dunes of large dune system, 41°52' S, 74°01' W, 15 m, R.J. & N.L. Soreng 7241 (CONC, US); Isla Grande de Chiloé, Castro, 42°28' S, 73°45' W, 40 m, III-1990, Matthei & Quezada 871 (CONC). Region of Aysén, Prov. General Carrera, RN Cerro Castillo, Portezuelo Ibáñez, 46°04' S, 72°02' W, 1100 m, R.J. & N.L. Soreng 7297 (CONC). Region of Magallanes, Prov. Antártica Chilena, Base Presidente Gabriel González Videla, 64°49' S, 62°51' W, II-2009, Molina & Muñoz s.n. (CONC); Prov. Tierra del Fuego, sector Timaukel, Lote 2, Forestal Trillium, Valle del Río Cuchara, 53°44'S, 70°01'W, 21-I-1994, Pisano *et al*. 7591 (CONC).

2. **Poa infirma** Kunth, Nov. Gen. Sp. (quarto ed.) 1: 158. 1815[1816]. *Megastachya infirma* (Kunth) Roem. & Schult., Syst. Veg. (Sprengel) 2: 585. 1817. *Eragrostis infirma* (Kunth) Steud., Nomencl. Bot. (ed. 2) 1: 563. 1840. *Ochlopoa infirma* (Kunth) H. Scholz, Ber. Inst. Lanschafts-Pflanzenokologie Univ. Hohenheim Beih. 16: 59. 2003. TYPE: Colombia. Crescit in frigidis regni Novogranatensis, inter Fonibon, Suba et Santa Fé de Bogotá, 1360 hexap., *F. W. H. A. Humboldt & A. J. A. Bonpland s.n*. (lectotype P bc-00669436, designated by Sylvester *et al*., Ann. Missouri Bot. Gard. 105: 249. 2020).

Catabrosa thomsonii Hook. f., Fl. Brit. India 7(22): 311. 1897[1896]. *Colpodium thomsonii* (Hook. f.) Hack., Vidensk. Meddel. Dansk Naturhist. Foren. Kjobenhavn. 55: 172. 1903 TYPE: Western Tibet; Nubra Valley, alt. 10-11000 ft., *Thomson s.n*. (holotype ?).

Poa annua L. subsp. *exilis* (Tomm. ex Freyn) Asch. & Graebn., Syn. Mitteleur. 2: 389. 1900. *Poa annua* var. *tomassinii* Asch. & Graebn., Syn. Mitteleur. 2: 390. 1900, nom. illeg.; *Poa annua* L. var. *exilis* Tomm. ex Freyn, Verh. K.K. Zool.-Bot. Ges. Wien 27: 469. 1878. TYPE: Langs der Kust von Fasana bis Medolino, auch auf S. Marina, 1872, Tommasini s.n. (Lectotype TSM, designated by Soreng & Fulvio Tomsich Caruso, in Sylvester *et al*., Ann. Missouri Bot. Gard. 105(2): 249. 2020).

Gynomonoecious, annual, caespitose, 2-15 cm high; innovations intravaginal. Sheaths cylindrical or weakly compressed, smooth, closed along 1/3 of their length; ligules 0.5-3 mm long, truncate or obtuse, decurrent, glabrous; blades 1-4 mm wide, flat, thin, smooth, with slightly scabrous margins, apices prow-shaped. Panicle 1-6 cm long, lax, contracted, with 1-2 (-5) ascending branches, bearing spikelets clustered along the branches. Spikelets 3-5 mm long, laterally compressed, 2-6-flowered; rhachilla internodes smooth, glabrous, usually exposed in lateral view, the distal ones are 1/2 - 3/4 of the length of the terminal lemma; glumes smooth, keeled, keels smooth; lower glume 1-veined; upper glume shorter or nearly as long as the lower lemma; lemmas 2-2.5 mm long, lanceolate, smooth, keeled, the keel, marginal, and intermediate veins puberulent to villous, surfaces glabrous or puberulent, intermediate veins prominent, margins smooth, glabrous, apex obtuse or acute; callus glabrous; paleas smooth, short to long hairy on keels, not scabrous; anthers 0.1-0.55 mm long, more or less spherical to shortly elliptical before dehiscence, those of the upper florets commonly vestigial.

References. The first citation of this species in Chile corresponds to Desvaux (1854); later it was cited by Soreng *et al*. (2003), Soreng (2007), Zuloaga *et al*. (2008, 2019), Ugarte *et al*. (2011), Soreng & Peterson (2012) and Rodríguez *et al*. (2018). For complete synonymy see Soreng *et al*. (2003).

Iconography. Bor (1951-52: 818, fig. 2); Giussani *et al*. (2012: 311); Soreng (2007: 520); Sylvester *et al*. (2020: 250, fig. 7).

Chromosome numbers. 2n = 14 (Soreng, 2007; Rodionov *et al*., 2010).

Distribution and habitat. European species, introduced in America where it was originally described for Colombia; introduced in central Chile, it was mentioned for the first time by Desvaux (1854), for Valparaíso. It is also found in Argentina (Córdoba, Salta, Tucumán), Bolivia (Cochabamba, La Paz, Tarija), Peru (Cuzco, Huancavélica, Lima) (Tovar 1993; Renvoize 1998; Giussani *et al*. 2012; Sylvester *et al*. 2016). In Chile it is distributed from the Coquimbo Region to the Metropolitan Region (31°28'- 33°25 'S), between 10 and 750 m (Soreng & Peterson 2008).

Distinctive features. Gynomonoecious, annual; panicles lax; rachilla internodes usually exposed in lateral view, the distal internodes 1/2 - 3/4 of the terminal lemma length; callus glabrous; anthers 0.1-0.55 mm long, more or less spherical to shortly elliptical before dehiscence, those of the upper anthers commonly vestigial.

Phenology. Flowering between September and November.

Notes. A gynomonoecious species closely related to *P. annua* of which it has been considered synonym (e.g. Swallen 1943). It is distinguished from *P. annua* by the smaller anthers (*P. infirma*: 0.1-0.55 mm; *P. annua*: 0.6-1.2 mm) and by the longer rachilla internodes and, consequently, with the flowers further apart on the spikelet; the last internode of the rachilla reaches 1/2 to 3/4 of the length of the distal lemma; less than 1/2 and up to 3/4 in *P. annua*). *Poa infirma* is strictly annual, while *P. annua* can be biennial or, exceptionally, perennial.

Additional specimens examined. High resolution photographs of the following specimens were observed: CHILE, Region of Valparaíso, Valparaíso, 1831-33, Gaudichaud 48 (BAA ex P); cerca de Valparaíso, 14-IX-1914, Mr. & Mrs. J. N. Rose 19112 (US).

Poa* sect. *Arenariae (Hegetschw.) Stapf, Fl. Brit. India 7(22): 338. 1896. *Poa* subsect. *Bulbosae* V. Jirásek, Věstn. Král. Ceské Společn. Nauk, Tr. Mat.-PYír. 2: 3. 1935; *Poa* subsect. *Bolbophorum* (Asch. & Graebn.) Maire, Fl. Afrique N. 3: 84. 1955. TYPE: *Poa bulbosa* L.

Perennial plants, without rhizomes or stolons, densely tufted; bases of new culms bulbous; innovations intravaginal; basal sheaths swollen at the base; ligules 1-6 mm, obtuse or acute; blades flat, lax; panicles loosely contracted, ovoid, with ascending branches; spikelets laterally compressed, sometimes bulbous; glumes shorter than adjacent lemmas, keeled; lemmas foliose, the normal ones keeled, glabrous or with the keel and marginal veins ciliate; paleas keeled, keels often puberulous on the lower half; anthers 3, sometimes aborted or undeveloped. Native of Eurasia and North Africa; it includes 14 species, one in Chile, *P. bulbosa* var. *vivipara*.

3. **Poa bulbosa** L. var. **vivipara** Koeler, Descr. Gram. 189. 1802. *Poa bulbosa* L. fma. *vivipara* (Koeler) Maire, Fl. Afrique N. 3: 86. 1855. *Poa bulbosa* L. subsp. *vivipara* (Koeler) Arcang., Comp. Fl. Ital. 785. 1882. *Paneion bulbosum* (L.) Lunell var. *viviparum* (Koeler) Lunell, Amer. Midl. Naturalist 4: 222. 1915. TYPE: Europa, prope Moguntiam in arenosis.

Pseudoviviparous, with florets proliferating into vegetative bulblets; perennial, without rhizomes or stolons. Tillers bulbous at the base. Culms 15-50 cm high, bulbous at the base due to swelling of the basal sheaths, erect or geniculate, ascending; innovations intravaginal. Sheaths smooth, the upper ones closed along 1/4 of their length, smaller than the internodes, the basal ones with swollen bases; ligules 1-3 mm long, smooth, obtuse or acute; blades up to 6 cm long x 1-2.5 mm wide, scabrous along the veins. Panicles 3-12 x 2-3 cm, contracted, somewhat lax. Spikelets 3.5-5 (-7.5) mm long, pseudoviviparous, bulbous, purple, 3-7-flowered, with the florets transformed into leafy bracts (or the proximal one more or less normal); rhachilla internodes glabrous; glumes subequal or the lower glume shorter, ovate, shorter than the florets, keeled, purple, both 3-veined, the keel sparsely scabrous, the apex acute; lower glume 2.2-3 mm long; upper glume 2.9-3 mm long; lemmas (normal) 3-4 mm, glabrous or with the keel and marginal veins with short or long hairs, the apex acute, the distal ones forming bulbils that swell at the base and develop in the form of a blade; callus of normal or subnormal florets glabrous or sparsely woolly; palea keels scabrous; anthers (1-)1.2-1.5(-1.6) mm long or aborted late in development or absent in the viviparous florets.

References. This taxon was cited for the first time for Chile by Soreng *et al*. (2003). Domínguez *et al*. (2006) and Soreng & Peterson (2008) cite it for the Magallanes Region, without citing reference specimens. Later, Zuloaga *et al*. (2008) cite it for Chile based on *Elvebakk 635*, collected in Última Esperanza. It was later recognized by Rodríguez *et al*. (2018).

Iconography. Soreng (2007: 517); Giussani *et al*. (2012: 297).

Chromosome numbers. 2n = 21, 28, 31-35, 37, 39, 42+I, 44, 46, 48, 49 (Soreng 2007).

Distribution and habitat. Species introduced from Europe, probably as forage. In America it is found in the northern hemisphere in Canada and the United States and in the southern hemisphere in Argentina and Chile. In Chile it is

only known from Magallanes Region, Última Esperanza Province (51°00- 51°16 'S), between 90 and 100 m. It has been collected along roadsides in dry areas and in steppes with *Nassella* spp.

Distinctive features. Pseudoviviparous; culms and vegetative shoots bulbous at the base due to swelling of the basal sheaths; panicles contracted, somewhat lax; callus glabrous or woolly.

Phenology. Flowering in November and December.

Notes. Zuloaga *et al*. (2019) cite for Chile *P. bulbosa* subsp. *bulbosa*, but without citing reference materials. We have not found any materials for this taxon, so it was not possible for us to confirm its presence in the country.

Additional specimens examined. CHILE, Region of Magallanes, Prov. Última Esperanza, Cerro Castillo, 51°16' S, 72°22' W, 50-100 m, XII-1997, Elvebakk 326 (CONC); P.N. Torres del Paine, 3 km NW de Baño Viejo en extremo E de Lago Sarmiento, 23-XI-1996, Elvebakk 635 (CONC).

Poa* sect. *Parodiochloa Contr. U. S. Natl. Herb. 48: 579. 2003. *Parodiochloa* Hubb., Bull. Brit. Mus. (Nat. Hist.), Bot. 8: 395. 1981, non A. M. Molina, 1986. TYPE: *Poa flabellata* (Lam.) Raspail.

Plants perennial, without rhizomes, forming robust clumps that reach (0.5-) 1-2.5 m high; panicles spiciform; spikelets with florets usually twisted. This section includes a single species, *P. flabellata*, from the extreme south of the country, sometimes treated as an independent genus (*Parodiochloa*) or included in *Festuca*, *Dactylis* or *Sesleria*.

4. **Poa flabellata** (Lam.) Raspail, Ann. Sci. Observ. 2: 86. 1829. *Festuca flabellata* Lam., Encycl. 2: 462. 1788. *Parodiochloa flabellata* (Lam.) C. E. Hubb., Bull. Brit. Mus. (Nat. Hist.), Bot. 8(4): 396. 1981. TYPE: Cette plante a eté trouvé au detroit de Magellan par *M. Commerson s.n*. (holotype P; isotypes BAA bc-0003532! fragm. ex P, BAA bc-0003533! fragm. ex P, bc-00624273!, US-2875414!).

Dactylis caespitosa G. Forst., Fasc. Pl. Magell.: 12. 1788. *Poa forsteri* Steud., Syn. Pl. Glumac. 1: 260. 1854. *Poa caespitosa* (G. Forst.) Hook. ex Speg., Anales Mus. Nac. Buenos Aires 5: 91. 1896, hom. illeg., non Poir. (1804). TYPE: Habitat praecipue in Novi Anni Insulis Statuum proximis, *G. Forster s.n.* (isotypes US-2851271! fragm. ex K ex Herb. Forster bc-00157316).

Festuca urvilleana Steud., Syn. Pl. Glumac. 1: 312. 1854. TYPE: [Argentina] Ins. Maclov. Malvin., *D. d' Urville s.n*. (holotype P-hb., not seen).

Poa controversa Steud., Syn. Pl. Glumac. 1: 260. 1854. TYPE: [Argentina] Islas Malvinas, Puerto Williams, ~ sub *Dactylis caespitosa ~ W. Lechler misit* (holotype P-STEUD-385; isotypes BAA col typus 2496 fragm. ex P! bc-00002656, S-14-4740!, US-2851272! fragm. ex P bc-00386448).

Poa controversa Steud. var. *minor* Steud., Syn. Pl. Glumac. 1: 260. 1854. TYPE: [Argentina] Islas Malvinas, Puerto Williams, *W. Lechler 106* (holotype P, not seen).

Sesleria americana Nees ex Steud., Syn. Pl. Glumac. 1: 296. 1854. TYPE: [Argentina] Ins. Staatenland, Am. Septr., *Webster s.n*. (holotype CGE; isotype BAA! fragm. ex US ex CGE).

Poa forsteri Phil., Anales Univ. Chile 43: 573. 1873; nom. illeg. hom., non *P. forsteri* Steud., Syn. Pl. Glumac. 1: 260. 1854. TYPE: Chile, se halla igualmente en el Estrecho de Magallanes, cerca de la colonia chilena (holotype SGO-PHIL-442; isotypes US-88781).

Plants hermaphroditic, perennial, caespitose, sometimes stoloniferous, robust, forming bushes 0.4-1.5 (-2.5) m high; innovations intravaginal. Sheaths compressed, glabrous, the basal ones scabrous; ligules 4-25 mm long, truncate and denticulate or laciniate at the apex, glabrous on the back; blades 5-70 cm long or more, thickened, smooth on the abaxial surface, scabrous on the adaxial surface, particularly along edges of ribs. Panicles 5-15(-20) x 1-3(-4) cm, spiciform, dense, cylindrical or somewhat lobed and interrupted, dense. Spikelets 5-8 mm long, 2-4-flowered, laterally compressed, lanceolate, usually somewhat twisted; rhachilla internodes up to 1.5 mm long, smooth or somewhat scabrous; glumes subequal, equal to or slightly shorter than adjacent lemmas, acute or the apex extended in a short awn, the keel smooth; lower glume 4-5.5 mm long, 1-veined; upper glume 5-6 mm long, 1-3-veined; Lemmas 3.3-6.5 mm long, 5-veined, the veins prominent, lanceolate, densely scabrous, the apex generally awned, awns straight or curved, 0.5-3 (-5) mm, or a short, densely scabrous mucro; callus glabrous; palea with keels and margins finely scabrous towards the apex; lodicules with a lateral lobe and sparse hairs, 0.7 mm long; anthers 1.4-2.8 mm long (infrequently aborted); ovary glabrous, with two basally fused linear styles. Caryopsis 2.5 mm long, fusiform, subtrigonous, pale brown, attached to the palea; hilum 0.3 mm long, elliptical.

References. Moore (1983) cites *P. flabellata* for the north of the Strait of Magellan and Diego Ramírez Islands, Chile, as well as for the Malvinas Islands and South Georgia, Argentina. Later, Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Soreng & Peterson (2008) and Rodríguez *et al*. (2018) cite it for Chile.

Iconography. Nicora (1978: 148, fig. 88); Moore (1983: 279, fig. 234); Giussani *et al*. (2012: 303).

Chromosone numbers. 2*n* = 28 (Bennet *et al*. 1982).

Common names. "Coirón", "pasto alto", "tussock".

Distribution and habitat. Native to Chile and Argentina (Hauman & Vanderveken 1917; Marticorena & Quezada 1985; Soreng *et al*. 2003; Giussani *et al*. 2012; Zuloaga *et al*. 2019). In Chile it has been collected only in the Chilean Antarctic province, Magallanes Region (55°52'- 56°83 'S). It forms large tufts in permanently moist peaty soils and coastal cliffs. It is part of grassy communities of scarce floristic diversity (*Poetum flabellatae* association) where it is associated with *Crassula moschata* G. Forst., in areas with strong winds, high atmospheric humidity and with a high input of nitrogen from bird feces (Pisano 1972, 1981, Mackenzie *et al*. 2020). Penguins nest in the tussocks. Probably introduced in the Tristan da Cunha Archipelago in the South Atlantic and the Shetland Islands in the North Atlantic (Groves 1981).

Distinctive features. Plants hermaphroditic, robust, 1-2 m high, forming clumps of 1-1.5 m in diameter; blades scabrous on the adaxial surface; inflorescences spiciform; callus glabrous.

Phenology. Flowering between November en January.

Notes. This species differs from the other taxa of the genus *Poa* by the leaves finely pointed, the lemmas cuspidate or awned, styles terminal not separated from each other at the base, and stigmas elongated, only with short primary branches, exerted from the apex of the florets; typical *Poa* species have leaves with acute or prow-shaped (naviculate) apices, lemma apices obtuse to acute, very rarely mucronate, styles terminal but usually with a gap between them at the base, feathery or sometimes fairly simple, exerted laterally from the floret (Soreng & Gillespie 2007). Infrequently treated as a monotypic genus, *Parodiochloa*.

Additional specimens examined. CHILE, Region of Magallanes, Prov. Antártica Chilena, Islas Diego Ramírez, Isla Gonzalo, 56°30' S, 68°44' W, 13-I-1972, Pisano 3404 (CONC); Archipiélago de Tierra del Fuego, Isla Hornos, 55°58' S, 67°17' W, 17-XI-1981, Pisano 5269 (CONC); Bahía Arquistade, 55°52' S, 67°07' W, 24-XI-1982, Pisano 5683 (CONC).

Poa* subg. *Poa

Poa* supersect. *Homalopoa (Dumort.) Soreng & L. J. Gillespie, Aliso 23: 432. 2007. *Poa* sect. *Homalopoa* Dumort., Observ. Gramin. Belg. 110, 113. 1824.

The supersection *Homalopoa* includes around 300 species, currently organized into 10 sections, seven of which are represented in Chile (in bold): **Acutifoliae**, **Anthochloa**, *Brizoides*, **Dasypoa**, **Dissanthelium**, **Dioicopoa Homalopoa**, **Madropoa**, *Monandropoa*, *Tovarochloa* and the informal group **Punapoa**.

Informal group "Punapoa"

Plants dioecious or strictly pistillate (*P. gymnantha*, *P. perligulata*), gynomonoecious (*P. humillima*) or gynodioecious, from the extreme north of the country.

5. **Poa gymnantha** Pilg., Bot. Jahrb. Syst. 56 (Beibl. 123): 28. 1920. TYPE: Perú: 15°50-16° S. Br., südl. von Sumbay (Eisenbahn Arequipa-Puno), Tola-Heide, 4.000 m ü M., Abr. 1914, *A. Weberbauer 6905* (lectotype S!, designated by A. M. Anton & M. A. Negritto, Willdenowia 27: 236. 1997; isolectotypes: BAA bc-0004715 (col. typus 2555)!, MOL, US-1498091, S!, US-2947085, USM).

Poa ovata Tovar, Mem. Mus. Hist. Nat. "Javier Prado" 15: 17, t. 3A, 1965. TYPE: Perú, Cuzco, Prov. Quispicanchis, en el Paso de Hualla-hualla, 4700 m, 29 Jan 1943, *C. Vargas 3187* (holotype US-1865932).

Poa pseudoaequigluma Tovar, Bol. Soc. Peruana Bot. 7: 8. 1974. TYPE: Perú, Ayacucho, Prov. Lucanas, Pampa Galeras, Reserva Nacional de Vicuñas, entre Nazca y Puquio, Valle de Cupitay, 4.000 m, 4 abr. 1970, *O. Tovar & W. Franklin 6631* (holotype USM-185258!; isotypes CORD, K bc-000308276!, MO-3812380, US-3029235!, US-2942178!).

Plants pistillate (very rarely staminate in Peru), apomictic, perennial, caespitose, often with slender rhizomes. Culms (7-)12-35 (-45) cm high; innovations intravaginal. Sheaths glabrous, the old fibrous; ligules (1-)3.5-7 mm long, hyaline, decurrent with the sheath, densely scabrous on the back, the margin dentate or acute; blades 1-7 cm long, rigid, narrow, sometimes curved, folded with involute margins, densely scabrous on the abaxial side, rarely glabrous with scabrous margin, apex navicular. Panicles linear, spiciform, narrow, dense, 1-5 x 0.6-0.9 cm; rachis and pedicels scabrous; pedicels 0.5-1.5 mm long. Spikelets 4-5.5 x 1.5-3.7 mm, (1-)2-3-flowered, pistillate, frequently with glumes and lemmas purple-tinged; rhachilla glabrous, 0.5-0.6 mm long; glumes subequal, both shorter than contiguous florets; lower glume 2.9-4 x 0.5-0.8 mm, 1-3-veined; upper glume 3.4-4 x 0.8-1 mm, 3-veined; lemmas 3.5-4.6 x 0.9-1.3 mm, 5-veined, intermediate veins fade below the half of the lemma, densely scabrous in upper two-thirds; callus glabrous; palea 3-4 mm long, with keels scabrous in the upper half; lodicules 0.4-0.8 mm long, hyaline, lobed, with lobes and apex acute;

staminodes with anthers 0.2-0.5 mm long. Caryopsis 1.3-1.7 x 0.4-0.5 mm, ellipsoid.

References. It was cited for Chile by Marticorena & Quezada (1985). Later, Tovar (1993) indicates its distribution for the Andes of Peru and Bolivia but not for Chile. Soreng *et al*. (2003) cited it for Argentina, Bolivia, Chile and Peru. Negritto *et al*. (2007) indicated it for Bolivia, Chile and Peru.

Iconography. Anton & Negritto (1997: 238, fig. 1); Giussani *et al*. (2012: 306); Soreng & Peterson (2012: 26, fig. 6A-E).

Chromosome numbers. 2n = 10x = 70 (Negritto *et al*. 2008).

Distribution and habitat. *Poa gymnantha* is found in Argentina (Jujuy, Salta), Bolivia (La Paz, Oruro, Potosí), Mexico (Mexico), Peru (Ancash, Apurimac, Arequipa, Ayacucho, Cuzco, Huancavélica, Junín, Moquegua, Puno and Tacna) and Chile (Macbride 1936; Chase & Niles 1962; Giussani *et al*. 2012). In Chile it is restricted to the north of the country, in the regions of Arica-Parinacota and Tarapacá (17°49›- 19°55 ‹S), between 4250 and 4720 m. It grows in high grasslands of the Andes mountain range, in sandy places and humid grasslands, never in permanently flooded soils, associated with *Deyeuxia*, *Festuca*, shrubby Asteraceae, *Azorella* and *Parastrephia*. It is a typical component of the Altoandina biogeographic province, which is characterized by a high mountain, cold and dry climate, with strong winds and precipitations in the form of snow or hail scattered in all seasons of the year (Cabrera 1976, Aagensen 2009).

Distinctive features. Plants exclusively pistillate or dioecious; inflorescences spiciform; spikelets 2(-3)-flowered, sometimes 1-flowered; glumes slightly shorter than the florets; lemmas scabrous; callus glabrous.

Phenology. Flowering between December and April.

Conservation status. Vulnerable (Gatica-Castro *et al*. 2015).

Notes. Along with *P. humillima* and *P. perligulata*, it belongs to the informal group "Punapoa", which includes high Andean plants, usually gynomonoecious, perennial, with contracted inflorescences. *Poa humillima* and *P. perligulata* are dwarf plants, generally less than 5 cm tall while *P. gymnantha* can reach 7-35 (-45) cm tall.

The presence of this species in Argentina is based on smaller specimens usually determined as *P. ovata*. Negritto & *et al*. (2008) consider *P. ovata* as a different species from *P. gymnantha* and therefore exclude the latter species from Argentina. Here we follow Soreng *et al*. (2003), Soreng & Peterson (2012) and Giussani *et al*. (2012) in considering *P. ovata* a synonym of *P. gymnantha* (see observations under *P. gymnantha* in Giussani *et al*. 2012).

Additional specimens examined. CHILE, Region of Arica and Parinacota, 4 km N de Termas de Chirigualla, SW de Chungará, 18°19' S, 69°08' W, 4720 m, 4-IV-2001, Peterson & Soreng 15758 (CONC); Termas de Chirigualla, SO de Chungará, 18°20' S, 69°10' W, 4480 m, 5-IV-2001, Peterson & Soreng 15768 (CONC, US); Prov. Parinacota, 66 km NW de Colchane hacia Chilcayo, 18°55' S, 68°56' W, 4464 m, 28-III-2001, Peterson & Soreng 15675 (CONC, US); 22 km E de Zapahuira hacia Portezuelo de Chapiquiña, 18°19' S, 69°30' W, 4460 m, 2-IV-2001, Peterson & Soreng 15730 (US); Portezuelo de Chapiquiña, 18°19' S, 69°23' W, 4250 m, 26-III-1961, Ricardi *et al*. 204a (CONC). Region of Tarapacá, Prov. Iquique, 106 km NE de Huara por camino hacia Colchane, 19°34' S, 68°58' W, 4340 m, 26-III-2001, Peterson & Soreng 15656 (CONC, US); Camino de Huara a Cancosa km 137, 19°55' S, 68°37' W, 4600 m, 18-II-1964, Marticorena *et al*. 379 (CONC).

6. **Poa humillima** Pilg., Bot. Jahrb. Syst. 37: 378. 1906. TYPE: Perú, Junín, prope La Oroya, in planitie montana, plantas pulvinares et plantas rosulatas gignescente, 4.300 m, *A. Weberbauer 2602* (lectotype S-R-7846!, designated by A. M. Anton & M. A. Negritto, Wildenowia 27: 236. 1997; isolectotypes BAA bc-00004701!, BAA bc-00004702]!, CORD not seen, MOL not seen, S-R-4995!, US bc-00386375 fragm. ex B!, USM not seen).

Poa humillima Pilg. var. *exserta* Hack. ex Buchtien, Contr. Fl. Bolivia 1: 82. 1910, nom. nud. TYPE: Bolivia, Región Andina, Am. Chacaltaya, (30 km von La Paz), 4.800 m, *O. Buchtien 1201* (W-14376!).

Plants gynomonoecious, perennial, 1.5-2.5 cm high, caespitose, dwarf. Sheaths markedly swollen, membranous, glabrous; ligules 0.5-2.2 mm long; blades 0.45-0.8 cm long x 0.6 mm wide, folded, stiff, somewhat curved, with the apex obtuse to subacute. Panicle 0.5-1 cm long, spiciform; pedicels 0.5 mm, glabrous or somewhat scabrous. Spikelets 2.5-4.5 x 1.5 mm, 2-3-flowered, the lower floret perfect, the upper floret pistillate; or if there are three flowers, the two proximal floret perfect; glumes unequal, glabrous, shorter than the contiguous florets, ovoid, with irregular margins; lower glume 1.1-1.2 x 0.6 mm, 1-veined; upper glume 1.5-1.6 x 0.9 mm wide, 3-veined; lower lemma 2-2.6 x 1 mm, the upper ones shorter, ovate, 5-veined, glabrous, the apex obtuse, the margins and apex membranous, the keel smooth for the most part, scaberulous towards the apex; callus glabrous; palea 1.7 mm long, conspicuously shorter than the lemma, with keels scaberulous only towards the apex; anthers 0.4-0.8 mm long; lodicules 0.5 mm long, triangular, acute at the apex, with an acute lateral lobe. Caryopsis 1.2-1.3 mm long, obovoid, triangular in cross section.

References. Mentioned for the first time for Chile by Soreng *et al*. (2003); later it was cited by Giussani *et al*. (2012), Zuloaga *et al*. (2008) and Rodríguez *et al*. (2018).

Iconography. Anton & Negritto (1997: 239, fig. 2); Giussani *et al*. (2012: 310); Negritto & Anton (2000: figs. 1A-B, 2D, 3D).

Distribution and habitat. Peru (Huancavélica, Junín, Lima, Puno), Argentina (Catamarca, Salta, Tucumán), Bolivia (La Paz, Cochabamba, Potosí) and Chile (Hitchcock 1927; Foster 1958; Soreng *et al*. 2003; Zuloaga *et al*. 2008, 2019; Giussani *et al*. 2012; Linares *et al*. 2012; Rodríguez *et al*. 2018). Renvoize (1998) cites it for Bolivia and determines its distribution from Ecuador to northern Argentina, but without citing materials. In Chile it grows in the regions of Arica-Parinacota and Antofagasta (18°10'- 22°55 'S), between 4500 and 4925 m. It grows in high Andean areas, on the vegetation limit, associated with *Senecio*, *Festuca*, *Deyeuxia* and *Poa lepidula* (Nees & Meyen) Soreng & L.J. Gillespie. Tovar (1993) indicates it for Junín and Huancavélica, in clay soils. Giussani *et al*. (2012) indicate that it grows preferably in poor, sandy soils.

Distinctive features. Dwarf plants (1.5-5 cm tall); gynomonoecious; panicle spiciform; spikelets 2.5-4.5 x 1.5 mm, 2-3 (-4) -flowered, with the lower floret perfect and the upper floret pistillate or if there are three flowers, the two lower florets perfect; lemmas 2-2.6 mm long, ovate, thin, obtuse, lacerated; glumes unequal, smaller than contiguous florets; callus glabrous.

Phenology. Flowering between March and April.

Conservation status. Insufficient data (Gatica-Castro *et al*. 2015).

Notes. Hitchcock (1927) describes it as hermaphroditic, very close to *P. chamaeclinos*, not yet identified in Chile. Renvoize (1998) suggests that it resembles x*Catanellia werdermanii* (Pilg.) L. Gillespie & Soreng, but the spikelets and inflorescence are clearly different (Negritto & Anton 2000). It is related to other species of the "Punapoa" group, such as *P. unispiculata* Davidse, Soreng & P. M. Peterson, endemic to Peru (Davidse *et al*. 2010) and *P. perligulata*. It is distinguished from *P. perligulata* by having shorter ligules (0.5-2.2 mm in *P. humillima*, 1.5-6 mm in *P. perligulata*), shorter spikelets (2.5-4.5 mm in *P. humillima*, 4-4.5 mm in *P. perligulata*), uneven glumes (glumes equal in *P. perligulata*), shorter lemmas (2-2.6 mm in *P. humillima*, 3-3.5 mm in *P. perligulata*), shorter paleas (1.7 mm in *P. humillima*, 2.5-3.2 mm in *P. perligulata*), shorter lodicules (0.4-0.8 mm in *P. humillima*, 1.2 mm in *P. perligulata*) and smaller fruits (1.2-1.3 mm in *P. humillima*, 1.7 mm in *P. perligulata*).

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Parinacota, Cerro Guaneguane, 18°10' S, 69°15' W, 4500 m, 20-IV-1980, Kalin *et al*. 2651 (CONC). Region of Antofagasta, km 45 por camino de San Pedro a Paso Jama, 22°55' S, 67°45' W, 4925-4950 m, 16-III-2001, Peterson *et al*. 15525 (CONC, US).

7. **Poa perligulata** Pilg., Notizbl. Bot. Gart. Berlin-Dahlem 11(108): 779. 1933. TYPE: Bolivia, Santa Cruz, Cordillera de Azanaque, Quellmore, 4500 m, Dic. 1926, *C. Troll 3014* (lectotype BAA bc-00004703 fragm. ex B!, designated by Negritto & Anton, Kurtiana 28: 122. 2000; isolectotype B, US bc-00386408 fragm. ex B!).

Catabrosa burkartii Hitchc., J. Wash. Acad. Sci. 24(11): 481. 1934. TYPE: Argentina, Tucumán, Tafí, Cumbres Calchaquíes, 4200 m, ene 1933, *A. Burkart 5348* (holotype: US bc-00133213!; isotipes: BAA bc-00000084!, SI bc-00365!).

Plants exclusively pistillate, perennial, dwarf, with slender rhizomes. Culms 2-5 cm high. Sheaths 0.5-3 cm long, membranous, glabrous, inflate; ligules 1.5-6 mm long, acute or laciniate at the apex, decurrent with the sheath, hyaline, glabrous on the back; blades 0.5-1 (-3.5) cm long, folded, glabrous, with finely scabrous margins, the apex navicular. Panicles 7-15 x 3-4 mm long, contracted; rachis glabrous; pedicels glabrous or somewhat scabrous distally. Spikelets 4-4.5 mm long, elliptical, 2-flowered; rachilla internode 0.2 mm long, glabrous; glumes 2.3-3 mm long, subequal, 3-veined, the veins fade below the middle, glabrous, with the apex denticulate or irregular, shorter than the contiguous florets, covering 3/4 of the spikelet; lemmas 3.3-3.5 x 0.7 mm, 5-veined, glabrous, the apex irregular or denticulate; callus glabrous; paleas 2.5-3.2 mm long, somewhat shorter than lemmas; lodicules 1.2 mm long, acute or with the apex briefly denticulate; androecium reduced to staminodes. Caryopsis 1.7 mm long, ovoidal-lanceolate.

References. It was cited for the first time for Chile by Soreng *et al*. (2003). Later it was mentioned by Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Negritto & Anton (2000: 123, fig. 14); Giussani *et al*. (2012: 325).

Distribution and habitat. Argentina, Bolivia, Mexico, Peru, and Chile. In Chile it grows only in the northern regions of the country (Arica-Parinacota and Tarapacá), between 4340 and 4460 m, in permanently flooded soils.

Distinctive features. Spikelets with only two florets; glumes relatively long covering 3/4 of the spikelet; dwarf plants, exclusively pistillate; ligules up to 1.5-3 (-6) mm long.

Phenology. It has been collected with flowers and fruits in March and April.

Conservation status. Insufficient data (Gatica-Castro *et al*. 2015).

Notes: Related to *P. chamaeclinos*, a species that has not been identified in the country (Negritto & Anton 2000; Davidse *et al*. 2010). It is distinguished from *P. chamaeclinos* by acute to subacute ligule (truncate in *P. chamaeclinos*), ligule 1.5-3 (-6) mm long (0.3-3 mm in *P. chamaeclinos*), golden spikelets (straw-colored with violet tints in *P. chamaeclinos*), 3.5-4 mm long spikelets (4.5-5 mm in *P. chamaeclinos*), obtuse glumes and lemmas (subacute to acute in *P. chamaeclinos*) and having rhizomes (absent in *P. chamaeclinos*); however, as Negritto & Anton (2000) observe, the superposition of characters makes it very difficult to separate the two species.

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Parinacota, 22 km E de Zapahuira hacia Portezuelo de Chapiquiña, 18°19' S, 69°30' W, 4460 m, IV-2001, Peterson & Soreng 15729 (CONC, US). Region of Tarapacá, Prov. Iquique, 106 km NE de Huara hacia Colchane, 19°34' S, 68°58' W, 4.340 m, 26-III-2001, Peterson & Soreng 15659 (CONC, US).

Poa* sect. *Anthochloa (Nees & Meyen) Soreng & L. J. Gillespie, Aliso 23: 431. 2007. *Anthochloa* Nees & Meyen, Reise Erde 2: 14. 1834. TYPE: *Anthochloa lepidula* Nees & Meyen.

Plants gynomonoecious; lemmas broad, flabelliform, whitish, multi-veined, deeply bilobed; dwarf plants, annual or perennial, endemic to the high mountains in the Andes of Bolivia, Peru, northern Argentina and northern Chile. *Poa lepidula*.

8. **Poa lepidula** (Nees & Meyen) Soreng L. J. Gillespie, Aliso 23: 431. 2007. *Anthochloa lepidula* Nees & Meyen, Reise Erde 2: 14. 1834. TYPE: Perú, Andes, Lake Titicaca, 15000 ft, *F. Meyen s.n*. (isotypes BAA bc-000003155!, CAS bc-000000469! fragm., LE-TRIN-2483.01 not seen, US-865410).

Anthochloa lepida Nees & Meyen, Gramineae 122. 1841. TYPE: Perú, in Peruviae andibus, 14500-15000 pedum alt., Apr., *F. Meyen s.n*. (holotype LE, not seen).

Anthochloa rupestris J. Rémy, Ann. Sci. Nat. Bot. sér. 3. 6: 347. 1846. TYPE: Bolivia, in montibus circa Lagunas de Potosí, *A. D'Orbigni s.n*. (isotype BAA bc-000001471!, US-965411 fragm ex BR not seen).

Plants gynomonoecious, perennial, 1.7-10 cm high, caespitose. Sheaths smooth, glabrous; ligules 0.1-1.5 mm long, membranous, lacerate, hyaline, glabrous on the back; blades 0.5-3 cm long x 0.4-0.9 mm wide, flat or folded with involute margins, linear, glabrous, the margins glabrous or somewhat scabrous, the apex navicular. Inflorescences in panicles or racemes 1-4,5 x 0,4-1 cm, generally covered by the leaves, usually partially included in the sheath; rachis glabrous; pedicels 0.2-2.5 mm long, glabrous. Spikelets 5-10 x 3-6 mm, 3-7-flowered; lower floret perfect, the upper 3 or 4 pistillates; glumes membranous, glabrous, obovate-lanceolate to obovate, with a wide hyaline margin, the apex entire or briefly 2-lobed, unequal, smaller than the contiguous florets, covering approximately 1/4 of the spikelet; lower glume 1-3 mm long, 3-veined; upper glume 2-4 mm long, 3-5-veined; lemmas flabelliform, 5-7-veined, with 2-lobed apex, occasionally with a mucro; lower lemma 3.5-5 x 2 mm, with wide hyaline margin; callus glabrous; palea 2-8 mm long, 2-keeled, with lobate-laciniate apex; lodicules 0.8 mm long; anthers 3, 0.4-1 mm long; staminodes small. Caryopsis 2 mm long, fusiform, subtrigonous.

References. This species was studied in detail by Matthei (1963). It was later cited for Chile, under *Anthochloa*, by Marticorena & Quezada (1985), Tovar (1993) and Soreng (2003) and under *Poa*, by Gillespie *et al*. (2007), Zuloaga *et al*. (2008, 2019), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Matthei (1963: 12, fig. 3 sub *A. lepidula*); Tovar (1993: 146, fig. j-l sub *A. lepidula*); Renvoize (1998: 153, fig. 36 B-E sub *A. lepidula*); Giussani *et al*. (2012: 317);

Distribution and habitat. Native to Argentina, Bolivia, Peru and northern Chile, it is found in the Andean highlands of the Arica-Parinacota and Antofagasta regions (67°45' - 69°48' S), in stony areas with scarce vegetation, between 4000 and 5000 m, associated with *Deyeuxia* sp., *Poa humillima*, *Festuca floribunda* (Pilg.) P.M. Peterson, Soreng & Romasch, and *Azorella* sp.

Distinctive features. Gynomonoecious; spikelets 3-7-flowered, with lower floret perfect, the 3-4 upper florets pistillate; lemmas broadly flabellate, 5-7-veined, with 2-lobed apex, occasionally with a mucro between the lobes; callus glabrous.

Phenology. Flowering between February and May.

Conservation status. Near threatened (Gatica-Castro *et al*. 2015).

Notes. They are dwarf plants from the high South American Andes (sect. *Anthochloa*), related to the species of the informal group "Punapoa" (*P. unispiculata*, *P. gymnantha*, *P. chamaeclinos* and *P. perligulata*) (Giussani *et al*. 2016). They differ by having the florets with widely expanded, flabellate lemmas,

which probably represent an adaptation to anemophilic dispersal (Gillespie *et al*. 2007). Phylogenetic studies based on molecular data by Gillespie *et al*. (2007), resulted in the inclusion of the genus *Anthochloa* into *Poa*, where it appears included in the clade HAMBADD (= supersect. *Homalopoa*), with sectional rank (sect. *Anthochloa*) (Gillespie *et al*. 2007).

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Arica, camino de Chucuyo a las Lagunas de Cotacotani, 18°12' S, 69°15' W, 4500 m, 13-II-1964, Marticorena *et al*. 229 (CONC); Portezuelo de Chapiquiña, 18°15' S, 69°23' W, 4350 m, 26-III-1961, Ricardi *et al*. 204b (CONC); entre Portezuelo de Chapiquiña y Putre, 18°15´S, 69°23' W, 4350 m, 27-III-1961, Ricardi *et al*. 242 (CONC); Chungará, 18°14' S, 69°10' W, 4420 m, 29-III-1961, Ricardi *et al*. 319 (CONC); Lago Chungará, 18°14' S, 69° 10' W, 4550 m, Marticorena *et al*. 251 (CONC); camino de Putre a Chucuyo, 18°1' S, 69°22' W, 4250 m, 12-II-1964, Marticorena *et al*. 205 (CONC); Portezuelo de Putre, 18°12' S, 69°25' W, 4300 m, 6-V-1972, Ricardi *et al*. 245 (CONC). Prov. Parinacota, Volcán Tacora, Cerro Quiñuta, 17°38' S, 69°48' W, 5000 m, IV-1926, Werdermann 1165 (CONC); Cerro Choquelimpie, 18°16' S, 69°13' W, 4800 m, 19-IV-1984, Arroyo 84-893 (CONC); 4 km N de Termas de Chirigualla SW de Chungará, 18|19' S, 69°08' W, 4720 m, 4-IV-2001, Peterson & Soreng 15759 (CONC, US); 26 km E de Zapahuira, Cerro Chapiquiña, 18°20' S, 69°30' W, 4810 m, 1-IV-2001, Peterson & Soreng 15718 (CONC, US); 22 Km E de Zapahuira hacia Portezuelo de Chapiquiña, 18°19' S, 69°30' W, 4460 m, 2-IV-2001, Peterson & Soreng 15734 (CONC, US). Region of Antofagasta, Prov. El Loa, Cerro Aucanquilcha, interior de Ollagüe, 21°14' S, 68°28' W, 4900 m, 2-IV-1985, Arroyo 85-498 (CONC); Km 45 desde San Pedro a Paso Jama, 22°55' S, 67°45' W, 4925-4950 m, 16-III-2001, Peterson *et al.* 15524 (CONC, US); 25 Km NW de Estación Carcote, 21°18' S, 68°30' W, 4680 m, 22-III-2001, Peterson & Soreng 15604 (CONC, US).

Poa* sect. *Dissanthelium (Trin.) Refulio, Syst. Bot. 37(1): 129. 2012. *Dissanthelium* Trin., Linnaea 10(3): 305. 1836. TYPE: *Dissanthelium supinum* Trin. (= Poa calycina (J. Presl) Kunth).

Phalaridium Nees & Meyen, Gramineae 29. 1841. TYPE: *Dissanthelium peruvianum* (Nees & Meyen) Pilg. (=*Poa serpaiana* Refulio).

Gynomonoecious, annual, dwarf; inflorescence spiciform; spikelets with long glumes that usually cover completely the spikelet. A strictly American section, distributed mainly in the high mountain range of the South American Andes above 4000 m. It is found in North America (Mexico) and South America (Argentina, Bolivia, Chile and Peru) (Refulio-Rodríguez *et al*. 2012). Originally treated as genus *Dissanthelium* Trin. Two species: *Poa macusaniensis*, *P. serpaiana*.

9. **Poa macusaniensis** (E. H. L. Krause) Refulio, Syst. Bot. 37: 129. 2012. *Vilfa macusaniensis* Steud. ex Lechl., Berberid. Amer. Austr. 56. 1857, nom. nud. *Graminastrum macusaniense* E. H. L. Krause, Beih. Bot. Centralbl. 32: 348. 1914. *Dissanthelium macusaniense* (E. H. L. Krause) R. C. Foster & L. B. Sm., Phytologia 12(5): 249. 1965. TYPE: Perú: In Pascuis prope Macusani, *W. Lechler 1836* (holotype P cb-00507445!; isotypes BAA col. typus 3474!, GOET, K bc-000433977!, LE bc-00009356!, P bc-00507446!, P bc-00507447!, TUB bc-008928!, US-81735! ex W, US-2804471 fragm. ex GOET!, S-13-19648!, W).

Dissanthelium minimum Pilg., Bot. Jahrb. Syst. 56 (Beibl. 123): 28. 1920. TYPE: Peru: Hochanden zwischen 13 und 14 S, zwischen dem Hafen Pisco und der Gebirgsstadt Ayacucho, Silbergruben von Santa Inés, punamatte bei 4,300-4,400 m, May 1910, *A. Weberbauer 5451* (holotype B; isotype S-05-10045!, US-865891! fragm. ex B).

Plants gynomonoecious, annual, 1.5-3.5 cm high, caespitose, dwarf. Sheaths glabrous, wider than the blades, translucent; ligules 0.3-1.5 mm long, membranous, triangular, acute, glabrous on the back; blades 0.5-1.5 cm long x 0.3-0.7 mm wide, folded, sometimes flat, with glabrous navicular apex. Panicles 0.7-1.5 x 0.5-0.8 cm, contracted, subspiciform, dense; rachis smooth; pedicels 0.5-2 mm long, scabrous, conspicuously widened at the apex. Spikelets 2.6-4 x 1.2-2.2 mm, 2-3-flowered; lower florets perfect, the upper one or two upper florets pistillate, with or without very small staminodes; rhachilla 0.3 mm long, smooth; glumes equal or sub-equal, larger than the spikelet, lanceolate, keeled, 3-veined, with acute apex, the keel and the apex scabrous; lower glume 2.7-4 x 0.6-0.8 mm; upper glume 2.7-4.1 x 0.6-0.9 mm; lower lemma 2.4-2.5 x 0.5-0.7 mm, 3-veined, somewhat scabrous to pubescent, the keel scabrous, the apex 3-dentate, the median tooth larger than the lateral ones and usually with the central vein prolonged into a mucro 0.2 mm long; the upper lemmas shorter; callus glabrous; paleas 1.6 mm long, 2-keeled; lodicules 2, hyaline, acute 0.3 mm long; anthers of perfect flowers 3, 0.2-0.4(-0.6) mm long; anthers of the staminodes 0.2 mm long. Caryopsis 0.9-1.1 x 0.4 mm.

References. Originally described for Peru, it was collected in the north of the country in 1984 (*Arroyo 84-929*), but it was not cited for Chile until 2019 (Zuloaga *et al*. 2019).

Iconography. Renvoize (1998: 160, fig. 38 A-B); Giussani *et al*. (2012: 320).

Distribution and habitat. Argentina, Bolivia, Peru and northern Chile (Swallen & Tovar 1965; Tovar 1993; Renvoize 1998;

Soreng 2003; Zuloaga *et al*. 2008, 2019; Giussani *et al*. 2012). In Chile it has been collected only in Arica-Parinacota Region, 18°12'- 18°20 'S, between 4,450 and 4,480 m, in association with *Baccharis*, *Festuca* and *Deyeuxia*.

Distinctive features. Gynomonoecious, annual, dwarf plants (1.5-3.5 cm high); panicles dense subspiciform; lower florets perfect, the 1 or 2 upper upper florets pistillate; glumes larger than spikelet; lemmas 3-veined, scabrous to puberulous, with 3-toothed apex; callus glabrous.

Phenology. It has been collected in flower and fruit in April.

Notes. This species was previously classified in the genus *Dissanthelium*, which is distinguished from *Poa* by the glumes that exceed the florets and lemmas 3-veined; phylogenetic-molecular studies suggested, however, its classification in the genus *Poa* (Gillespie *et al*. 2007; Refulio-Rodríguez *et al*. 2012).

Related to *P. serpaiana*, it is distinguished by the lemmas 3-toothed at the apex (the entire apex in *P. serpaiana*) and lemmas scabrous to puberulous (glabrous in *P. serpaiana*). Giussani *et al*. (2012) describe only two flowers per spikelet, but in the Chilean material (*Peterson & Soreng 15771*) 3-flowered spikelets are found, with the lower flower perfect and the upper two pistillate, with or without staminodes.

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Parinacota, 22 km E de Zapahuira hacia Portezuelo de Chapiquiña, 18°19' S, 69° 30' W, 4460 m, 2-IV-2001, Peterson & Soreng 15725 (CONC, US); Termas de Chirigualla, SO de Chungará, 18°20' S, 69°10' W, 4480 m, 5-IV-2001, Peterson & Soreng 15771 (CONC, US); Las Cuevas, 18°12' S, 69°28' W, 4450 m, 21-IV-1984, Arroyo 84-929 (CONC).

10. **Poa serpaiana** Refulio, Syst. Bot. 37: 129. 2012. *Phalaridium peruvianum* Nees & Meyen, Gramineae 29. 1841. *Dissanthelium peruvianum* (Nees & Meyen) Pilg., Bot. Jahrb. Syst. 37: 378. 1906 (non *Poa peruviana* Jacq.). TYPE: Peru, ad lacum Titicacam, Apr., *F. J. F. Meyen s.n*. (isotypes B, US-100209! fragm. ex B, W bc-1916-0017512!).

Plants gynomonoecious, annual, caespitose, dwarf, 2-6.5 cm high. Sheaths glabrous, wider than the laminae, with a wide hyaline margin; ligules 0.5-2 mm long, hyaline, triangular or truncate, acute or toothed, decurrent with the sheath, glabrous on the back; blades 0.8-4 cm long x 0.7-1.5 mm wide, tender, glabrous, the apex navicular. Panicles spiciform, 0.9-2 cm long x 0.5-0.7 cm wide; rachis smooth or scabrous; pedicels 0.4-2 mm long, widened at the apex. Spikelets 2-flowered, 2.5-3.4 x 1.5-1.8 mm; rachilla 0.2-0.3 mm long, glabrous; glumes about twice as long as the spikelet, glabrous, 3-veined, the veins more or less prominent, the apex obtuse or acute, the margins broadly hyaline; lower glume 2.5-4.5 x 0.9-1.3 mm; upper glume 2.9-4.5 x 0.9-1.2 mm; lower floret perfect, the upper one pistillate; lemmas smooth, 3-veined, the veins little evident, the apex acute; lower lemma 2-2.3 x 0.7-0.9 mm, the upper one slightly smaller; callus glabrous; palea 1-1.5 mm long with smooth keels; lodicules 0.2 mm long, hyaline, triangular, acute; anthers 0.15-0.3 mm long. Caryopsis obovoid, 1-1.2 x 0.5 mm.

References. Soreng *et al*. (2003, sub *D. peruvianum*), Rodríguez *et al*. (2018), Zuloaga *et al*. (2008, 2019), Finot *et al*. (2022).

Iconography. Tovar (1993: 150, fig. 16j-k. sub *D. peruvianum*); Renvoize (1998: 160, fig. 38C-D); Giussani *et al*. (2012: 333).

Distribution and habitat. Argentina (Jujuy), Bolivia (La Paz, Cochabamba, Potosí), Perú (Ancash, Huancavélica, Lima) and Chile (Swallen & Tovar 1965; Renvoize 1998; Gillespie *et al*. 2009; Refulio-Rodríguez *et al*. 2012; Gutiérrez & Castañeda 2017; Kahn *et al*. 2016; Rodríguez *et al*. 2018). In Chile it has been collected only in the Region of Arica-Parinacota, between 4,040 and 4,840 m, associated with *Festuca*, *Baccharis*, *Adesmia* and *Deyeuxia*.

Distinctive features. Annual plants, dwarf, with subspiciform panicle; glumes longer than the florets, sometimes as long as twice the length of the spikelet (sect. *Dissanthelium*), both 3-nerves; lemmas oval-lanceolate, acute, glabrous.

Phenology. It has been collected in flower and fruit in April.

Notes. This species was described as having 3-veined lemmas (Standley 1936; Swallen & Tovar 1965), although Giussani *et al*. (2012) found that *P. serpaiana* rarely presented lemmas with 5 veins; however, in the Chilean material examined only 3-veined lemmas were found.

Related to *P. macusaniensis*, it is distinguished from it by having lemmas with the apex entire (apex 3-toothed in *P. macusaniensis*). See also observations under that species.

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Parinacota, Termas de Chirigualla, SO de Chungará, 18°20' S, 69°10' W, 4480 m, 5-IV-2001, Peterson & Soreng 15772 (CONC, US); 133 km Este de Arica hacia Termas Jurase, 18°12' S, 69°30' W, 4040-4150 m, 3-IV-2001, Peterson & Soreng 15744 (CONC, US); 3 Km N de Parinacota por camino hacia Visviri, 18°10' S, 69°16' W, 4-IV-2001, Peterson & Soreng 15753 (CONC, US).

Poa* sect. *Homalopoa Dumort., Observ. Gramin. Belg. 110, 113. 1824. *Poa* sect. *Diversipoa* Chrtek & Jirasek, Preslia 34: 65. 1962. *Poa* sect. *Plicatae* Pilg. ex Potztal, Willdenowia 5(3): 472. 1969. TYPE: *Poa chaixii* Vill.

Plants annual or perennial (Chilean species all perennial), without stolons, rarely with rhizomes; innovations extravaginal and intravaginal; ligules truncate or acute; blades flat or folded, the apices navicular; panicles open or contracted, with ascending or diverging branches; spikelets laterally compressed; glumes shorter than adjacent lemmas, keeled; callus glabrous or woolly; lemmas lanceolate, keeled; paleas keeled, glabrous or hairy up to the middle; anthers 1-3.

The section is morphologically heterogeneous; it includes species in both America and Eurasia (Giussani *et al*. 2016). Plants gynomonoecious, gynodioecious or hermaphroditic: *P. atropidiformis* (hermaphroditic), *P. grisebachii* (gynomonoecious), *P. kurtzii* (gynomonoecious), *P. lilloi* (gynodioecious), *P. pearsonii* (gynomonoecious). *Poa atropidiformis* grows in the south of the country, but the remaining species are restricted to northern Chile.

11. **Poa atropidiformis** Hack., Svenska Exped. Magell. 3(5): 224. 1900. *Dissanthelium atropidiforme* (Hack.) Soreng, Novon 8(2): 200. 1998. TYPE: Chile, hab. Fuegia orientalis, Río Cullen, Páramo, 1891, *B. Ansorge 478* (holotype W bc-1916-0008022!; isotypes B, BAA col. typus 2462 fragm. ex B, BAA col. typus 2463!, BAA col. typus 2464!, US-89697!).

Plants hermaphroditic, perennial, caespitose, sometimes with rhizomes or stolons. Culms 5-25 cm tall; innovations intravaginal. Sheaths glabrous, lax, striate; ligules 1.5-4 mm long, hyaline, decurrent with the sheath, triangular, the apex acute or acuminate, whole or lacerated, the back somewhat scabrous; blades short, 1.5-4 cm long x 0.4-0.8 mm wide, folded, glabrous on the adaxial face, scabrous on the margin, the apex acute and scabrous. Panicles 1-5.5 x 0.4-0.5 cm, contracted to spiciform, linear, pauciflowered; rachis glabrous or scabrous; pedicels 0.5-4 mm long, smooth or scabrous. Spikelets 3-4.5 (-7) x 1-1.5 (-4.5) mm, 2-3-flowered; rhachilla internodes 0.4-0.8 mm long, glabrous; glumes subequal, generally longer than or as long as the florets, keeled, the keel scabrous in upper half, acute; lower glume 2.8-4 x 0.5-0.8 mm, 1-3-veined; upper glume 3-4.5 x 0.5-1.1 mm, 3-veined; lemmas lanceolate to ovate, glabrous or short hairy, 5-veined, the veins smooth, scabrous or short hairy, little evident, the keel smooth for the most part, scabrous in the apical portion; lower lemma 2.8-4.2 x 0.7-1.1 mm, the upper ones smaller; callus glabrous; paleas 2.3-2.5 (-3.5) mm long, with separate keels, scabrous in the upper third or half; lodicules 0.4-0.6 mm long; anthers 0.4-0.8 mm long. Caryopsis 1.5 x 0.6 mm, ellipsoidal, glabrous.

References. Originally described for Chile, it was later cited by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Distribution and habitat. Chile and Argentina (Hauman & Vanderveken 1917; Marticorena & Quezada 1985; Soreng *et al*. 2003; Rodríguez *et al*. 2018), it is restricted to the southernmost part of the country in the Region of Magallanes (50°44'- 53°18' S), between 3 and 1,300 m. It grows in humid and saline soils (Nicora 1978).

Notes. Soreng (1998) transferred this species to the genus *Dissanthelium*, currently included in *Poa* with sectional rank (Soreng *et al*. 2003; Gillespie *et al*. 2007). Phylogenetic studies carried out by Gillespie *et al*. (2007) also suggest a weak relationship with *P. laetevirens* and other members of the sect. *Dasypoa*, as part of the clade HAMBADD (= subgenus *Poa* sections *Homalopoa*, *Acutifoliae*, *Madropoa*, *Brizoides*, *Austrofestuca*, *Dasypoa*, *Dioicopoa*, in addition to the informal groups Punapoa and Australopoa). Giussani *et al*. (2016) determine that *P. atropidiformis* is part of a polytomy along with other hermaphroditic species, whose hermaphroditism they consider a plesiomorphic state retained in them.

Key to varieties

1. Lemmas and paleas glabrous; spikelets 3-4,5 mm long ..... *P. atropidiformis* var. *atropidiformis*

1'. Lemmas and paleas pubescent; spikelets 4,5-7 mm long ..... *P. atropidiformis* var. *patagonica*

11a. **Poa atropidiformis** Hack. var. **atropidiformis**

Iconography. Nicora (1978: 148, fig. 89); Giussani *et al*. (2012: 295 figs. A-D).

Distribution and habitat. This variety is found in the Region of Magallanes, provinces of Última Esperanza and Tierra del Fuego (51°17'- 53°18' S). In Argentina it was mentioned for the provinces of Santa Cruz (Güer Aike, Lago Argentino) and Tierra del Fuego (Ushuaia) (Nicora 1978; Moore 1983; Giussani *et al*. 2012). It grows in meadows and saline grasslands, subsalt shrub steppe, dunes and interdunes, from sea level to 150 m, associated with *Lepidophyllum*, *Berberis*, *Chiliotrichum* and *Festuca gracillima* Hook.f.

Distinctive features. Glumes subequal, generally longer than or as long as the florests, keeled; lemmas glabrous; callus glabrous.

Phenology. Flowering between January and March.

Notes. According to Soreng (1998), this variety has glabrous lemmas, but in the rest of the characters it does not differ from var. *patagonica*. Giussani *et al*. (2012) point out that the callus can be glabrous or woolly, but in the Chilean material studied, no specimens with woolly callus were found.

Additional specimens examined. CHILE, Region of Magallanes, Prov. Magallanes, Seno Otway, 53°03' S, 71°15' W, 3 m, 26-II-1971, Cekalovic 87-B (CONC); Seno Otway, just S of the Mina de Carbon Pecket, ca. 27 km NW of Punta Arenas, 23 km WSW of Retin Kon Aiken and hyw 9 N, low grassy bench above the sea, grassy subsaline interdune thatch, 10 m, 52°59' S, 71°14'W, 25-II-2002, R. J. & N. L. Soreng 7363 (CONC, US); Prov. Tierra del Fuego, Isla Grande, ca. 1 km hacia el interior desde Punta Espora cruzando el Estrecho de Magallanes desde Punta Delgado, ca. 100 km NE de Punta Arenas 52°29'S, 69°27'W, 5-10 m, 26-II-2002, R. J. & N. L. Soreng 7364 (CONC); Tierra del Fuego, San Sebastián, 53°18'S, 68°42'W, 30 m, 30-I-1962, Ricardi & Matthei 235 (CONC); Prov. Última Esperanza, Rincón Negro, Cerro Castillo, 51°17' S, 72°20' W, 18-III-1972, Pisano 3619 (CONC).

11b. **Poa atropidiformis** Hack. var. **patagonica** (Parodi) Nicora, Darwiniana 18: 97. 1973. *Dissanthelium patagonicum* Parodi, Physis (Buenos Aires) 8: 80, f. 7. 1925. *D. atropidiforme* (Hack.) Soreng var. *patagonicum* (Parodi) Soreng, Novon 8(2): 200. 1998. TYPE: Argentina, Santa Cruz, Río Gallegos, 24 Dic 1922, *L. Dauber 180* (holotype BA; isotypes BAA Col. Typus 924 [BAA bc-00000130]!, SI-61722!, US-2947335 ex herb. Parodi 5791 bc-00133620!).

References. Described for Argentina (Santa Cruz), it was cited for the first time for Chile by Finot *et al*. (2022).

Iconography. Giussani *et al*. (2012: 295 figs. E-F).

Distribution and habitat. This variety, considered endemic to Argentina until now, was collected in Chile in 1985 in Sierra de Los Baguales, Ultima Esperanza province (50°44' S) and confused with var. *atropidiformis* in herbarium material. According to Giussani *et al*. (2012) it grows in the same conditions as the typical variety. It grows associated with *Deschampsia antarctica* E. Desv.

Phenology. Flowering in January.

Notes. It differs from the typical variety by the shortly pubescent lemmas and the length of the spikelets. Nicora (1978) includes anatomical observations that distinguish it from the typical variety (a greater number of vascular bundles in contact to both epidermis by thick sclerenchyma bands compared to the typical variety).

The type specimens of *Dissanthelium patagonicum* carry a label that indicates Río Coyle, Santa Cruz, as the collection locality, unlike the original description where Río Gallegos, Santa Cruz, is indicated as the locality of origin. The spikelets of BAA, SI, and US types have glumes significantly longer than the florets, and the lemmas are ovate.

Additional specimens examined. CHILE, Region of Magallanes, Prov. Última Esperanza, Sierra de Los Baguales, Cerro Santa Lucía, 50°44' S, 72°20' W, 1300 m, 15-I-1985, Arroyo 85-175 (CONC).

12. **Poa grisebachii** R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal. IV, 1: 182, t. 9, fig. 8. 1905. TYPE: Argentina, Jujuy, Santa Catalina, región de la Puna, *F. Claren s.n.*, *Herb. F. Kurtz 11412* (lectotype S-R-7848!, designated by M. A. Negritto & A. M. Anton, Kurtziana 27: 366. 1999; isolectotypes BAA col. typus-2553!, CORD bc-00001797!, CORD bc-00001798!, US-91465! fragm. ex S, W-14391!).

Poa superata Hack., Anales Mus. Nac. Buenos Aires 21: 159. 1911. TYPE: Argentina, Tucumán, Dpto. Tafi, Cumbres Calchaquíes, 4200 m, 29 Ene 1907, *M. Lillo 5604* Herb. T. J. V. Stuckert 17738 (holotype W; isotypes BAA, CORD, LIL, US-88721 fragm. ex W, W).

Plants gynomonoecious, perennial, caespitose, 15-20 cm high. Sheaths 4-10 cm long, glabrous; ligules 2 to 3.2 mm long, truncate; blades 6-16 cm long x 2-3 mm wide, striate, tender, lax, folded or flat, glabrous or somewhat scaberulous on the abaxial side, usually exceed the inflorescence. Panicles 3-15 x 2.5-4 cm, open, lax, ovate-oblong. Spikelets 5.5-8 mm long, 5(-6)-flowered; glumes unequal, covering one-third to one-half of the adjacent florets, glabrous; lower glume 2-2.5 mm long, less than 1/2 the length of the first lemma; upper glume 3-3.5 mm long; lemmas 4.5-5.7 mm long; proximal lemma(s) glabrous or sparsely pubescent, distal lemmas usually pubescent, the margin membranous, lacerate at the apex; callus glabrous; paleas 4-4.3 mm long, glabrous or scaberulous on the veins, with erose margins; lower floret perfect, with anthers 1.8-2.2 mm long; distal florets pistillate, with well developed but sterile or vestigial anthers, varying to all florets pistillate within few to many spikelets or whole inflorescence.

References. Described for Argentina, it was cited for the first time for Chile by Sylvester *et al*. (2016).

Iconography. Negritto & Anton (1999: 367, fig. 1; 2000: fig 1; 2008: 98, figs. 1G, 2C and 2H); Giussani *et al*. (2012: 305 y 336). Giussani *et al*. (2012: sp. 45, p. 305; sp. 59, p. 366, as *P. superata*).

Distribution and habitat. Argentina, Chile and Perú (Hauman & Vanderveken, 1917; Aagesen *et al*., 2009; Giussani *et al*., 2012; Sylvester *et al*., 2016; Zuloaga *et al*., 2019). Dry Puna grasslands and high Andean steppe 3000-4500 m. In Chile, it is restricted to the regions of Arica-Parinacota and Tarapacá (69°12'- 69°35' S), between 3310 and 3432 m. It has been collected on rocky slopes associated with tall columnar cacti, *Polylepis*, *Calceolaria*, *Krameria*, *Festuca* and *Poa* (*Peterson & Soreng 15712a*, *15707*).

Distinctive features. Gynomonoecious; panicle lax, somewhat open; spikelets with glumes unequal, covering 1/3-1/2 of the ajacent florets; callus glabrous.

Phenology. Flowering between March and April.

Notes. Similar to *P. kurtzii*, it differs by the tender leaves, by the length of the ligules (2-3.2 mm in *P. grisebachii*, 2.5-10 in *P. kurtzii*), by the spikelets with 5-6 florets (3-4 florets in *P. kurtzii*), by the length of the glumes (glume I: 2-2.5 mm in *P. grisebachii*, 2.2-3.1 in *P. kurtzii*; glume II: 3-3.5 in *P. grisebachii*, 2.8-3.7 mm in *P. kurtzii*), and the length of the anthers (2 mm in *P. grisebachii*, up to 3.2 mm in *P. kurtzii*).

Sylvester *et al*. (2016), cited the species for northernmost Chile and adjacent Peru and suggest that it could be present also in Bolivia; previous works consider *P. grisebachii* and *P. superata* endemic to northwestern Argentina (e.g. Zuloaga *et al*. 1994, 2008; Negritto & Anton 2000; Giussani *et al*. 2012).

Additional specimens examined. CHILE, Region of Arica and Parinacota, Prov. Parinacota, 15 km E de Zapahuira, camino a Guallatiri, 18°20' S, 69°31' W, 4156 m, 1-IV-2001, Peterson & Soreng 15716 (CONC, US); 15 km E de Zapahuira, camino a Guallatiri, 18°20' S, 69°31' W, 4156 m, 1-IV-2001, Peterson & Soreng 15712a (CONC, US); camino de Zapahuira al Portezuelo de Chapiquiña, 18°20' S, 69°34' W, 3520 m, 1-IV-2001, Peterson & Soreng 15707 (CONC, US); 133 km al E de Arica hacia termas de Jurase, 4040-4150 m, 18°12' S, 69°30' W, 3-IV-2001, Peterson & Soreng 15751c (CONC, US). Region of Tarapacá, 67 km NE de Huara por camino A-55 a Colchane, 19°43' S, 69°13' W, 3310 m, 25-III-2001, Peterson & Soreng 15615 (CONC, US).

13. **Poa kurtzii** R.E. Fr., Nova Acta Regiae Soc. Upsal., ser. 4, 1: 183. 1905. TYPE: Argentina, Prov. Jujuy, Timón Cruz in ripariis, 3850 m, 5 Febr. 1901, *F. Claren s.n. Herb. F. Kurtz 11584* (lectotype S-R-7845!, designated by Negritto & Anton, Kurtziana 27(2): 366. 1999; isolectotypes BAA col. typus 2597 fragm ex S!; BAA col. typus 2598 fragm. ex S!; CORD!; S-R-7844!; US-88772 fragm. ex S).

Poa munozensis Hack., Anales Mus. Nac. Buenos Aires 21: 155. 1911. TYPE: Argentina, Tucumán, Tafi, Cerro Muñoz, 3900 m, 25 ene 1908, *M. Lillo 7955 Herb. T. Stuckert 18851* (lectotype Cord, designated by A.M. Negritto & A.M. Anton, Kurtziana 28: 114. 2000; isolectotypes: LIL, US-88756 plant in the right, fragm. ex W, W).

Poa asperiflora Hack., Repert. Spec. Nov. Regni Veg. 11: 28. 1912. TYPE: [Bolivia, La Paz]. In insula Solis, lacus Titicaca, 3840 m, Mart. 1910, *O. Buchtien 2549* (holotype W 38190!; isotypes B, BAA col. typus 2458!, bc-00004755, US-89699 fragm. ex W, US bc-001117881!).

Poa pflanzii Pilg., Bot. Jahrb. Syst. 49: 187. 1913. TYPE: Bolivia, La Paz, Palca-La Paz, Huaripampa, in einem Hochtal bei 3400 m, auf humosem Boden, *K. Plflanz 360* (lectotype S, designated by M.A. Negritto & A.M. Anton, Kurtiana 28: 114. 2000; isolectotypes B, BAA col. typus 2654 fragm. ex B, US-81614 fragm. ex B).

Poa altoperuana R. Lara & Fern. Casas, Fontequeria 21: 19. 1988. TYPE: Bolivia, La Paz, inter Milluni et Zongo, 19KEC90, 4600 m, locis saxosis, 8 May 1973, *Lara 41e* (holotype LPB; isotype NY).

Plants gynomonoecious, perennial, caespitose, 20-70 cm high. Sheaths scabrous at the top, glabrous and smooth towards the base; ligules (2.5-) 5-8 mm long, acute, hyaline, decurrent with the sheaths; blades 10-15 cm long x 1.8-3.5 mm wide, folded with involute margins, rigid, scabrous, very sharp. Panicles 12-28 x 5-8 cm, ovate, open, lax, with patent branches, 2 (rare 3) branches at the basal nodes of the panicle; basal branches 3-4 cm long; branches pulvinate, the pulvinules blackish; basal portion of branches devoid of spikelets; pedicels 1 mm long, strongly scabrous. Spikelets (3.7-) 4.2-6 mm long, 2-4-flowered; rhachilla internodes scabrous-hairy, 0.8-1.2 mm long; glumes unequal, glabrous and with membranous margins, both shorter than the adjacent florets; lower glume 2.2-3.1 mm long, 1-veined; upper glume 2.8-3.7 mm, 3-veined; lemmas 4-4.7 x 2-2.4 mm, subacute, glabrous or scantly, scabrous-hairy in the lower keel and sometimes surfaces, smooth or scabrous in the upper half, 5-veined, tinged with purple and yellow, the margin membranous-hyaline towards the apex; callus glabrous or with very short dorsal hairs, less than 0.1 mm long; paleas 3.5-4 mm, scabrous on the keels in the upper half; lower florets perfect, with anthers 2-3.2 mm long; distal florets pistillate, with androecium reduced to 3 staminodes; lodicules 1 mm long, hyaline, acute, with a conspicuous, acute lateral lobe. Caryopsis 2 mm long.

References. This species was indicated for the first time for the country by Tovar (1993), who also mentions it for Peru and Bolivia; later, however, Zuloaga *et al*. (1994: 123) cite it as endemic to Argentina (Jujuy, Tucumán), but for Chile they cite

its synonym *P. munozensis* as a valid species (as *P. muñozensis*). Negritto & Anton (2000) cite it for Argentina (Jujuy, Salta, Tucumán, Catamarca and La Rioja), Bolivia and Peru, but not for Chile. It is later cited by Renvoize (1998) for Bolivia, Chile and Peru (under *P. asperiflora* Hack.); Soreng *et al*. (2003), Rodríguez *et al*. (2018) and Finot *et al*. (2022) cited it for Argentina, Bolivia, Peru and Chile (Arica - Parinacota Region).

Iconography. Negritto & Anton (2000: 97, fig. 1C, 98, fig. 3G y 116, fig. 10); Giussani *et al*. (2012: 313 A-H).

Distribution and habitat. Native of South America, it is distributed in Chile, Argentina (Catamarca, Jujuy, La Rioja, Salta, Tucumán), Bolivia (La Paz) and Peru (Ancash, Ayacucho, Huancavélica, Junín, La Libertad, Moquehua, Puno, Tacna) (Giussani *et al*. 2012; Sylvester *et al*. 2016; Zuloaga *et al*. 2019); in Chile it is restricted to the regions of Arica-Parinacota and Tarapacá (18°07'- 19°34' S), between 4000 and 4680 m, where it has been collected in high-altitude wetlands growing in association with *Bacharis*, *Adesmia*, *Festuca*, *Azorella* and *Parastrephia*.

Distinctive features. Plants gynomonoecious; panicles open, lax; branches pulvinate, the pulvinules blackish; basal portion of branches devoid of spikelets; glumes unequal, both smaller than the adjacent florets; callus glabrous or with very short hairs.

Phenology. Flowering between March and April.

Conservation status. Vulnerable (Gatica-Castro *et al*. 2015).

Notes. A species of sect. *Homalopoa* s.l. it has also been considered a member of the informal group "Punapoa" (Gillespie *et al*., 2007). Related to *P. grisebachii*, *P. lilloi* and *P. pearsonii*; it differs from *P. lilloi*, because in the latter the inflorescences do not exceed the length of the foliage and the ligule is shorter (1.5-2.5 mm in *P. lilloi*, 2.5-8 mm in *P. kurtzii*). From *P. grisebachii* it is distinguished by having firmly involute leaves, scabrous lemmas and slightly uneven glumes (softly pubescent distal lemmas and remarkably unequal glumes in *P. grisebachii*).

Poa kurtzii was originally described as a dioecious species. For discussion about the variations on the reproductive systems of this species see Anton (1978), Anton & Connor (1995), Negritto & Anton (2000) and Giussani *et al*. (2012).

The specimen *Peterson & Soreng 15654* has 2-flowered spikelets, ca. 3.7 mm long, with scabrous glumes towards the apex, glabrous towards the base, with the keel scabrous in the upper half; lower glume 2.5 mm, shorter and narrower than upper, 1-veined; upper glume 3 mm, 3-veined; callus glabrous.

Additional specimens examined. CHILE. Region of Arica and Parinacota, Prov. Parinacota, 133 km E de Arica hacia Termas Jurasi arriba de Putre, 4040- 4159 m, 18°12' S, 69°30' W, 3-IV-2001, Peterson & Soreng 15750 (CONC, US); 133 km E of Arica at Termas Jurasi above Putre; slopes with *Festuca*, *Baccharis* and *Adesmia*, 4040 - 4150 m, 03-IV-2001, Peterson & Soreng 15751-a, b (US); Bofedal al NE de Parinacota, 4680 m, 18°07' S, 69°12' W, 31-III-1992, Arancio 459-A (CONC); 66 km NW de Colchane por camino hacia Chilcayo, Puerto Capitán, E de Cerro Capitán, 18°55'S, 68°56'W, 4464 m, 28-III-2001, Peterson & Soreng 15676 (CONC); Prov. Arica, entre Portezuelo de Chapiquiña y Putre, 18°25' S, 69°42' W, 4000 m, 23-III-1961, Ricardi *et al*. 337 (CONC); 15 E de Zapahuira por camino hacia Guallatiri, 18°20' S, 69°31' W, 4156 m, 1-IV-2001, Peterson & Soreng 15717 (CONC, US). Region of Tarapacá, Prov. Iquique, 106 km NE de Huara por camino hacia Colchane, 4340 m, 19°34' S, 68°58' W, 26-III-2001, Peterson & Soreng 15654 (CONC, US).

14. **Poa lilloi** Hack., Anales Mus. Nac. Buenos Aires 21: 153. 1911. TYPE: Argentina: Tucumán, Dept. Tafi, Cerro Calchaquíes, 4500 m, 29-I-1907, *M. Lillo 5619* (holotype W!; isotypes BAA-2618! bc-00004733, CORD-1818!, G!, GH, LIL-45451!, SI-89929!, US-88760 fragm. ex W!, US-1867542 ex NY!).

Poa jujuyensis (Parodi ex Nicora) Giussani, Soreng & Anton, Darwiniana 49(1): 91. 2011. *Poa parviceps* Hack. var. *jujuyensis* Parodi ex Nicora, Hickenia 2(33): 143. 1997. TYPE: Argentina, Jujuy, Humahuaca, Mina Aguilar, 4600-4800 m, *J. Fernández s.n.* (holotype: BAA-4785! col. typus 2588 (2 sheets); isotype SI-70197!).

Plants gynodioecious, perennial, 7-20 cm tall, caespitose or with short, fragile rhizomes; innovations intra- and extravaginal. Sheaths 4-6 cm long, glabrous; ligules 1.5-2.5 mm long, acute, triangular, entire, scabrous on the abaxial side; blades 5-9 cm long x 1.5-2 mm wide, involute margined, apices and margins finely scabrous. Panicles 2.5-4 x 1-2 cm, lax or contracted, exerted, short, with agglomerated spikelets at the ends of the branches. Spikelets 3.5-4.5 mm, (2-)3-flowered; spikelets of pistillate plants with staminodes; spikelets of hermaphroditic plants with anthers up to 2.5 mm long; pedicels 0.5-1.5 mm, scabrous; rachilla 0.6 mm, notably scabrous; glumes subcoriaceous, translucent, unequal, shorter than adjacent florets; lower glume 2.5-3 mm long, shorter and narrower than upper glume; upper glume 2.8-3.5 mm; lemmas 3-3.5 mm, with fine and evenly distributed scabrosities, stained with purple towards the apex, this acute or subobtuse, 5-veined, the veins fade in the upper third; callus glabrous, sometimes with few hairs; paleas 2.5-3 mm long; lodicules linear, acute; anthers 2-2.5 mm long, the

pistillate flowers with sterile anthers.

References. Described for northwestern Argentina (Tucumán), it has been recorded for Chile by Soreng *et al*. (2003), Zuloaga *et al*. (2008, 2019), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Negritto & Anton (2000: 117, fig. 11); Giussani *et al*. (2012: 319 A-I).

Distribution and habitat. Argentina, Bolivia and Chile (Lillo 1916; Hauman & Vanderveken 1917; Soreng *et al*. 2003; Sylvester *et al*. 2016). It was cited for Perú by Tovar (1993), Negritto & Anton (2000), Soreng *et al*. (2003) and Giussani *et al*. (2012), but later excluded from Peru by Sylvester *et al*. (2016). In Chile it has been collected only in the Region of Arica and Parinacota (18°15' S), at 4250 m.

Distinctive features. Plants gynodioecious (but see Negritto & Anton, 2000); plants pistillate with staminodes; hermaphroditic plants with anthers 2-2.5 mm long; inflorescences lax, sometimes dense, exerted, short, with the spikelets agglomerated at the ends of the branches; lemmas evenly scabrous.

Conservation status. Insuficient data (Gatica-Castro *et al*. 2015).

Notes. Related to *P. kurtzii* y *P. pearsonii*. It differs from *P. pearsonii* by having leaf blades finely scabrous at the margins and apex (strongly retrorse-scabrous blades in *P. pearsonii*). See also notes under *P. kurtzii*.

Poa parviceps var. *jujuyensis* was accepted, with this rank, by Negritto & Anton (2000) and Soreng *et al*. (2003). Later, Giussani *et al*. (2011) raise it to the specific rank [*P. jujuyensis* (Parodi ex Nicora) Giussani, Soreng & Anton]. Later, however, this taxon was reduced to the synonymy of *P. lilloi* (Zuloaga *et al*. 2008, 2019; Tropicos.org 2021), a point of view that we follow in this treatment.

It is considered an interesting plant as fodder (Negritto & Anton 2000).

Additional specimens examined. CHILE. Region of Arica and Parinacota, camino del Portezuelo de Chapiquiña a Putre km 18, 4250 m, 11-II-1964, Marticorena *et al*. 132 (CONC).

15. **Poa pearsonii** Reeder, J. Wash. Acad. Sci. 41: 295. 1951. TYPE: Peru, Puno, Cerro Ichuasi, Coccachara, southwest of Llave, alt. about 4850 m, 22 Nov 1946, growing in gravelly soil at bottom of cliffs and alongside boulders, *O. P. & A. Pearson 91* (holotype YU bc-000919!; isotype: US-1962954; YU bc-000915!).

Plants gynomonoecious, perennial, densely caespitose. Culms up to 60 cm tall, erect. Sheaths glabrous to scaberulous; ligules (8-) 10-15 mm long; blades 8-30 cm long x 0.8-1 mm in diameter, narrow, linear, folded with involute margins, setaceous, somewhat rigid, strongly retrorse-scabrous. Panicles 6-14 x 2.5 cm, pyramidal, open or loosely contracted, not exceeding the longest foliage; rachis scaberulous; branches ascending, bare at the base, capillaceous, nutant, the lower ones 7-8 cm long; pedicels short, scabrous. Spikelets 4.5-7.5 mm long, (2-)3-flowered; lower floret hermaphroditic, the upper ones pistillate with tiny staminodes (rarely all florets pistillate); rachilla internodes very short; glumes unequal, acute, membranous, with hyaline margin, scabrous towards the margins; lower glume 3.3-4.6 mm long, 1-veined; upper glume 4.2-4.7 mm long, slightly shorter than the adjacent floret, 3-veined; lemmas acute, 5-veined, densely scabrous; lower lemma 4-5.5 mm long, the upper ones smaller; callus glabrous; paleas 3.5-5 mm long, slightly shorter than lemmas, briefly 2-toothed, keels scabrous; lodicules of the perfect flowers 1.2 mm long; perfect flower with anthers 2 mm long; staminodes of the pistillate flower with anthers 0.2 mm long.

References. This species was mentioned for the first time for Chile by Soreng *et al*. (2003). Later it was cited by Giussani *et al*. (2012) Zuloaga *et al*. (2008, 2019), Sylvester *et al*. (2016), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Iconography. Giussani *et al*. (2012: 325).

Distribution and habitat. Argentina (Jujuy), Bolivia (La Paz, Cochabamba, Oruro, Potosí), Peru (Arequipa, Lima, Puno) and Chile (Tovar 1993; Renvoize 1998; Giussani *et al*. 2012). In Chile it is restricted to the province of Parinacota, (17°43'-18°55' S) in grass steppe with *Deyeuxia*, *Festuca* and shrubby Asteraceae, between 4464 and 4500 m. It grows on stony soil at the bottom of ravines (Reeder 1951).

Distinctive features. Panicles open or contracted, not exceeding the length of the foliage; spikelets (2-) 3-flowered; lower floret perfect, the upper ones pistillate with tiny staminodes (rarely all florets pistillate); glumes unequal; callus glabrous.

Phenology. Flowering between January and April.

Conservation status. Insufficient data (Gatica-Castro *et al*. 2015).

Notes. Similar to *P. kurtzii*, from which it differs by the inflorescences not exceeding the foliage and by the longer ligule ((8-) 10-15 (-20) mm in *P. pearsonii*, 2.5-8 mm in *P. kurtzii*.

Additional specimens examined. CHILE. Region of Arica and Parinacota, Prov. Parinacota, Tacora-Humapalca-Río Azufre, 17°49'S, 69°47'W, 4490 m, 4-I-2013, Teillier 7735 (CONC).

Poa* sect. *Acutifoliae Pilg. ex Potztal, Willdenowia 5(3): 473. 1969. TYPE: *Poa acutifolia* Hauman.

Leaves flat, short, mostly basal, with apices abruptly navicular or pointed; panicles lax or contracted, linear, pauciflowered; glumes shorter than adjacent florets; lemmas completely glabrous; plants of wet meadows of the Andes of central Chile, from the regions of Valparaíso and Metropolitan (Soreng & Peterson 2008). Two species: *P. acinaciphylla*, *P. planifolia*.

16. **Poa acinaciphylla** E. Desv., Hist. Chile, Bot. 6: 412. 1854. TYPE: Chile, *C. Gay 1119 Cat. propr*. (holotype, P bc-00624274!; isotypes, BAA bc-002626 fragm. ex P!; P bc-00624275!; US-88710! fragm. & photo). Fig. 2.

Poa villaroelii Phil., Anales Univ. Chile 94: 169. 1896. TYPE: Chile, Prov. Santiago, Editioribus locis Andinum invenit orn. *A. Villarroel s.n*. (holotype, SGO-PHIL-402 [currently W-39463]; isotypes, JE!, SGO-37316; SGO-63494; US-88713 fragm.).

Plants hermaphroditic, perennial, caespitose, with short, robust rhizomes. Flowering culms 5.5-70 (-100) cm high, scabrous under the inflorescence. Sheaths closed, scabrous; ligules 3-6 mm long, oblong, scarious, lacerated; blades 4-10 cm long x (2-) 4-8 mm wide, distichous, linear, coriaceous, flat or folded, scabrous on the adaxial surface and margins, apex abruptly navicular. Panicle (3-) 10-15 x 1-1.5 cm, narrow, pauciflowered; branches more or less close to the axis, up to 5-6 cm long with scattered spikelets; pedicels very short, up to twice the length of the spikelets. Spikelets 4-7 mm long, 1-3-flowered, yellowish-green tinged with purplish; rachilla 0.8-1 mm long, glabrous; glumes unequal, oval, keeled, obtuse; lower glume 2.5-3.1 mm long, somewhat shorter than upper, 1-veined; upper glume 3.1-3.8 mm long, nearly as long as the contiguous floret, 3-veined; lemmas 3.5-4.6 mm long, 5-veined, lanceolate, glabrous; callus glabrous; palea shorter than the lemma, 2-keeled, truncate-emarginate; flowers hermaphrodite; lodicules oblong, with a long and sharp lobe; anthers 2.2-2.8 mm long. Caryopsis 2 mm long, yellowish, elliptical.

References. Originally described for Chile by Desvaux (1854), it was later mentioned by Marticorena & Quezada (1985), Soreng *et al*. (2003), García (2007), Soreng & Peterson (2008), Giussani *et al*. (2016), Rodríguez *et al*. (2018) and Finot *et al*. (2017, 2022).

Distribution and habitat. They are plants from the Andes in central Chile and Argentina. In Chile it grows in the Valparaíso, Metropolitan and O'Higgins regions (33°05'- 33°19' S), between 2050 and 3750 m, in high Andean vegas associated with *Luzula parvula* Barros, *Plantago barbata* G. Forst. and *Carex macloviana* d'Urv. (García 2007). Larger plants and populations grow on floating vegetation mats while smaller plants and sparser populations occur on adjacent riparian shores (RJS, personal observation from Río Yerba Loca).

Distinctive features. Leaves short, mainly basal, flat, with apices abruptly navicular or pointed; inflorescence lax with ascending branches close to the axis; flowers hermaphrodite; callus glabrous.

Fenología. Flowering between January and April.

Notes. *Poa acinaciphylla* grows in the same geographical area as *P. planifolia*, to which it is related phylogenetically (Giussani *et al*. 2016); both are found in the Andes of central Chile. *Poa acinaciphylla* differs from *P. planifolia* by its reproductive system (*P. acinaciphylla* is hermaphroditic, *P. planifolia* is gynodioecious), the length of the ligules (5-6 mm in *P. acinaciphylla*, 1-4 mm in *P. planifolia*), the length of the glume lower (2.5-3.1 mm in *P. acinaciphylla*, 3.8-5 mm in *P. planifolia*), the length of the upper glume (3.1-3.8 mm in *P. acinaciphylla*, 4.5 -5.8 mm in *P. planifolia*), the length of the lemmas (3.5-4.6 mm in *P. acinaciphylla*, 5 mm in *P. planifolia*) and callus (glabrous in *P. acinaciphylla*, with a tuft dorsal woolly hairs in *P. planifolia*). *Poa planifolia* has broad flat to strongly folded blades with pungent tips, *P. acinaciphylla* has narrower, thicker blades, with blunt, naviculate tips.

Soreng *et al*. (2003) and Finot *et al*. (2017) considered *Poa acinaciphylla* endemic to Chile; it was recorded in Argentina by Soreng & Gillespie (2007) based on the specimen *Peterson & Annable 11380* collected in Mendoza, but this material was later determined as *Nicoraepoa stepparia*, endemic to Argentina. Giussani *et al*. (2012) do not mention it for Argentina, nor its synonym *P. villaroelii*. Later, Giussani *et al*. (2016) cite it for the central Andes of Argentina and Chile, however, the two specimens included in the analysis come from Chile (*Mieres 3306* from the Valparaíso Region, Prov. Los Andes and *Soreng 7169* from the Metropolitan Region, Prov. Santiago). The specimen *Burkart s.n*. collected in Mendoza, Río Atuel, upper valley of El Sosneado, in 19-II-1942 (SI 13901) was determined as *P. acinaciphylla* by R. J. Soreng, confirming its presence in Argentina.

Poa acinaciphylla was indicated, under its synonym *P. villaroelii*, for Mexico by Hitchcock (1913), Beetle (1977), Espejo-Serna *et al*. (2000) and Villaseñor (2016). Soreng & Peterson (2012) exclude *P. acinaciphylla* from Mexico and refer the Mexican material to *P. chamaeclinos* Pilg., which is not found in Chile.

Poa villaroelii was originally described by Philippi (1896) as a dioecious species. However, its author claims to have seen many specimens but few with open flowers and the description matches the characteristics of *P. acinaciphylla*. Therefore, following Soreng & Peterson (2012) we accept *P. villaroelii* as a synonym for *P. acinaciphylla*.

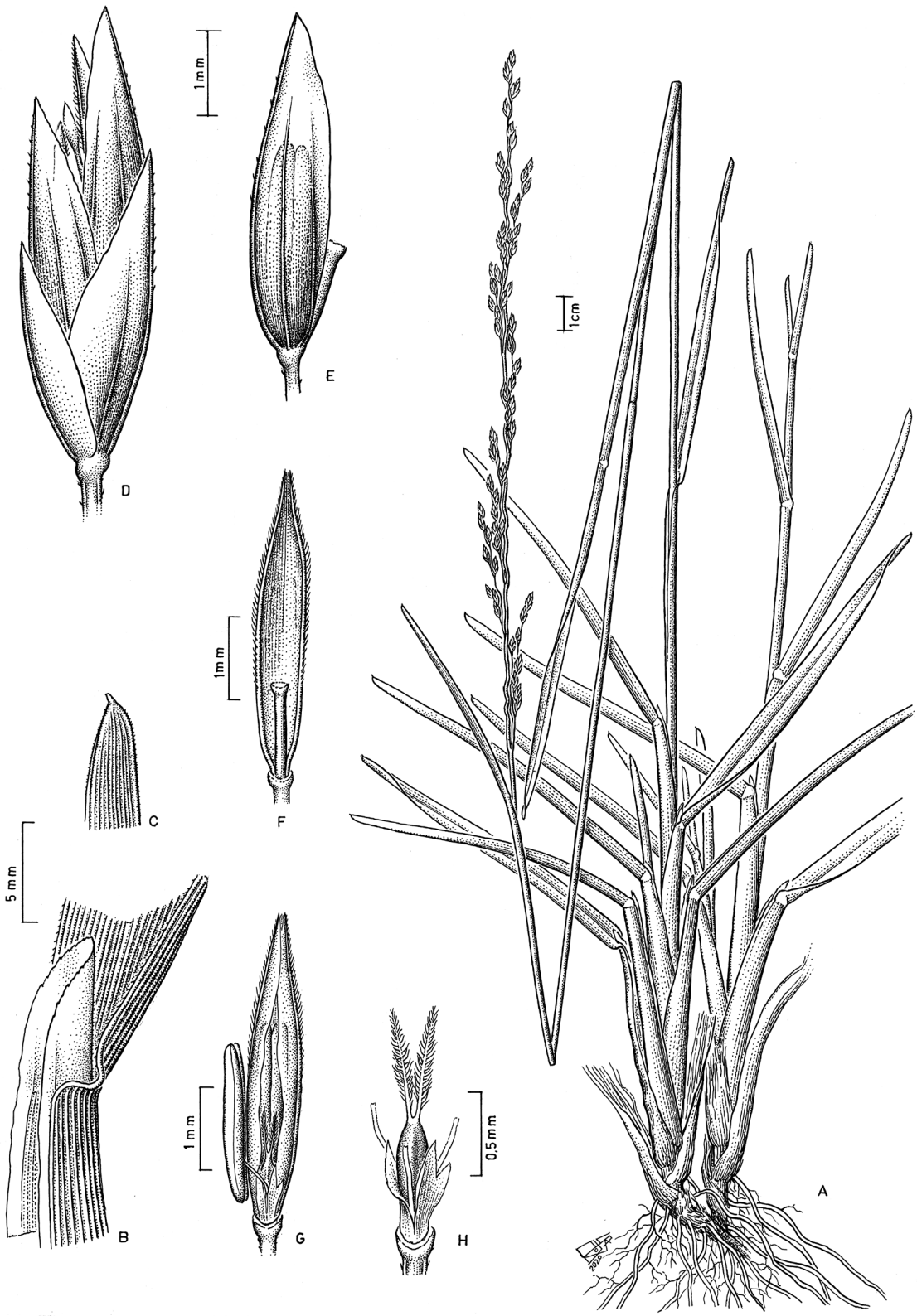

Figure 2. *Poa acinaciphylla:* a. Plant. b. Ligular zone. c. Apex of the leaf blade. d. Spikelet. e. Floret. f. Palea. g. Palea and flower. h. Gynoecium and lodicules. / *Poa acinaciphylla:* a. Planta. b. Zona ligular. c. Ápice de la lámina foliar. d. Espiguilla. e. Antecio. f. Pálea. g. Pálea y flor. h. Gineceo y lodículas.

The protologue of *P. acinaciphylla* does not specify the locality of collection or the herbarium in which the original material was deposited. The specimen P bc-00624274 was labeled as holotype, verified by Parodi in 1935. A fragment of this material in BAA bears an annotation indicating "*inflorescencia laxa de 12-15 cm de largo; ramas inferiores verticiladas (2-3) y todas arrimadas al eje; planta laxamente cespitosa de 60-70 cm de alto; no se ven rizomas; cañas floríferas 1-2 nodes; vainas y láminas lisas, glabras, las vainas inferiores separándose del eje; no se ven estambres; planta dioica*?".

According to Giussani *et al*. (2016) the breeding system of *P. acinaciphylla* would correspond to a reversion to hermaphroditism from the ancestral gynodioecious condition in *Dioicopoa* s.l. Soreng & Peterson (2008) suggest a hybrid origin for *P. acinaciphylla*, involving *P. planifolia* (sect. *Acutifoliae*) and *P. holciformis* (sect. *Dioicopoa* s.s.), a hypothesis not supported by the results of Giussani *et al*. (2016). On the other hand, Nicora (1978) suggests a close affinity between *P. acinaciphylla* and *P. stepparia* (= *Nicoraepoa stepparia*), however, plastid DNA and nuclear ribosomal ITS analyses confirm that *P. acinaciphylla* is a member of *Poa* s.s. (Gillespie & Soreng 2005; Gillespie *et al*. 2007).

Additional specimens examined. CHILE. Region of Valparaíso, Prov. Los Andes, Laguna Turquesa, 33°05' S, 70°19' W, 3400 m, IV-2003, Mieres 3305 (CONC); Los Andes, Laguna Barrosa, 33°06' S, 70°13' W, 3750 m, IV-2003, Mieres 3306 (CONC); Valparaíso, 30-VII-1920, Claude-Joseph 1312 (US). Metropolitan Region, Prov. Santiago, "El Volcán", Castillo 20186, I-1947, 2500 m (US); P.N. Yerba Loca, río Yerba Loca, ca 8 km arriba de Estancia Paulina, ca. 20 km NE de Santiago, 33°16' S, 70°18' W, 2520 m, 16-I-2002, Soreng & Soreng 7169 (CONC, US); P.N. Yerba Loca, río Yerba Loca, ca. 9 km arriba de Estancia Paulina, ca. 20 km NE de Santiago, 2740 m, 33°16' S, 70°17' W, 16-I-2002, Soreng & Soreng 7170 (CONC, US); P.N. Yerba Loca, Río Yerba Loca, ca. 11 km arriba de Estancia Paulina, ca 20 km NE de Santiago, debajo de mina de cobre abandonada, 2833 m, 33°15' S, 70°17' W, 16-I-2002, Soreng & Soreng 7171 (CONC, US); Prov. Chacabuco, Altos de Chicauma, sector tranque, 33°10' S, 70°58' W, 2050 m, I-2003 García & Faúndez 3593 (CONC); Altos de Chicauma, 33°10' S, 70°59' W, 2100 m, I-2003, García 3759 (CONC). Region of O'Higgins, Prov. Cachapoal, Rancagua, Cordillera de Codequa, 34°03', 70°32' W, 3000 m, 17-ene-45 Barros 4081 (US).

17. **Poa planifolia** Kuntze, Revis. Gen. Pl. 3(3): 366. 1898. *Colpodium planifolium* (Kuntze) K. Schum., Just's Bot. Jahresber. 26(1): 330. 1900. *P. chilensis* Trin. var. *planifolia* (Kuntze) Hauman, Anales Soc. Ci. Argent. 86: 238. 1918. TYPE: Paso Cruz 34°: Argentina 2.800 m, Chile 2.600 m, *O. Kuntze s.n*. (isotypes NY bc-00431389!; NY bc-00431390!, B, BAA col. typus 2662!, CORD bc-00001829!, LP 7915!, US-81726 ex W!, W-9661!).

Poa acutifolia Hauman, Anales Mus. Nac. Buenos Aires 29: 405, t. 4. 1917. TYPE: Argentina, Haute Cordillère de Mendoza (Río Tupungato et Río de Plomo, vero 3000 m d'altitude), *L. Hauman 2386* (holotype? BR 688657!; isotypes BAA col. typus 2441!, SI bc-00002880! ex BA 39988, CORD bc-00001788!, G bc-00168117!, SI 2880! ex BAA, US 1024493!).

Plants gynodioecious, perennial, caespitose, 12-60 cm high. Sheaths glabrous, striate, with the margins fused to 1/3-1/2 of their length, keeled; ligules 1-4 mm long, membranous, truncate, white; blades 1-13 cm long x 3-8 mm wide, flat or folded, acute, stiff, glabrous, the apex navicular, with a short mucro, sharp. Panicles 3-15 x 1 cm, contracted, compact. Spikelets 6-7 mm long, with 2-3 (-4) florets; rachilla internodes filiform; glumes acute, shorter than the florets, distally scabrous; lower glume 3.8-5 mm, 1(-3) -veined; upper glume 4.5-5.8 mm, 3-veined; lemma 5 mm long, 5-veined, with keel shortly ciliate, apex membranous, obtuse, barely 2-toothed; callus with a dorsal tuft of woolly hairs; paleas membranous, 2-keeled, 2-toothed, the keels ciliate; lodicules 0.4-0.6 mm long; anthers of the perfect flowers 2.2-2.8 mm long; pistillate flowers with staminodia 1 mm long. Caryopsis 1.9-2.1 mm long, ellipsoid (Fig. 7a).

References. Soreng *et al*. (2003), Giussani *et al*. (2012), Soreng & Peterson (2008), Zuloaga *et al*. (2008, 2019), Rodríguez *et al*. (2108), Finot *et al*. (2022).

Iconography. Giussani *et al*. (2012: 327).

Distribution and habitat. Argentina (Mendoza) and Chile. In Chile it has been collected in the Regions of Valparaíso and Metropolitan (32°49'- 33°39' S), between 2750 y 3280 m, in moist high Andean grasslands.

Distinctive features. Leaves flat, short, mainly basal, broad (3-8 mm wide), with pointed tips; plants gynodioecious (plants with hermaphroditic flowers bear anthers 2.2-2.8 mm long; plants with pistillate flowers have staminodes 1 mm long).

Phenology. Flowers in January and February.

Notes. Related to *P. acinaciphylla* (see notes under *P. acinaciphylla*).

Additional specimens examined. CHILE. Region of Valparaíso, Prov. Los Andes, camino bajo el Cristo Redentor, 32°49' S, 70°04' W, 3530 m, 23-II-2008, Aedo 15452 (CONC). Metropolitan Region, Prov. Cordillera, río Yeso, cerca de Termas del Plomo, 33°36' S, 69°55' W, 3230 m, I-2002,

Soreng & Soreng 7164 (CONC); Río Yeso, cerca de Termas del Plomo, 33°37' S, 69°57' W, 2828 m, I-2002, Soreng & Soreng 7160 (CONC); Valle del Yeso, 33°38' S, 70°03' W, 3200 m, II-1967, Mooney & Mooney 531 (CONC); Valle del Yeso, 33°39' S, 70°04' W, 2750 m, II-1967, Schlegel 5891 (CONC).

Poa* sect. *Dasypoa (Pilg.) Soreng, Novon 8(2): 187. 1998. *Daypoa* Pilg., Bot. Jahrb. Syst. 25(5): 716. 1898. TYPE: *Dasypoa tenuis* Pilg.

Annual or short-lived perennial plants, without rhizomes, up to 30 cm high; innovations intravaginal; panicles dense, cylindrical, lobed; lemmas keeled, sparsely pubescent, rarely glabrous; callus with one to three tufts of hair, rarely glabrous. Three species: *P. darwiniana*, *P. laetevirens*, *P. scaberula*.

18. **Poa darwiniana** Parodi, Revista Argent. Agron. 4(4): 243. 1937. *Triodia antarctica* Hook. f., Fl. Antarct. 2: 380. 1846; *Sieglingia antarctica* (Hook.f.) Kuntze, Revis. Gen. Pl. 2: 789. 1891; *Poa antarctica* (Hook. f.) Stapf, Icon. Pl. 7: t. 2607. 1899, non *P. antarctica* (d'Urv.) Raspail, Ann. Sci. Observ. 2: 87. 1829; *Sieglingia antarctica* (Hook. f.) Macloskie, Rep. Princeton Univ. Exp. Patagonia, Botany 8(1,5,1): 214. 1904, hom. illeg. TYPE: Hab. Tierra del Fuego, *C. Darwin* [1833], Esq. (lectotype K-433742!, designated by D.M. Porter, Bot. J. Linn. Soc. 93: 36. 1986; isolectotypes BAA col. typus 2520!, BAA col. typus 2522!, BM, CGE, US fragm.).

Plants hermaphroditic, perennial, caespitose, with stolons or rhizomes, dwarf. Culms 2-10 cm high, somewhat decumbent at the base; nodes and internodes smooth, glabrous, thin. Sheaths with margins fused 1/2 of their length by a narrow hyaline membrane, slightly laterally compressed, glabrous; ligules 0.5-2 mm long, acute or obtuse and denticulate at the apex, decurrent with the sheaths; blades 1-6 cm long, folded, keeled, the apex navicular, often curved, glabrous. Panicles 1-2.5 cm long, spiciform, included or barely exerted, not exceeding or barely exceeding the foliage, lanceolate to sub-cylindrical, contracted, with 5-20 spikelets; pedicels 1-2 mm long. Spikelets 3-4 mm long, (1-)2-3-flowered, ovoid, laterally compressed, greyish-greenish; rhachilla smooth or scabrous, internodes 0.5-1 mm long; glumes subequal, the lower 1-veined, the upper 3-veined, acute, as long or slightly shorter than the adjacent floret; lower glume 2.8-3.2 mm long; upper glume 3-3.5 mm long; callus glabrous; lemmas 2.5-3.1 mm long, 5-veined, densely scabrous, the apex acute or ending in an apiculate tip or short and scabrous mucro; palea almost as long as the lemma, herbaceous, 2-keeled, with scabrous keels; lodicules 0.5 mm long, widely oblanceolate, lobes undifferentiated; anthers 0.25-0.4 mm long. Caryopsis 1.5-1.7 mm long, fusiform, slightly laterally compressed; furrow well developed; hilum 0.2 mm long, oval.

References. Recorded for Chile by Marticorena & Quezada (1985), Pisano (1987), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003). Soreng & Peterson (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Nicora (1978: 148, fig. 90); Giussani *et al*. (2012: 300).

Distribution y habitat. Chile and Argentina (Tierra del Fuego, Islas de los Estados). The type of *P. darwiniana*, chosen by Porter (1986) as lectotype, was collected by Charles Darwin in Tierra del Fuego in 1833. Moore (1983) later mentions *P. darwiniana* as endemic to Isla de los Estados, Argentina, although Nicora (1978) had previously recorded it for Chile (Hoste Island, Tierra del Fuego) and Argentina (Ushuaia, Isla de los Estados and Puerto San Juan). Subsequently, Edmundo Pisano extends its area of distribution in Chile a little further north, in Seno Otway (52°05 'S), north of Punta Arenas (Pisano 1987). It has been collected in the Region of Magallanes, Magallanes province (Englefield Island, 52°05' S); Chilean Antarctic province (Deceit Island, 55°52' S) and Tierra del Fuego province, (Hoste Island, Orange Harbor), in cracks of coastal rocks. These are rocky coastal cliff plants where they grow at sea level.

Distinctive features. Plants dwarf (2-10 cm tall), with hermaphroditic flowers, arranged in spiciform panicles; callus glabrous; lemmas densely scabrous, totally hairless and end abruptly in a strong mucro.

Phenology. It has been collected in flower in November.

Notes. Species of challenging classification; despite having been classified in the sect. *Dasypoa*, its infrageneric classification is still uncertain (Soreng 1998; Soreng *et al*. 2003; Soreng & Peterson 2008) and it has also been suggested that it might not belong to the genus *Poa* (Soreng 1998). Lemmas ending in a short and strong mucro is a rare character in *Poa*, present only in *P. flabellata*, with which it could be phylogenetically related; anatomically it is distinguished from *Poa* by having more than two adaxial grooves in the leaf blade.

Additional specimens examined. CHILE. Region of Magallanes, Prov. Antártica Chilena, Isla Deceit, Cabo de Hornos Archipelago, Caleta Toledo, 55°52' S, 67°07' W, 18-XI-1982, Pisano 5634 (CONC).

19. **Poa laetevirens** R. E. Fr., Nova Acta Regiae Soc. Sci. Upsal., ser. 4, 1: 181. 1905. TYPE: Argentina, Jujuy, Tumbaya, Moreno, in ripa rivuli humida, 3500 m, 21-II-1901, *R. E. Fries 806* (lectotype S, designated by M. A. Negritto & A.

M. Anton, Kurtziana 27: 366. 1999; isolectotypes BAA, CORD, US-946937!, US-1162321).

Poa nana Phil., Verz. Antofagasta Pfl. 8: 87. 1891, non *P. nana* Savi, Ann. Bot. (Usteri) 24: 49. 1800. *Poa atacamensis* Parodi, Revista Argent. Agron. 29(1-2): 18. 1962[1963]. *Puccinellia atacamensis* (Parodi) Soreng, Novon 8(2): 200. 1998. TYPE: [Chile, Tarapacá], ad Machuca in aquis crescit, *F. Philippi s.n*. (holotype W-39468 ex SGO-PHIL-396!; isotypes B, BAA col typus 2631!, CORD bc-00001826!, SGO-45759, SGO-37318!, US-88754 fragm. & photo ex SGO).

Plants gynomonoecious, perennial, provided with stolons. Culms 5-25 (-30) cm high. Sheaths glabrous, with a narrow hyaline margin, somewhat inflated; ligules 0.5-2 mm long, decurrent with the sheath, acute, obtuse or truncate-toothed at the apex, glabrous on the back, white; blades 1.4-9 cm long x 1-2.5 mm wide, flat or folded, glabrous on the abaxial side, curved and somewhat scabrous at the apex. Panicle 1-3.4 x 0.4-1 cm, subspiciform; rachis smooth; pedicels 0.3-2.5 mm long, smooth or scabrous, not distally dilated. Spikelets (2.5-) 3.6-5.7 x 0.8-2 mm, (2-)3-5-flowered; rachilla 0.3-0.5 mm long, glabrous; glumes acute or obtuse at the apex, the margin hyaline, much smaller than the spikelet, unequal, glabrous; lower glume 0.8-1.1 x 0.2-0.4 mm, 1-veined; upper glume 1-1.5 x 0.4-0.6 mm, 3-veined; lemmas glabrous, with 3 small teeth at the apex or the two lateral teeth reduced, 5-veined, the nerves conspicuous, vanishing near the apex, smooth; lower lemma 2.0-2.5 mm long, the upper ones gradually smaller, frequently with a purplish tint towards the apex; callus glabrous; palea 1.8-2.2 mm long, slightly shorter than the lemma, with scabrous or smooth keels; the basal florets perfect, the distal florets pistillate with the androecium reduced to or without staminodes; perfect flowers with anthers 0.6-1.0 mm long; lodicules hyaline, 0.3-0.6 mm long, acute and with an acute lateral lobe 0.2 mm long. Caryopsis 1.2 x 0.5 mm, triangular in cross section.

References. Marticorena & Quezada (1985) mentioned it as *Poa atacamensis*. It was also recorded for Chile by Soreng *et al*. (1998, sub *Puccinellia atacamensis*). Later it was accepted by Negritto & Anton (2000), Soreng *et al*. (2003), Zuloaga *et al*. (2008, 2019), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Negritto & Anton (1999: 369, fig. 3; 2000: 98 figs. 2E y 3E); Giussani *et al*. (2012: 314).

Distribution and habitat. Argentina (Jujuy, La Rioja y Salta), Bolivia (Potosí), Perú (Puno) and Chile (Hauman & Vanderveken 1917; Tovar 1993; Giussani *et al*. 2012; Zuloaga *et al*. 2019). In Chile it grows only in the northern regions (Arica-Parinacota, Tarapacá and Atacama) (18°04'- 20°59' S), in wetlands, meadows and humid places, associated with *Festuca*, *Azorella*, *Distichia*, *Oxychloe* and *Parastrephia*, between 4078 and 4550 m.

Distinctive features. Plants gynomonoecious; panicles subspiciform; spikelets with unequal glumes, notably smaller than the florets; lemmas glabrous; callus glabrous.

Conservation status. Vulnerable (Gatica-Castro *et al*. 2015).

Notes. Philippi (1891) described it for northern Chile (Machuca, 22°35 'S), as *Poa nana* Phil. (Verz. Antofagasta Pfl. 8: 87. 1891), a later homonym of *P. nana* Savi (Ann. Bot. (Usteri) 24: 49. 1800). The replacement name for *P. nana* Phil. is *Poa atacamensis*, proposed by Parodi (1962) and later considered a synonym of *P. laetevirens* by Negritto & Anton (2000). Soreng (1998) transferred this species to the genus *Puccinellia*, based on characteristics of the fruit (opaque caryopses with ovate hilum), of the glumes (obtuse, short), presence of papillae in the epidermis and leaves with open sheaths. Later, Negritto & Anton (2000) and Soreng & Peterson (2008) accepted it again in the genus *Poa*.

Additional specimens examined. CHILE. Region of Arica and Parinacota, Prov. Parinacota, 17 km N de Parinacota hacia Visviri, 4410 m, 4-IV-2001, Peterson & Soreng 15757 (CONC, US). Region of Tarapacá, Prov. Iquique, Collaguasi, Quebrada Capella, 20°59'S, 68°33'W, 4550 m, 22-I-1994, Teillier 3260 (CONC); 94 km NE de Huara hacia Colchane, 19°37'S, 69°02'W, 4078 m, 26-III-2001, Peterson & Soreng 15641 (CONC, US); 106 km NE de Huara hacia Colchane, 19°34'S, 68°58'W, 4340 m, 26-III-2001, Peterson & Soreng 15655 (CONC, US); Camino de Collacagua a Cancosa, a orillas del Río Sacaya, 19°56' S, 68°35' W, 4200 m, 25-III-1992, Arancio 589 (CONC).

20. **Poa scaberula** Hook. f., Fl. Antarct. 2: 378. 1846. TYPE: Chile, Habitat Strait of Magalhaens, Port Famine, 1826, Capt. King Exp., *Capt. King s.n*. (holotype K cb-00433922!; isotypes: BAA col. typus 2682! fragm. ex K, GH cb-0024350!).

Plants hermaphroditic, short-lived perennial, caespitose. Culms 7.5-50 cm high. Sheaths glabrous, the new ones generally scabrous; ligules 0.5-3 mm long, generally densely scabrous on the back, the apex acute; blades 2-10 cm long x 0.2-1.5 mm wide, flat or folded, infrequently with slightly involute margins, with abaxial surface and margins scabrous, the apex navicular, acute, slightly recurved. Panicles 2.5-10 x 0.4-1 cm, narrow, spiciform, interrupted; rachis scabrous; pedicels 0.2-2.5 mm long, densely scabrous. Spikelets 2.1-3 x 1.5-3.5 mm, 2-3 (-4)-flowered, all florets hermaphrodite;

rhachilla internodes 0.4 mm long, glabrous; glumes unequal, acute, the keel notably scabrous in the upper half, shorter than the contiguous florets, covering 3/4 of the spikelet; lower glume 1.6-2.9 x 0.3-0.4 mm, 1-veined; upper glume 2-3.2 x 0.5-0.6 mm, generally as long as the lower lemma, 3-veined; lemmas 5-veined, with acute apex, margin hyaline, keel with cilia 0.5 mm long in the lower half, scabrous in the upper half or only scabrous and without cilia, the marginal veins ciliate in the lower half or glabrous; lower lemma 1.9-3.2 x 0.6-0.8 mm, the upper ones smaller; callus with a dorsal tuft of long woolly hairs (sometimes with additional tufts below the lateral veins), or glabrous; palea 1.4-2 mm long, 2-keeled, the keels scabrous in the upper half; lodicules hyaline, 0.25-0.4 mm long; anthers 0.3-0.7 mm long. Caryopsis 1.2-2 x 0.5 mm, somewhat adherent to the palea

References. Desvaux (1854), Marticorena & Quezada (1985), Nicora (1978), Soreng & Peterson (2008), Zuloaga *et al*. (1994, 2008, 2019), Finot *et al*. (2022).

Iconography. Renvoize (1998: 135, fig. 33J); Negritto & Anton (2000: 130, fig. 18 sub *P. parviceps*); Giussani *et al*. (2012: 324 sub *P. parviceps* y 331 sub *P. scaberula*).

Distribution and habitat. Species distributed in Argentina, Bolivia, Chile, Colombia, Ecuador, Guatemala, Mexico and Peru (Hauman & Vanderveken 1917; Nicora 1978; Marticorena & Quezada 1985; Tovar 1993; Dávila *et al*. 2006; Giussani *et al*. 2012; Soreng & Peterson 2012; Giraldo-Cañas 2013). In Chile it is found both in the north of the country, in the regions of Antofagasta and Atacama and in the extreme south, in the regions of Aysén and Magallanes.

Notes. Giussani *et al*. (2012) suggest that *P. parviceps* can be treated as a variety of *P. scaberula*. Later, Scrivanti *et al*. (2014) studied the *P. parviceps-P. scaberula-P. lilloi-P. anfamensis* complex by multivariate analysis and establish that *P. parviceps* should be treated as a synonym of *P. scaberula*. The relationship between both taxa was already noted by Nicora (1978), who, however, recognizes both species. *Poa parviceps* differs from *P. scaberula* by having lemmas with scabrous keel, not ciliate (keel ciliate in the lower half and scabrous in the upper half in *P. scaberula*), marginal veins glabrous (ciliate in the lower third in *P. scaberula*) and callus glabrous (with long woolly hairs in *P. scaberula*) and due to its geographical distribution (*P. parviceps* is restricted to the extreme north of the country while *P. scaberula* is found in the southern regions of Aysén and Magallanes).

The type of *P. scaberula* fma. *nudiflora* in BAA-col. typus 2682 has annotation and drawing by Parodi indicating that the callus and lemmas are glabrous and some florets have 2 or 3 long woolly hairs and suggest that it the same as *Poa parviceps* Hackel; a drawing of the lemma shows that it is 2.7 mm long and the keel is glabrous. Hauman (1918), in the observations to the protologue of *P. scaberula* fma. *nudiflora* wonders if this taxon could be considered a different species; He explains that he did not do it due to the great variability of *P. scaberula*, but highlights the absence of woolly hairs or these very rare (2-4 hairs) among the differences with this species. Given the close affinity between these taxa and the restricted geographic distribution of *P. parviceps*, we propose to treat the latter taxon as a subspecies of *P. scaberula*.

Key to subspecies of *P. scaberula*

1. Callus glabrous or with 2-4 woolly hairs; plants from the northern of the country ..... 20a. ***P. scaberula*** subsp. ***parviceps***

1'. Callus with long woolly hairs; plants from the southern of the country ..... 20b. ***P. scaberula*** subsp. ***scaberula***

20a. **Poa scaberula** Hook. f. subsp. **parviceps** (Hack.) Finot, Giussani & Soreng, **comb. et stat. nov**. *Poa parviceps* Hack., Annuaire Conserv. Jard. Bot. Genève 17: 298. 1914. TYPE: Argentina, Prov. Tucumán, in pratis vallium prope Lara, alt. 3200 m, Stuckert n. 22531 ex Lillo n. 11474 (17 feb 1912)" (holotype W-39277!; isotypes BAA-, LIL-45403 bc-000194!, SI-62335 bc-00002913!, SP, US-88749 ex W, S-06-1050!).

P. scaberula Hook.f. fma. *nudiflora* Hauman, Anales Soc. Ci. Argent. 86: 238. 1918. TYPE: Argentina, Vallée du Rio Mendoza, près de Puente del Inca (2.700 m), rare en janvier 1908, *L. Hauman s.n*. (holotype BA; isotype BAA col. typus 2682!; BR-688618!).

References. Originally described for Argentina, it was recorded for Chile by Zuloaga *et al*. (1994, 2008, 2019), Negritto & Anton (2000), Soreng *et al*. (2003), Giussani *et al*. (2012, 2016), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Negritto & Anton (2000: 130, fig. 18); Giussani *et al*. (2012: 324).

Distribution and habitat. Chile and Argentina. Restricted to the regions Antofagasta and Atacama (22°21'- 29°03' S), between 3500 and 4395 m.

Distinctive features. Plants hermaphroditic, short-lived perennial; flowering culms (5-) 11-30 cm high; ligules 1.5-2.5 mm, acute, triangular; blades folded or with slightly involute margins, tender, glabrous; panicle spiciform; spikelets 2-3 (-4) -flowered, less than 3 mm long; flowers all perfect; callus glabrous or with very few short, woolly hairs.

Additional specimens examined. CHILE. Region of Antofagasta, Quebrada Tatio, 22°21' S, 68°02' W, 4200 m, 15-II-1943, Pisano & Venturelli 1878 (CONC); 0,5-1 km al sur de Hotel El Tatio hacia San Pedro de Atacama, 22°22' S, 68°01' W, 4395 m, 19-III-2001, Peterson *et al*. 15575, 15576 (CONC). Region of Atacama, Prov. Huasco, Vallenar, Río de Valeriano, arriba de Juntas del Encierro, 8-I-1926, Johnston 6024 (US).

20b. **Poa scaberula** Hook.f. subsp. **scaberula**

Poa conglomerata Rupr. ex Peyr., Linnaea 30(1): 8. 1859. TYPE: México, Veracruz, Cordillera, Pic d'Orizaba, 12500 ft. [3800 m], Jun-Oct 1840, *H. G. Galeotti 5776* (lectotype W-29695! designated by Soreng & Peterson, Phytokeys 15: 79. 2012).

Dasypoa tenuis Pilg., Bot. Jahrb. Syst. 25(5): 716. 1898. TYPE: Perú, Tiquina ad lacum Titicaca, *M. A. Stübel 60f* (holotype B; isotypes BAA col. typus 2681 fragm. ex K!, BAA col. typus 866! fragm. ex B, US-865610 fragm. ex B).

Poa dactyliformis Steud., Syn. Pl. Glumac. 1: 426. 1854. TYPE: Chile, Sandy Point Magellania, *W. Lechler 1151* (holotype P!; isotypes: B!, BAA col. typus 2525!, FR!, G!, LE!, P!, S!, SGO-37326!, TUB!, US-89676! fragm. & foto ex SGO, W!).

Festuca angustata Griseb., Abh. Königl. Ges. Wiss. Göttingen 24: 288. 1879. TYPE: Argentina, Salta, Nevado del Castillo, alt. 10000-15000 ft (holotype GOET cb-00006889!; isotypes CORD bc-00004676!, B p.p., BAA col. typus 1151!, US-2875374).

Poa anfamensis Negritto & Anton, Darwiniana 35(1-4): 159-161. 1998. TYPE: Argentina, Tucumán, Dpto. Tafí del Valle, Cuesta de Anfaman 2000 m, 24 Jan 1907, *Lillo 5468* (holotype W; isotype LIL cb-000533!).

References. Desvaux (1854), Nicora (1978), Zuloaga *et al*. (1994), Soreng & Peterson (2012), Giussani *et al*. (2016), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Iconography. Giussani *et al*. (2012: 331), Renvoize (1998: 135, fig. 33J).

Distribution and habitat. Argentina, Bolivia, Chile, Colombia, Ecuador, Guatemala, México and Perú (Hauman & Vanderveken, 1917; Nicora, 1978; Marticorena & Quezada, 1985; Tovar, 1993; Dávila *et al*. 2006; Giussani *et al*. 2012; Soreng & Peterson 2012; Giraldo-Cañas 2013). In Chile it grows in the regions of Los Ríos, Aysén and Magallanes (40°- 51°56' S), between 95 and 1200 m, in humiferous soils and "mallines", in *Nothofagus antarctica* (G. Forst.) Oerst. forests. Moore (1983) recorded it for Tierra del Fuego, in wet meadows with *Chiliotrichum*, between 100 and 250 m.

Distinctive features. Recognizable by its narrow panicle and very small spikelets (2.7-3 mm long); the callus has a dorsal tuft of wrinkled hairs and sometimes the marginal veins have secondary tufts below them; the lemma has a keel hairy in the lower half and scabrous in the upper half (Soreng & Peterson 2012). Renvoize (1998) mentions it for Bolivia as an annual plant and explains that in southern Argentina and Chile it behaves as a perennial.

Notes: The type of *Dasypoa tenuis* in BAA-col. typus 866 bears a drawing by L. R. Parodi indicating that the ligule is 2-3 mm long that the plant is very similar to *P. scaberula* Hook.

Soreng & Peterson (2012) include *P. maullinica* among the synonyms of *P. scaberula*. Here we follow Giussani *et al*. (2012) treating *P. maullinica* as synonym of *P. trivialis*. *Poa maullinica* differs from *P. scaberula* by its lax panicle.

Additional specimens examined. CHILE. Region of Los Ríos, Valdivia, I-1901, Buchtien s.n. (US). Region of Aysén, Coyhaique, 18-I-1946, Barros 5638, 5639, 5640, 5642, 5643, 5644 (US); Coyhaique, c. Lago Seco, 45°34' S, 72°04' W, 740 m, Schlegel 2380 (CONC); R. N. Cerro Castillo, Laguna Chiguay, al oeste de Cerro Bandera, ca. 50 km SSE de Coyhaique, 45°59' S, 71°52' W, 1100-1300 m, 6-II-2002, R.J. & N.L. Soreng 7304 (CONC, US). Region of Magallanes, Prov. Antártica Chilena, Isla Navarino, Puente Guanaco, 54°56' S, 67°37' W, 20 m, 18-II-1987, Schlegel 8193 (CONC). Prov. Última Esperanza, PN Torres del Paine, Río Pingo, por camino de Refugio Pinto a Refugio Zapata, oeste del extremo sur de Lago Grey, 51°06' S, 73°51' W, 95 m, 21-II-2002, R.J. & N.L. Soreng 7350 (CONC, US); Estancia La Cumbre, Sierra de Los Baguales, 50°40' S, 72°30' W, 600 m, 20-III-1972, Pisano 3672 (CONC); Cueva del Milodón, 51°34' S, 72°36' W, 100 m, 5-II-1962, Ricardi & Matthei 372 (CONC).

Poa* sect. *Dioicopoa E. Desv. en Gay, Hist. Chil. 6: 413. 1854. *Poa* subg. *Dioicopoa* (E. Desv.) J. R. Edm., Bot. J. Linn. Soc. 76: 331. 1978. TYPE: *Poa chilensis* Trin.

Plants dioecious, perennial, generally rhizomatous; basal branches intra and extravaginal; sheets flat or folded; panicles spiciform, contracted, dense; spikelets laterally compressed, pistillate and staminate equal or dimorphic; glumes shorter than adjacent lemmas; lemmas keeled, with pubescent keel and marginal veins, mainly on pistillate spikelets; callus of staminate plants glabrous, those of pistillate plants with long hairs, usually folded; the hairs are arranged in three groups, one in front of the keel and the other in front of the marginal veins; plants of sexual reproduction, exceptionally viviparous (e.g. *P. alopecurus* subsp. *fuegiana*). It comprises 29 species, most of them native to South America. In Chile: *P. alopecurus*, *P. cumingii*, *P. denudata*, *P. holciformis*, *P. lanuginosa*, *P. ligularis*, *P. tristigmatica*, *P. paposana*, *P. spiciformis*.

21. **Poa alopecurus** (Gaudich. ex Mirb.) Kunth, Révis. Gram. 1: 116. 1829. *Arundo alopecurus* Gaudich. ex Mirb., Ann. Sci. Nat. (Paris) 5: 100. 1825. *Poa flabellata* (Lam.) Raspail var. *alopecurus* (Gaudich. ex Mirb.) Raspail, Ann. Sci. Observ. 2: 87. 1829. TYPE: Argentina, Islas Malvinas, Isla Soledad, *C. Gaudichaud s.n.* (holotype P; isotypes BAA bc-003182 fragm. ex P!, BAA bc-003183 fragm. ex P!, BAA bc-003184 fragm. ex P!, SI bc-00996 fragm. & foto ex P!, US-78849 fragm. ex P).

Plants dioecious, perennial, caespitose, sometimes stoloniferous. Culms (8-) 20-50 (-70) cm high. Leaf sheaths glabrous, often reddish; ligules (1-) 5-7 (-10) mm long, acute; blades 6-20 (-30) cm long x 2-4 mm wide, mainly basal, rigid, folded with involute margins or flat, glabrous or scabrous on the abaxial side, apex navicular. Panicles 6-14 x 1.5-4 cm, contracted or lax, green or purplish. Spikelets 6-12 mm long, 3-5-flowered, the spikelets pseudoviviparous with glumes and glumelae of variable length depending on their development; glumes subequal, linear-lanceolate, acute, the keel scabrous; lower glume 1-3-veined; upper glume 3-veined. Pistillate spikelets: lower glume 5-8 mm long; upper glume 5.5-7.5 mm long; lower lemma 6-8 mm long with scabrous or ciliate keel and marginal veins in the lower half, cilia 0.5 mm long or greater; callus glabrous or with long or folded woolly hairs (subsp. *alopecurus*) or stiff and short (subsp. *shuka*); palea 4-6 mm long, ciliate on the margins; lodicules 1 mm long, 2-lobed; staminodia 0.2-0.3 mm long. Caryopsis 3-3.5 mm long. Staminate spikelets: lower glume 4-7 mm long; upper glume 4.2-7 mm long; lower lemma lanceolate, 4-6 mm long, glabrous or with scabrous veins; callus glabrous or with few woolly hairs; palea 4-6 mm long; lodicules 1 mm long; anthers 3-3.2 mm long (Fig. 7c).

References. Hauman & Vanderveken (1917), Nicora (1978), Soreng *et al*. (2003), Giussani *et al*. (2012, 2016), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Distribution and habitat. Chile and Argentina (Hauman & Vanderveken 1917; Soreng *et al*. 2003; Giussani *et al*. 2012). In Chile it is distributed from the Region of Araucanía to the Region of Magallanes (39°-55° S), in *Nothofagus* forests, high grasslands, peatlands and on the beach, in humid sandy soils, from sea level up to 1300 m.

Distinctive features. Panicles dense, contracted; florets large, scabrous; spikelets pseudoviviparous in subsp. *fuegiana*; callus of pistillate spikelets with long hairs (subsp. *alopecurus* and *fuegiana*) or stiff and short hairs (subsp. *shuka*); lemmas with keel and marginal nerves ciliate in the lower half, the cilia 0.5 mm long or longer; staminate spikelets with callus glabrous or with few woolly hairs; lemmas with keel and marginal veins glabrous.

Phenology. Flowering between October and April.

Notes. Phylogenetically it is related to *P. tristigmatica* (Giussani *et al*. 2016), from which it differs by the length of the ligule [(1-) 5-7 (-10) mm in *P. alopecurus*, 1.5-5 (-9) mm in *P. tristigmatica*], the length of the spikelets (6-12 mm in *P. alopecurus*, 7.5-13 mm in *P. tristigmatica*), the upper glume of the pistillate spikelets (5.5-7.5 mm in *P. alopecurus*, 6-8.5 mm in *P. tristigmatica*), the lemma of the pistillate spikelets (6-8 mm in *P. alopecurus*, 6-9 mm in *P. tristigmatica*) and the hairiness of the pistillate lemmas (keel and marginal veins with cilia greater than 0.5 mm in *P. alopecurus*; hairs less than 0.5 mm in *P. tristigmatica*).

A relationship to *P. flabellata* was suggested (Nicora 1978), but it shows no phylogenetic relationship with that species. Morphologically they differ because in *P. flabellata* the plants lack rhizomes or stolons (present in *P. alopecurus*), forming robust tussocks that reach (0.5-) 1-2.5 m tall (plants less than 70 cm in *P alopecurus*); panicles spiciform (contracted to lax in *P. alopecurus*); lemmas with an awn 1-1.5 mm long (lemma awnless in *P. alopecurus*). For discussion about the morphological variability and distinction of infraspecific taxa see Giussani *et al*. (2012).

Key to subspecies of *P. alopecurus*

1. Spikelets pseudoviviparous; ligules 1-3 (-4) mm long; panicles up to 4 cm wide ..... 21b. ***P. alopecurus*** subsp. ***fuegiana***

1'. Spikelets never pseudoviviparous; ligules (2-) 5-7 (-10) mm long; panicles 1,5-2,5 cm wide.

2. Callus of pistillate florets with long woolly hairs; callus of staminate florets glabrous or with scarce woolly hairs ..... 21a. ***P. alopecurus*** subsp. ***alopecurus***

2'. Callus of pistillate florets glabrous or with short stiff hairs; callus of staminate florets glabrous or sub-glabrous ..... 21c. ***P. alopecurus*** subsp. ***shuka***

21a. **Poa alopecurus** (Gaudich. ex Mirb.) Kunth subsp. **alopecurus**

Arundo antarctica Gaudich. ex Mirb., Mém. Soc. Linn. Paris 4: 602. 1826. *Poa antarctica* (d'Urv.) Raspail, Ann. Sci. Observ. 2: 87. 1829. *Poa flabellata* (Lam.) Raspail var. *antarctica* (d'Urv.) Raspail, Ann. Sci. Observ. 2: 87. 1829. TYPE: [Argentina] Iles Malouines, *J. S. C. D. d'Urville s.n.* (holotype P bc-00624247!, isotypes LE-TRIN-2782.01 fragm., P bc-00624246! P bc-00624248!, US-1647942, US-78848! fragm.).

Poa rigidifolia Steud., Syn. Pl. Glumac. 1: 260. 1854. TYPE: Port. William Falklandiae, *W. Lechler s.n.* (holotype P bc-00624249!; isotypes: BAA bc-00002748 fragm. ex P!, US bc-00386419 fragm. & foto ex P!).

Calamagrostis macloviana Steud., Syn. Pl. Glumac. 1: 192. 1854. TYPE: [Islas Malvinas] Hrbr. *W. Lechler 107*, Ins. Maclov (holotype: P bc-00729781!; isotypes: BAA-col. typus 522! fragm. ex US; S-14-4569!; FI-012387!; P bc-00740483!; LE bc-00009381!; US bc-00157150!; W bc-0026812!).

Poa magellanica Phil. ex Speg., Anales Mus. Nac. Buenos Aires 5: 91. 1896, nom. nud. TYPE: [Argentina]: Hab. in pratis sabulosis et in dunis maritimis: Punta Anegada; Gente Grande Bay (holotype? G bc-00168407!).

References. Nicora (1978) cited it for the Malvinas Islands, Staten Islands and other areas "*Vive en las Islas Malvinas y de Los Estados y en otras del Canal de Beagle, argentinas y chilenas*", but does not mention reference specimens for Chile. It was cited for Chile also by Zuloaga *et al*. (1994, 2008, 2019), Giussani *et al*. (2012, 2016), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Nicora (1978: 186, fig. 121), Giussani *et al*. (2012: 292).

Distribution and habitat. Native to Chile and Argentina, it is found between the regions of Araucanía and Magallanes (39°33'- 54°56 'S), between 20 and 1200 m. It has been collected growing between shrubs in lenga [*Nothofagus pumilio* (Poepp. & Endl.) Krasser] and ñirre (*N. antarctica*) forests, in mossy shrubby peat bogs, in high grasslands and dry shrub steppes associated with *Festuca gracillima*, *Berberis* and *Azorella*. Also on the beach, on sand.

Distinctive features. Panicles contracted, dense; callus of pistillate spikelets with long hairs; lemmas with keel and marginal veins ciliate in the lower half, the cilia 0.5 mm long or greater; callus of staminate spikelets glabrous or with few woolly hairs; lemmas with keel and marginal veins glabrous.

Phenology. Flowering between October and April.

Notes. Nicora (1978) accepts *P. rigidifolia* as a good species; she distinguishes it from *P. alopecurus* being more graceful plants, smaller in size, with narrower leaves, smaller spikelets with glumes and lemmas smooth on the back.

Additional specimens examined. CHILE. Region of the Araucanía, Prov. Cautín, Laguna Quilleihue, 39°33' S, 71°32' W, 1120 m, 1-I-2002, Soreng 7140 (CONC). Region of Aysén, Prov. Coyhaique, entre Villa La Tapera y Estancia Río Cisnes, 538 m, 6-I-2011, Silva 108 (CONC-CH); P.N. Laguna San Rafael, N edge, between Lago Bayo and Lago Tranquilo, WNW of Puerto Tranquilo (W end of Lago General Carrera) ca. 20km, W of Chile Chico ca. 110 km; steep N facing rocky limstone slopes in openings in young, post burn, *Nothofagus betuloides* forest, 320 m, 3-II-2002, R. J. & N. L. Soreng 7274 (US). Lago General Carrera, along road on S side ca. 60 km W of Chile Chico, above and W of Mallín Grande ca. 2-3 km, steep S facing granitic rock face, above *Nothofagus betuloides*, *Embothrium* forest, 550 m, R.J. & N.L. Soreng 7283, 4-II-2002 (US). Region of Magallanes, Prov. Última Esperanza, Cordillera de Paine, 50°56' S, 73°00' W, 750-1000 m, 14-II-1992, von Bohlen & Cavieres 92-315 (CONC); Sierra del Toro, 51°10' S, 72°50' W, 700-750 m, 10-II-1992, Arroyo *et al*. 92-117 (CONC); N of Puerto Natales ca 45 km on road to Cerro Castillo, 150 m, Patagonia, dry steppe covered hills on steep W facing slope, sandstone, with *Berberis*, *Azorella*, *Festuca gracillima*, Stipeae, 19-II-2002, R.J. & N.L. Soreng 7329 (US); Prov. Magallanes,

Península de Brunswick, coast of Estrecho de Magallanes, just N of Faro San Isidro, S of Punta Arenas ca 50 km; Shore line vegetation at edge of *Nothofagus pumilio* forest with large *Fuchsia* shrubs, *Drimys*, *Berberis*, and *Pernettya*, 17-feb-02, R. J. & N. L. Soreng 7312-a (US). Prov. Tierra del Fuego, Primavera, Estancia Olga Sofía, 14-IV-2001, Véjar s.n. (CONC-CH).

21b. **Poa alopecurus** (Gaudich. ex Mirb.) Kunth subsp. **fuegiana** (Hook. f.) D.M. Moore & Dogg., Bull. Brit. Antar. Surv. 43: 105. 1976. *Festuca fuegiana* Hook. f., Fl. Antarct. 2: 380. 1846. *Poa fuegiana* (Hook. f.) Hack., Svensk. Exped. Magell. 3(5): 225. 1900. TYPE: Chile, Strait of Magalhaens, Port Famine and Port Gregory, Capt. King. South Part of Fuegia, *C. Darwin*, Esq. (lectotype K *p.p.* ejemplar vivíparo, designated by D.M. Porter, Bot. J. Linn. Soc. 93: 36. 1986; isolectotypes BAA col. typus-4079! fragm. ex K, GH cb-00024347!, US-2875415! fragm. ex K).

Aira superbiens Steud., Syn. Pl. Glumac. 1: 424. 1854. *Poa superbiens* (Steud.) Hauman & Parodi, Physis (Buenos Aires) 9: 344. 1929. TYPE: Chile, Sandy Point, Magellan, *Lechler 1194* (holotype P bc-00624247!; isotypes BAA fragm., MB, SGO bc-00000082 fragm. & foto!, SGO bc-00000083!, SGO bc-00000084!, P-624279!, P-624280!, US-2695872 ex P-herb. Cosson, US-76311 ex W, US 88720 fragm. ex K, vivíparo).

Deyeuxia vivipara Phil., Linnaea 29(1): 90. 1858. Chile, in monte Cerro del doce de Febrero, *F. Fonk s.n.* (holotype SGO-PHIL-120; isotypes BAA bc-00001870!, BAA bc-000003408!, SGO-63500, SGO bc-000000249!, US foto SGO-PHIL-120).

Festuca pogonantha Franch., Miss. Sci. Cape Horn, Bot. 5: 387, t. 10. 1889. *Poa pogonantha* (Franch.) Parodi, Revista Argent. Agron. 20: 180. 1953. TYPE: Chile, Prov. Magallanes, Port Eden, *L. Savatier 1844* (holotype P bc-00624288!; isotypes BAA fragm. ex P, bc-00624290!, US bc-00624215 fragm. ex P & foto!).

Poa fuegiana (Hook.f.) Hack. var. *involucrata* Hack., Wiss. Erb. Schwed. Südpolar-Exp. 4(4): 7. 1906. TYPE: South America: Terra del Fuego: Ushuaia in der Moosdecke des Waldes, 300 m; in der alpinen Region 600-800 m auf Wiesen und in der Bolaxeide, Skottsberg ser. I. 222 & 233 (lectotype, **designated here**: Tierra del Fuego, Ushuaia, 625-800 m, 11-III-1902, *C. Skottsberg 233*, S 14-4580!).

Poa commersonii Franch., Miss. Sci. Cape Horn. 5: 385. 1889. TYPE: Chile, Magallanes, Bay Duclos, Dic. 1767, *P. Commerson s.n.* (holotype P bc-00624269, isotypes BAA bc-00002655 fragm. ex P & photo!, US-89682 fragm. ex P & photo).

Iconography. Hooker (1852-55: 141); Nicora (1978: 200, fig. 132 sub *Poa pogonantha*); Giussani *et al*. (2012: 293).

Distribution and habitat. Argentina and Chile. In Chile it is found in the regions of Araucanía, Los Ríos, Los Lagos, Aysén and Magallanes (40°40'- 55°50 'S), between 3 and 1300 m. It is frequent in peat bogs of *Sphagnum magellanicum* Brid., in humid sandy soils, coastal rock crevices, clearings of ñirre forests [*Nothofagus antarctica* (G. Forst.) Oerst.], lenga [*N. pumilio* (Poepp. & Endl.) Krasser], coigüe de Magallanes [*N. betuloides* (Mirb.) Oerst.] and also in dry areas; it is frequently found associated with *Agrostis*, *Holcus*, *Juncus*, *Berberis buxifolia* Lam., *Mutisia*, *Gunnera*, and *Polypogon*.

Distinctive features. This subspecies is characterized by frequently having viviparous spikelets; the plants are dioecious, with contracted inflorescences, few-flowered.

Phenology. Flowering and fructifying between November and March.

Notes. Nicora (1978) cites it for Chile (Magallanes) under its synonym *P. superbiens*, which she considers a good species; she distinguishes *P. superbiens* from *P. alopecurus* by the glabrous or glabrescent callus; in his opinion, the presence of viviparous spikelets leads to confusion with *P. fuegiana* (= *P. alopecurus* subsp. *fuegiana*). Giussani *et al*. (2012) emphasize the need for studies of genetic variability throughout the species' range of distribution to adequately determine infraspecific taxa.

Poa fuegiana (Hook.f.) Hack. var. *involucrata* Hack., Wiss. Erb. Schwed. Südpolar-Exp. 4(4): 7. 1906, was described based on two sintypes: Argentina or Chile, Terra del Fuego: Ushuaia in der Moosdecke des Waldes, 300 m; in der alpinen Region 600-800 m auf Wiesen und in der Bolaxeide, Skottsberg ser, I, 222 & 223. The type deposited in S-14-4580 "Tierra del Fuego, Ushuaia, 625-800 m, Skottsberg ser. I, 233" is selected to be designated as a lectotype. The label of this type bears the number 233, not 223 (see Soreng, 2003) and comprises three complete plants and four inflorescences bearing viviparous spikelets.

Additional specimens examined. CHILE. Region of Aysén, Prov. Capitán Prat, Villa O'Higgins, Río Mosco, 48°27' S, 72°28' W, 1000 m, 21-III-2003, García 57 (CONC); RN Jeinimeni, 24-II-2002, Rojas 25, 26 (SGO); Fiordo Ofhidro, morrena lateral del glaciar Ofhidro, 48°24' S, 73°48' W, 40 m, 11-XI-2009, Pflanzelt 353 (CONC); Prov. Coyhaique, *c*. Lago Seco, 45°34' S, 72°04' W, 14-II-1959, Schlegel 2256 (CONC); PN Laguna San Rafael, Río Témpanos, 46°36' S, 73°58' W, 30-I-1988, Pisano 6235 (CONC); Villa La Tapera, Cerro y Lago Solís, 44°40' S, 71°38' W, 887 m, 8-I-2011, Solís 319 (CONC-CH); Reserva Nacional Cerro Castillo, Carretera Austral, Portezuelo Ibañez,

subalpine and alpine slopes in ravine to the W above the pass, above the huge landfill from highway construction, ca. 60 km SSE of Coyhaique, open subalpine and alpine slopes of narrow ravine, near the upper limit of *Nothofagus antarctica*, 1150-1340 m, 6-II-2002, R.J. & N.L. Soreng 7286 (US). Region of Magallanes, Prov. Magallanes, Punta Arenas, AMCP-Francisco Coloane, Río Batchelor, 53°32'S, 72°18'W, 50 m, 27-I-2007, Domínguez 968 (CONC); Punta Arenas, AMCP-Francisco Coloane, Río Batchelor, 53°31' S, 72°16' W, 25 m, 27-I-2007, Domínguez 935 (CONC); Cabo Froward, Bahía Rosa, 53°53' S, 71°18' W, 212 m, 30-I-1990, Pisano 6598 (CONC); Prov. Tierra del Fuego, Timaukel, Centros Turísticos, 8-II-2012, Gómez s.n. (CONC-CH); Península de Brunswick, E boundary of Reserva Nacional Magallanes, Río Las Minas sector, W of Punta Arenas ca 8-10 km, 340 m, 18-II-2002, R.J. & N.L. Soreng 7319 (US); Península de Brunswick, Reserva Nacional Magallanes, Río Las Minas sector, draws above the río, W of Punta Arenas ca 8-10 km, 360 m, 18-II-2002, R.J. & N.L. Soreng 7324-b (US); Peninsula de Brunswick, coast of Estrecho de Magallanes, just N of Faro San Isidro, S of Punta Arenas ca 50 km, R.J. & N.L. Soreng 7312-b (US); Península de Brunswick, Reserva Nacional Magallanes, Río Las Minas sector, draws above the río, W of Punta Arenas ca 8-10 km, Soreng 7324-a (US); Prov. Última Esperanza, PN Torres del Paine, Cerro Diente, 50°47'S, 72°57'W, 600 m, 21-XII-1985, Arroyo & Squeo 850889-A (CONC); Puerto Natales, Estero Asia, 50°43' S, 73°43' W, 7 m, 13-I-2010, Aravena *et al*. 993 (CONC); Puerto Natales, Estero Falcón, 49°44' S, 73ª54' W, Aravena *et al*. 1202 (CONC); Fiordo Peel, Río Murtillar, 50°27' S, 73°37' W, 1-XII-1985, Pisano 6008 (CONC); Seno Última Esperanza, Lago Azul, 51°27' S, 73°18' W, 10-I-1977, T.B.P.A. 1575 (CONC); Puerto Natales, Ruta CH-250 a Dorotea, 6-III-2013, Hernández s.n. (CONC-CH); Fiordo Falcón, 49°33' S, 73°50' W, 20-XII-1988, Pisano 6486 (CONC); Timaukel, 8-II-2012, Gómez s.n. (CONC-CH).

21c. **Poa alopecurus** (Gaudich. ex Mirb.) Kunth subsp. **shuka** (Speg.) Parodi, Darwiniana 49(1): 91. 2011. *Festuca shuka* Speg., Anales Mus. Nac. Buenos Aires 5: 95. 1896. *Poa shuka* (Speg.) Parodi, Revista Argent. Agron. 20(4): 180. 1953. TYPE: [Argentina] "Port Vancouver; Blossom Bay; Port S. John; Ushuaia" (lectotype: Ushuaia, Isla de los Estados, Port Vancouver, Blossom Bay, 1882, LPS-14322!; designated as holotype by Giussani, L. M., Ann. Missouri Bot. Gard. 87: 220. 2000).

References. Nicora (1978) recorded this taxon for Chile, Magallanes, Navarino Island (Barret & Bloom 50-4). Marticorena & Quezada (1985) cite it for Chile under *P. shuka*, but without citing specimens. Later, Giussani *et al*. (2012) cite it for Argentina (Chubut, Santa Cruz, Tierra del Fuego), but not for Chile. Zuloaga *et al*. (1994, 2008, 2019) mention the presence of this taxon for Chile.

Iconography. Giussani *et al*. (2012: 293).

Distribution and habitat. Originally described for Argentina (Ushuaia), it has been collected in Chile in the Region of Magallanes (province of Magallanes and Ultima Esperanza, 51°10'- 54°43' S).

Distinctive features. Spikelets normal (absence of pseudovivipary), pistillate florets with callus glabrous or with stiff short hairs and staminate florets with callus glabrous or sub-glabrous.

Phenology. Flowering in December.

Notes. It was originally described under genus *Festuca*; the protologue indicates that it is a rare plant that grows among marine rocks ("*rara in scopulosis maritimis*").

Soreng *et al*. (2003) treat *Poa shuka* as a synonym for *Poa alopecurus* subsp. *prichardii*. Later, Giussani *et al*. (2011) recognize *P. shuka* as a subspecies of *P. alopecurus* and treat *P. alopecurus* subsp. *prichardii* as a synonym of *P. lanuginosa* var. *patagonica*. Phenetic studies carried out by Giussani (2000) indicate that it is morphologically related to *P. alopecurus*, *P. boelckei* (= *P. tristigmatica*), *P. superbiens* (= *P. alopecurus* subsp. *fuegiana*) and *P. tristigmatica*.

Additional specimens examined. CHILE. Region of Magallanes, Prov. Última Esperanza, Sección Lazo, Cerro Toro, 51°10' S, 72°45' W, 11-XII-1973, Pisano 4084 (CONC).

22. **Poa tristigmatica** E. Desv., Hist. Fís. Pol. Chile, Bot. 6: 419. 1854. TYPE: [Chile, Región del Libertador Bernardo O'Higgins, Prov. de Colchagua, San Fernando]. Cordillera de Talcaregüe, Feb 1831, *C. Gay 49* (lectotype P bc-00624259!, designated by R. J. Soreng & L. M. Giussani, Contr. U.S. Natl. Herb. 48: 573. 2003; isolectotypes BAA fragm. ex P, US-88717).

Poa obvallata Steud., Syn. Pl. Glumac. 1: 258. 1854. TYPE: Chile, legit in Cordilleras, *C. Gay s.n.* (holotype P bc-00624234! p.p., plant on the left).

Poa pachypogon Nees ex Steud., Syn. Pl. Glumac. 1: 258. 1854. TYPE: Chili (holotype B; isotypes BAA col. typus 2638 fragm. ex B, US-88751! fragm. ex B).

Deyeuxia vulcanica Phil., Linnaea 29(1): 90. 1858. TYPE: Ad radicem vulcani de Osorno dieti Februario 1852, *R. A. Philippi s.n.* (holotype SGO-PHIL-137; isotype US-556424 fragm ex SGO-PHIL-137 & foto, W-39445!).

Poa julietii Phil., Anales Univ. Chile 43: 575. 1873. TYPE: Chile, se cría en el volcán de Osorno, de donde la trajo el señor don Carlos Juliet, *C. Juliet s.n.* (holotype SGO-PHIL-440; isotypes BAA bc-00002710 fragm. ex US!, BAA bc-00002711 fragm. ex SGO!, US-88774 fragm. ex SGO-PHIL-440 & foto, W bc-1916-0039661!).

Poa subaristata Phil., Anales Univ. Chile 94: 171. 1896. TYPE: Chile: in Andibus provinciae Talca, Feb. 1879, *F. Philippi s.n.* (holotype: SGO-PHIL-436; isotypes BAA bc-00002764 ex SGO!, BAA bc-00002765 ex US!, CORD bc-00001834!, SGO bc-000000674!, US-88724 fragm. ex SGO-PHIL-436 & foto!).

Poa boelckei Nicora, Hickenia 1(18): 104. 1977. Argentina. Neuquén, Dpto. Lácar, Cerro Chapelco, encima del refugio, 1800-1870 m, *M. N. Correa et al. 5926* (holotype BAB bc-00000249!).

Plants dioecious, perennial, caespitose, sometimes with rhizomes. Culms 15-60 (-90) cm high. Sheaths smooth or scabrous; ligules 1.5-5 (-9) mm long, oblong, acuminate; blades 6-14 cm long x 1.5-5 mm wide, glabrous, rigid, folded with involute margins, with navicular to acute apices. Panicles (3-) 5-11 x 1-3 cm, subspiciform or contracted, generally ovoid in outline, dense. Spikelets 3-6-flowered. Pistillate spikelets 7.5-10 (-13) mm long; lower glume 4-7 mm long, 1-3-veined; upper glume 6-8.5 mm long, 3 (-5)-veined; lemmas with keel and marginal veins glabrous or hairy in the lower portion, the hairs less than 0.5 mm long; lower lemma 6-9 mm long; callus with long hairs, often rigid or straight and curvy, 2-6 mm long reaching 1/3-1/2 the length of the lemma, forming a crown at the base of the lemma; palea with keels scabrous above and ciliate below, glabrous between the keels, 4-6 mm long; staminodes present, 0.2-0.3 mm long; lodicules 0.5-0.6 mm long. Caryopsis 3-3.5 mm long, subtrigonous. Staminate spikelets 5-7 (-9) mm long; lower glume 3.5-5.5 mm long, 1(-3)-veined; upper glume 4-5.5 mm, 3(-5)-veined; lower lemma 5-7 mm long; callus glabrous or with a crown of scattered hairs; anthers 2.5-4.3 mm long.

References. Desvaux (1854) described *P. tristigmatica*, later treated as synonym of *P. obavallata*. It was also recorded for Chile by Nicora (1978, under *P. boelckei* and *P. tristigmatica*), Marticorena & Quezada (1985, under *P. tristigmatica*), Giussani (1997, 2000, under *P. tristigmatica*), Soreng *et al*. (2003), Zuloaga *et al*. (1994 under *P. tristigmatica*, 2008, 2019), Soreng & Peterson (2008), Giussani *et al*. (2016), Rodríguez *et al*. (2008a, 2018) and Finot *et al*. (2022).

Iconography. Nicora (1978: 195, fig. 129 sub *P. boelckei*; 1978: 200, fig. 131 sub *P. tristigmatica*); Giussani *et al*. (2012: 323).

Distribution and habitat. Chile and Argentina. In Chile it has a wide latitudinal and altitudinal distribution, ranging from the Region of Coquimbo to Aysén (32°58'- 45°08'S), between 200 and 2800 m, frequently on volcanic sands in clearings of the forests of *Nothofagus betuloides*, *N. antarctica*, *Araucaria araucana* - *N. pumilio*, associated with species of *Empetrum*, *Gaultheria*, *Berberis*, *Adesmia*, *Trisetum*, *Festuca* and *Agrostis*. Until now this species was known from Valparaíso to Chiloé. Based on the specimen *Zoellner 5600*, we extend its distribution to the Coquimbo Region, approximately 200 km further north.

Distinctive features. A dioecious species, with occasionally pseudoviviparous spikelets (both staminate and pistillate); perennial, plants caespitose, sometimes with rhizomes; blades glabrous, rigid, folded with involute margins; panicles dense, subspiciform; callus of the pistillate lemmas with long hairs, often rigid or straight and curly, reaching 1/3 - 1/2 the length of the lemma, forming a crown at the base of the lemma; callus of staminate lemmas glabrous or with a crown of scattered hairs.

Phenology. In flower and fruit between November and March.

Notes. *Poa obvallata* Steud. has been considered, in recent years, the correct name for this species over *P. tristigmatica* E.Desv. (Soreng *et al*. 2003, Giussani *et al*. 2012, Rodríguez *et al*. 2019). Nevertheless, the publication date of vol. 6 of Gay's, Hist. Chil. vol. 6 (Botánica) is March 1854. On the other hand, Steudel's Syn. Pl. Glumac. came out in fascicles, fascicles 3 onward, starting at p. 161, were all issued after March, starting April 12-13, 1854 (Stafleu & Mennega 1998). Thus, *Poa tristigmatica* E.Desv. has priority over *Poa obvallata* Steud.

Except *P. boelckei*, described for Argentina, all the names indicated as synonyms of *P. tristigmatica* were described for Chile. Nicora (1978) associates *P. boelckei* with species of the current genus *Nicoraepoa*, such as *N. stepparia* and *N. pugionifolia*, which are gynodioecious. Nicora (1978) distinguishes *P. boelckei* from *P. tristigmatica* by having florets more scabrous, less acute, callus with short and sparse woolly hairs, shorter ligule, and large staminodes (1.3-1.5 mm) in female flowers. *Poa boelckei* was accepted as a good species by Zuloaga *et al*. (1994) and included in the synonymy of *P. obvallata* (= *P. tristigmatica*) by Soreng *et al*. (2003).

Morphologically, *P. tristigmatica* is close to *P. holciformis* and *P. alopecurus*. It is distinguished from *P. holciformis* by having the callus of the pistillate florets woolly (glabrous callus in *P. holciformis*). From *P. alopecurus*, differs by having the callus of the pistillates florets with woolly hairs that reach approximately half of the lemma (callus with hairs that exceed the length of the lemma in *P. alopecurus*).

Zuloaga *et al*. (2008) recorded this species for Magallanes based on the specimen *C. Gay 49*, type of *P. tristigmatica*, which was collected in Talcaregüe, Región de O'Higgins (34° S), not in Magallanes. His presence in Magallanes has not yet been confirmed.

Additional specimens examined. CHILE. Region of Coquimbo, Prov. Limarí, in Los Molles im inneren von Ovalle, 30°44' S, 70°35' W, 2800 m, 16-I-1972, Zoellner 5600 (L). Region of Valparaíso, Prov. Los Andes, Saladillo, *c*. vega Piuquenes, 32°58' S, 70°16' W, 2200 m, I-1991, Arroyo 9139 (CONC). Region of O'Higgins, Prov. Cachapoal, Sewell, Cuesta Brava, 34°05' S, 70°23' W, 2600 m, I-1942, Jiles s.n. (CONC). Region of Maule, Prov. Curicó, Termas de San Pedro, interior de Los Queñes, 35°08' S, 70°29' W, 1810 m, XI-2001, R. J. & N. L. Soreng 7097 (CONC). Region of Ñuble, Prov. Diguillín, Termas de Chillán, along west trail to Refugio; disturbed loamy sand, in *Nothofagus* forest, 36°54' S, 71°26' W, 1700 m, 21-XII-2001, R. J. & N. L. Soreng 7126 (CONC, US). Region of Biobío, Prov. Biobío, P. N. Laguna del Laja, Estero El Aguado, 37°27' S, 71°20' W, 1550 m, I-2002, R. J. & N. L. Soreng 7185 (CONC). Region of the Araucanía, Prov. Cautín, R. N. Alto Biobío, Paso Pino Hachado, N side of highway to Argentina, E of Temuco ca. 150 km, alpine steppe, with scattered copses of *Nothofagus antarctica*, 38°40' S, 70°54' W, 1900 m, 24-I-2002, R. J. & N. L. Soreng 7217 (CONC, US); Reserva privada Cañi, Mirador del Cañi, E of Pucón ca 20 km, steep ridge overlooking the reserve; *Araucaria araucana-Nothofagus antarctica* forest on rocky crag of steep ridge Mirador del Cañi, E de Pucón, 39°15' S, 71°43' W, 1550 m, I-2002, R. J. & N. L. Soreng 7147 (CONC, US); P. N. Villarica, 1 km E of Lago Quillelhue, ca 7 km W of Hito Paso Mamuil Malal to Argentina, on road from Pucón, above Curarrehue; broad valley, open *Nothofagus antarctica* forest, with scattered *Araucaria araucana*, old lava flow, 39°34' S, 71°31' W, 1133 m, 1-I-2002, Soreng, R. J. 7143 (CONC, US); P. N. Villarica, S slope of Volcán Villarica, near the base of the ski lifts, S of Pucón, ca. 10 km; volcanic lava slopes, steep scree and gentle thatch slopes, above timber line, and draws down into the *Nothofagus* forest, 39°23' S, 71°57' W, 1495 m, 3-I-2002, Soreng, R. J. 7149 (CONC, US); P. N. Conguillío, ridge above the E end of Lago Conguillío leading up to the Sierra Nevada, valley between Volcán Llaima and Sierra Nevada, E of Temuco ca. 80 km; dry ridge top, in black volcaninc sands, openings in Nothofagus antarcticus thickets, near timberline, 38°37' S, 71°36' W, 1700 m, 23-ene-02, R. J. & N. L. Soreng 7197 (CONC, US); Cuesta Las Raíces, E side of pass on old road between Curacautín and Lonquimay, slope S of ski area Volcán Lonquimay, volcanic sandy soil, on steep N facing grassy slope in open *Araucaria araucana-Nothofagus pumilo*, *N. antarctica* forest, 38°26' S, 71°27' W, 1600 m, 23-I-2002 R. J. & N. L. Soreng 7198, 7199 (CONC, US). Region of Los Ríos, Prov. Valdivia, Volcán Choshuenco, 39°56' S, 72°04' W, 1400 m, I-1828, Werdermann 1859 (CONC). Region of Los Lagos, Prov. Osorno, PN Puyehue, Antillanca, Volcán Casablanca, Cráter Rykén, 40°46' S, 72° 12' W, 1250 m, 26-I-1988, Gardner & Knees 3904 (CONC); P. N. Puyehue, just NW of Paso Cardenal Antonio Samoré to Argentina, E of Osorno ca 95 km; open volcanic slopes, pumice fields and steeply erroded draws, with copses of *Nothofagus antarctica* forest, 40°43' S, 71°57' W, 1320 m, 27-I-2002, R. J. & N. L. Soreng 7229, 7230 (CONC, US); Volcán Osorno, W slope, NE of Puerto Montt ca 60 km, along road to Refugio los Pumas from Ensenada; lava shoot shoot through upper reaches of *Nothofagus betuloides-N. antarctica* forest, SW exp., coarse lava gravel and sand, 41°08' S, 72°32' W, 940 m, 30-XII-2001, R. J. & N. L. Soreng 7139 (CONC, US). Region of Aysén, Prov. Aysén, Lago Yulton, 45°08' S, 72°58' W, 495 m, 16-I-2007, García 3929 (CONC).

23. **Poa holciformis** J. Presl, Reliq. Haenk. 1(4-5): 272. 1830. TYPE: [Chile] Hab. in Cordilleris chilensibus, *T. Haenke s.n*. (holotype PR; isotypes B, BAA-col. typus 2564 fragm. ex B, LE-TRIN-2599.06b, MO-3049180, US bc-00386374 fragm.!).

Poa chilensis Trin., Mém. Acad. Imp. Sci. Saint-Pétersbourg, sér. 6, Sci. Math., Seconde Pt. Sci. Nat. 4, 2(1): 62. 1836, nom. illeg., non Moris 1830. TYPE: Chile borealis, Concón, Aug 1827, *E. Poeppig s.n*. (lectotype, **designated here**: W-29701!; isolectotype BAA bc-00000578!).

Koeleria pooides Nees ex Steud., Syn. Pl. Glumac. 1: 295. 1854. TYPE: [Chile] In Andibus Chili, 1831, *Cuming 207* (holotype B not seen; isotypes BM bc-000622548!, K bc-0000975023!, K bc-001097567!).

Poa chilensis Trin. var. *robustior* Phil., Anales Univ. Chile 94: 172. 1896. TYPE: Chile. In valle nebularum [Valle de Las Nieblas], provinciae Ñuble legimus, *R. A. Philippi s.n.* (holotype SGO bc-00000649!; isotype BAA col. typus 4089 fragm.!, US-foto ex SGO-37338!).

Poa chilensis Trin. var. *oligoclada* Phil., Anales Univ. Chile 94: 173. 1896. TYPE: Chile, in andibus Prov. Talca loco dictos Altos de Turrieta, II-1879, *F. Philippi s.n*. (holotype SGO bc-00000648!, isotypes BAA bc-00002650!, US-1939383).

Festuca elliotii Hack., Repert. Spec. Nov. Regni Veg. 2: 70. 1906. SINTYPES: 1) Chile, Las Cuevas, in declivibus 3300-3400 m, caespitos densos formans, Jan 1904, leg. *G. F. S. Elliot 467* (W [19160004719]!, staminate), 2) Chile & Argentina, slopes above Las Cuevas, *G. F. S. Elliot 469* (W [19160004720]!, pistillate), 3) Chile, Las Cuevas, *G. F. S. Elliot 569* (US-2875403!, fragm.).

Plants dioecious, perennial, caespitose, 10-50 cm high; innovations intravaginal. Sheaths smooth or scabrous, shiny; ligules (2-) 4-6 (-11) mm long, acute, membranous; blades (6-) 8-20 cm long x 2-4 mm wide, folded with involute margins, straight, leathery, with the apex generally sharp. Panicles 5-15 x 1-2.5 cm, contracted to subspiciform, dense. Spikelets 3-5-flowered, lanceolate, glabrous with glumes lanceolate, keeled, the keel scabrous. Pistillate spikelets 6-8 (-9) mm long; lower glume 4-5.5 mm long, 1-3-veined; upper glume 5-7 mm long, 3-veined; lemmas 5-7 x 1-1.5 mm, lanceolate, glabrous, with keel and marginal veins glabrous; callus glabrous; palea 3-4.5 mm long, finely scabrous; staminodes minute; ovary with short styles and feathery stigmas. Caryopsis 2.8-3 mm long, subtrigonous, the ventral part flat, attached to the palea. Staminate spikelets 5-7 mm long; lower glume 3-4.5 mm long, 1-3-veined; upper glume 5-7 mm long, 3-veined; lemmas lanceolate, glabrous, 4-5.5 x 1-1.4 mm; marginal nerves and keels glabrous, callus glabrous; anthers 2.5-5.5 mm long.

References. Described for Chile, it was mentioned by Nicora (1978) based on the types of *Poa holciformis* and *Koeleria pooides*; later cited by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng (1998), Soreng & Peterson (2008), Giussani (2000), Giussani *et al*. (2012), Rodríguez *et al*. (2008a, 2018) and Finot *et al*. (2022).

Iconografía. Nicora (1978: 183, fig. 116); Giussani *et al*. (2012: 308).

Distribution and habitat. Argentina and Chile (Hauman & Vanderveken 1917; Marticorena & Quezada 1985; Soreng *et al*. 2003; Giussani *et al*. 2012; Zuloaga *et al*. 2019). In Chile it is found in the regions of Coquimbo, Valparaíso, Metropolitana, O'Higgins, Maule, Ñuble, Biobío and Araucanía (30°38'-38°50' S), between 1300 and 3800 m. It grows in the upper Andean floor, associated with species of *Trisetum*, *Festuca*, *Poa* and *Rytidosperma*, on wet bottom valleys.

Distinctive features. Lemma of pistillate florets with callus and veins glabrous, resembling *P. nubensis* Giussani, M.G. Fernández & Morrone and *P. huecu* Parodi, until now not identified in the national territory.

Phenology. Flowering between October and May

Notes. Nicora (1978) includes *P. chilensis* "Desv." (error for *P. chilensis* Trin.) among the synonyms of *P. holciformis*. Soreng (1998) includes *P. chilensis* Trin. as a synonym for *P. denudata* Steud. but subsequently treats it as a synonym of *P. holciformis* (Soreng *et al*. 2003), a treatment followed later by Giussani *et al*. (2012), Rodríguez *et al*. (2018) and this treatment.

The specimen *García & Valdivia 3127* from Altos de Chicauma responds well to the characteristics of the species, but the staminate spikelets have shorter floral bracts than those described for the species: Lower glume 1.7-2.2 x 0.3-0.4 mm; upper glume 2.2-2.5 x 0.7 mm; lower lemma 3.5-3.7 x 0.7-0.8 mm; palea 2.8 mm and anthers 1.3 mm long; some florets have 2 or 3 long woolly hairs, but most have glabrous callus; the lemmas are completely glabrous on the keel, veins, and epidermis between the nerves.

Parodi (1950) and Giussani (1997) point it out as a toxic species for livestock.

Additional specimens examined. CHILE. Region of Coquimbo, Prov. Limarí, Cordillera de Ovalle, Quebrada Calabozos, 30°38' S, 70°17' W, 2900 m, I-1956, Jiles 2443 (CONC); Upper Río Los Molles, above Los Molles below Bocatoma, E of Monte Patria ca. 40 km; W slope of the Andes, narrrow valley in Cordillera de Doña Rosa, S exp., rocky granitic foot slope of ridge, tola steppe, 30°44' S, 70°27' W, 2259 m, 25-XI-2001, R. J. & N. L. Soreng 7060-a (US). Region of Valparaíso, Prov. Los Andes, entre lagunas Las Truchas y Turquesa, 33°06' S, 70°18' W, 3200 m, I-1991, Arroyo *et al*. 91148 (CONC). Metropolitan Region, Prov. Cordillera, San José de Maipo, Cerro Ruhillas, 33°46' S, 70°03' W, 2250 m, 22-XII-2001, Teillier & Márquez 5245 (CONC); Río Yeso, cerca de Termas del Plomo, 33°36' S, 70°00' W, 13-I-2002, R. J. & N. L. Soreng 7157a (CONC); Río Colorado, Estero Ortega, 33°22' S, 69°59' W, 2700 m, 23-V-2007, Teillier *et al*. 5820 (CONC); Estación de ski El Colorado, 33°20' S, 70°17' W, 2800 m, 11-XII-2001, Aedo 7091 (CONC); Prov. Chacabuco, Altos de Chicauma, sector Loma Blanca, 33°12' S, 70°57' W, 1150 m, 27-IX-2002, García & Valdivia 3127 (CONC). Region of O'Higgins, Prov. Cachapoal, Termas del Flaco, 1775 m, 34°57' S, 70°26' W, 6-I-2005, García *et al*. 3368 (CONC). Region of Maule, Prov. Curicó, cerca de Paso Vergara, 35°10' S, 70°29' W, 2224 m, 30-XI-2001, R. J. & N. L. Soreng 7100 (CONC). Region of Ñuble, Prov. Diguillín, Cordillera de Chillán, Valle de las Nieblas, 36°54' S, 71°31' W, 2000 m, año 1877, Philippi s.n. (SGO 37338, type of *P. chilensis* var. *robustior*); Termas de Chillán, Valle de las Nieblas, year 1945, Pfister 6255 (SGO). Region of the Araucanía, Prov. Malleco, Lonquimay, 38°50' S, 71°15' W, 1300 m, I-1947, Pfister s.n. (CONC).

24. **Poa paposana** Phil., Fl. Atacam. 55. 1860. TYPE: [Chile, Prov. Antofagasta], in regione herbosa prope Paposo inveni, *R. A. Philippi 394* (holotype SGO-PHIL-394, now in W, not seen; isotypes BAA bc-00000973 fragm.!, US bc-00386405 fragm. & photo!, W bc-0029746!, W bc-1916-0039668!). Fig. 5.

Poa dialystostachya Phil., Anales Univ. Chil. 94: 167. 1896. TYPE: Chile. Prope Concón, Oct. 1884, *F. Philippi s.n.* (holotype W bc-1916-0039675 ex SGO-PHIL-435!;

isotypes BAA bc-00002673 fragm. ex SGO!, SGO bc-000000655!, US-89672 ex SGO-PHIL-435).

Plants dioecious; perennial, with few to moderate intravaginal tillers; the last very long internode, usually forms rigid, smooth stolons, which give rise to extravaginal tillers; occasionally it forms leafy rhizomes that give rise to tillers or extravaginal innovations. Culms (15-) 30-40 (-50) cm high, erect, simple, sometimes branched, hardened at the base, with thickened nodes and forming pronounced elbows that usually form an angle of up to 90º. Sheaths densely scabrous, with retrorse hooks extending into the ligule and lamina; ligules 1-3 mm long, short, truncate, scabrous on the back, sometimes glabrous; blades 5-25 cm long x 1-2 mm wide, flat, graceful, delicate, the apex navicular to pointed. Panicle 5-7.5 (-9) cm long, contracted to somewhat extended; branches with spikelets from the base. Pistillate spikelets 8 x 5 mm, 4-6-flowered; glumes unequal, shorter than contiguous florets, lanceolate; lower glume 1-veined, 3.5-4 mm long, upper glume 4 mm; lower lemma 4-5 x 1 mm; callus glabrous or with soft, long and curly wool; keel and marginal veins with hairs up to 0.5 mm; staminodes minute. Staminate spikelets 7 x 4 mm, 4-6-flowered; lower glume 1-veined, 3 mm long; upper glume 4 mm; lemmas smooth, glabrous occasionally with few hairs on the callus; lower lemma 4 x 1 mm; anthers 2-3 mm long.

References. Described for the Region of Antofagasta, Chile, it was not cited by Marticorena & Quezada (1985) nor included in the Catalog of the Region of Antofagasta by Marticorena *et al*. (1998). It was cited by Soreng *et al*. (2003), Soreng & Peterson (2008), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Hoffmann *et al*. (2015, Fl. Silvestre Chile: Cuando el desierto florece 1: 205, fig. 1).

Distribution and habitat. Endemic to Chile; plants of dunes and rocky slopes in the coastal fog zone between the regions of Antofagasta and Metropolitan (25º03'- 33º26' S), between 315 and 1500 m. It has been collected growing in low scrub vegetation with clay soil, associated with *Haplopappus foliosus* DC., *H. hirtellus* Phil., *Bahia ambrosioides* Lag., *Baccharis paniculata* DC., *Lobelia polyphylla* Hook. & Arn., *Fuchsia lycioides* Andr., *Polyachyrus poeppigii* (Kunze ex Less.) Less., *Heliotropium stenophyllum* Hook. & Arn., *Senecio glabratus* Hook. & Arn., *Echinopsis* sp.

Distinctive features. Panicle contracted to somewhat extended; branches with spikelets from the base. Lemmas of pistillate spikelets with callus glabrous or with soft, long and curly wool; keel and marginal veins with hairs up to 0.5 mm; staminodes minute. Lemmas of staminate spikelets with few hairs on the callus.

Phenology. Flowering and fructifying occur between September and February.

Notes. This species is morphologically very close and frequently confused with *Poa bonariensis* (Lam.) Kunth. However, *P. bonariensis* is a species of the Pampas, whose distribution includes the Argentine coast and the Pampas region that includes Argentina, Uruguay and southern Brazil. In contrast, the distribution of *P. paposana* includes dunes and rocky coastal slopes from the north to the center of Chile. Due to its morphology, it also resembles *P. calchaquiensis*, from which it is distinguished by having rigid culms at the base, with thickened and differentially bent knots; likewise, it is frequent to observe stolons and rhizomes in the same material. In a molecular phylogenetic work (Giussani *et al*. 2016), *P. paposana* forms a clade with *P. cumingii*, a typical species of sandy soils in Chilean coastal regions.

Poa dialystostachya was collected by F. Philippi near Concón, Valparaíso Region, in October 1884. Until now, this name has been treated as a synonym of *P. cumingii* (Soreng *et al*., 2003; Finot *et al*., 2022). Based on the revision of the types and on the phenetic study of the *P. cumingii* complex (unpublished data), we decide to treat *P. dialystostachya* as a new synonym of *P. paposana*.

Additional specimens examined. CHILE. Region of Antofagasta, Prov. Antofagasta, Quebrada El Médano, al N de Paposo, 640 m, 24°50' S, 70°31' W, 8-X-1941, Pisano & Bravo 408 (CONC). Region of Coquimbo, Prov. Coquimbo, Cerro Grande, SE de La Serena, 29°57' S, 71°13' W, 330 m, 23-XI-2001, Soreng *et al*. 7052 (CONC); Cerro Grande, SE of La Serena, upper slope, along road up the S ridge to the microwave towers, ca. 5 km inland from the coast; steep S facing slopes, low shruby mattoral, clay loam soils, 29°57' S, 71°13' W, 454 m, 23-XI-2001, Soreng *et al*. 7054 (CONC, US); Prov. Elqui, Mina El Tofo, 29°27' S, 71°14' W, 820 m, 26-XI-2001, Soreng *et al*. 7075 (CONC); La Serena, Cerro Grande, 80 m, 29°54' S, 71°14' W, 13-IX-1927, Barros s.n. (CONC); La Serena, 80 m, 13-IX-1927, Barros 1659 (CONC); Cuesta Buenos Aires, ravine just below S side of pass on Ruta 5N, above Los Hornos, ca. 30 km N of La Serena and ca. 5 km inland from the coast, coast range, steep slopes of shruby ravine, mattoral, SE exp., 29°34' S, 71°15' W, 542 m, 26-nov-01, Soreng *et al*. 7071 (CONC, US); Prov. Choapa, Cuncumén-El Huitrón, 1.400 m, 31°53' S, 70°38' W, 19-X-1962, Jiles 4294 (CONC); Prov. Limarí, Ovalle, Estancia Talca, 30 m, 30°54' S, 71°39' W, 19-IX-1949, Jiles 1416 (CONC); Zorrilla, 350 m, 30°50' S, 71°30' W, 17-IX-1950, Jiles 1823 (CONC); Quebrada Amolanas, 240 m, 31°12' S, 71°26' W, 3-X-1948, Jiles 935 (CONC); Ovalle, Fray Jorge, *c*. Quebrada Las Papas, 500 m, 30°40' S, 71°40' W, 20-VIII-1950, Jiles 1741 (CONC); PN Fray Jorge,

Portada Karl Skottsberg, 500 m, 30°40' S, 71°40' W, 6-XI-1974, Marticorena *et al*. 534 (CONC); PN Fray Jorge, parte baja, 300 m, 30°40' S, 71°38' W, 5-XI-1974, Marticorena *et al*. 418 (CONC); Fray Jorge, cerros, 400-450 m, 21-IX-1952, Ricardi 2131 (CONC); P. N. Bosque de Fray Jorge, on coast W of Ovalle, along the road up to the bosque; steep E facing slopes of main coastal ridge, low shruby mattoral interspersed with grasses, clay loam soils, 30°38' S, 71°36' W, 313 m, 24-XI-2001, R. J. & N. L. Soreng 7055 (CONC, US). Region of Valparaíso, Prov. Quillota, Limache, cerro Tres Puntas, 90 m, 33°01' S, 71°16' W, 19-IX-1929, Garaventa 424 (CONC); Limache, cerro Cruz, 900 m, 33°06' S, 71°16' W, 4-X-1931, Garaventa 2452 (CONC); Prov. Valparaíso, cerros Quebrada Verde, 50 m, 33°02' S, 71°38' W, 28-IX-1931, Garaventa 2216 (CONC); Prov. San Antonio, Las Tablas, 400 m, 33°21' S, 71°34' W, 26-II-1932, Garaventa 2422 (CONC). Metropolitan Region, Prov. Cordillera, San Gabriel, 1500 m, 33°26' S, 70°04' W, 5-XII-1926, Montero 1452 (CONC).

25. **Poa cumingii** Trin., Mém. Acad. Imp. Sci. Saint-Pétersbourg, Sér. 6, Sci. Math., Seconde Pt. Sci. Nat. 4, 2(1): 66. 1836. TYPE: V. sp. Chil. (holotype LE-TRIN-2611.01a; isotypes US-89678 fragm. ex LE-TRIN-2611.01a) 2611.01b "mis. De Martius 1835 Chile 12" (a y b pistillate).

Poa phalaroides Nees ex Steud., Syn. Pl. Glumac. 1: 258. 1854. TYPE: "Cuming legit in Montevideo" *H. Cuming s.n*. (holotype B not seen; isotypes BAA fragm. ex B, BM-622547!, K-969/285, K-969/286, K bc-001097569!, K bc-001097552!; US-88746, US-1723708! fragm. ex K).

Poa conformis Nees ex Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: Chile. Prope Valparaíso, *H. Cuming s.n*. (holotype B not seen; isotypes BAA col. typus 4092 fragm. ex B!, US bc-00386471 fragm. ex B!).

Poa curva Nees ex Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: Chile. Valparaíso, *H. Cuming 469* (holotype B; isotypes BAA bc-00001008 fragm. ex B!, K-969/272, K-969/353, US-89677!).

Distichlis ammobia Phil., Anales Univ. Chile 43: 569. 1873. TYPE: Chile, se cría en los arenales marítimos de Llico y Vichuquén, de donde la trajo don *L. Landbeck s.n*. (holotype SGO-PHIL-378; isotypes BAA col. typus 930!, 931!, 932!, 933!, SGO 63497!, SGO-60465!, US-556515, W).

Distichlis volckmannii Phil., Anales Univ. Chile 43: 571. 1873. TYPE: El Museo ha recibido esta especie del finado Volkmann sin indicación de localidad, presumo que es de la provincia de Arauco, *Volkmann s.n*. (holotype SGO-PHIL-374; isotypes SGO 60484, SGO 37537, SGO 63498, US 1939374 fragm. ex SGO 60484).

Poa stachyodes Phil., Anales Univ. Chile 94: 68. 1896. TYPE: Chile ad Concón, Oct. 1884, *F. Philippi s.n*. (holotype SGO-PHIL-432!; isotypes BAA, SGO bc-00673!, US 88726 ex SGO).

Plants dioecious; perennial, 10-50 cm tall, with stoloniform rhizomes. Culms ascending. Leaves normally exceed the inflorescence; sheaths glabrous, closed in their lower 2/3; ligules (2-) 2.5-8 mm long, membranous, truncate, decurrent with the sheaths; blades up to 14-20 cm long x 0.5-0.6 (-1.5) mm wide, folded, glabrous, apex navicular, acute. Panicle 2-14 x 1-3 (-4) cm, spiciform, ovate, dense; internodes of the main axis of the panicle and branches less than 10 mm long; rachis and pedicels glabrous or subglabrous. Pistillate spikelets 6.5-7.5 (-12) x 2.8-4 (-8) mm, 3-4(11)-flowered, laterally compressed; rhachilla internodes 0.5 (-0.8) mm long, glabrous; glumes acute, glabrous, the keel scabrous in the upper third, covering 2/3 of the contiguous florets; lower glume 4-5 (-6) x 0.6-0.7 (-1) mm, 1-3-veined; upper glume 4.5-5.7 (-6.6) x 0.8 (-1.6) mm, 3(-5)-veined; lower lemma 5-6 (-8.5) mm long, the upper ones smaller, keel ciliate along the lower 1/2 (-2/3), cilia up to 0.5 mm long, scabrous on the upper half, 5-veined, lateral veins glabrous, marginal veins ciliate in lower third, apex acute; callus with folded hairs, sometimes curled at the apex or with short hairs, similar to those on the keel; palea 4.5 mm long. Lodicules triangular, acute, 0.7 mm long, with a basal lobe, linear, 0.3 mm long. Caryopsis 2.5 mm long, ellipsoidal, triangular in cross section, free or partially adhered to the glumelae; endosperm dry, hard. Staminate spikelets 5-7.5 (-9) mm long, 3-5-flowered; lower glume 3-4 mm long; upper glume 3.5-4.5 mm long; lower lemma 5.5 mm long, the keel ciliate or glabrous, lateral and marginal veins glabrous; callus glabrous; palea as long as the lemma; lodicules absent or reduced; anthers 3, 2.5-4.5 mm long (Figs. 3a-i, 8a-d.).

References. Marticorena & Quezada (1985), Zuloaga *et al*. (2008, 2019), Soreng & Peterson (2008), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Distribution and habitat. Endemic to Chile, it grows in the regions of Coquimbo, Valparaíso, Maule, Ñuble, Biobío, Arauco, Los Ríos and Los Lagos, (31°35'- 43°18' S), from the sea level to 200 m. It grows in the primary and secondary maritime dunes as well as on sandy slopes; it is a differential species of the *Poo-Ambrosietum chamissonis*, where it grows associated with *Lolium rigidum* Gaudin, *Ammophila arenaria* (L.) Link, *Lagurus ovatus* L., *Carpobrotus chilensis* (Molina) N.E. Br., *Ambrosia chamissonis* (Less.) Greene, *Distichlis* sp., *Convolvulus* sp., *Oenothera picencis* Phil., *Bromus rigidus* Roth, *Senecio paucidentatus* DC., *Phacelia secunda* J.F. Gmel. (Luebert & Muñoz-Schick 2005).

Distinctive features. Plants with long stoloniform rhizomes; panicle spiciform, dense; glumes smaller than contiguous

florets; keel and marginal veins of pistillate lemmas ciliate in lower third; staminate lemmas with ciliate or glabrous keel and glabrous lateral and marginal veins; callus of pistillate spikelets with folded hairs, sometimes curved at the apex; callus of staminate spikelets glabrous.

Phenology. Flowering from October to February.

Notes. The original description of *P. phalaroides* indicates "Montevideo" (Uruguay) as the locality of origin; the isotypes deposited in BAA, BM, K and US bear the number *Cuming 358* and the locality of collection corresponds to Valparaíso, Chile.

They are usually non-viviparous plants, but this phenomenon was detected in the *R. J. & N. L. Soreng 7244* specimen collected near Cucao, Chiloé Island.

Additional specimens examined. CHILE. Region of Coquimbo, Prov. Choapa, Illapel, Pichidangui, dunas, 32°09' S, 71°31' W, 15 m, 1-XI-1966, Kohler 605 (CONC); Prov. Choapa, Huentelauquén, 31°35' S, 71°32' W, 60 m, 20-X-1955, Jiles 2807 (CONC). Region of Valparaíso, Prov. Petorca, Caleta Pichicuy, 32°20' S, 71°26' W, 10 m, 27-XI-2001, R. J. & N. L. Soreng 7081 (CONC); Pichicuy, en las dunas, 32°20' S, 71°18' W, 2 m, 1-XI-1974, Marticorena *et al*. 165 & 160 (CONC); Huaquén, 32°12' S, 71°27' W, 350 m, 10-X-1965, Kohler 211 (CONC). Prov. San Antonio, Algarrobo, 33°22' S, 71°40' W, 20 m, 21-X-1961, Balaza 72 (CONC); Algarrobo, Mirasol, 33°20' S, 71°39' W, 50 m, 21-X-1961, Aste s.n. (CONC); El Tabo, 33°27' S, 71°40' O, 10 m, X-1956, Levi s.n. (CONC); El Tabo, 10 m, 20-XI-2001, R. J. & N. L. Soreng 7094 (CONC); El Quisco, Punta de Tralca, 33°25' S, 71°42' W, 12-X-2015, Teillier *et al*. 7984 (CONC); Las Cruces, 33°29' S, 71°38' W, 20 m, 20-X-1950, Gunckel 18529 (CONC); Las Cruces, dunas, 33°29' S, 71°38' W, 20 m, 19-X-1950, Pfister & Ricardi s.n. (CONC); Santo Domingo, 33°28' S, 71°37' W, 25 m, X-1954, Riegel s.n. (CONC); Rocas de Santo Domingo, acantilado, 33°28' S, 71°37' W, 25 m, 21-II-1965, Ricardi 5236 (CONC); Santo Domingo, dunas, 33°28' S, 71°37' W, 25 m, 7-XII-1930, Looser 1490 (CONC); Puerto de San Antonio, 33°35' S, 71°36' W, 60 m, XII-1955, Levi s.n. (CONC); El Tabo, dunas, 33°27' S, 71°40' W, 5 m, X-1966, Kohler & Weisser 236 (CONC); Puerto San Antonio, 33°35' S, 71°36' W, 60 m, X-1956, Levi s.n. (CONC). Prov. Valparaíso, Concón, dunas, 32°56' S, 71°32' W, 20 m, 19-X-1966, Kohler 570 (CONC); Camino costero entre Concón y Reñaca, 32°56' S, 71°32' W, 20 m, 27-XI-2001, R. J. & N. L. Soreng 7086 (CONC); Concón-Reñaca, 32°56' S, 71°32' W, 133 m, 28-XI-2001, R. J. Soreng et al. 7087a (CONC); camino entre Concón y Reñaca, 32°55' S, 71°32' W, 20 m, 27-XI-2001, Soreng 7086 (CONC); Tunquén, estero Casablanca, 33°16' S, 71°39' W, 50 m, 1-XI-2001, Teillier 5881 (CONC); Lolleo, 33°36' S, 71°37' W, 15 m, 21-X-1950, Gunckel 18815 (CONC); Quintero, El Durazno, 32°46' S, 71°32' W, 10 m, 10-XII-1952, Gunckel 24390 (CONC); Quintero, dunas de Ritoque, 32°49' S, 71°31' W, 30 m, 18-X-1951, Gunckel 20398, 20401 (CONC); dunas de Ritoque, 32°46' S, 71°32' W, 20 m, XI-1952, Gunckel 23856 (CONC); Ritoque, dunas fijas, 32°49' S, 71°31' W, 10 m, 29-X-1977, Serey 1 (CONC); Quintero, entre rocas marítimas, 32°46' S, 71°31' W, 20 m, 16-X-1951, Gunckel 20386 (CONC); Quintero, dunas, entre arbustos, 32°46' S, 71°31' W, 15 m, 8-XII-1951, Gunckel 18964 (CONC); Quintero, Loncura, suelo arenoso, XI-1953, Gunckel 27369, 30441 (CONC); Punta Liles, IX-1960, Gunckel 35598 (CONC); Valparaíso, 33°02' S, 71°38' W, 20 m, X-1910, Jaffuel s.n. (CONC); Quintay, dunas, 33°10' S, 71°42' W, 5 m, 2-XI-1987, von Bohlen 37 (CONC); Valparaíso, 2,1 km al sur de Punta de Ángeles en camino de Valparaíso a Laguna Verde, 33°02' S, 71°39' W, 120 m, 1-XI-1990, Lammers *et al*. 7746 (CONC). Region of O'Higgins, Prov. Cardenal Caro, Pichilemu, Tanumé, La Polcura, 14 m, 34°27' S, 70°43' W, 25-X-2005, Faúndez *et al*. 41 (CONC); Paredones, Bucalemu, 28-X-2005, Saldivia & Larraín 241 (CONC). Region of Maule, Prov. Curicó, Iloca, 34°57' S, 72°10' W, 20 m, II-1966, Gunckel 46991 (CONC). Region of Ñuble, Prov. Itata, Cobquecura, SN Lobería e Iglesia de Piedra, playa, 36°07' S, 72°48' O, 10 m, 28-IX-2019, Finot 2979 (unmounted). Region of Biobío, Prov. Concepción, Talcahuano, San Vicente, 36°46' S, 73°08' W, 10 m, Junge s.n. (CONC 5146); Rocoto, La Puntilla, 36°47' S, 73°10' W, 20 m, 15-X-1970, Palma & Inostroza 6 (CONC); Hualpén, Playa de Lenga, 36°46' S, 73°09' W, 10 m, X-2001, Giussani s.n. (CONC 168277); Concepción, 36°49' S, 73°03' W, 10 m, XI-1930, Barros 4320 (CONC); Coronel, Norte de Punta Puchoco, 36°59' S, 73°10' W, 5 m, 10-XI-2001, R. J. & N. L. Soreng 7028 (CONC); Boca del Biobío, 36°48' S, 73°10' W, 5 m, 20-XI-1941, Pfister 331 (CONC); Boca del Biobío, 36°59' S, 73°10' W, 5 m, 19-XI-2002, R. J. & N. L. Soreng 7033 (CONC). Region of the Araucanía. Prov. Cautín, Costa sur del lago Budi, 38°57' S, 73°20' W, 20 m, XII-2001 Soreng & Soreng 7102 (CONC); Puerto Saavedra, dunas de Moncul, 38°43' S, 73°26' W, 5 m, 31-XII-1934, Montero 2105 (CONC); Puerto Saavedra, 38°47' S, 73°23' W, 3 m, 30-XII-1932, Montero 1131 (CONC); Puerto Saavedra, dunas, 38°47' S, 73°23' W, 10 m, 20-II-1944, Montero 4072 (CONC); Puerto Saavedra, 38°47' S, 73°23' W, 5 m, 10-XII-1919, Hollermayer 208 (CONC). Region of Los Lagos, Prov. Chiloé, Cucao, Quilán, 43°18' S, 74°17' W, 10 m, 1-I-1932, Junge 177 (CONC); PN Chiloé, 10 km N de Cucao, 42°34' S, 74°08' W, 20 m, 29-I-2002, R. J. & N. L. Soreng 7244 (CONC), R. J. & N. L. Soreng 7246 (CONC); Chiloé, al N de Bahía Cocotué, 41°51' S, 74°00' W, 15 m, 28-I-2002, R. J. & N. L. Soreng 7240 (CONC). Region of Los Ríos, Prov. Valdivia, Mehuín, 39°25' S, 73°12' W, 20 m, 24-XI-1974, Montero 10963 (CONC); Mehuín, 39°26' S, 73°13' W, 10 m, R. J. & N. L. Soreng 7101 (CONC); Folilco, 39°37' S, 72°48' W, 80 m, 20-I-1963, Möller 27 (CONC).

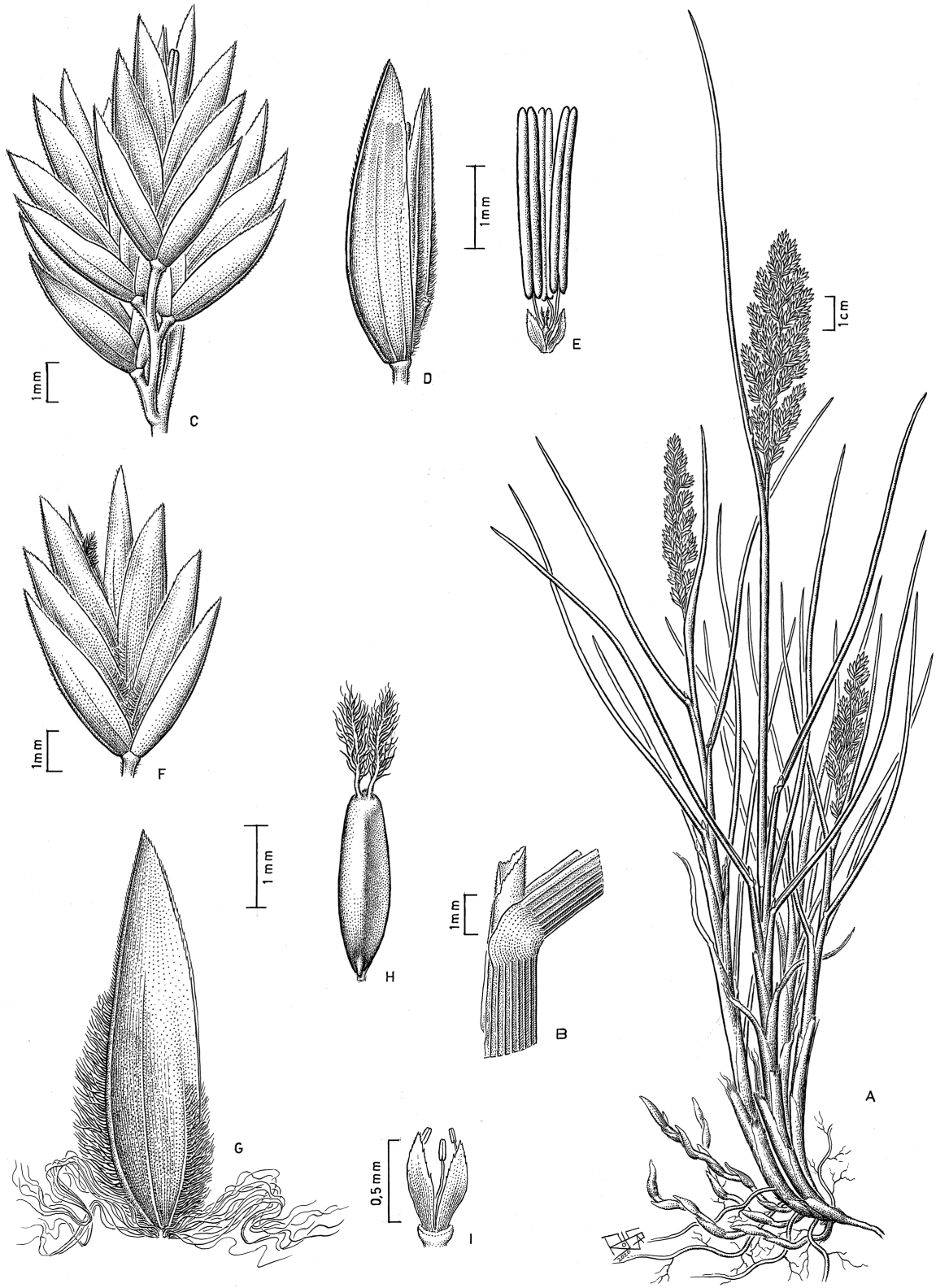

Figure 3. *Poa cumingii*: a. Plant. b. Ligular zone. c. Portion of an staminate inflorescence. d. Staminate floret. e. Androecium, lodicules and reduced gynoecium. f. Pistillate spikelet. g. Pistillate floret. h. Gynoecium. i. Lodicules and reduced androecium. / *Poa cumingii*: a. Planta. b. Zona ligular. c. Porción de la inflorescencia estaminada. d. Ante- cio estaminado. e. Androceo, lodículas y gineceo reducido. f. Espiguilla pistilada. g. Antecio pistilado. h. Gineceo. i. Lodículas y androceo reducido.

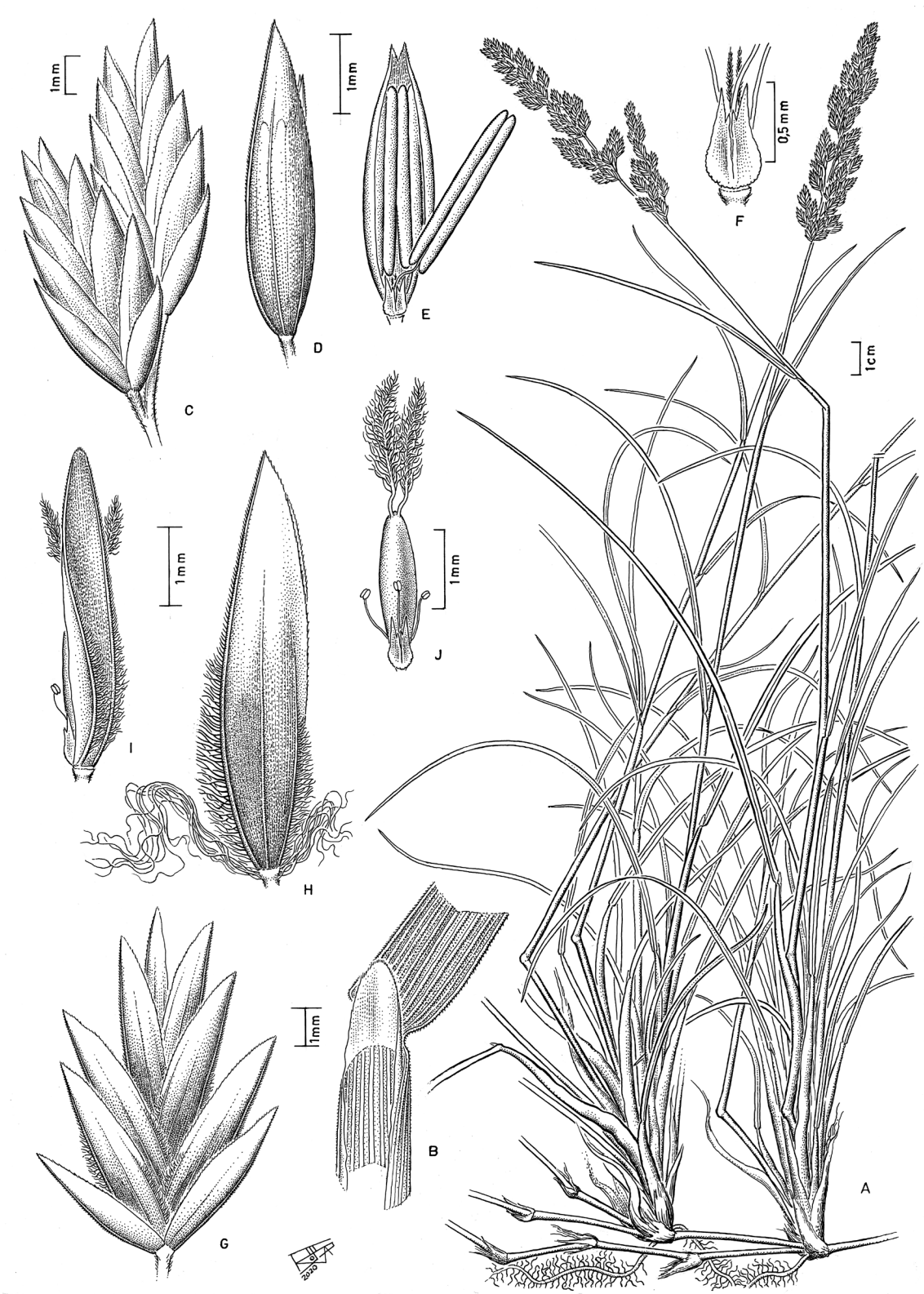

Figure 4. *Poa paposana*: a. Plant. b. Ligular zone. c. Staminate spikelets. d. Staminate floret. e. Staminate flower. f. Lodicules of the staminate flower. g. Pistillate spikelet. h. Pistillate floret. i. Palea of the pistillate flower. j. Pistillate flower. / *Poa paposana*: a. Planta. b. Zona ligular. c. Espiguillas estaminadas. d. Antecio estaminado. e. Flor estaminada. f. Lodículas de la flor estaminada. g. Espiguilla pistilada. h. Antecio pistilado. i. Pálea de la flor pistilada. j. Flor pistilada.

26. **Poa lanuginosa** Poir., Encycl. 5: 91. 1804. TYPE: [Uruguay] "Cette plante a été récueillie à Monte-Video par Commerson (*Poiret 55*) (holotype MPU 027777; isotypes BAA bc-00002715! fragm., US-88769! ex P).

Plants dioecious; perennial, rhizomatous, 12-60 (-90) cm tall, erect; innovations intra and extravaginal. Sheaths 5-15 (-20) cm long, glabrous, smooth, shorter than the internodes; ligules (2-) 5-10 (-17) mm long, hyaline, acute; blades (5) 10-35 (-50) cm long x 1-3 (-5) mm wide, linear, flat, folded, sometimes with subinvolute margins, with navicular or somewhat acute apices, more or less rigid. Panicle 5-15 (-20) x 1-4 cm, subspiciform, erect, dense, with internodes on the main axis and branches of variable length, greater than 10 mm long. Spikelets (pistillate and staminate) (4-)6-8(-10) mm long, 3-7 (-9) -flowered; glumes lanceolate-acuminate, keeled, 3-veined. Pistillate spikelets: lower glume 4-6 mm long; upper glume 5.5-8 mm long; lemma glabrous between veins, keel and marginal veins glabrous or hairy; lower lemma 5-7 x 0.9-1.2 (-2) mm; callus glabrous or with short hairs or with long woolly hairs or cilia of 0.5 mm or more in length; palea 3-5 x 0.7-1 (-1.4) mm, 2-keeled, hairy between keels; tiny staminodia present. Caryopsis subtrigonal, 2-2.5 (-3.5) mm long. Staminate spikelets: lower glume 3-5 mm long; upper glume 4.5-5.5 mm long; lower lemma 4-5.5 x 0.9-1.2 (1.5) mm; callus glabrous or sparsely pubescent; palea 2-keeled, hairy between keels, 3-5 mm; anthers 2-2.5 (-3.5) mm long.

References. Nicora (1978) records it for Argentina, Brazil, Uruguay and Chile. Later, it was mentioned for Chile Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018) y Finot *et al*. (2022).

Distribution and habitat. Argentina, Brasil, Chile and Uruguay (Marticorena & Quezada 1985; Soreng *et al*. 2003; Giussani *et al*. 2012; Zuloaga *et al*. 2019). In Chile is found from the Region of Coquimbo to the Region of Magallanes (30°50'-53°15' S), from the sea level to 3500 m, in sandy soils.

Distinctive features. Plants rhizomatous; ligules long, acute, up to 17 mm long; panicles subspiciform; pistillate lemmas with woolly callus (var. *lanuginosa*) either glabrous or with short hairs (var. *patagonica*); spikelets staminate with glabrous or sparsely pubescent callus.

Phenology. Flowering/fructifying from September to March.

Key to varieties of *Poa lanuginosa*

1. Plants 65-90 cm tall; blades 20-50 cm x 1-5 mm; ligules acute to obtuse, 2-5(-7) mm long ..... 26b. ***P. lanuginosa*** var. ***neuquina***

1'. Plants 12-75 cm tall; blades 5-35 cm x 1-3 mm; ligules acute, 5-10(-17) mm long.

2(1'). Callus of pistillate florets with folded woolly hairs, reaching or exceeding the length of the florets ..... 26a. ***P. lanuginosa*** var. ***lanuginosa***

2'. Callus of the pistillate florets glabrous or with short hairs not exceeding a third of the florets length ..... 26c. ***P. lanuginosa*** var. ***patagonica***

26a. **Poa lanuginosa** Poir. var. **lanuginosa**

Festuca lanata Spreng., Syst. Veg. 1: 353. 1825. TYPE: Uruguay. Montevideo, *F. Sellow 1624* (isotypes B fragm. bc-10 0250140!, BAA bc-00003920 fragm. ex B!, US-88770! fragm. ex TRIN).

Poa lepida Nees, Syn. Pl. Glumac. 1: 257. 1854. TYPE: Chile, in Andibus, *H. Cuming 174* (isotypes K bc-001097578, K bc-001097559!, K bc-001097560!).

Poa bergii Hieron. var. *chubutensis* Speg., Revista Fac. Agron. Univ. Nac. La Plata 3: 628. 1897. TYPE: [Argentina] Hab. Vulgatissima in pratis siccis prope Cabo Rano; [Argentina] Chubut: Florentino Ameghino, Cabo Raso, *C. Spegazzini 938* (sintype LP bc-001627!; isosintype BAA-2473 bc-00002644)!.

References. Nicora (1978) indicates it for dunes and sandy soils of Chile, Argentina, Brazil, Uruguay, although without citing reference materials for Chile. It was also cited for the country by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018) y Finot *et al*. (2022).

Iconography. Nicora (1978: 204, fig. 134); Giussani *et al*. (2012: 315).

Distribution and habitat. Argentina, southern Brazil, south-central Chile and Uruguay. In Chile it is found from the Region of Coquimbo to the Region of Magallanes (30°50'- 53°15' S), from the sea level to 3500 m. It grows in dunes and sandy soils in the steppe of *Festuca pallescens* (St.-Ives) Parodi and *Pappostipa speciosa* (Trin. & Rupr.) Romasch. where it is a forage valuable for cattle (Nicora 1978).

Distinctive features. This variety is characteristic for its very woolly spikelets and long ligule; they are dioecious plants (sect. *Dioicopoa*), with well-developed and branched rhizomes.

Notes. Related to *P. cumingii*, from which it differs by the less dense panicle, with the internodes branches of the panicle usually greater than 10 mm long (equal to or less than 10 mm in *P. cumingii*) and longer ligules [(2-) 5-10 (-17) mm in *P. lanuginosa*, 2-8 mm in *P. cumingii*].

It has been considered a species whose cultivation is recommended for the stabilization of dunes (Parodi 1938; Nicora 1978).

Additional specimens examined. CHILE. Region of Coquimbo, N of Los Vilos ca 15 km, E side of Ruta 5N, at km 239, ca 2 km inland; coastal plain, gentle slope, dry, low mattoral, among shrubs, sandy clay loam, 31°48' S, 71°30' W, 5 m, 22-XI-2001, R. J. & N. L. Soreng 7043 (CONC, US). Region of Valparaíso, Prov. Petorca, Cachagua, 32°35' S, 71°26' W, 80 m, XI-1963, Zoellner s.n. (CONC 54798); Caleta Pichicuy, 32°21' S, 71°26' W, XI-2001, R. J. & N. L. Soreng 7082 (CONC). Region of O'Higgins, ex laguna de Tagua Tagua, Rucatalaca, laderas de Millahue, 34°35' S, 71°13' W, year 1967, Muñoz 241 (SGO). Region of Maule, Prov. Talca, Constitucion, year 1907, Reiche s.n. (SGO 61076). Region of Ñuble, Prov. Diguillín, Nevados de Chillán, 36°55' S, 71°24' W, year 1862, Philippi s.n. (SGO 37311, SGO 45792). Region of the Araucanía, Prov. Cautín, Curarrehue, Boquete de Trancura, 39°22' S, 71°53' W, 600 m, año 1887, Philippi s.n. (SGO).

26b. **Poa lanuginosa** Poir. var. **neuquina** (Nicora) Giussani & Soreng, Darwiniana 49(1): 92. 2011. *Poa patagonica* Phil. var. *neuquina* Nicora, Hickenia 1(18): 107. 1977. TYPE: Argentina, Prov. Neuquén, Dpto. Lácar, San Martín de Los Andes, *A. Ruiz Leal* 20315 (holotype BAA bc-0000477!).

Notes. Giussani *et al*. (2011) recognize three varieties of *P. lanuginosa*, two of which have been identified in Chile: var. *lanuginosa* and var. *patagonica* (Phil.) Giussani & Soreng. The var. *neuquina* (Nicora) Giussani & Soreng has not been recognized with certainty in the country, although it is very likely that it appears associated with subantarctic forests (the materials *Tomé 233* and *Montero 6113* could correspond to *P. lanuginosa* var. *neuquina*); *P. lanuginosa* var. *neuquina* is characterized by being a large, rhizomatous plant with ligules less than 5 mm long.

Additional specimens examined. CHILE. Metropolitan Region, La Reina, Quebrada de Ramón, 33°26' S, 70°30' W, 1200 m, 24-XI-2000, Tomé 233 (CONC). Región Prov. de Biobío, Salto del Laja, 1300 m, 37°21' S, 71°19' W, 29-XI-1959, Montero 6113 (CONC).

26c. **Poa lanuginosa** Poir. var. **patagonica** (Phil.) Giussani & Soreng, Darwiniana 49(1): 92. 2011. *Poa patagonica* Phil., Anales Univ. Chile 94: 168. 1896. TYPE: Chile ad lacum Pinto Patagoniae australis, *H. Ibar s.n*. (holotype SGO-PHIL-423). EPITYPE: Chile, Región XII de Magallanes, Última Esperanza, Río Los Chinos, al norte de Puerto Natales, ca. 70 km sobre la ruta a Cerro Guido, 110 m, 19 Feb 2002, *R. J. & N.L. Soreng 7330* (SI pl. pistillate, designated by L. M. Giussani & R. J. Soreng, Darwiniana 49: 82. 2011; isoepitype US).

Poa prichardii Rendle, J. Bot. 42: 324. 1904. *Poa alopecurus* (Gaudich. ex Mirb.) Kunth subsp. *prichardii* (Rendle) Giussani & Soreng, Contr. U.S. Natl. Herb. 48: 508. 2003. TYPE: Argentina. Santa Cruz. Dpto. Lago Argentino: Monte Buenos Aires, 1900-1901, *H. Prichard s.n*. (holotype BM bc-000812689!; isotypes BAA bc-00002738! fragm., US-88739 fragm. ex BM & photo).

Poa boecheri Parodi, Revista Argent. Agron. 28: 100. 1961[1962]. TYPE: Argentina. Mendoza. San Rafael, Valle del Atuel, El Sosneado, 35° S, Oct. 1955, *T. W. Boecher, J. P. Hjerting & K. Rahn 801* (holotype BAA bc-00000488!; isotypes LP bc-001633!, C bc-10017176!, SI bc-002891!).

Poa magellanica Phil. ex Macloskie, Rep. Princeton Exp. Patagonia, Botany 8(1, 5, 1): 229. 1904, pro syn., nom. nud. TYPE: "Magellan (Spegazzini); Fuegia".

References. Nicora (1978, sub *P. boecheri*, *P. patagonica*, *P. prichardii*).

Iconography. Nicora (1978: 195, fig. 128 sub *P. patagonica*); Giussani *et al*. (2012: 316).

Distribution and habitat. Argentina and Chile. For Argentina a broader distribution has been described, from Mendoza to Santa Cruz (Giussani *et al*. 2012); in Chile it has been collected only in the Regions of Aysén and Magallanes, 46°51'-52°31' S, between 60 and 235 m in the steppe of *Festuca gracillima* Hook.f. and open sectors of the Magallanes coigüe forest, associated with *Adesmia boronioides* Hook.f., *Berberis microphylla* G. Forst., *Embothrium coccineum* J.R. Forst. & G. Forst., *Escallonia*, *Saxifraga* and *Cerastium*; also in cliffs and protected crevices.

Distinctive features. It differs from the typical variety by having the callus of pistillate florets glabrous or with very short hairs that do not exceed the lower third of the floret (callus of pistillate floret with long, folded hairs, reaching or exceeding the length of the floret in var. *lanuginosa*).

Phenology. It has been collected in flower in February.

Notes. Nicora (1978) considers *Poa patagonica* s.s. the form with callus glabrous or with very short hairs; she distinguishes it from *P. boecheri* because in the latter the callus bears more or less stiff hairs that do not reach half the length of the lemma.

Philippi (1904) established the name *Poa magellanica* Phil. ex Macloskie, Rep. Princeton Exp. Patagonia, Botany 8 (1, 5, 1): 229. 1904, pro syn., nom. nud. TYPE: "Magellan (Spegazzini); Fuegia", but without description. It only indicates that pistillate specimens in the Spegazzini herbarium are identical to *P. patagonica* Phil. There are two materials, one in G bc-00168407 and the other in W-39663, both with a label indicating the locality of origin "Magallanes". Both types carry posterior determination as *P. lanuginosa*.

Additional specimens examined. CHILE. Region of Aysén, Lago General Carrera, off Carretera Austral ca 1 km E of jct with road to Chile Chico, ca. 95 km W of Chile Chico, Shady, mossy, S facing, igneous cliffs near lake shore, in *Nothofagus betuloides* forest 235 m, 03-II-2002, R.J. & N.L. Soreng 7280 (US). Region of Magallanes, Prov. Última Esperanza, Río Los Chinos, al norte de Puerto Natales, 50°00' S, 72°30' W, 110 m, II-2002, R. J. & N. L. Soreng 7330 (SI-30205, epitype).

27. **Poa denudata** Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: Chile, Valdivia, *W. Lechler 578* (holotype P-STEUD-388; isotypes BAA fragm., GOET-5632, K!, LE!, S-05-10393, US-946979! fragm., W!).

Koeleria rigidula Steud., Syn. Pl. Glumac. 1: 293. 1854. *Trisetum rigidulum* (Steud.) Domin, Biblioth. Bot. 65: 296. 1907. TYPE: In maritimis Chili, *W. Lechler 239* (holotype P bc-00506533!; isotypes B 100279242!, BAA bc-00002172!, FI 012540!, P bc-00506534!, US cb-00902235 fragm. & photo ex P!, W bc-1889-0247889!).

Poa gayana E. Desv., Hist. Chile, Bot. 6: 416. 1854. TYPE: Cordilleras de Chile, *C. Gay s.n.* (holotype P!; isotypes US-88728! fragm. & photo ex P; BAA 4097!, BAA 4098 fragm. ex P, BAA 4099 a, fragm. ex P; K bc-001097564!).

Poa vaginiflora Steud., Syn. Pl. Glumac. 1: 259. 1854. *Poa vaginifolia* Steud. ex Lechler (como "*vaginaefolia*"), Berberid. Amer. Austr. 52. 1857, error for *P. vaiginiflora*. *Poa vaginiformis* Steud. ex F. Phil., Anales Univ. Chile 332. 1881, error por *P. vaginiflora*. TYPE: Chile, Valdivia, *W. Lechler 578*[a] (staminate) (isotypes P-STEUD, US-88714 fragm. & photo ex P).

Poa chiloensis Phil., Linnaea 30(2): 206. 1859. TYPE: Chile. Prope oppidum Ancud insulae Chiloé, *R.A. Philippi s.n.* (holotype SGO-PHIL-430; isotypes B, BAA bc-00000986! fragm., SGO-60477!, US-1763023 fragm. ex SGO-PHIL-430 & foto, W bc-0019160039463!).

Poa fonckii Phil., Linnaea 33(3-4): 294. 1864. TYPE: [Chile]. Ad lacum Llanquihue crescit [Fonck?] R. A. Philippi herb-429 (holotype SGO-PHIL—429; isotypes US-88780 fragm. ex SGO-PHIL-420 & foto).

Poa araucana Phil., Anales Univ. Chile 94: 171. 1896. TYPE: [Chile]. Habitat in Araucania prope Lebu, specimina quatuer feminea legi (holotype SGO not seen; isotype BAA bc-00002634 fragm. ex SGO!).

Poa eligulata Hack., Oesterr. Bot. Z. 52(10): 375. 1902. TYPE: [Chile]. Valdivia: in pratis andinis ad 1600 m., *F.W. Neger s.n.* (holotype W bc-0019160012265!; isotypes BAA bc-00002676! fragm. ex US ex W, US-89667! fragm. ex W).

Poa nahuelhuapiensis Nicora, Hickenia 1(18): 106. 1977. TYPE: Argentina, Neuquén, Los Lagos, Península Quetrihue, 1 Nov 1949, *O. Boelcke & J. H. Hunziker 3458* (holotype BAA bc-00000471!; isotypes CORD bc-00001825!).

Plants dioecious; perennial, caespitose, with rhizomes, 10-70 cm high. Sheaths glabrous or scabrous, shorter than the internodes, slightly widened; ligules up to 3.5 mm long, truncate or oval, acute, scabrous on the back, sometimes glabrous; blades 5-20 cm long x 0.3-0.7 (-2) mm wide, flat or folded with involute margins, sometimes filiform, heart-shaped in cross section, rigid, glabrous, the margins scabrous, the apex navicular. Panicles 2.5-14 x 0.8-5 cm, contracted or subspiciform; pedicels 0.5-2.5 mm long, scabrous. Pistillate spikelets 5.6-9 mm long, 3-6-flowered; rhachilla joints 0.7-0.9 mm long, glabrous; glumes unequal, shorter than the contiguous florets, acute, sometimes with violet tints; lower glume 3.3-5.5 x 0.6-0.9 mm, 1-veined; upper glume 4-6 x 0.5-1 mm, 3-veined; lemmas keeled, the keel ciliate in the lower half, glabrous or slightly scabrous in the upper half, 5-veined, the marginal veins ciliate in the lower third, the intermediate veins glabrous; lower lemma 4-6.5 x 0.9-1 mm, the upper ones smaller; callus with long, folded woolly hairs; palea 4-4.7 mm long, with ciliate keels in the lower third, scabrous in the upper half; lodicules bilobed, the lateral lobe shorter, 0.6-0.7 mm long; tiny staminodia present; ovary obovoid, with styles separated from the base. Caryopsis 2.2-2.7 mm long, triangular in cross section, adherent to the lemma and

palea. Staminate spikelets 4.5-7 x 2-5 mm, 3-6-flowered; first rachilla internode 0.2-1 mm long, glabrous; glumes shorter than contiguous florets; lower glume slightly shorter than the upper glume, acute, scabrous along upper half of keel; lower glume 2.2-3.8 x 0.4-0.6 mm, 1-veined; upper glume 3-4.2 x 0.7-0.8 mm, 3-veined; lemmas keeled, glabrous, the apex acute or briefly 2-toothed, 5-veined, keel and marginal and intermediate veins glabrous or the keel somewhat scabrous towards the apex; lower lemma 3.7-5 x 0.7-1 mm, the upper ones smaller; callus with long, scarce or abundant woolly hairs, exceptionally absent; palea 2.7-3.7 mm long, with scabrous keels, dorsally smooth between keels; lodicles 0.3-1 mm long, acute, with a shorter lateral lobe; anthers 1.6-2.5 mm long.

References. *Poa denudata* was described for southern Chile and cited by Nicora (1978) for Argentine Patagonia, as a common species in Neuquén and Río Negro; she does not mention other specimens in Chile. It was also recognized for Chile by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Giussani *et al*. (2012), Rodríguez *et al*. (2008b, 2018) y Finot *et al*. (2022).

Iconography. Nicora (1978: 204, fig. 133); Giussani *et al*. (2012: 301).

Distribution and habitat. Chile and Argentina (Hauman & Vanderveken 1917; Marticorena & Quezada 1985; Soreng *et al*. 2003; Giussani *et al*. 2012; Zuloaga *et al*. 2019). In Chile it grows from the Region of Coquimbo to the Region of Aysén, (30°44'- 47°1' S), from sea level to 2750 m. It grows in *Nothofagus* forests, peatlands and high grasslands. The specimens *Gunckel 40604*, *Gunckel 3646*, *Gunckel 7198*, were collected growing on sea rocks.

Distinctive features. Plants characterized by their somewhat lax panicles; callus of pistillate flowers with woolly hairs; lemmas with hairy veins and keel; staminate flowers with woolly callus but lemmas with glabrous veins and keel.

Phenology. Flowering occurs between October and April.

Notes. Related to *P. bonariensis* and *P. alopecurus*. In *P. denudata* the ligule reaches up to 3.5 mm long (ligule up to 10 mm in *P. alopecurus*, 0.5-2 mm in *P. bonariensis*); pistillate spikelets somewhat smaller (5.6-9 mm in *P. denudata*, 6-12 mm in *P. alopecurus*, 6-9 mm in *P. bonariensis*).

Within this species, a variant with pistillate flowers with glabrous callus, *P. nahuelhuapiensis* Nicora, was included in the synonymy; in the phenetic analyzes of Giussani (2000), not enough morphological characters were found to keep them as different entities.

Poa gayana is a species of Chilean distribution described by Desvaux (1854), whose type locality is imprecise. Given the morphological similarity between these taxa and those included in the synonymy, it is preferred to keep the individuals within a taxonomic complex until new population and molecular studies can improve the discrimination between the entities. The type of *P. gayana* in US-88728 bears an annotation indicating that all three plants in Paris are staminate; they do not bear a rhizome, the base has papyraceous sheaths and the leaves are retrorsely scabrous, especially towards the apex of the lower sheaths; the ligule is very thin and up to 7 mm long; the culm smooth or slightly scabrous below the panicle; leaf blades are loosely folded and up to 12 cm long; culms are 25, 38 and 63 cm tall; the panicles 10.8, 14.5 and 11 cm long, narrow but loose, the axis and branches scabrous. Soreng's notes in tropicos (www.tropicos.org 2021) indicate for *P. gayana* that the lemmas of staminate plants are glabrous in P and K and indicates that a second folder contains pistillate spikelets, but that they seem to correspond to *P. holciformis*, with large and glabrous lemmas. According to tropicos.org (2021) the pistillate spikelets of type in K possess pubescent veins and woolly callus and seem to correspond well with the fragmentary material of the holotype in P. Type BAA-4098a of *P. gayana* bears a drawing and annotations indicating that the sheaths are smooth and glossy, the blades folded and more or less rigid, somewhat curved, 8-10 cm long, 1 mm in diameter; ligule 7 mm long.

Poa gayana is confused with *P. alopecurus* subsp. *alopecurus* but it is distinguished by its looser panicle, the leaves appear to be less rigid and it is distributed further north (Coquimbo to Ñuble).

Poa gayana was recognized with acceptance level 2 by Soreng *et al*. (2003). Soreng & Peterson (2008) suggest that this highly variable species could represent a large hybrid zone between the Andean *P. holciformis* and some species of lower elevations such as *P. lanuginosa*. In addition, they identify specimens that could correspond to hybrids *P. gayana* x *holciformis* between Coquimbo and Maule, on rocky slopes of medium or high elevations. The identity of *Poa gayana* E.Desv. is uncertain because the type material includes only staminate specimens of *P*. sect. *Dioicopoa*, location "Chile", notoriously difficult to identify (Giussani, 2000). This name was applied (with doubt), to material from the central Andes of Chile by Soreng (annotations at CONC and his own collections at CONC and US), but the material is heterogeneous, with some intermediate between *P. holciformis* and other species, including *P. tristigmatica*.

Some type materials of *Koeleria rigidula* are mistakenly assigned the collector number "*Lechler 293*". The number published in the protologue is *Lechler 239*. This error is probably due to the fact that the species was published on page 293 (Syn. Plantarum Glumacearum 1: 293. 1854). The materials that carry the number 293 instead of 239

are: FI 012540, W cb-1889-0247889 and B 100279242. The labels of the types of this taxon also provide different degrees of information about the locality of collection. Some materials indicate "Prope urbem Valdivia" (FI bc-012540, W bc-1889-0247889, B bc-100279242), while others specify "In maritimis prope fluvium Chaggen" (US 00902235), also written as "Chagguen" (BAA bc-00002172, P bc-00506533) or "Chayguen", or "Ad litore Oceanis Pacifici as ostia fl. Chayguin "(P bc-00506534), which corresponds to the Chaihuín river, in the town of Corral, near the city of Valdivia (39°56' S, 73°34 'W). A specimen determined as an isotype of *K. rigidula* Steud. in SGO bc-00000790 (Prope urbem Valdiviae) it bears the number 293 and corresponds to the genus *Trisetum*, not *Poa*. The type of *K. rigidula* in US bc-00902235 was determined by RJS as *Poa resinulosa* Nees ex Steud. (= *Poa ligularis* var. *resinulosa*). Nicora (1978) treated *K. rigidula* as a synonym of *P. resinulosa*, but later, Soreng *et al*. (2003), Zuloaga *et al*. (2008, 2019) and Giussani *et al*. (2012) treat it as a synonym for *P. denudata*, a concept that is followed in this treatment.

The original material of *Poa araucana* Phil., collected in 1877 in Lebu, Arauco province, Araucanía Region, was distributed by R.A. Philippi under the unpublished name *Poa lebuensis*, as recorded in the isotype BAA bc-00002634, both in the original label as in a note by LR Parodi written in 1950. The isotype at BAA contains a complete, pistillate plant. In London, there is a non-type material, collected by F. Philippi in 1904, distributed by Philippi under *P. araucana* and corresponding to *P. cumingii* (BM bc-00812692, det. by RJS). However, the type distributed under *P. lebuensis* corresponds to *P. denudata* and, according to Parodi, agrees with the original description of *P. araucana*, except for the size of the panicle which is erroneously described as 40 cm (by 40 mm) in the original description.

Nicora (1978) and Zuloaga *et al*. (1994) include *P. chilensis* Trin. among the synonyms of *P. denudata*. Soreng (1998), Soreng *et al*. (2003), Zuloaga *et al*. (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and this treatment consider *P. chilensis* Trin. a synonym of *P. holciformis* J. Presl. (see observations under *P. holciformis*).

Additional specimens examined. CHILE. Region of Coquimbo, Prov. Limarí, upper Rio Los Molles, above Los Molles above the Bocatoma water diversion, E of Monte Patria ca. 45 km, W slope of the Andes, narrrow valley in Cordillera de Doña Rosa, N exp., rocky granitic talus slope of ridge, tola steppe, 30°44' S, 70°24' W, 2642 m, 25-XI-2001, R. J. & N. L. Soreng 7064 (CONC); Los Molles, entre Los Molles y Bocatoma, 30°44' S, 70°27' W, 2260 m, 25-XI-2001, R. J. & N. L. Soreng 7060 (CONC, US); Upper Rio Los Molles, above Los Molles below Bocatoma, E of Monte Patria ca. 40 km, W slope of the Andes, narrrow valley in Cordillera de Doña Rosa, S exp., rocky granitic foot slope of ridge, tola steppe, 30°44' S, 70°27' S, 2259 m, 25-XI-2001, R. J. & N. L. Soreng 7060-b (CONC, US). Region of Valparaíso, Prov. Marga-Marga, Quilpué, Colliguay, 33°10' S, 71°09' W, 470 m, XI-1965, Zoellner 2615 (CONC); Prov. Valparaíso, Valparaíso, cerro La Campana, 1675 m, Hutchinson 46 (SGO). Metropolitan Region, Cordillera Río Yeso, above Embalse del Yeso and up to and around Termas del Plomo, ca. 1 km N in narrow vally leading N off road to mine, ca 7 km NE of the embalse; steep, narrow, dry, alpine valley, 2828 m, 13-ene-02, R. J. & N.L. Soreng 7161-b (US); P. N. Yerba Loca, Río Yerba Loca, ca 11 km above Estancia Paulina, NE of Santiago ca 20 km, below the abandon Mina del Cobre; deep narrow valley, in andean steppe zone, granitic rocks, on rocky slopes, 33°15' S, 70°17' W, 2833 m, 16-I-2002, R. J. & N. L. Soreng 7172 (CONC, US). Region of O'Higgins, Prov. Cardenal Caro, Paredones, Bucalemu, 24 m, 28-X-2005, Saldivia & Larraín 273 (CONC); Prov. Colchagua, San Fernando, Termas del Flaco, 34°56' S, 70°25' W, 1700 m, 1-I-1965, Montero 7094 (CONC). Region of Maule, Prov. Linares, RN Bellotos del Melado, 35°51' S, 71°06' W, 21-XII-1999, Arroyo *et al*. 6023, 6302, 6297, 6171, 6326, 6395 (CONC); Río Teno, al interior de Los Queñes, 35°02' S, 70°37' W, 1030 m, 30-XI-2001, R. J. & N. L. Soreng 7095 (CONC); Upper Río Teno, Termas de San Pedro, above Los Queñes, E of Curico ca. 70 km; Andes, N exp, rocky dioritic slope, andean steppe, 35°08' S, 70°29' W, 1809 m, 30-XI-2001, R. J. & N. L. Soreng 7097-a (CONC, US). Region of Ñuble, Prov. Diguillín, Atacalco, Co. Vizcacha Chico, 36°54' S, 71°38' W, 1300 m, 29-XI-1944, Pfister s.n. (CONC 6212); Los Pretiles, camino a Termas de Chillán, 36°55' S, 71°29' W, 1050 m, XII-1945, Pfister s.n. (CONC 6277); cordillera de Chillán, cultivada en Concepción, 15-XI-1946, Behn s.n. (CONC 7097); Entre Recinto y Las Trancas, 1072 m, 12-XI-2001, R.J. & N.L. Soreng 7022 (CONC); Termas de Chillan, SW side of Volcán Chillán, below the ridge W of the termas, disturbed ground on the way back down to the termas, 36°54' S, 71°26' W, 1820 - 1550 m, 21-XII-2001, R. J. & N. L. Soreng 7129 (CONC, US); Termas de Chillan, above and E of the upper baths, on ridge trail to the Pozos, above the fumarols; alpine meadows, steep volcanic slopes with sparse vegetation, loose gravel and sand, 36°54' S, 71°24' W, 2060 m, 20-XII-2001, R. J. & N. L. Soreng 7115 (CONC, US); Termas de Chillan, SW side of Volcán Chillán, below the ridge W of the termas; volcanic sands, among shrubs, 36°54' S, 71°26' W, 1820 m, 21-XII-2001, R. J. & N. L. Soreng 7128 (CONC, US). Region of Biobío, Prov. Arauco, Isla Mocha, Los Natris, 38°22' S, 73°55' W, 15 m, X-1958, Kunkel 297 (CONC); Prov. Concepción, Isla Quiriquina, 36°37' S, 73°03' W, 20 m, Barros 62, 67 (CONC); Isla Quiriquina, 7-XI-1948, Pfister s.n. (CONC); Concepción, 1-XI-1927, Barros 1898 (CONC); Parque Hualpén, 36°47'

S, 73°10' W, 60 m, Carrasco 208 (CONC); Hualpén, Parque Pedro del Río, 1-I-1941, Gunckel 12919 (CONC); San Pedro, 36°50' S, 73°06' W, 10 m, 29-X-1944, Pfister s.n. (CONC 6231); Concepción, La Toma, 36°50' S, 73°02' W, 100 m, 12-X-1946, Pfister s.n. (CONC 7009); Prov. Biobío, Laguna del Laja, 37°23' S, 71°23' W, 1300 m, 29-XI-1959, Montero 6125 (CONC); PN Laguna del Laja, XII-2000, Weinberger 1477 (CONC). Region of the Araucanía, Prov. Cautín, Cerro Afeitado, 38°40'S, 72°13'W, 900 m, 13-I-1921, Hollermayer 24 (CONC); Puerto Saavedra, 38°47' S, 73°23' W, 10 m, 27-XI-1939, Montero 3713, 3715 (CONC); Cerro Maule, al sur de Puerto Saavedra, 15 m, 2-XII-2001, R. J. & N. L. Soreng 7110 (CONC); Curarrehue, 39°21' S, 71°35' W, 900 m, 29-XII-1946, Cañulaf s.n. (CONC 90940); Volcán Llaima, 38°43' S, 71°43' W, 1000 m, 9-XII-1944, Gunckel 15106 (CONC); Volcán Llaima, Tres Pino, 38°43' S, 71°43' W, 1500 m, 29-I-1942, Montero 4248 (CONC); volcán Llaima, 1200 m, 9-XII-1944, Gunckel 15103 (CONC); camino a volcán Llaima, 1500 m, 10-XII-1939, Montero 3833 (CONC); P.N. Villarrica, Hito Paso Mamuil Malal a Argentina, 39°34' S, 71°27' W, 1200 m, 1-I-2002, R. J. & N. L. Soreng 7146 (CONC); Prov. Malleco, Chilpa, 38°16' S, 71°43' W, 2100 m, I-1896, Neger s.n. (CONC 90969); Melipeuco, 38°39' S, 71°38' W, 1000 m, 19-XII-1980, Montero 11826 (CONC); Mininco, 37°47' S, 72°28' W, 190 m, 7-XI-1953, Montero 3995, 4716 (CONC); Termas de Tolhuaca, 38°14' S, 71°44' W, 1000 m, 3-I-1947, Gunckel 16026 (CONC); Icalma, 38°42' S, 71°31' W, 1280 m, Montero 11934 (CONC); P. N. Nahuelbuta, 37°48' S, 73°01' W, 1250 m, Ricardi *et al*. 1875 (CONC); PN Nahuelbuta, II-2000, Weinberger 1457 (CONC); El Saltillo, entre Liucura y Paso Pino Hachado, 38°40' S, 70°56' W, 1380 m, 10-I-1948, Pfister s.n. (CONC 8065); Entre Pino Hachado y Lonquimay, 10-I-1948, Pfister s.n. (CONC 8127); Curacautín, Termas de Río Blanco, 38°34' S, 71°34' W, 1000 m, 9-I-1976, Montero 9982 (CONC); R. N. Alto Biobío, Paso Pino Hachado, N side of highway to Argentina, E of Temuco ca. 150 km, alpine steppe, with scattered copses of *Nothofagus antarctica*. 1900 m, 24-I-2002, R. J. & N. L. Soreng 7205-b (US). Region of Los Ríos, Prov. de Valdivia, Corral, Gunckel 696, 1644, 1840, 40897 (CONC); Isla Mancera, 39°52'S, 73°23'W, 10 m, XI-1937, Gunckel 7202, 7353, 40604 (CONC); Amargos, 39°52' S, 73°25' W, 3 m, 3-XI-1935, Gunckel 14909 (CONC); Amargos, 20 m, 14-I-1934, Montero 1346 (CONC); Amargos, 10 m, 10-III-1929, Gunckel 7350 (CONC); Mal Paso, 39°53' S, 73°25' W, 20 m, 20-X-1932, Gunckel 2464, 3646 (CONC); El Barro, 39°52' S, 73°26' W, Gunckel 2430, 7198 (CONC); Niebla, 39°51' S, 73°24' W, 10 m, 10-II-1937, Gunckel 7186 (CONC); Niebla, Playa Grande, 39°51' S, 73°23' W, 5-15 m, 25-I-2002, R.J. & N.L. Soreng 7224 (CONC); Lago Panguipulli, Puñire, 40°16' S, 72°14' W, 450 m, XII-1927, Hollermayer 7723 (CONC); Valdivia, playa Barra del Bío Bueno, 40°14' S, 73°42' W, 5 m, Hollermayer 1259 (CONC). Region of Los Lagos, Prov. Chiloé, Castro, 42°28' S, 73°46' W, 35 m, 2-I-1924, Barros 1599 (CONC); NW end of Isla de Chiloé, N end of Bahía Cocotue, W of Ancud ca 15 km, Pacific Ocean, rocky bluffs above the sea, 41°52' S, 74°01' W, 15 m, 28-I-2002, R.J. & N.L. Soreng 7238 (CONC, US). Region of Aysén, Prov. Aysén, Lago Meullín, 45°09' S, 72°58' W, 485 m, I-2007, García 3975 (CONC).

28. **Poa ligularis** Nees ex Steud., Syn. Pl. Glumac. 1: 257. 1854. TYPE: "Argentina, Bahia, [C. Darwin] *G. Henslow 552*" (lectotype K cb-000433818!, designated by D. M. Porter, Bot. J. Linn. Soc. 93: 37. 1986; isolectotypes B, BAA col. typus 2615 fragm. ex B!, CGE, US-88761 fragm.).

Plants dioecious, perennial, (10-) 20-50 (-65) cm tall, caespitose; innovations intravaginal. Sheaths 5-15 (-20) cm long, smooth or scabrous, cartilaginous and dilated at the base and on the margins, the basal ones whitish; ligules 7-15 mm long (var. *ligularis*) or (0.5) 2-3 (-4) mm (var. *resinulosa*), ovate to acute, hyaline, sometimes lacerated, glabrous on the back; blades 5-20 (-35) cm long x 1-2 (-3) mm wide, folded to involute margined, linear, filiform, apex navicular to slightly acute. Panicle 4-12 (-16) x (0.5-) 1-2.5 cm, subspiciform, dense, green to purplish. Spikelets 3-8 (-10) -flowered; glumes lanceolate, somewhat scabrous, subhyaline, with scarious margins. Pistillate spikelets 5.5-7 (-8) mm long; lower glume 2.5-4 (-5) mm long; upper glume 3.5-4.5 mm long; lemmas pubescent between veins, keel and marginal veins; lower lemma 4-5 (-6.5) mm long; callus with long, folded, woolly hairs; palea 2-3 (-4) mm, 2-keeled, hairy on lower half of keels, scabrous above, puberulous between keels; tiny staminodes present. Caryopsis 1.5-2.8 mm long, ellipsoid, subtrigonous. Staminate spikelets 4.5-6 mm long; lower glume 2-3 x 0.5-0.8 mm; upper glume 3-4 mm long; lemmas 3-4 x 0.7-1.1 mm, glabrous; callus glabrous; palea as in pistillate florets; anthers 1.5-2 mm long.

References. Described for Argentina (Nicora 1978, Giussani *et al*. 2012), it was mentioned for Chile for the first time by Zuloaga *et al*. (2008) based on the sample *Mihoc 3121*, collected in the Biobío Region; later, cited for Chile by Rodríguez *et al*. (2018), Zuloaga *et al*. (2019) and Finot *et al*. (2022).

Distinctive features. Plants subbulbous at the base; ligules 7-15 mm long (var. *ligularis*) or (0.5) 2-3 (-4) mm (var. *resinulosa*); panicles subspiciform; pistillate lemmas pubescent between veins, keel and marginal veins; callus with long, folded, woolly hairs; staminate lemmas glabrous, with glabrous callus.

Phenology. Flowering between October and March.

Notes. This species has been recommended for its high forage value, palatable and resistant to drought, although the foliage is stiff (Nicora 1978).

Giussani *et al*. (2012) distinguish two varieties: var. *ligularis* and var. *resinulosa*. *Poa ligularis* var. *stricta* Nicora & F. A. Roig is treated as a synonym of *P. durifolia* Giussani, Nicora & F.A. Roig, until now not registered in the country.

Key to varieties of *Poa ligularis*

1. Ligule of innovations acute, 5-10(-15) mm long ..... 28a. ***P. ligularis*** var. ***ligularis***

1'. Ligule of innovations ovate, (0,5-) 2-3 (-4) mm long ..... 28b. ***P. ligularis*** var. ***resinulosa***

28a. **Poa ligularis** Nees ex Steud. var. **ligularis**, Syn. Pl. Glumac. 1: 257. 1854.

Poa denudata var. *minor* Ball, J. Linn. Soc., Bot. 21: 238. 1884, nom. nud.

Common name. "Coirón poa" (Siragusa 1993).

Iconography. Nicora (1978: 186, fig. 120 a-e); Giussani *et al*. (2012: 318).

Distribution and habitat. Argentina, Brazil and Chile. In Chile it has been collected in the Region of Aysén, between 230 and 430 m. Siragusa (1993) mentioned it for Argentina as a component of the "coirón" steppe, where it lives together with species of *Nassella*, *Festuca*, *Poa*, *Agrostis*, *Acaena*, *Calceolaria*, *Adesmia* and *Oxalis*, among others species.

Distinctive features. Plants with filiform blades; inflorescences contracted; pistillate florets markedly pubescent between veins, keel and marginal veins and callus with long, folded woolly hairs; staminate florets glabrous or only somewhat pubescent; the ligule is hyaline, acute, and reaches up to 15 mm long [(0.5-) 2-10 (-15) mm].

Phenology. Flowering occurs between October and November.

Notes. Related to *P. durifolia* (Giussani *et al*. 2012), so far known only for Argentina (Zuloaga *et al*. 2008, 2019).

Additional specimens examined. CHILE. Region of Aysén, Prov. General Carrera, Chile Chico, 46°33' S, 71°44' W, 230 m, 20-XI-2003, Maldonado s.n. (CONC); Cerro Bayo, 46°32' S, 71°51' W, 430 m 28-X-2003, Teillier & Romero 6552 (CONC); Pampa de La Perra, 46°33' S, 71°49' W, 400 m, 28-X-2003, Teillier & Romero 6554 (CONC).

28b. **Poa ligularis** Nees ex Steud. var. **resinulosa** (Nees ex Steud.) Fernández Pepi & Giussani**,** Darwiniana 46(2): 279. 2008.

Poa resinulosa Nees ex Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: [Argentina] "Gillies legit in Mendoza", *J. Gillies s.n*. (isotypes BAA bc-00001032 fragm. ex K!; BAA bc-00002746!; BAA bc-00002747!; K bc-000433760!; NY bc-1911806!; NY bc-01911807!).

P. decolorata Pilg., Repert. Spec. Nov. Regni Veg. 12: 307. 1913. TYPE: [Argentina] "Chubut, Pampachica am Río Tecka", *C. Skottsberg s.n*. (isotypes BAA bc-00001011 ex B!; S14-4870!).

References. Described for Argentina, it was cited for by Chile Rodríguez *et al*. (2008 a,b sub *P. resinulosa*), Amigo & Flores-Toro (2012 sub *P. resinulosa*) and Flores-Toro & Amigo (2013). Previously, García (2006) refers the presence of *Poa* aff. *resinulosa* as part of the high Andean vegetation of Altos de Chicauma and Quilapilún, in the Metropolitan Region.

Distribution and habitat. Argentina and Chile. As in Argentina, this variety has a disjunct distribution in Chile, having been identified in the central regions of Valparaíso and Metropolitan (33°12'- 33°20' S) above 2000 m, as well as in Chilean Patagonia, in the province of Aysén (47°15'- 47°17' S), below 900 m of altitude. It has been recognized as a component the *Zoellnerallio andini-Chuquiragetum oppositifoliae* alliance in the Cordillera de la Costa of the Region of Valparaíso (Amigo & Flores-Toro 2012).

Notes. Nicora (1978) includes *Koeleria rigidula* Steud. and *Trisetum rigidulum* (Steud.) Dom. among the synonyms of *P. resinulosa* (= *P. ligularis* var. *resinulosa*). Subsequently, Soreng *et al*. (2003) establish *K. rigidula* as a synonym for *P. denudata*.

Rodríguez *et al*. (2008b, under *P. resinulosa*) cite it for the Baker River basin, Aysén Region. Later, Zuloaga *et al*. (2019) consider it endemic to Argentina.

Additional specimens examined. CHILE. Metropolitan Region, Prov. Chacabuco, Altos de Chicauma, 33°12' S, 70°56' W, XII-2004, García 646, 650 (CONC); Prov. Santiago, SN Yerba Loca,

Quebrada Agua Blanca, 33°17' S, 70°19' W, XI-1999, 2120 m, Kalin *et al*. 995097; SN Yerba Loca, Las Vacas-Villa Paulina, 33°19' S, 70°18' W, 2560 m, Kalin *et al*. 994684 (CONC); SN Yerba Loca, de Manzanito a Santuario, 33°20' S, 70°19' W, 2040 m, Kalin *et al*. 995025 (CONC). Region of Aysén, Prov. Capitán Prat, Cochrane, Colonia Norte, 47°15' S, 72°43' W, 490 m, XII-2006, Teneb 11 (CONC); Cochrane, predio Seben Rivera, 47°15' S, 72°38' W, 208 m, XI-2006, Rodríguez & Ruiz 4370 (CONC); Cochrane, El Salto, 47°17' S, 72°43' W, 87 m, XI-2006, Rodríguez & Ruiz 4456 (CONC).

29. **Poa spiciformis** (Steudel) Hauman & Parodi, Physis (Buenos Aires) 9: 344. 1929. *Aira spiciformis* Steud. (como *A. spicaeformis*), Syn. Pl. Glumac. 1: 424. 1854. TYPE: Chile, Punta Arenas, Magallanes, *W. Lechler 1068b* (holotype P bc-00624240!; isotypes K, MP, P bc-00624241!, P bc-00624242!, P bc-00624244!, US-2695870 ex P, US-76310 fragm. ex P & K).

Plants dioecious, perennial, with a subbulbose base. Culms 5-19 cm high. Sheaths striated, glabrous, sometimes purplish; ligules 1-9 mm long, hyaline, acute, scabrous on the back; blades 2-7 cm long x less than 1 mm wide, setaceous, straight or curved. Panicle 1-6.5 x 1-1.5 cm, spiciform, ovoid. Spikelets 6-8 (-11) mm long, (2-) 3-4-flowered; pedicels scabrous, 1.5-4 mm long; glumes ubequual, less than florets, glabrous, acute, sometimes violaceous, the keel and veins somewhat scabrous; lower glume 5-8 mm long, 1-3-veined; upper glume 6.3-8.5 mm long, 3-veined; lemmas (4-) 5-8 mm long on the pistillate spikelets, 4-5.5 mm on the staminate spikelets, lanceolate with hyaline margin, acute apex, 5-veined, glabrous or hairy in the lower half, keel and marginal veins hairy, the upper ones somewhat smaller; callus glabrous (var. *ibari*) or with woolly hairs (var. *spiciformis*); palea with the keels ciliate. Pistillate flowers with tiny staminodes (0.2-0.3 mm long). Staminate flowers with anthers 2-2.7 mm long. Caryopsis subtrigonal 2-2.5 mm long.

References. Nicora (1978) mentions it under its synonym *P. poecila*. It is also recognized by Moore (1983, under *P. poecila*), Marticorena & Quezada (1985, under *P. poecila*), Zuloaga *et al*. (1994 under *P. poecila*), Soreng (1998), Giussani (1997), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2008, 2012), Rodríguez *et al*. (2008b, 2018) and Finot *et al*. (2022).

Distribution and habitat. Native from Chile and Argentina, it is found from the Region of Aysén, prov. Coyhaique (Villa La Tapera) to the Region of Magallanes, prov. Tierra del Fuego (Timaukel, Contralmirante Martínez Fjord), 44°28'- 54°13' S, between 5 and 1400 m.

Distinctive features. Panicles spiciform; spikelets 6-8 (-11) mm long, with subequal glumes, smaller than the florets; lemmas with callus glabrous (var. *ibari*) or with woolly hairs (var. *spiciformis*).

Key to varieties of *Poa spiciformis*

1. Callus of pistillate florets glabrous; lemma pilose on the lower half ..... 29a. ***P. spiciformis*** var. ***ibari***

1'. Callus of pistillate florets with woolly hairs; lemma glabrous dorsally ..... 29b. ***P. spiciformis*** var. ***spiciformis***

29a. **Poa spiciformis** (Steudel) Hauman & Parodi var. **ibari** (Phil.) Giussani, Contr. U.S. Natl. Herb. 48: 567. 2003. *Poa ibari* Phil., Anales Univ. Chile 94: 170. 1896. *Poa rigidifolia* Steud. var. *ibari* (Phil.) Giussani, Ann. Missouri Bot. Gard. 87: 221. 2000. TYPE: Chile, ad lacum Pinto Patagoniae australis legit *H. Ibar s.n.* (holotype SGO; isotype BAA bc-00002705).

Poa dusenii Hack., Ark. Bot. 7(2): 8. 1908. TYPE: Argentina, Patagonia orientalis, as Mazaredo portum, 47°41'S, in campo suffruticoso, *P. K. H. Dusén 5318* (holotype W-12264; isotypes BAA, S-R-4991, US-89702, US-1161178).

References. Nicora (1978, sub *P. ibari*), Marticorena & Quezada (1985, sub *P. ibari*), Zuloaga *et al*. (1994, sub *P. ibari*), Giussani (2000), Soreng *et al*. (2003), Domínguez *et al*. (2004), Gussani *et al*. (2008, 2012), Zuloaga *et al*. (2008), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Iconography. Nicora (1978: 183, fig. 118 sub *P. ibari*), Giussani *et al*. (2012: 334).

Distribution and habitat. A taxon native from Chile and Argentina, in Chile it is found only in the Region of Magallanes, where it is distributed from the province of Ultima Esperanza to that of Magallanes (50°42'- 52°39 'S), below 1400 m, in the grass steppe and on rocks in open places.

Distinctive features. Plantas subbulbose; leaf blades setaceous; panicle subespiciform; callus glabrous.

Notes. Both Nicora (1978) and Zuloaga *et al*. (1994) consider *P. ibari* and *P. dusenii* as different species. Nicora (1978) points out, however, that both species are very similar, differing in hairiness of the florets (*P. ibari* having less hairy florets). They are perennial plants, dioecious, with spiciform inflorescences; spikelets with glumes smaller than the contiguous florets; lemmas with apex acute, rarely apiculate. This variety is distinguished from var. *spiciformis* by the female florets with glabrous callus (callus with woolly hairs in var. *spiciformis*) and with pilose lemma (glabrous in var. *spiciformis*).

Additional specimens examined. CHILE. Region of Magallanes, Prov. Última Esperanza, Puerto Consuelo, 51°32' S, 72°43' W, 20-XI-1955, Magens 3193 (CONC); Cueva del Milodón, 51°34' S, 72°36' W, 23-XI-1988, Pisano 6363 (CONC); P.N. Torres del Paine, Laguna Amarga, 51°00' S, 72°45' W, 200 m, 21-XI-2001, Domínguez 398 (CONC); Estancia Cerro Castillo, 51°11' S, 72°22' W, 700 m, 14-XII-1975, T.B.P.A. 547 (CONC); Sierra de Los Baguales, Cerro Santa Lucía, 50°44' S, 72°20' W, 900 m, Arroyo *et al*. 85175ª (CONC); Sierra de Los Baguales, Estancia Las Cumbres, 50°43' S, 72°24' W, 1000 m, 13-XII-2000, Domínguez 279 (CONC); Estancia La Cumbre, campo Laguna Grande, 50°43' S, 72°19' W, 1400 m, 4-I-1987, Landero 714 (CONC); Sierra Cazador, Cerro Castillo, 51°10' S, 72°28' W, 850-900 m, Ricardi & Matthei 485 (CONC).

29b. **Poa spiciformis** (Steudel) Hauman & Parodi var. **spiciformis**

Koeleria sterilis Steud., Syn. Pl. Glumac. 1: 293. 1854. Chile. Fret. Magellanic., *W. Lechler 1083* (holotype P bc-00624243!; isotypes B bc-00272941!, BAA col. typus 526! ex P, G-bc-0099142!, G-99143!, P-STEUD-179, P-624245!, W-242840!).

Poa poecila Phil., Anales Univ. Chile 43(46): 573. 1872[1873]. TYPE: Chile. De la vecindad de Punta Arenas, en el Estrecho de Magallanes (holotype SGO-PHIL-433; isotypes B, BAA-col. typus 534 fragm. ex B!, SGO-37353, US-88740 fragm. ex SGO-PHIL-433 & photo!, US-foto ex SGO-37353!).

References. Nicora (1978, sub *P. poecila*), Moore (1983, sub *P. poecila*), Marticorena & Quezada (1985, sub *P. poecila*), Zuloaga *et al*. (1994, sub *P. poecila*), Soreng (1998), Giussani (1997), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2008, 2012), Rodríguez *et al*. (2018).

Iconography. Nicora (1978: 189, fig. 124), Giussani *et al*. (2012: 334).

Distribution and habitat. Argentina and Chile. In Chile this taxon is found from de Metropolitan Region to Magallanes (33°18'- 54°13' S), between 10 and 2780 m, in the steppe of *Festuca gracillima*, in rock crevices, on the beach, in meadows and peatlands, associated with species of the genera *Acaena*, *Hordeum*, *Poa* and *Azorella*.

Additional specimens examined. CHILE. Metropolitan Region, Prov. Santiago, S.N. Yerba Loca, 33°18' S, 70°07' W, 2780 m, XI-1998, Kalin & Humaña 980615 (CONC). Region of O'Higgins, Prov. Rancagua, cordillera de Codegua, 17-I-1945, Barros 5009 (US). Region of Aysén, Prov. Capitán Prat, Cochrane, Colonia Sur, 47°24' S, 72°55' W, 75 m, 23-XI-2006, Rodríguez & Ruiz 4484 (CONC). Region of Magallanes, Prov. Tierra del Fuego, Sector Vicuña, Lote 12, Forestal Trillium, 54°08' S, 68°42' W, 11-I-1995, Pisano *et al*. 7498 (CONC); 3 km al NE de Cerro Sombrero, 52°44' S, 69°14' W, 30 m, II-2002, R. J. & N. L. Soreng 7366 (CONC); Prov. Última Esperanza, PN Torres del Paine, Cerro Paine, 815 m, Teneb 840 (CONC).

Poa* sect. *Madropoa Soreng, Syst. Bot. 16(3): 512. 1991. TYPE: *Poa piperi* Hitchc.

Plants dioecious, perennial, rhizomatous or stoloniferous; innovations intra and extravaginal; ligules membranous, usually scabrous, sometimes ciliolate; blades flat or folded, the apex navicular; panicles contracted to lax; spikelets non-bulbous; glumes lanceolate to broadly lanceolate; lemmas lanceolate or narrowly lanceolate, 5-7 (-11) -veined; callus glabrous, woolly or with a crown of hairs; anthers 3. One species in Chile: *P. pfisteri*.

30. **Poa pfisteri** Soreng, J. Bot. Res. Inst. Texas 2(2): 850-859. 2008. TYPE: Chile, Region XIII [error por Region VIII]: Bio-Bío, Province Santa Barbara, Puente Mininco, 1 Nov 1943, *A. Pfister s.n.* (holotype: US-2150300!; isotypes: CONC 6191!, SGO 73895).

Plants probably dioecious, perennial, with short rhizomes and stolons; innovations extravaginal. Culms 45-50 cm high. Sheaths weakly keeled, scabrous distally, the basal ones becoming fibrous; ligules (0,2-) 0,5-2,8 mm long, abaxially scabrous, the apex obtuse or truncate; blades 25 cm long, folded with tightly involute, smooth or very scabrous, the caulinar ones 4–8 cm long x 0.4-0.7 mm wide. Panicles 4-11 cm long, lax, slightly contracted. Spikelets 5-6 mm long, staminate and pistillate similar, purple in anthesis, (2-) 3-4-flowered; rhachilla joints 0.5-1.5 mm long, glabrous; glumes keeled, slightly unequal, with the keel smooth or sparsely scabrous; lower glume 2-3 x 0.3-0.4 mm, 1-veined; upper glume 2.9-3.5 x 0.4-0.5 mm, 3-veined; lemmas 3.8-4.5 mm long, keeled; callus with woolly hairs 1/3 - 3/4 the length

of the lemma; paleas slightly shorter than lemmas; lodicules 0.6 mm long, oval, with a small lateral lobe; anthers 2-2.5 mm long on staminate flowers; staminodes with anthers 0.2-0.4 mm on pistillate flowers. caryopsis *c*. 2 mm long (immature).

References. Described for Chile by Soreng & Peterson (2008), it was recognized later by Giussani *et al*. (2016), Rodríguez *et al*. (2018), Zuloaga *et al*. (2019) and Finot *et al*. (2022).

Iconography. Soreng & Peterson (2008: 851, fig. 1 y 852, fig. 2).

Distribution and habitat: Endemic to Chile, known only from the type collections in the Region of Biobío (34°70' S, 71°59' W), 200-300 m (Soreng & Peterson 2008).

Distinctive features. Plants perennial, with stolons and rhizomes; panicles somewhat lax; spikelets 5-6 mm; glumes unequal, both smaller than adjoining florets; lemmas glabrous with pubescent callus; pistillate and staminate spikelets not differentiated by pubescence.

Phenology. Flowering occurs in November.

Notes. Although it was first included in sect. *Madropoa* (Soreng & Peterson 2008), Giussani *et al*. (2016), when studying the phylogenetic relationships of species of *Poa*, found *P. pfisteri* close related to *Dioicopoa s.l*. clade, a group of gynodioecious and dioecious species including: *P. iridifolia*, *P. palmeri*, *P. planifolia*, *P. pfisteri*, *P. yaganica* and the *Dioicopoa s.s*. clade. Within the phylogeny, *P. pfisteri* presents a sister relationship to *P. yaganica*, a southern gynodioecious Patagonian species (subg. *Poa* supersect. *Poa*). Moreover, Soreng & Peterson (2008) denoted, the lax panicles and the pistillate and staminate spikelets undifferentiated in size, shape, number of florets and pubescence, distinguish *P. pfisteri* from other species of sect. *Dioicopoa*. It is worth mentioning that, as the species is only known from the type material, more collections of this species are needed to understand the reproductive behaviour and to determine its position in the sectional treatment.

Additional specimens examined. CHILE. Region of Biobío, Prov. Santa Bárbara, puente Mininco, XI-1943, Pfister s.n. (CONC, isotype).

Poa* subg. *Poa

Incertae sedis

31. **Poa hachadoensis** Nicora, Hickenia 1(18): 102. 1977. TYPE: Argentina, Neuquén, Picunches, Pino Hachado, Refugio Coronel Pringles, orillas del afluente del Arroyo Haichal, *J. Valla 3026* (holotype BAA cb-00000702!; isotype BAA cb-00000701!, SI-47320).

Plants hermaphroditic, perennial, 10-80 cm tall, erect, rhizomatous, sometimes with stolons; innovations intra and extravaginal. Sheaths smooth or scabrous; ligules 1.5-3 (-6) mm long, truncate, the apex entire, erose; blades up to 10 cm long x 2-5.5 mm wide, flat or folded, smooth or scabrous, glabrous, apices navicular. Panicle 6-14 x 2-5 cm, open, loose, exerted or included in the upper sheath; pedicels smooth or scabrous. Spikelets 6-8 mm long, ovate-lanceolate, laterally compressed, violaceous, 2-4-flowered; rhachilla internodes 0.6-1 mm long, smooth or scabrous; glumes subequal, slightly shorter or as long as the adjacent lemmas, lanceolate, keeled, keels and veins scabrous; lower glume 3.5-5 mm long, 3 (-5) -veined; upper glume 4.5-6 mm long, 3 (-7) -veined; lemmas 4.5-7 mm long, 5-veined, lanceolate, glabrous, or with pubescent keel and lateral veins; callus with a tuft of dorsal woolly hairs, sometimes the network of woolly hairs is diffuse; palea with keels scabrous, surface between keels smooth; lodicules 0.6 mm long, oblanceolate, with a prominent lateral lobe, glabrous; anthers 3, 0.6-1.2 mm long. Caryopsis 2-2.5 mm long, fusoid, subtrigonous, light brown; hilum 0.2 mm long, punctiform (Fig. 7b).

References. Recorded for Chile by Nicora (1978), Marticorena & Quezada (1985) and Zuloaga *et al*. (1994), without reference specimens; Zuloaga *et al*. (2008) cited it for the Region of Araucanía, based on *Burkart 9519* (SI), collected in Prov. Malleco. Soreng & Peterson (2008) cited for Chile the specimens *Burkart 27449* (SI, BAA), *R. J. & N. L. Soreng 7177* and *7192* (CONC, US) collected in PN Laguna del Laja and PN Conguillío respectively.

Iconography. Nicora (1978: 152, fig. 94); Giussani *et al*. (2012: 307).

Distribution and habitat. Originally described for Argentina, it is found in Chile in the Biobío and Araucanía regions (37°28'-38°38' S), between 1284 and 1430 m, in humid grasslands and forest clearings, near streams and lake edges in the area of the *Araucaria araucana-Nothofagus betuloides* forest (Soreng & Peterson 2008).

Distinctive features. Panicles open, lax; lemmas with keel and intermediate and marginal veins well marked, glabrous; callus provided with a tuft of woolly hairs.

Phenology. Flowering occurs in January.

Notes. Its sectional classification is uncertain, although frequently assigned to the sect. *Homalopoa* (Soreng *et al*. 2003, 2017), a point of view supported by phylogenetic analyzes, in which *P. hachadoensis* is part of a clade (which includes *P. mendocina* and *P. marticorenae*), sister group of the supersect. *Poa* and *Homalopoa* (Giussani *et al*. 2016). It is morphologically related to *P. leptocoma* Trin (formerly

placed in *P*. sect. *Oreinos*; see Soreng *et al*. 2017), from North America (Alaska to California and New Mexico) and Russia (Kamchatka) and *P. mendocina* from Argentina and Chile (Soreng & Peterson 2008). It is distinguished from *P. mendocina* by the more open inflorescences (up to 5 cm wide in *P. hachadoensis*, 0.5 cm wide in *P. mendocina*) and somewhat larger spikelets (6-8 mm long in *P. hachadoensis*, 4.5-5.5 (-6) mm long in *P. mendocina*). It has been confused in herbarium with *Poa pratensis* L. subsp. *alpigena* (Lindm.) Hiitonen, but it differs by having glabrous lemmas. *Poa hachadoensis* has Hx genotype, like *P. paucispicula* of low artic North America and various species from Far East Russia, Japan, China (including the type of *P*. sect. *Acroleucae* Prob. & Tzvelev), and New Zealand, the plastid (H) coming from supersection *Homalopoa*. *Poa mendocina* and *P. marticorenae* (formerly *P. hachadoensis* var. *pilosa*) have an Sx genotype, like *P. leptocoma* of North America, their plastids (S) coming from *P*. subg. *Stenopoa* sect. *Stenopoa* (Soreng *et al*. 2017, 2021). The origin and nature of their shared x nrDNA genotypes is uncertain.

Additional specimens examined. CHILE. Region of Biobío, Prov. Biobío, P.N. Laguna del Laja, Estero El Aguado o del Volcán, 37°27' S, 71°19' W, 1430 m, 21-I-2002, R. J. & N. L. Soreng 7177 (CONC); P. N. Laguna Laja, S slope of Volcán Antuco, Estero el Aguado o del Volcán, above Vado; springs along rocky ridge, jutting into broad, nearly treeless, volcanic valley, 1550 m, 21-I-2002, R. J. & N. L. Soreng 7184 (US). Region of the Araucanía, P. N. Conguillío, W entrance, E end of Laguna Captrén, valley between Volcan Llaima and Sierra Nevada, E of Temuco ca. 70 km; wet grassey, mossy meadow at upper end of the lake surrounded by old *Araucaria araucana-Nothofagus betuloides* forest, 38°38' S, 71°42' W, 1284 m, 22-I-2002, R. J. & N. L. Soreng 7192 (CONC, US).

32. **Poa marticorenae** Soreng, Giussani & Finot, Fl. Chile 6(1): 881. 2022. *Poa hachadoensis* Nicora var. *pilosa* Nicora, Hickenia 1(18): 103. 1977. TYPE: "Argentina, Neuquén, Dpto. Lácar, Cerro Malo, *Schajovskoy 46a*" (lectotype BAA bc-00000504!, designated by Soreng, Giussani & Finot en Fl. Chile 6(1): 881. 2021; isolectotype BAA bc-00000505!).

Plants hermaphroditic, perennial, without horizontal or descending cataphilic rhizomes, forming small, blue-gray tufts. Culms 35-50 cm, erect; nodes 1-2 exposed. Sheaths slightly compressed, keeled, narrow, ridged, keels of upper sheaths with retrorse hooks distally, sometimes violaceous; upper leaf sheath with fused margins for 25-40% of its length; ligule 2-3 (-6) mm long, membranous, truncate to oblong; culm leaf blades 0.7-2.5 cm long x 0.7-3.5 mm wide, caniculate, V-shaped or folded, thin, soft, adaxially and abaxially smooth, glabrous, margins slightly scabrous, apex navicular; basal and sterile culm blades like culmiferous, 2.5-7 cm long x 1.5-3 mm wide. Panicles 4-14 (-16) cm, open, nutant, exerted; branches sinuous, scattered, terete or faintly angular, smooth or sparsely scabrous; pedicels smooth or sparsely scabrous; spikelets loosely located in the third or middle distal, the proximal branches with few spikelets. Spikelets 5-6 mm long, oval, laterally compressed, non-bulbous, purplish or not, 3-4-flowered; glumes markedly keeled, the keels and sometimes the lateral veins scabrous; lower glume 3.5-5 mm long, 3-veined; upper glume 4.5-5 mm long, 3-veined; callus with a remarkable network of dorsal hairs; lemmas 4.5-5 mm long, 5-veined, lanceolate, violaceous, clearly keeled, the keel and marginal veins scabrous or scaberulous distally, villous on the lower 1/2 - 3/4, apices acute; palea shorter than lemma, keels scabrous, smooth or sparsely scabrous between keels, glabrous. Flowers Perfect; anthers 0.6-1 mm. Caryopsis 2-2.1 mm, ventrally furrowed.

References. This species was originally described by Nicora (1977) as *Poa hachadoensis* var. *pilosa* and cited, under that name, for the first time for Chile by Soreng & Peterson (2008). Later it was cited by Zuloaga *et al*. (2019) and Finot *et al*. (2022).

Distribution and habitat. Argentina and Chile. In Chile it is found in the Region of O'Higgins (Prov. Cachapoal, Sewell, Rancagua), above 980 m.

Distinctive features. Panicles open, nutant, exerted; spikelets 5-6 mm long; callus with a conspicuous network of dorsal hairs; lemmas 4.5-5 mm long, 5-veined, lanceolate, violaceous, keeled, the keel and marginal veins scabrous or scaberulous distally, villous on the lower 1/2-3/4.

Notes. Species related to *P. hachadoensis* to which it was previously subordinate with varietal rank (*P. hachadoensis* var. *pilosa*). It differs by having soft hairs on the lower portion of the keel and marginal veins of the lemma while *P. hachadoensis* has glabrous lemmas. The geographic isolation between them suggested that these taxa deserved at least the subspecific rank (Soreng & Peterson 2008) and, later it was determined that genetic differences justify the separation of these entities with specific rank (*P. marticorenae* has genotype Sx while *P. hachadoensis* has genotype Hx, Soreng *et al*. 2017, Finot *et al*. (2022). Nicora (1978) indicates that this taxon is related to *P. leptocoma*. Phylogenetic-molecular analyzes (Soreng *et al*. 2017) show *P. leptocoma* as sister of a subclade *P. hachadoensis* var. *pilosa* (= *P. marticorenae*) -*P. mendocina*. The Hx genotype is common in the genus *Poa* (but rare in New World species), whereas the Sx genotype is rare and is found

in *P. marticorenae* and *P. mendocina* (*P*. sect. *Homalopoa*), both with characteristics similar to *P. leptocoma*. Sx is indicative of hybrid origin.

Poa marticorenae and *P. mendocina* have bisexual spikelets, with short anthers (ca. 1 mm long or less) and soft-haired lemmas on the lower portion of the keel and on the marginal veins. *Poa marticorenae* differs from *P. mendocina* being a cespitose plant (*P. mendocina* is stoloniferous), somewhat more robust (*P. marticorenae* reaches 18-50 cm tall, *P. mendocina* only 2-15 cm), with longer ligules (up to 6 mm in *P. marticorenae*, up to 3 mm in *P. mendocina*) and the panicle is looser and wider, 4-12 cm long (in *P. mendocina* the panicle is short and compact, 1-4.5 cm long).

Additional specimens examined. CHILE. Región of O'Higgins, Prov. Cachapoal, Sewell, 34°04' S, 70°22' W, año 1925, Pennell 12312, 12314 (SGO, US).

33. **Poa mendocina** Nicora & F. A. Roig, Hickenia 2: 273. 1998. TYPE: Argentina, Dept. San Rafael: Dist. El Sosneado, cerro Volcán Overo, 3100 m, 10 Feb 1955, *R. A. Ruiz Leal 16894* (holotype MERL; isotypes BAA, SI).

Plants hermaphroditic, perennial, 2-15 (-20) cm tall, erect, stoloniferous. Sheaths slightly compressed, keeled, glabrous; ligules 0.5-1.5 (-3) mm long, glabrous, with truncate, entire or erose apices; blades 1-6 cm long x 2-3 mm wide, tender, folded, sometimes with involute margins, glabrous, apices slightly navicular. Panicles 1-4.5 x 0.5 cm, contracted to subspiciform. Spikelets 4.5-5.5 (-6) mm long, lanceolate, 2-3 (-4) -flowered; rhachilla internodes smooth, glabrous; glumes unequal, slightly shorter than adjacent lemmas, lanceolate, apices acute to acuminate; lower glume 3.5-5 mm long, 1-3-veined; upper glume 4.3-5.2 mm long, 3-veined; lemmas 4-5 mm long, lanceolate, keel and lateral veins scabrous in the distal portion, hairy to the middle, glabrous between the veins, intermediate nerves weak, apex acute; callus glabrous or with a network of hairs up to 2 mm long; paleas glabrous, with scabrous keels, surface between keels smooth or scabrous; lodicles 0.6 mm long, widely oblanceolate with a prominent lateral lobe, glabrous; anthers 0.5-1 mm long. Caryopsis 1.8-2 mm long, subtrigonous; hilum rounded, 0.2 mm long.

References. Described for Argentina (Mendoza, San Rafael), it was cited for the first time for Chile (Metropolitan Region, Santiago), by Soreng & Peterson (2008).

Iconography. Nicora & Roig (1998), Giussani *et al*. (2012: 320).

Distribution and habitat. Argentina and Chile. In Chile it is found in the mountain range of the Metropolitan Region (Santiago Prov., Cajón del Maipo), (34°11' S), at 3325 m. They are plants of humid mountain ranges in Central Chile.

Distinctive features. Leaves folded, 2-3 mm wide; ligules 0.5-1.5 (-3) mm long; inflorescences 1-4 cm long, contracted; spikelets with unequal glumes, smaller than the adjacent florets; lemmas with the keel and veins hairy up to the middle; anthers ca. 1mm long.

Phenology. Flowering in February.

Notes. Soreng & Peterson (2008) highlight the similarity of *P. mendocina* with *P. hachadoensis* var. *pilosa* (= *P. marticorenae*) (see comments under this species). Giussani *et al*. (2012) point out that it is morphologically close to *P. planifolia*, from which it is distinguished by the narrower blades, 2-3 mm wide (vs. 3-6 mm in *P. planifolia*), smaller antecia (4- 5 mm vs. 5-8 mm in *P. planifolia*) and with less rigid leaves and do not end in a sharp mucro as occurs in *P. planifolia*.

Additional specimens examined. CHILE. Metropolitan Region, Prov. Santiago, Cajón del Maipo, Hito Paso Internacional Maipo, 34°11' S, 69°49' W, 3325 m, 17-II-1995, Villagrán *et al*. 8484 (SGO).

Poa* supersect. *Poa

Poa* sect. *Poa

Plants hermaphroditic, perennial, rhizomatous, the rhizomes generally well developed; basal ramifications mainly extravaginal or both extra- and intravaginal. Leaf sheaths closed to (1/4-) 1/3-1/2 of their length; ligules truncate to acute; blades flat or folded. Panicles open or loosely contracted, with ascending branches, terete and almost totally smooth or moderately scabrous. Spikelets laterally compressed; florets hermaphroditic; glumes unequal to subequal, shorter to almost as long as adjacent lemmas, keeled; callus dorsally woolly, sometimes with additional woolly tufts below the marginal veins, rarely glabrous; lemmas keeled, keel and marginal veins hairy, sometimes also the lateral veins hairy, all veins prominent; paleas keeled sometimes hairy up to the middle; anthers 3, anthers of moderate length [(1,2-) 1,4-2,5 (-3) mm]. This section is widely distributed in temperate and arctic areas (Gillespie & Soreng 2005). It comprises 32 species; in Chile two species have been documented. Two species: *P. pratensis*, *P. yaganica*.

34. **Poa pratensis** L., Sp. Pl. 1: 67. 1753. TYPE: Rusia, "Rossia, Prov. Sanct-Petersburg, 5 km australi-occidentum versus at st. viae ferr., Mga, pratulum ad ripam dextram fl. Mga" 26 Jun 1997, *N. N. Tzvelev N-257* (type conserved, proposed in Taxon 48: 157. 1998; recommended in Taxon 49: 802. 2000; isotypes B, C, CAN, CONC, H, K, KW, L, LE, LIV, MA, MO, MW, NSW, P, PE, PR, S, SI, TNS, US-3456252).

Plants perennial, with rhizomes, erect, geniculate or decumbent, green to blue-green, hermaphroditic. Culms 5-70 (-100) cm high. Leaf sheaths glabrous, sometimes moderately pubescent; ligules 0.9-3 mm long, smooth or scabrous, truncate or rounded; blades of the extravaginal tillers similar to those of the flag leaf, those of the intravaginal tillers are narrower, 10-45 cm long x (0.4-) 1-4 mm wide, setaceous, flat, U-shaped or folded with involute margins, adaxial surfaces often pubescent with scattered strigulose hairs; caulinar blades (0,4-) 2-4 (-6) mm wide, flat or folded, involute towards the margins, apex navicular. Panicle 2-15 (-20) cm long, slightly contracted to open. Spikelets (2,5-) 3,5-6 (-7) mm long, laterally compressed, 2-5-flowered; rhachilla internodes mostly less than 1 mm long, smooth, glabrous; glumes unequal, usually shorter than adjacent lemmas, lanceolate, keeled, keels slight to moderately scabrous, or smooth; lower glume 1.5-4 (-4.5) mm long, narrowly lanceolate, 1-3-veined; upper glume 2-4.5 (-5) mm long, markedly shorter or nearly equaling the lower lemma, 3-veined; lemmas 2-4.5 (-6) mm long, lanceolate, with keel and lateral veins glabrous or villous, intermediate veins glabrous, or often sparsely puberulent in subsp. *alpigena*, surfaces between the veins glabrous or infrequently hairy to puberulent, smooth or scabrous above, median veins prominent, margins narrow to widely hyaline, glabrous, apices acute; callus woolly, with a single tuft of dorsal hairs, or with secondary tufts under each marginal vein, hairs half or longer than the lemma; palea scabrous, glabrous or sometimes puberulent on keels in subsp. *alpigena*, intercostal region narrow, glabrous, or rarely hispidulous. Fertile anthers 1.2-2 (2.5) mm long, less frequently aborted late in development. Caryopsis 2.2 x 0.7 mm, attached to the palea.

References. The first record of this European species in Chile was made by Desvaux (1854) in Magallanes. Later it was cited by Gotschlich (1913), Nicora (1978), Marticorena & Quezada (1985), Soreng *et al*. (2003) Soreng & Peterson (2008), Domínguez & Aravena (2012), Giussani *et al*. (2012), Pertierra *et al*. (2013), Rodríguez *et al*. (2008b, 2018), and Finot *et al*. (2022).

Common name. "Poa de los prados".

Chromosome numbers. 2n = 27, 28, 32, 35, 37, 41-46, 48-147 (Soreng & Barrie 1999; Soreng 2007).

Distribution and habitat. Species native to Europe, it grows in Chile between the regions of Atacama and Magallanes (29°06'- 54°55' S). Skottsberg (1921) records it for the Juan Fernández Archipelago. Gotschlich (1913) emphasizes that it is an excellent forage in the south of the country. Matthei (1995) indicates that it grows as a weed between the Metropolitan Region and Magallanes as well as in Alejandro Selkirk Island, in natural grasslands, streets and sidewalks.

Distinctive features. Panicles loosely contracted to open; glumes uneven, shorter than adjacent lemmas, keels slightly to moderately scabrous, or smooth; lemmas lanceolate, keel and lateral veins glabrous or hairy, medial veins prominent; callus woolly, with a single tuft of dorsal hairs, or with secondary tufts under each marginal nerve, hairs half or longer than the lemma.

Phenology. Flowering occurs between November and February.

Notes. *Poa pratensis* is a highly polymorphic taxon, with a wide geographic distribution, genetic and morphological variability, predominance of agamospermy, and vegetative propagation (Soreng & Barrie 1999). It has been introduced in many parts of the world for use in pastures, soil stabilization and as forage (Dollenz & Santana 2000).

Key to the identification of the subspecies of *Poa pratensis*

1. Spikelets 2.5-5mm; lower glume 1.5-2.5 mm, almost as long as lower lemma; lower lemma 2.5-3.5 mm, intermediate veins often with a few short hairs; paleas with puberulent keels up to half their length; panicle branches smooth or nearly smooth; leaf blades usually folded, involute margined; plants of the extreme south of the country ..... 34a. ***P. pratensis*** subsp. ***alpigena***

1'. Spikelets 4-6 mm; lower glume 2-3.5 mm, shorter than lower lemma; lower lemma 2.8-4.4 mm, intermediate veins glabrous; paleas with glabrous keels; panicle branches sparsely scabrous; leaf blades usually flat, or folded with involute margins; plants of the north, center and south of the country ..... 34b. ***P. pratensis*** subsp. ***pratensis***

34a. **Poa pratensis** L. subsp. **alpigena** (Lindm.) Hiitonen, Suom. Kasvio 205. 1933; *Poa pratensis* var. *alpigena* Fr., Herb. Norm. 9: 93. 1842, nom. nud.; *P. pratensis* var. *alpigena* Fr. ex Blytt., Norges Fl. 1: 130. 1861, nom. illeg. hom.; *P. alpigena* Lindm., Sv. Fanerogamfl. 91. 1918; *P. pratensis* L. var. *iantha* Laest., Kongl. Vetensk. Acad. Handl. 1822: 329. 1822. TYPE: Scandinavia, in insula Gammelgarden et Rosbacken juxta Quickjock, nec ad lacum Virihjaur Laponiae Lulensis, 1821, *L. L. Laestedius s.n*. (syntypes S-6651, S-6670, S-08-10539!, USO-3 (Herb. Hartmann), UPS-4 (Herb. Wahlenberg).

Poa oligeria Steud., Syn. Pl. Glumac. 1: 426. 1854. Type: Chile, Sandy Point Magellan, Dec. *W. Lechler 1192* (isotypes B [B-10 0365892]!, LE, S-03-2215, SGO bc-00000665! pro parte, TUB bc-009446!, TUB-bc-009445!, US-81727 ex W, US-946978 fragm. ex LE, W-2433018).

References. Nicora (1978 sub *P. oligeria*), Moore (1983), Marticorena & Quezada (1985 sub *P. oligeria*), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Iconography. Nicora (1978: 165, fig. 104 sub *P. oligeria*), Soreng (2007: 524), Giussani *et al*. (2012: 329), Soreng & Peterson (2012: 66, fig. 17 d-g).

Chromosome numbers. 2*n* = 28, 32, 35, 42, 48, 50, 53, 56, 60, 63, 64, 65, 67, ca. 68, 69, 70, 72, 73, 74, 76, 77, 78, 79, 82, 84, 86, 88, 89, 92, 94 (Soreng, 2005, 2007).

Distribution and habitat. It is found both in the northern hemisphere (northern Eurasia, Canada, Greenland, United States, Mexico) and in the southern hemisphere (Argentina, Chile). In Chile it grows in the Magallanes Region, Ultima Esperanza and Tierra del Fuego provinces (50°44'- 54°11' S), between 600 and 900 m, from where the type of *P. oligeria* Steud. comes from. It is commonly found in open and semi-shady areas of disturbed forests, meadows and *Sphagnum* bogs.

Phenology. Flowering occurs from December to February.

Additional specimens examined. CHILE. Region of Magallanes, Prov. Última Esperanza, Sierra de Los Baguales, cerro Santa Lucía, 50°44' S, 72°20' W, 600 m, 23-I-1985, Arroyo 84-1100 (CONC); cerro Santa Lucía, 900 m, 12-II-1985, Arroyo 85-654 (CONC); Prov. Tierra del Fuego, sector Vicuña Lote 12, Forestal Trillium, 54°11' S, 68°43' W, 5-I-1995, Pisano *et al*. 7248, 7298, 7416 (CONC).

34b. **Poa pratensis** L. subsp. **pratensis**

Poa boliviensis Hack., Repert. Spec. Nov. Regni Veg. 11: 25. 1912. TYPE: Bolivia, in locis udis ad Hacienda Huancapampa, prope Palca, 3650 m, Maj. 1910, Dr. *O. Buchtien* (n° 2536) (holotype W-38189!; isotypes S-05-10440!, US-89692! fragm. ex W).

References. Desvaux (1854), Skottsberg (1921), Nicora (1978), Moore (1983), Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Negritto & Anton (2000), Soreng *et al*. (2003), Domínguez & Aravena (2012), Giussani *et al*. (2012), Sylvester *et al*. (2016), Gutiérrez & Castañeda (2017), Rodríguez *et al*. (2018), Finot *et al*. (2022). For complete synonymy see www.tropicos.org.

Iconography. Hitchcock (1950: 114, fig. 132), Nicora (1978: 163, fig. 102), Giussani *et al*. (2012: 329).

Common names. "Kentucky grass", "meadow grass", "poa de los prados".

Chromosome numbers. 2*n* = 43, 44, 48, 49, 50, 51, 52, 54, 56, 58, 59, 62, 65, 66, 67, 74, ca. 85, ca. 86, 88, 89, 95 (Soreng 2007).

Distribution and habitat. A taxon of European origin, in Chile it grows from the Atacama Region to the Magallanes Region (29°06'- 54°55' S), from sea level to 3400 m. It is also found in the Juan Fernández Archipelago (Skottsberg 1921; Baeza *et al*. 2002, 2007). Matthei (1995) cites it as a weed in natural grasslands, streets and sidewalks in continental Chile and also on the island Alejandro Selkirk. In Patagonia it has been collected in rock crevices in shady places with humid soil, in peat bogs with *Azorella*, in coastal meadows and dunes.

Phenology. Flowering from November to February.

Notes. *Poa boliviensis* was cited as a synonym of *P. pratensis* by Foster (1958); Giussani *et al*. (2012) cite it as a synonym for *P. pratensis* subsp. *pratensis*. The type specimen of *P. boliviensis* in S bears a label by Asplund that identifies it as *P. angustifolia* (= *P. pratensis* subsp. *angustifolia*). The characteristics of the plant suggest that it could be the latter taxon, which has not yet been confirmed for the flora of Chile. In 1828, Bertero collected in Rancagua, Monte La Leona (*Bertero 666*) a specimen of *P. pratensis* that has been determined as *P. angustifolia*, deposited in TUB bc-009470, however, we have not been able to confirm its identity.

Additional specimens examined. CHILE. Region of Valparaíso, Archipiélago de Juan Fernández, Isla Alejandro Selkirk, Quebrada del Helecho Bonito, 33°45' S, 80°46' E, 600 m, Muñoz & Sierra 7151 (CONC); Quebrada de La Colonia hacia Las Vacas, 500 m, 28-XI-1965, Muñoz & Sierra 7119 (CONC). Metropolitan Region, Prov. Cordillera, San José de Maipo, Cajón del Morales, 33°48' S, 70°04' W, 2050 m, 22-XII-2001,

Teillier & Márquez 5248 (CONC); Prov. Santiago, P. N. Yerba Loca, Río Yerba Loca, *ca*. 11 km above Estancia Paulina, NE of Santiago *ca*. 20 km, below the abandon Mina del Cobre, 33°15' S, 70°17' W, 2833, 16-I-2002, R. J. & N. L. Soreng 7175 (CONC, US). Region of O'Higgins, Prov. Colchagua, Sierra de Bellavista, S.N. Alto Huemul, 1604 m, 3-I-2006, García *et al*. 3246 (CONC). Region of Maule, Upper Río Teno, Termas de San Pedro, above Los Queñes, E of Curicó, ca. 70 km; Andes, N exp, rocky dioritic slope, andian steppe, 1809 m, 30-XI-2001, R. J. & N. L. Soreng 7098-b (US). Region of Ñuble, Prov. Ñuble, Termas de Chillán, camino Aserradero Garganta del Diablo, 36°54' S, 71°24' W, 1800 m, 13-III-1966, Gleisner 159 p.p. (CONC); Termas de Chillán, along creek W of the chapella at the base of the ridge above the golf course, rocky ripparian meadow and disturbed ground in open *Nothofagaus pumilo* forest, 36°54' S, 71°25' W, 1550 m, 21-XII-2001, R. J. & N. L. Soreng 7123 (CONC, US); Nevados de Chillán, Pirigallo, 36°55' S, 71°24' W, 2000 m, 6-XII-1992, Rodríguez & Marticorena 3001 (CONC); camino a Termas de Chillán, Los Pretiles, 36°55' S, 71°29' W, 1000 m, 8-XII-1945, Pfister s.n. (CONC); Nevados de Chillán, ruinas del refugio Walldorf, 36°52' S, 71°27' W, 1940 m, 13-I-2009, Pflanzelt 170 (CONC); E of Chillan, between Recinto and Las Trancas, on N-55, range of the Andes, tree covered pasture-meadow bottom near a creek, mesic well drained soils, 12-XI-2001, R. J. & N. L. Soreng 7021 (US). Region of Biobío, Prov. Arauco, Laraquete, 37°10' S, 73°11' W, 10 m, 8-XI-1942, Pfister 360 (CONC); Prov. Biobío, Candelaria, El Rosal, 37°27' S, 72°27' W, 100 m, 31-X-1935, Junge s.n. (CONC); Prov. Concepción, Talcahuano, Rocoto, 36°48' S, 73°10' W, 20 m, Lépez & Márquez 77 (CONC); Hualpén, 36°47' S, 73°10' W, 60 m, 3-XII-1969, Carrasco 201 (CONC); camino de Concepción a Coronel km 15, 24-X-1961, Marticorena & Matthei s.n. (CONC); S of Chillán, NW of Cabrero, along Ruta 5S, ca. km 456, near Río Itata, Central Valley, flats, deep sandy loam with shallow water table, 37°00' S, 72°22' W, 134 m, 12-XI-2001, R. J. & N. L. Soreng 7007 (CONC, US); N of Punta Puchoco, NW of Coronel, S of Concepción ca 20 km, sand dunes by the ocean, 36°59' S, 73°11' W, 5 m, 19-XI-2001, R. J. & N. L. Soreng 7032 (CONC, US). Prov. Biobío, P. N. Laguna Laja, SE slope of Volcán Antuco, Estero el Aguado o del Volcán, above Vado, below lone Araucaria, E of Los Angeles ca 90 km, broad, nearly treeless, volcanic valley, along creek in wet cobbly muck, 37°28' S, 71°19' W, 1430 m, 21-I-2002, R. J. & N. L. Soreng 7179 (CONC, US). Region of the Araucanía, Prov. Cautín, Villarrica, Tromén, 39°34' S, 71°27' W, 1900 m, 17-I-1962, Ricardi & Matthei 24 (CONC); Temuco, Cerro Ñielol, 38°43' S, 72°35' W, 150 m, Montero 3019, 4526 (CONC); Puerto Saavedra, 38°47' S, 73°23' W, 1 m, 27-XI-1939, Montero 3710 (CONC); Prov. Malleco, Lonquimay, 38°27' S, 71°22' W, 950 m, 8-II-1957, Montero 5225 (CONC); Cuesta de Las Raíces, E side of pass on old road between Curacautín and Lonquimay, slope S of ski area Volcán Lonquimay; volcanic sandy soil, on steep N facing grassy slope in open *Araucaria araucana-Nothofagus pumilo*, *N. antarcticus* forest, 38°26' S, 71°27' W, 1600 m, 23-I-2002, R. J. & N. L. Soreng 7200 (CONC, US); P. N. Conguillío, W entrance, E end of Laguna Captrén, valley between Volcán Llaima and Sierra Nevada, E of Temuco ca. 70 km, wet grassy, mossy meadow at upper end of the lake surrounded by old *Araucaria araucana-Nothofagus betuloides* forest, 1284 m, 22-I-2002, R. J. & N. L. Soreng 7195 (US). Region of Los Ríos, Prov. Valdivia, Corral. 39°50'S, 73°26'W, 25 m, Gunckel 36753 (CONC); Valdivia, Hacienda Venecia, 40°14'S, 73°42'W, 5 m, 12-XII-1932, Hollermayer 1251 (CONC); Mehuín, 39°25' S, 73°12' W, 6-XII-1966, Moreau s.n. (CONC). Region of Los Lagos, Prov. Osorno, P. N. Puyehue, 40°35' S, 72°08' W, 920 m, año 1972, M. & C. Muñoz 523, 550, 554 (SGO); Lago Toro, año 1971, Gastó s.n. (SGO). Region of Aysén, Coyhaique, 45°34' S, 72°04' W, 10-XII-1954, Pfister s.n. (CONC); RN Trepananda, 45°25' S, 71°58' W, 800 m, Schlegel 7193 (CONC); Prov. Capitán Prat, entre Cochrane y Tortel, Puente Ñadis, 47°36' S, 72°52' E, 180 m, 22-IV-2006, Rodríguez & Ruiz 4429 (CONC). Region of Magallanes, Prov. Magallanes, Punta Arenas, 53°09' S, 70°05' W, 120 m, I-1952, Pfister & Ricardi s.n. (CONC); Punta Arenas, 20 m, 28-I-1960, Montero 6229 (CONC); Estancia Otway, 52°48' S, 71°10' W, 20 m, 1-I-1952, Pfister & Ricardi s.n. (CONC); Estancia Brazo Norte, 3-IV-1970, Pisano 2555 (CONC); Isla Contramaestre, 52°56' S, 70°19' W, 17-XII-1970, Pisano 2912 (CONC); Península de Brunswick, coast of Estrecho de Magallanes, just N of Faro San Isidro, S of Punta Arenas ca 50 km, shore line vegetation at edge of *Nothofagus pumilo* forest with large *Fuchia* shrubs, *Drymis*, *Berberis*, and *Pernettya*, 53°46' S, 70°58' W, 5 m, 17-II-2002, R. J. & N. L. Soreng 7314 (CONC, US); Prov. Última Esperanza, Rubens, 52°33' S, 71°57' W, 200 m, 10-I-1952, Pfister & Ricardi s.n. (CONC); Cueva Grande del Milodón, 51°34' S, 72°36' W, 100 m, 1-V-1970, Pisano 2585 (CONC); Estancia Cerro Castillo, 51°13' S, 72°23' W, 13-XII-1975, TBPA 468 (CONC); Sierra de los Baguales, Cerro Santa Lucía, 50°44' S, 72°20' W, 850 m, Arroyo *et al*. 851153, 841155 (CONC); Prov. Tierra del Fuego, Porvenir, 53°13' S, 70°22' W, 15 m, 27-I-1962, Ricardi & Matthei 99 (CONC); Santa Catalina, 5 m, 30-I-1962, Ricardi & Matthei 259 (CONC); Río Hondo, 53°31' S, 69°16' W, 8-II-1970, Pisano 2403, 2380 (CONC); S slope of the Sierra Baguales, ca 2 km below river crossing at confluence of Río Baguales and another río enterning from the NW, ca. 20 km NNE from Cerro Guido, ca 50 km N of Cerro Castillo, broad valley in patagonia shrub steppe, with *Chiliotrichum*, small vega and feeder creek, on W slope ca. 50 m above the río, 50°46' S, 72°25' W, 670 m, 19-II-2002, R. J. & N. L. Soreng 7338 (CONC, US).

35. **Poa yaganica** Speg., Anales Mus. Nac. Buenos Aires 5: 90. 1896. TYPE: Hab. Vulgatissima in sylvis: Onniuáia, Agáia, Ushuuáia, Uállamâtu (lectotype Argentina. Patagonia: Ushuuáia, *C. L. Spegazzini s.n*. LP bc-001659!, **designated here**).

Poa trachyantha Hack., Repert. Spec. Nov. Regni Veg. 10(243-247): 173. 1911. TYPE: Chile. In expeditione ad flumen Aysén, 19 feb 1897, *P. Dusén 568* (holotype W-39648!; isotypes BAA bc-002773!, US bc-00386432!).

Poa breviculmis Pilg., Repert. Spec. Nov. Regni Veg. 12: 307. 1913. TYPE: Chile. Magallanes, Feuerland, Lago Cami, Lagrelius-Insel, Mar 1908, *C. J. F. Skottsberg s.n.* (holotype B; isotype BAA col. typus 2480! fragm. ex B, US-89688).

Poa limicola Pilg., Repert. Spec. Nov. Regni Veg. 12: 308. 1913. TYPE: Argentina. Tierra del Fuego, 7 Mar 1909, *C. J. F. Skottsberg s.n*. (holotype B; isotypes BAA bc-001016 fragm. ex B!, US bc-00386385 fragm. ex B!).

Poa chrysantha Lindm., Kongl. Svenska Vetenskapsakad. Handl. 56: 176. 1916. TYPE: Chile, Región de Magallanes y Antártica Chilena, Magallanes, 1852, *N. J. Andersson 397* (lecotype S-05-10614!, **designated here**).

Plants gynodioecious, perennial, with rhizomes. Culms (11-) 20-60 (-90) cm tall, erect; innovations extravaginal; leaves mostly basal. Leaf sheaths compressed; ligules 3-10 mm long, smooth or scabrous, glabrous, not decurrent, apices acute, entire; blades 5-50 cm long x 4-5 mm wide, rigid, usually folded, strongly keeled, margins sometimes involute, smooth or scabrous, apices navicular. Panicles (3-) 6-14 (-20) cm long, open, lanceolate to pyramidal, erect, slightly lax, exerted; pedicels scabrous. Spikelets 4.5-8 mm long, lanceolate, laterally compressed, 2-4-flowered; rhachilla internodes up to 1.3 mm long, smooth, glabrous; glumes subequal, lanceolate, keeled, with margins, keels and surfaces smooth or scabrous, apex acuminate; lower glume 3.5-5 (-6) mm long, 1-3-veined; upper glume 4-6.5 (-8) mm long, 3 (-5)-veined; lemmas 4-5.5 (-5.8) mm long, 5-veined, lanceolate, keel and lateral veins villous for 1/3 to 2/3 of their length, somewhat scabrous on veins and intercostal surface, the intermediate veins differentiated, the margins smooth or scaberulous, the apex acute to acuminate; callus woolly, hairs curly, dense to diffuse; paleas with scabrous keels, surface between the keels smooth or scabrous; lodicules 0.8 mm long, oblanceolate with a prominent lateral lobe, glabrous; anthers 1.8-2.5 mm long; staminodes 1 mm long. Caryopsis 1.8-2 mm long, light brown, attached to the palea; hilum rounded, 0.2mm long (Fig. 8e).

References. Hackel (1911: 173, original description of *P. trachyantha*), Pilger (1913: 307, original description of *P. breviculmis*; 308, original description of *P. limicola*), Nicora (1978), Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Giussani *et al*. (2012), Rodríguez *et al*. (2018), Finot *et al*. (2022).

Iconography. Nicora (1978: 167, fig. 106; pp.167, fig. 105 sub *P. yaganica*; pp. 106 sub *P. chrysantha*); Giussani *et al*. (2012: 338).

Common name. Möra-shúka. Its common name in the Yagan language, Möra-shúka, means pungent grass, in reference to its rigid leaves.

Distribution and habitat. Chile and Argentina. In Chile it is found only in the Magallanes Region, Magallanes, Tierra del Fuego and Última Esperanza provinces, (51°13'- 54°08' S), between 5 and 170 m.

Phenology. Flowering between November and March.

Notes. *Poa trachyantha* was considered as a good species for the Chilean flora by Marticorena & Quezada (1985). Soreng *et al*. (2003) treated it as a doubtful or dubious taxon (level 3), but later it was included among the synonyms of *P. yaganica* Speg. (tropicos.org. 2021, Soreng et al. 2003+online updates). Under *Poa trachyantha* individuals that have spikelets with long glumes are grouped, the upper one as long or exceeding the spikelet and could be considered a good species or a variety of *P. yaganica*. Nicora (1978) also mentions the length of the ligule between the differences with *P. yaganica*.

The isotype of *P. limicola* deposited in US-88767 bears an annotation written by Nicora in 1978 identifying it as *P. chrysantha*. The isotype BAA bc-001016 bears spikelets, a drawing, and annotations. The drawing of this type shows a very broad inflorescence, consistent with the concept of *P. chrysantha* represented by Nicora (1978, fig. 106). The annotations say "*lígula aguda de 3,5 mm*, *hojas plegadas*, *tiesas*, *glabras*, *planta perenne sin estolones*, *no es cespitosa*, *callo lanoso*, *lana más o menos como el antecio y más bien escasa*". The spikelets contained have long glumes, the lower one slightly shorter than the adjacent floret and the upper one equal or greater, reminiscent of those of *P. trachyantha*, but not those of the spikelet of *P. yaganica*. The type of *P. limicola* has spikelets 5.2-5.5 mm long, with glumes that completely cover the spikelet. Nicora (1978) separates *P. chrysantha* from *P. yaganica* by the longest length of the ligule (4-7 mm in *P. chrysantha*, 2-4 mm in *P. yaganica*), the glumes very long, the upper one equal or little larger than the contiguous florets in *P. chrysantha* and by the very wide panicle and indicates that it lives in the same places as *P. yaganica*.

The type S-05-10615 of *P. chrysantha* carries an identification label by Roivainen from 1980 that identifies it as *P. yaganica*. The inflorescence is loose, open and the

spikelets have relatively long glumes.

The isotype of *P. breviculmis* in BAA col. typus 2480 also has an open panicle (drawing by L. R. Parodi and panicle fragment), and annotations that indicate "*planta perenne de 40 cm de alto, tiesa, hojas plegadas, largas, igualando a la inflorescencia; en la base hay un corto rizoma, la planta no parece estolonífera; lígula muy corta, lisas y glabras; las espiguillas miden 5,5-6 mm de largo y tienen 3-4-flores; gluma superior casi igual a la espiguilla, oval-lanceolada, 3-nervia, 4,5-5 mm; gluma inferior 1-nervia, 3,5-4 mm; lemma inferior 4,25-4,75 mm*". According to the original description, the flowers are hermaphroditic, with anthers 2 mm long. There is a clear contradiction between the description of the ligule between type BAA and the original description, which says 6-10 mm ligule, membranous, acute.

Poa yaganica is morphologically very close to *P. pratensis* subsp. *alpigena*, although it is distinguished by the growth habit, the basal arrangement of the leaves that are rigid and folded and by characters of the adaxial surface of the leaf blade. Genetically they differs because *P. yaganica* has genotype **H**H while *P. pratensis* has genotype **P**H. Phylogenetic studies have shown that *P. yaganica* is part of a *Dioicopoa* s.l. clade, which includes *P. pfisteri*, *P. palmeri*, *P. iridifolia* and *P. planifolia* (Giussani *et al*. 2016).

Additional specimens examined. CHILE. Region of Magallanes, Prov. Última Esperanza, P.N. Torres del Paine, valle río Grey, 51°13' S, 73°00' W, 50 m, XII-1986, Dollenz 1383 (CONC); río Grey, I-1988, Dollenz 1422, 1433 (CONC); 50 km SE de Puerto Natales, 51°59' S, 72°02' W, 170 m, 18-II-2002, R. J. & N. L. Soreng 7328 (CONC, US); río Pingo, 51°06' S, 73°50' W, 90 m, 21-II-2002, R. J. & N. L. Soreng 7351 (CONC); río Serrano, 51°14' S, 72°58' W, 60 m, II-2002, R. J. & N. L. Soreng 7348 (CONC). Prov. Tierra del Fuego, Cordón Baquedano, río Verde, 53°16' S, 70°04' W, XI-1993, Pisano & Henríquez 6879 (CONC); sector Timaukel, Lote 12, 53°44' S, 70°01° W, I-1994, Pisano *et al*. 7615 (CONC); sector Vicuña, Lote 12, 54°08' S, 68°43' W, I-1995, Pisano *et al*. 7315 (CONC); Prov. Magallanes, laguna El Parrillar, 53°23' S, 71°16' W, III-1970, Pisano 2523 (CONC); río Santa María, 53°40' S, 70°59' W, II-1972, Pisano 3492 (CONC); Magallanes, entre río Santa María y río San Juan, 53°40' S, 70°58' W, 5 m, 17-II-2002, R. J. & N. L. Soreng 7317 (CONC, US); Magallanes, 40 km al N de Punta Arenas, 52°54' S, 70°55' W, 35 m, 18-II-2002, R. J. & N. L. Soreng 7327 (CONC, US).

Poa* subg. *Stenopoa (Dumort.) Soreng & L. J. Gillespie
Poa* sect. *Stenopoa Dumort., Observ. Gramin. Belg. 110, 112. 1824. *Poa* sect. *Glaucopoa* Asch. & Graebn., Syn. Mitteleur. Fl. 2: 405. 1900. *Poa* sect. *Hylopoa* Asch. & Graebn., Syn. Mittleur. Fl. 2: 406. 1900. TYPE: *Poa nemoralis* L.

Plants perennial, without rhizomes, rarely with stolons; innovations extravaginal; ligules truncate to obtuse and ciliate or acute and non-ciliate; blades generally flat, sometimes folded, the apices narrowly navicular; panicles erect or lax, open to moderately contracted; spikelets laterally compressed, rarely bulbous (not in species present in Chile); florets hermaphrodite; glumes keeled, the keel smooth or sparsely scabrous; callus glabrous or woolly dorsally; lemmas keeled, keel and marginal veins villous; paleas with keels scabrous; anthers 3. Includes 30 species, mostly Eurasian, three of which are introduced in Chile: *P. glauca*, *P. nemoralis*, *P. palustris*.

36. **Poa glauca** Vahl subsp. **glauca**, Fl. Dan. 6(17): 3, pl. 964. 1790. TYPE: Noruega. Legi tantummodo in paroecia Vang (Valders) ad pedes montium, in Finmarkia non frequens, *without collector, s.n*. (holotype C-herb. Vahlian).

Poa ayseniensis Hack., Repert. Spec. Nov. Regni Veg. 10(243-247): 173. 1911. TYPE: Chile, in expeditione ad fl. Aysén, 17 -I- 1897, *P. Dusén 514* (holotype W bc-19160039484!).

Plants hermaphroditic, perennial, usually glaucous, sometimes purple, without rhizomes or stolons; innovations extravaginal. Culms 5-40 (-80) cm high, erect or decumbent, stiff, smooth (usually with sparse, antrorse prickle hairs just below some nodes, but sometimes smooth). Leaf sheaths closed up to 1/10-1/5 of their length, smooth; ligules 1-5 mm long, obtuse to acute, scattered to densely scabrous, the apex ciliate; blades 2-8 cm long x 0.8-2.5 mm wide, flat or slightly U-shaped, tender, scabrous, ending in a rigid point. Panicles 2-10 (-20) cm long, contracted or somewhat open, erect, narrowly lanceolate to ovoid, with 2-3 (-5) branches per node, branches more or less scabrous on the angles. Spikelets 3-7 (-9) mm long, 2-5-flowered; rhachilla internodes up to 1.2 mm long, smooth, or scabrous, glabrous or slightly to densely hispidulous or pilose; glumes subequal, lanceolate, keeled, the apex acute; lower glume 3-4.5 mm, 3-veined; upper glume 2-3.8 (-5.2) mm, shorter to subequal to lower lemma; lemmas 2.5-4 mm long, lanceolate to broadly lanceolate, keeled, keels and lateral veins shortly hairy; callus usually with woolly hairs, but sometimes glabrous; paleas almost as long as lemmas; anthers of (1-)1.2-1.8 (-2.5) mm (Fig. 7f).

References. This species, introduced in Chile from Europe, was not known in Chile at the time of Desvaux (1854), nor Philippi (1881). Nicora (1978) cites it for the Argentine Patagonia but not for Chile. Neither does Moore (1983) for Tierra del Fuego. The first mention for Chile corresponds to Marticorena & Quezada (1985); later, it was mentioned by Zuloaga *et al*. (1994, 2008, 2019); Soreng *et al*. (2003); Soreng & Peterson (2008); Giussani *et al*. (2012), Rodríguez *et al*. (2008b, 2018)

and Finot *et al*. (2022). With the exception of Zuloaga *et al*. (2008) citing *Pfister & Ricardi 5040* (as "*Ricardi 5040*") and *Dusén 514*, type of *P. ayseniensis*, these works do not mention reference specimens, so there is no precise information about the date of their introduction to the country. The first specimens identified as *P. glauca* were collected by Augusto Pfister, Clodomiro Marticorena and Mario Ricardi in 1952, in Magallanes (Última Esperanza).

Iconography. Nicora (1978: 161, fig. 100); Giussani *et al*. (2012: 305); Soreng (2007: 577).

Chromosome numbers. 2n = 34, 42, 44, 47, 48, ca. 49, 50, 56, 56-58, 60, 63, 64, 65, 70, 75, 78 (Soreng 2005, Soreng 2007, Rodionov *et al*. 2010)

Distribution and habitat. A European species, widely distributed in the northern hemisphere, introduced in North and South America (Greenland, United States, Canada, Argentina, Chile). In Chile it is present only in the southern regions of the country, from the Aysén Region, General Carrera Province, to the Magallanes Region, Tierra del Fuego Province, (46°02'- 54°08' S), from the from the sea level up to 1250 m. Domínguez & Aravena (2012) collected it in disturbed sites of the coastal edge of the Francisco Coloane Marine Coastal Protected Area, Magallanes region.

Distinctive features. Plants glaucous, sometimes purple, with ligule short, obtuse, ciliolate; inflorescences lax, somewhat contracted or open, with ascending branches; spikelets with glumes smaller than the adjacent florets; callus glabrous, exceptionally with some woolly hair.

Phenology. Flowering December to April.

Notes. This species can be confused with *P. nemoralis* from which it differs by usually having sparse antrorse prickle hairs below some nodes, its longer ligules (1-5 mm in *P. glauca*; 0.2-1 mm in *P. nemoralis*), glumes lemmas and wider (broadly lanceolate in *P. glauca*; narrowly lanceolate in *P. nemoralis*) and having the flag leaf blade usually smaller than the sheath (leaf blade larger than the sheath in *P. nemoralis*).

Soreng & Peterson (2008) suggest that *P. ayseniensis* cannot be adequately distinguished from *P. yaganica*. In this work we follow Giussani *et al*. (2012) in maintaining *P. ayseniensis* as a synonym of *P. glauca*.

Additional specimens examined. CHILE. Region of Aysén, R.N. Cerro Castillo, Portezuelo Ibáñez, 46°04' S, 72°02' W, 1150-1340 m, 6-II-2002, R. J. & N. L. Soreng 7287 (CONC, US); oeste de cerro Bandera, 46°02' S, 71°59' W, 1000 m, II-2002, R. J. & N. L. Soreng 7263 (CONC, US); R.N. Cerro Castillo, Carretera Austral, Portezuelo Ibáñez, subalpine and alpine slopes in ravine to the W above the pass, above the huge landfill from highway constuction, ca. 60 km SSE of Coyhaique; open subalpine and alpine slopes of narrow ravine, near the upper limit of *Nothofagus antarctica*, 1100 m, 6-II-2002, R. J. & N. L. Soreng 7296 (US). Region of Magallanes, Prov. Magallanes, Jerónima, 53°32' S, 72°22' W, III-1979, Magens 3039 (CONC); Magallanes, AMCP Francisco Coloane, Isla Rupert, 53°33' S, 72°12' W, 5 m, II-2007, Domínguez 764 (CONC); Prov. Última Esperanza, Puerto Consuelo, 5-IV-1956, Magens 3597 (CONC); Las Cumbre, Baguales, 50°40' S, 72°30' W, 850 m, II-1962, Ricardi & Matthei 389 (CONC); río Baguales, 50°53' S, 72°22' W, 310 m, II-2002, R. J. & N. L. Soreng 7332 (CONC); ladera S de Sierra Baguales, 50°46' S, 72°25' W, 670 m, II-2002, R. J. & N. L. Soreng 7337 (CONC); Tierra del Fuego, sector Vicuña, Lote 12, 54°08' S, 68°42' W, I-1995, Pisano *et al*. 7497 (CONC).

37. **Poa nemoralis** L., Sp. Pl. 1: 69. 1753. TYPE: Habitat in Europa ad radices montium umbrosas (epitype designated by R. J. Soreng & J. R. Edmonson, Taxon 49: 255. 2000).

Plants hermaphroditic, perennial, 15-90 cm high, caespitose; innovations all or mostly extravaginal. Culms 30-80 cm tall, erect, smooth below the panicle and nodes. Leaf sheaths glabrous or scabrous, closed for 1/2-3/4 their length; ligules 0.2-1 mm long, truncate, the margin minutely ciliolate; blades 5-12 cm long x 0.8-3 mm wide, flat or slightly U-shaped, tender. Panicles 7-20 cm long, loose, open, green or reddish. Spikelets (1-) 2-5-flowered, 3-6 mm long; rachilla usually hairy; glumes shorter than contiguous florets, 3-veined, acute, scabrous on the keel; lower glume 2-3 mm long; upper glume 2.5-3.5 mm long; lemmas 2.4-4 mm long, 5-veined, with keel and marginal veins pubescent in the lower half; callus glabrous or normally with few short or medium length woolly hairs; palea as long as the lemma, the keels scabrous; anthers 1.3-2 mm long.

References. This Eurasian species was mentioned for Chile (Magallanes) by Desvaux (1854), although he admits not having seen any Chilean specimen. It was later cited by Moore (1983), Marticorena & Quezada (1985), Soreng *et al*. (2003), Soreng (2007), Zuloaga *et al*. (2008, 2019), Giussani *et al*. (2012), Rodríguez *et al*. (2008b, 2018) and Finot *et al*. (2022). Ugarte *et al*. (2011) indicate that the first record in Chile dates from 1952; however, the oldest specimen we have at hand (SGO), was collected by Arturo Burkart in 1939 in the Araucanía Region (Curacautín).

Iconography. Nicora (1978: 156, fig. 95); Soreng (2007: 577); Giussani *et al*. (2012: 322).

Chromosome numbers. 2n = 28, 35, 42, 48, 50, 56 (Nicora 1978, Soreng 2007).

Distribution and habitat. Species introduced from northern Eurasia (Soreng 2007). It has been collected between the Metropolitan and Magallanes regions (33°10'-52°06 'S), between 80 and 1900 m. It grows in moist grasslands and open forests. Domínguez (2004) cited it for the National Park Pali Aike, around oil wells and abandoned roads.

Distinctive features. Plants with lax panicles with ascending to widely divergent branches; spikelets (1-) 2-5-flowered, with unequal glumes, smaller than the contiguous florets; callus with few woolly hairs; lemmas with hairy keel and lateral veins, intermediate veins glabrous; flowers hermafrodite.

Notes. Related to *P. glauca* and *P. palustris* (see notes under these species).

Additional specimens examined. CHILE. Metropolitan Region, Prov. Chacabuco, Altos de Chicauma, 33°10' S, 70°57' W, 1900 m, I-2003, García 3777 (CONC). Region of the Araucanía, Prov. Cautín, P. N. Villarrica, 39°32' S, 71°33' W, 968 m, I-2006, Marticorena & Jiménez 496 (CONC). Region of Los Lagos, Prov. Osorno, fundo Cañal Bajo, genética de Osorno, García 6 (SGO). Region of Aysén, Prov. Capitán Prat, Río Baker, Angostura Tamango, 47°10' S, 72°29' W, 400 m, I-2007, Teneb 264 (CONC); Villa O'Higgins, Río Mosco, 48°28' S, 72°29' W, 480 m, III-2003, García 69 (CONC); Prov. Coyhaique, Coyhaique, 16-I-1946, Barros 5942 (US). Region of Magallanes y Antártica Chilena, Prov. Última Esperanza, Lago Sofía, 51°31' S, 72°34' W, 26-I-1993, Pisano & Henríquez 6816 (CONC); San Gregorio, PN Pali Aike, SO de Cerro Mirador, 52°05' S, 69°46' W, 180 m, 7-I-2004, Domínguez 119 (CONC); Puerto Natales, cerro Dorotea, 12-II-1946, Barros 5936, 5938 (US).

38. **Poa palustris** L., Syst. Nat. (ed. 10) 2: 874. 1759. TYPE: Habitat in Helvetiaem Italieae paludibus (lectotype LINN-87.21!, designated by R. J. Soreng, Taxon 49: 256. 2000).

Poa crocata Michx., Fl. Bor.-Amer. 1: 68. 1803; *P. glauca* var. *crocata* (Michx.) M. E. Jones, Contr. W. Bot. 14: 14. 1912. TYPE: Canada. Hab. juxta amnes ad lacus Mistassinos affluentes indeque ad sinum Hudsonis defluentes (holotype P; isotype P bc-624303!).

Poa rotundata Trin., Mém. Acad. Imp. Sci. St.-Pétersbourg, Sér. 6, Sci. Math. 1(4): 387. 1830. TYPE: V spp. Unalaschk.

Poa strictula Steud., Syn. Pl. Glumac. 1: 426. 1854; *Poa palustris* var. *strictula* (Steud.) Hack., Bull. Herb. Boissier 7(9): 710. 1899. TYPE: Japonia.

Poa janczewskii Zapal., Consp. Fl. Galic. Crit. 1: 292. 1906. TYPE: Eastern Carpathians, in fissuris humidis terra repletis rupium conglomerateo-arenaceum montis komonowe ad fontes Czeremosz, Czarny, 1700 m, 23 jul 1905.

Poa eyerdamii Hultén, Acta Univ. Lund. 2 2: 206. 1942. TYPE: USA. Alaska, Kodiak, Sitkalidak Isl., Port Hobron (holotype S-G-6784!).

Plants hermaphroditic, perennial, 30-150 cm tall, caespitose, frequently stoloniferous; innovations extravaginal or mixed extra- and intravaginal. Culms sparsely retrorsely scabrousto strigulose below the panicle and just below some nodes. Leaf sheaths smooth, glabrous or sparsely retrorsely scabrous; ligules (1-) 2-6 mm long, apices minutely ciliolate; blades 15-20 cm long x 2-4 mm wide, tender, flat, glabrous. Panicles 10-30 cm long, loose, open. Spikelets 3-4 mm long, 2-4-flowered; rachilla internodes muriculate to hispidule; glumes smaller than florets, lanceolate, with scabrous keels; lower glume 2-3 mm long, 1-3-veined; upper glume 2.5-3 mm long, 3-veined; lemmas 2.5-3 mm long, 5-veined, the keel pilose in the lower half, the marginal veins frequently hairy in the lower half; callus with long woolly hairs; palea as long as lemma; anthers 1.5 mm long.

References. Recorded for Chile by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Rodríguez *et al*. (2018) and Finot *et al*. (2019, 2022). For a complete synonymy see Soreng *et al*. (2003).

Iconografía. Nicora (1978: 152, fig. 93), Soreng (2007: 575), Giussani *et al*. (2012: 324)

Chromosome numbers. 2n = 28, 30, 32, 35, 42, 56, 84 (Soreng 2007, Rodionov *et al*., 2010).

Distribution and habitat. Native to Eurasia and northern North America. In Chile it is found from the Metropolitan Region to Magallanes, from sea level to 3170 m. It has been collected in swamp forests of *Drimys winteri* J.R. Forst. & G. Forst. (canelo) and Myrtaceae (hualves).

Distinctive features. Panicles loose, open; ligule (1-) 2-5 mm long; spikelets 3-4 mm long; glumes shorter than the florets; lemmas 2.5-3 mm long, 5-veined, lateral nerves inconspicuous, marginal nerves frequently hairy in the lower half; keel hairy in lower half; callus with long woolly hairs; flowers hermafrodite; anthers 1.5 mm.

Phenology. Flowering occurs in January.

Notes. A species morphologically close to *P. nemoralis*, *P. trivialis* and *P. pratensis* (Nicora 1978, Giussani *et al*. 2012). It is distinguished from *P. nemoralis* by the longest ligules [(1-) 5-6 mm in *P. palustris*, 0.2-0.8 (-1) mm in *P. nemoralis*]; from *P. trivialis* it is distinguished by slightly prominent lemma veins (lemma with prominent medial veins in *P. trivialis*) and non-sickle lower glume (sickle lower glume in *P. trivialis*); of *P.*

pratensis due to the absence of rhizomes (rhizomes present in *P. pratensis*). Valuable as forage and soil stabilizer (Soreng 2007; Giussani *et al*. 2012).

Additional specimens examined. CHILE. Metropolitan Region, Prov. Santiago, SN Yerba Loca, sector Vegas de las Vacas, 33°18' S, 70°16' W, 3170 m, 3-II-1999, Arroyo & Humaña 99-1224 (CONC). Region of Ñuble, Entre Quinquehua y Tres Esquinas, Fundo Santa Rita, 15-I-1994, Quintana 31 (CONC-CH). Region of Magallanes, Punta Arenas, 53°10' S, 70°54' W, 20 m, 15-I-1956, O. Magens 217 (CONC).

Poa* sect. *Tichopoa Asch. & Graebn., Syn. Mitteleur. Fl. 2: 419. 1900. *Poa* subsect. *Tichopoa* (Asch. & Graebn.) Maire, Fl. Afrique N. 3: 95. 1955. TYPE: *Poa compressa*.

Plants perennial, with rhizomes; innovations mainly extravaginal; culms strongly compressed; ligules obtuse, ciliolate; blades flat, the apices narrowly navicular; panicles open to somewhat contracted, linear to ovoid, with ascending branches; spikelets laterally compressed; flowers hermaphrodite; glumes keeled; calluses glabrous or pubescent, woolly; lemmas leathery-membranous, with inconspicuous lateral veins; anthers 3. Includes only two species native to Europe, one of them introduced in Chile: *P. compressa*.

39. **Poa compressa** L., Sp. PL. 1: 69. 1753. *Paneion compressum* (L.) Lunell, Amer. Midl. Naturalist 4: 222. 1915. TYPE: Habitat in Europae & Americae septentrionalis siccis (lectotype LINN-87.41, designated by R. J. Soreng en Cafferty *et al*., Taxon 49: 255. 2000).

Plants hermaphroditic, perennial, with well developed rhizomes; innovations extravaginal. Culms 15-60 cm x 1.5-2 mm, often geniculate at lower nodes; nodes and internodes strongly compressed, smooth. Sheaths closed 1/10-1/5 their length, compressed to keeled, glabrous; ligules 1-3 mm long, with a moderate to densely scabrous back, ciliate on the upper margin, truncate to obtuse; blades 5-12 cm long x 1.5-4 mm wide, flat or folded, glabrous on the abaxial side, scabrous on the adaxial side and margins. Panicles 2-10 x 0.5-1 (-3) cm, contracted to lax, narrow, linear, lanceolate to ovoid, erect, frequently interrupted, pauci- to multiflowered, with 1-3 branches per node; branches 0.5-3 cm long with 1-15 spikelets, erect to ascending, or infrequently divergent, the angles densely scabrous, at least in part. Spikelets (2,3-) 3,5-7 mm long, laterally compressed, 2-4 (-7) -floral, often purplish; rachilla internodes less than 1 mm long, smooth or scabrous; florets hermaphrodites; glumes subequal, lanceolate, keeled, both 3-veined; lower glume 1.9-2.1 mm long; upper glume 2-2.2 mm long; lemmas 2.3-3.5 mm long, lanceolate, keel and lateral veins shortly hairy, surface between veins glabrous, intermediate veins inconspicuous, margins glabrous, apex acute; callus glabrous or woolly, the woolly hairs not very abundant, scattered; Palea scabrous on the keels; lodicles 0.6 mm long, lanceolate, with a lateral lobe; anthers 1.3-1.8 mm long. Caryopsis 1.4-1.5 mm long, attached to the palea; hilum 0.2 mm long.

References. This species was cited for the first time for Chile by Zuloaga *et al*. (1994), although it would have been introduced in Punta Arenas in the 1950s. Later, Soreng *et al*. (2003), Zuloaga *et al*. (2008, 2019), Ugarte *et al*. (2011), Rodríguez *et al*. (2018) and Finot *et al*. (2022). For a complete synonym see www.tropicos.org.

Iconography. Nicora (1978: 161, fig. 101); Soreng (2007: 581); Giussani *et al*. (2012: 300).

Distribution and habitat. Species introduced from Europe, it is widely distributed in Asia and in North and South America. In Chile it is known only from the Magallanes Region (53°10' S), cultivated in Punta Arenas (*Magens s.n.*). Rodríguez & Marticorena (2018) also cite it for the Araucanía and Los Lagos regions, but we have not been able to confirm its presence in these regions. In Argentina it is naturalized and is used as fodder on poor soils (Nicora 1978; Giussani *et al*. 2012).

Chromosome numbers. 2n = 35, 42, 49, 50, 56, 84 (Soreng 2007; Rodionov 2010).

Distinctive features. Culms and nodes compressed; rhizomes present; panicle open, with scabrous branches. Phenology. Flowering in March.

Notes. It is frequently confused with *P. pratensis*. It is distinguished from *P. pratensis* by the strongly compressed culms and nodes, slightly smaller florets (3-3.5 mm in *P. compressa*, 2-4.5 (-6) mm in *P. pratensis*), lemmas with keel shortly hairy in the lower two thirds (long ciliated in *P. pratensis*) and panicle smaller (up to 10 cm in *P. compressa*, up to 20 cm in *P. pratensis*).

Additional specimens examined. CHILE. Region of Magallanes, Punta Arenas, jardín, 53°10' S, 70°54' W, 20 m, 19-III-1956, Magens 139 (CONC).

Poa* sect. *Pandemos Asch. & Graebn., Syn. Mitteleur. Fl. 2: 425. 1900. TYPE: *Poa trivialis* L.

Plants perennial, sometimes with rhizomes or stolons; innovations intra and extravaginal; ligules acute to acuminate; blades flat, apices navicular; panicles open, pyramidal, with ascending or divergent branches; spikelets laterally compressed, not bulbous; flowers hermaphrodite; glumes

keeled, the keels scabrous; lower glumes sickle-shaped (*P. trivialis*); calluses glabrous or dorsally woolly; lemmas keeled, hairy only on keel or also sparsely on lower 1/4 of marginal veins; midribs prominent; paleas keeled, smooth; anthers 3. Includes two species of European origin. In Chile, *P. trivialis*.

40. **Poa trivialis** L. subsp. **trivialis**, Sp. Pl. 1: 67. 1753. TYPE: Habitat in Europae pascuis, *Hudson 16* (neotype LINN-87.9, designated by R. J. Soreng, Taxon 49: 256. 2000).

Poa ariguensis Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: Hrbr. *Lechler nr. 719*, Arigue, Chili (lectotype, **designated here**: Prope coloniam Arigue in pr[ovincia] Valdivia. Dec. m. W. Lechler pl[antae] chilenses. *Ed. R. F. Hohenacker 719* W bc-0002242! verified by R. J. Soreng, L. M. Giussani & M. Negritto 2003-10 as isotype of *Poa ariguensis* Steud. = *Poa trivialis*; isolectotypes: BAA col. typus 2456! fragm. ex P & fragm. ex W, FI-012527!, GOET bc-006878! P bc-00624263!, P bc-00624264!, P bc-00624265!, US-81669! fragm. ex W).

Poa modesta Phil., Linnaea 30(2): 205. 1859, hom. illeg., non *P. modesta* Tuck. 1843. TYPE: [Chile] prope Puerto Montt, *R. A. Philippi s.n.* (holotype SGO-45748; isotypes BAA col. typus 2625!, US-1939384! fragm. & photo ex SGO-45748).

Poa maullinica Phil., Anales Univ. Chile 94: 164. 1896. TYPE: [Chile] Ad flumen Maullin in provincia Llanquihue invent orn. Doctor Carlos Juliet (lectotype, **designated here**: Ad flumen Maullin 1874/4, *C. Juliet*, SGO-037322!; isolectotypes: BAA col. typus 2623 p.p. plant on the right, SGO-045753!).

Poa trachyphylla Hack., Oesterr. Bot. Z. 52(10): 379. 1902, nom. illeg. hom., non *Poa trachyphylla* Pilg., Bot. Jahrb. Syst. 25(5): 715. 1898. TYPE: Ecuador, in silvis declivis occidentalis montis Pichincha ad 3.300 m, *Sodiro s.n*.

Plants hermaphroditic, short-lived perennial, 25-120 cm high, decumbent or erect, weakly stoloniferous, without rhizomes; culms scabrous below the panicle. Sheaths retrorsely scabrous or scaberule, at least towards the apex; ligules 2.5-10 mm long, scabrous, with an acute to acuminate apex; blades 3-20 cm long x 1-5 mm wide, flat, tender, scabrous on veins and margins, apex acuminate. Panicles 8-25 cm long, lax, pyramidal, open; rachis and pedicels scabrous. Spikelets 2.5-4 (-5) mm long, 2-4-flowered; glumes keeled, scabrous on the keel, unequal, shorter than the florets, acute, the margins hyaline, whitish; lower glume 1.5-2 x 0.1-0.3 mm, subulate to narrowly lanceolate, frequently sickle-shaped, 1-veined; upper glume 2.2-2.7 x 0.4-0.7 mm, lanceolate, 3-veined, lateral veins prominent, scabrous; lemmas 2.3-3.5 mm long, lanceolate, the keel pilose in the lower 2/3, lateral veins glabrous or hairy in the lower third, the marginal veins hairy in the lower 1/3, the upper lemma sometimes completely glabrous, 5-veined, lateral nerves prominent; callus woolly; paleas almost as long as the lemmas, keels minutely bumpy or scaberulous; anthers 1.2-2 mm long.

References. Philippi (1875) recorded this species in Valdivia and Magallanes. Later, Moore (1983) cited it for Isla Grande de Tierra del Fuego. Subsequently, it was recognized by Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Soreng & Peterson (2008), Ugarte *et al*. (2011), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Nicora (1978: 152, fig. 92); Soreng (2007: 569); Giussani *et al*. (2012: 337).

Chromosome numbers. 2n = 14 (Ahmed *et al*. 1972; Soreng 2007; Rodionov *et al*. 2010).

Distribution and habitat. Native to Europe, West Asia and North Africa, introduced in Chile, it is widely distributed in temperate countries around the world (Soreng 2007). In America it is found in Argentina, Bolivia, Canada, Chile, Costa Rica, Ecuador, [Greenland], United States, Peru, Uruguay and Mexico (Standley 1936; Soreng 1985; Soreng *et al*. 2003; Giussani *et al*. 2012). In Chile it grows in the regions of Valparaíso, Metropolitana, O'Higgins, Maule, Ñuble, Biobío, Araucanía, Los Ríos, Los Lagos, Aysén and Magallanes (31°25'-54°55 'S), between 10 and 1430 m. Frequently cultivated for prairies; sometimes on somewhat sandy soils.

Distinctive features. Leaves flat; ligules long, acute; inflorescences lax, pyramidal, open; spikelets 2-4-flowered; glumes shorter than the adjacent florets, the lower one frequently sickle-shaped, the upper one lanceolate with three notable and scabrous veins; lemma keeled with woolly callus, pubescent keel and notable lateral veins.

Phenology. Flowering between September and March.

Notes. Some authors include *P. maullinica* as synonym of *P. trivialis* (Soreng *et al*. 2003, Zuloaga *et al*. 2008, Giussani *et al*. 2012 and this treatment). Other authors, such as Nicora (1978), Zuloaga *et al*. (1994) and Soreng & Peterson (2012) propose *P. maullinica* as synonym of *P. scaberula*. *Poa trivialis* differs from *P. scaberula* by having lax, open or contracted panicles, while *P. scaberula* has contracted, subspiciform panicles. As Nicora (1978) indicates, the type of *P. maullinica* in BAA-2623 is a mixture of *P. trivialis* and *P. scaberula*; this type carries an annotation by Parodi from 1962 in which he indicates that the original description agrees with *P. trivialis*. The same occurs with the type at LP that contains a mixture

of both species and an indication that identifies it with *P. trivialis*. The original description of *P. maullinica* says "panicula 11-13 cm longa contracta" and later, Philippi notes that it is very related to *P. scaberula* and gives the differences and similarities between *P. scaberula* and *P. maullinica*. The types deposited in SGO (verified by M. Muñoz-Schick in 2009) and in W (verified by Pignoti in 2011) determine it as *Poa trivialis*.

Soreng *et al*. (2003) indicate the following sintypes of *Poa maullinica*: 1. Chile, Provincia de Llanquihue, Maullin, Carlos Juliet [ST: SGO-PHIL-146; IST: SGO-45753, SGO-37322, US-A2947091 (fragm. ex SGO-PHIL-146 & photo), US-1763025, US-(photo SGO-45753), US (photo SGO-37322)] and 2. Chile: Maullin, Philippi herb. 416 [ST: SGO-PHIL-416; IST: US-2947091(fragm. ex SGO & photo)]. Later, Soreng & Peterson (2012) designate the specimen SGO-PHIL-416 as holotype. Article 7.11 of the Code of Nomenclature (Turland *et al*. 2018), requires that from January 1, 2001, the designation of a type includes the phrase "designated here" or equivalent, so the previous lectotypification is not valid. At the same time, the lectotype designated here makes it possible to unequivocally establish that *P. maullinica* is synonymous with *P. trivialis*.

Ugarte *et al*. (2011) indicate that the first record of this species in the country corresponds to 1924, however, material collected by Philippi in Valdivia in 1876 was determined as belonging to this species.

Additional specimens examined. CHILE. Region of Valparaíso, Prov. Valparaíso, Quintero, Los Juanes, 32°46' S, 71°32' W, 20 m, XI-1953, Gunckel 38202 (CONC); Cerro de la Cruz, 32°46' S, 71°32' W, XI-1953, Gunckel 28054 (CONC). Metropolitan Region, Prov. Santiago, SN Yerba Loca, 33°18' S, 70°16' W, 3170 m, II-1999, Kalin & Humaña 1224 (CONC). Region of O'Higgins, Prov. Colchagua, entre Nancagua y Chimbarongo, Fundo Todos Los Santos, 280 m, 19-XI-2005, Faúndez et al. 776 (CONC); La Candelaria, Estero Las Palmas, 244 m, 16-XI-2005, García *et al*. 2620 (CONC); Chépica, Los Canelos, 15-XI-2005, Faúndez *et al*. 484 (CONC); Prov. Cardenal Caro, San Pedro de Alcántara, 63 m, 34°46' S, 71°50' W, 28-X-2005, García *et al*. 2285 (CONC). Region of Maule, Prov. Linares, Quinamávida, Canal Melado, 35°47' S, 71°24' W, 500 m, 18-XI-1967, Anonymous s.n. (CONC). Region of Ñuble, Prov. Itata, Cobquecura, 36°07' S, 72°49' W, 20 m, XII-1953, Ruiz s.n. (CONC); Prov. Punilla, entre San Carlos y San Fabián de Alico, ca. 20 km antes de San Fabián, 28-XI-2007, 36°29' S, 71°43' W, 293 m, Finot 2431 (CONC-CH). Region of Biobío, Prov. Arauco, Cañete, 37°48' S, 73°24' W, 70 m, 27-XII-1927, Barros 1807 (CONC); Cocholgüe, lado norte de Punta Cullín, 36°36' S, 72°58' W, 5-10 m, 18-XI-2001, R.J. & N.L. Soreng 7024 (CONC); Isla Mocha, La Calera, 38°22' S, 73°55' W, 280 m, X-1958, Kunkel 303 (CONC); Prov. Biobío, PN Laguna del Laja, ladera SE del Volcán Antuco, 37°27' S, 71°19' W, 1430 m, 21-I-2002, R. J. & N. L. Soreng 7181 (CONC); Prov. Concepción, Hualpén, 36°46' S, 73°12' W, 150 m, 1-I-1941, Gunckel 12922 (CONC); Concepción, Cerro Avenida Inglesa, 36°49' S, 73°03' W, 10 m, 23-XII-1934, Junge s.n. (CONC). Region of the Araucanía, Prov. Cautín, Temuco, Cerro Ñielol, 38°43' S, 72°35' W, 150 m, 16-XII-1941, Montero 3918 (CONC). Region of Los Ríos, Valdivia, Folilco, 40°21' S, 72°53' W, XII-1963, Möller s.n. (CONC); Valdivia, Parque Municipal, 39°50' S, 73°29' W, 50 m, Gunckel 41512 (CONC); Lliflén-Lago Ranco, 40°19'S, 72°27' W, 75 m, año 1941, Pfister s.n. (CONC); San Juan, 1866, Philippi s.n. (SGO). Region of Los Lagos, Prov. Chiloé, Castro, 42°28' S, 73°46' O, 35 m, 10-I-1924, Barros 1590 (CONC); Prov. Llanquihue, Puerto Varas, 41°19' S, 72°59' W, Barros 1588 (CONC); Prov. Palena, Hualaihué, Hornopirén, San Ignacio de Huinay, 42°22' S, 72°24' W, 4 m, 7-XII-2013, Fernández-Alonso *et al*. 2741 (CONC). Region of Aysén, Prov. Aysén, Río Blanco, Laguna de J. Martel, 45°43' S, 72°34' W, 155 m, 20-II-2007, García 4074 (CONC). Region of Magallanes, Jardín Botánico, frente a artesanía, 53°10' S, 70°54' W, 20 m, 17-I-1979, Cárdenas 34 (CONC); Prov. Última Esperanza, Laguna En Rubens, 52°03' S, 71°57' W, 200 m, 17-III-1972, Pisano 3610 (CONC); Puerto Natales, 51°44' S, 72°29' W, 3-XII-1979, TBPA 5038 (CONC); Prov. Magallanes, Punta Arenas-Fuerte Bulnes, km 53, Fundo Anita, 53°33' S, 70°48' W, 10 m, 21-I-1988, Matthei & Rodríguez 565 (CONC); Isla Riesco, Estancia Río de los Palos, 52°42' S, 71°46' W, 20 m, 4-I-1952, Pfister & Ricardi s.n. (CONC); RN Magallanes, Sendero Las Minas, 53°06' S, 71°09' W, 100 m sm., 8-II-2005, Domínguez 333 (CONC); Prov. Antártica Chilena, Puerto Williams, 54°55' S, 67°30' W, 10 m, 12-I-1968, Cekalovic s.n. (CONC); Prov. Tierra del Fuego, Forestal Trillium, Lote 12, 53°44' S, 70°01' W, 23-I-1994, Pisano *et al*. 7656 (CONC).

Poa* subg. *Secundae (V. L. Marsh ex Soreng) Soreng & Gillespie, Phytokeys 110: 110. 2018. *Poa* sect. *Secundae* V. L. Marsh ex Soreng, Syst. Bot. 16(3): 511. 1991. TYPE: *Poa secunda* J. Presl.

Plants perennial, without rhizomes or stolons or rarely weakly rhizomatous or stoloniferous; innovations intra- and extravaginal or only intravaginal; ligules truncate to acuminate; blades flat or folded, apices narrowly navicular; panicles somewhat lax, contracted or open and pyramidal, with erect or spreading branches; spikelets terete or weakly compressed laterally (*P. secunda*) or compressed laterally (*P. stenantha*), sometimes bulbous (not in the species present in Chile); flowers hermaphrodite; glumes shorter or equaling the adjacent lemmas; calluses glabrous or surrounded by a crown of 0.2 to 2 mm hairs; lemmas glabrous or with keel and marginal veins ciliate, sometimes also the intermediate veins

and surfaces short ciliate; anthers 3, 1.2-3(-3.5) mm long. *Poa secunda*, *P. stenantha*.

41. **Poa secunda** J. Presl, Reliq. Haenk. 1(4-5): 271. 1830. TYPE: Hab. in Cordilleris Chilensibus, 1790, *T. Haenke s.n.* (holotype PR; isotypes B, BAA col. typus 2691 fragm. ex B, GH, LE, LE-TRIN-2625.01 a, MO-209304, US-88729! fragm. ex PR).

Plants hermaphroditic, perennial, caespitose, without rhizomes. Culms 12-50 cm high. Leaf sheaths glabrous; ligules 2.5-3 mm long, oval, denticulate, glabrous on the back; blades 1-17 cm long x 0.7-2 mm wide, flat or folded, glabrous or scabrous only on the margins, the apex navicular. Panicle 1.8-15 cm long x 0.5-3 cm wide, contracted; rachis scabrous; pedicels 0.5-7 mm long, scabrous. Spikelets 6.3-9 x 1.5-4 mm, 3-5-flowered, sub-cylindrical; rhachilla 0.6-1 mm long, glabrous; glumes unequal, shorter than the contiguous florets, glabrous; lower glume 3-4.2 x 0.4-0.8 mm, 1-3-veined; upper glume 3.8-5 x 0.7-1 mm, 3-5-veined; lemmas 5-veined, oblanceolate to lanceolate, short hairy in the lower 1/3 (subsp. *secunda*) or glabrous (subsp. *juncifolia*), with the keel ciliate in the lower 1/2 or 1/3, smooth or scabrosule towards the apex and marginal nerves ciliate in lower 1/3; lower lemma 4-4.9 x 0.9-1.1 mm, the upper ones smaller; callus glabrous or with a crown of hairs 0.2 mm long; palea 3.6-4.5 mm long, with scabrous keels and dorsally scabrous between the keels; lodicles 0.4-0.8 mm long, with two acute lobes; anthers 1.6-2.4 mm long (Fig. 7e).

References. Originally described for Chile, it was later recognized by Nicora (1978), Marticorena & Quezada (1985), Zuloaga *et al*. (1994, 2008, 2019), Soreng *et al*. (2003), Soreng & Peterson (2008), Giussani *et al*. (2012), Rodríguez *et al*. (2018), and Finot *et al*. (2022). For a revision of *P. secunda* s.l. see Soreng & Gillespie (2018).

Distinctive features. *Poa secunda* differs from the other species of *Poa* by the lemmas more or less rounded on the back, with the callus often with a tiny crown of hairs surrounding the base, elongated spikelets (3.5-5 times longer than wide) and long rachillae (0.6-1.9 mm vs <0.5 mm in most species of the genus). However, it has been shown that the lack of a prominent keel in *P. secunda* in relation to the other species of the genus, is sometimes not an easy character to use (Kellogg 1985; Soreng & Gillespie 2018).

Notes. *Poa secunda* is an apomictic species, extremely variable, with a disjunct distribution, mainly in western North America from Alaska to northern Mexico and in the Patagonia of Chile and Argentina, where it constitutes a valuable spring forage (Kellogg 1985; Soreng & Gillespie 2018). Although the type of *P. secunda* was collected in Chile, phylogenetic-molecular studies have shown that *P. secunda* has the plastid genotypic marker **N** and the nrDNA marker **s**, both absent or rare in South America, which is why it has been suggested that *P. secunda* (as well as *P. stenantha*) have been introduced from North America, probably from California (Soreng & Gillespie 2018).

Key to subspecies of *Poa secunda*

1. Lemma glabrous; innovations intravaginal or intra and estravaginal; ligules of lower culm and lateral shoots leaves truncate to rounded; leaf blades more or less persisting in form; long-cells mostly rectangular and sinuous-walled .... 41a. ***P. secunda*** subsp. ***juncifolia***

1'. Lemma more or less crisly puberulent proximally; innovations intravaginal; ligules of lower culm and lateral shoots leaves usually well-developed and acute to acuminate; leaf blades commonly withering early; long-cells all or mostly fusiform and smooth-walled ..... 41b. ***P. secunda*** subsp. ***secunda***

41a. **Poa secunda** J. Presl subsp. **juncifolia** (Scribn.) Soreng, Phytologia 71(5): 401. 1992; *P. juncifolia* Scribn., Bull. Div. Agrostol. U. S. D. A. 11: 52. 1898. TYPE: U.S.A., Wyoming, Sweetwater Co., Point of Rocks, 13 Jul 1897, *A. Nelson 3721* (lectotype US-556860 designated by Hitchcock, Man Grass. U. S. fig. 262, 1935; isolectotypes GH bc-0024301!, NY-431268!, US-748965).

Poa ampla Merr., Rhodora 4(43): 145. 1902. TYPE: USA: Washington, Steptoe, 3 July 1901, G. R. Vasey 3009 (holotype US; isotypes S-G-4930 fragm. & photo ex US, US-28610400; US-556844).

References. Recorded (sub *P. ampla*) for Chile by Nicora (1978), Marticorena & Quezada (1985) and Zuloaga *et al*. (1994). Later it was cited Zuloaga *et al*. (2008, 2019) and Finot *et al*. (2022).

Iconography. Nicora (1978: 156, fig. 96 sub *P. ampla*), Giussani *et al*. (2012: 332).

Chromosome numbers. 2*n* = 42, 56, 60, 61, 62, 63, 64, ca. 65, ca. 66, 70, 78, 84, ca. 97 (Soreng 2007).

Distribution and habitat. Subspecies native to the United States of America, it also grows in Mexico, Canada and Argentina (Soreng *et al*. 2003). It was first cited for Chile (Magallanes Region, Última Esperanza Prov., Cerro Castillo, *Boelcke 7382*, BAA) under its synonym *P. ampla* by Nicora (1978). In Chile it has been collected in the provinces of Valparaíso, Biobío and Magallanes, cultivated in Punta Arenas. Magens introduced material from Idaho, United States; he recommends it as a species with forage value in the south of the country. In Valparaíso, Macaya *et al*. SGA-16-017 collected it in clearings of forest and scrublands.

Distinctive features. Lemma glabrous, with few scattered hairs on the keel and lateral veins.

Phenology. Flowering occurs between October and January.

Additional specimens examined. CHILE. Region of Valparaíso, Prov. Valparaíso, cerro Colorado, cordón del Mauco, 300 m, 32°50' S, 71°23' W, 10-X-2016, Macaya *et al*. SGA-16-017 (CONC). Region of Biobío, Prov. Concepción, El León, 220 m, 36°57' S, 72°45' W, I-2009, Marticorena s.n. (CONC). Region of Magallanes, Prov. Magallanes, Punta Arenas, 53°10' S, 70°54' W, I-II-1955, Magens 93/99 (CONC).

41b. **Poa secunda** J. Presl. subsp. **secunda**

Poa fulvescens Trin., [Chile] "America calidiore. Andes de Sta. Rosa", *E. Poeppig s.n*. (holotype LE-TRIN-2625.02; isotype US-88779 fragm.).

Poa sandbergii Vasey, Contr. U.S. Natl. Herb. 1(8): 276. 1893; *P. buckleyana* Nash var. *sandbergii* (Vasey) M. E. Jones, Contr. W. Bot. 14: 14. 1912. TYPE: [U.S.A.] Near Lewiston, Idaho, 1892, *J. H. Sandberg 164* (holotype US bc-00141193!; isotypes BAA fragm.!, US-556828!, US-923957!).

Poa gracillima Vasey, Contr. U.S. Natl. Herb. 1(8): 272. 1893. TYPE: U.S.A., Washington, Mt. Adams, 1882, *Suksdorf 33* (holotype US-556818!; isotypes S-G-6777, US-748833).

Festuca spaniantha Phil., Anales Univ. Chile 94: 174. 1896. TYPE: [Chile] Schedula cum loco natali hujus planta amissa est (holotype SGO-PHIL-279; isotypes SGO!, US-fragm. ex SGO-PHIL-279 & photo).

Festuca patagonica Phil., Anales Univ. Chile 94: 174. 1896; *Poa fallens* Pilg., Repert. Spec. Nov. Regni Veg. 12: 306. 1913. TYPE: [Chile] Ad lacum Pinto in Patagonia australi invenit *H. Ibar*. (holotype SGO-PHIL-308; isotypes SGO-63816!, US-91891 fragm. ex SGO-PHIL-308 & photo).

Iconography. Hitchcock (1950: 136, fig. 177); Nicora (1978: 161, fig. 99. 1978); Soreng (2007: 587); Giussani *et al*. (2012: 333).

Chromosome numbers. 2*n* = 42m, 44+f, ca. 48, 56, ca. 62, 63, ca. 66, ca. 68, 70, ca. 72, ca. 74, ca. 78, ca. 80, 81, 82, ca. 84, 84, ca. 86, ca. 87, ca. 88, ca. 90, ca. 91, 93, ca. 94, ca. 98, ca. 99, 100, 104, 105-106 (Soreng 2005, 2007).

Distribution and habitat. *Poa secunda* var. *secunda* is found in North America (SW of the United States) and in South America (Argentina and Chile). It grows from the Valparaíso Region to the Magallanes Region (32°53'- 52°03 'S), from 200 to 2700 m.

Distinctive features. Lemma with the bach rounded; it differs from var. *juncifolia* by the lemma shortly hairy in 2/3 of its length.

Phenology. Flowering between September and April.

Notes. The tropicos.org database indicates that the type of *Festuca patagonica* Phil. was collected in Lago Pinto, Argentina. According to Risopatrón (1924) it would be Lago Pinto, located in Chile at 52°00 'S, 72°24' W, 35 m.

According to Soreng *et al*. (2003), Zuloaga *et al*. (2008), Giussani *et al*. (2012) and tropicos.org, *P. gracillima* is a synonym of *P. secunda* var. *secunda*, however, the type of *P. gracillima* US-556818 has very wide, open panicles, which differ from the usual concept of *P. secunda* that has contracted panicles, although the spikelets are consistent with the species, as shown in a drawing stuck to the folder. According to Hitchcock (1950) *P. gracillima* is a good species, distinct from *P. secunda*. Nicora (1978) accepts *P. gracillima* as a valid species for the Argentine Patagonia (Neuquén, Río Negro). In this work we follow Soreng *et al*. (2003) and Giussani *et al*. (2012) in treating this name as a synonym of *P. secunda*.

Additional specimens examined. CHILE. Region of Valparaíso, Prov. Los Andes, Camino Internacional de Los Andes a Argentina km 4 antes de Portillo, 32°53' S, 70°10' W, 2600 m, 16-I-1964, Marticorena & Matthei 591 (CONC); Saladillo, vega bajo Hilton, lado Estero de Castro, 33°06' S, 70°16' W, 2700 m, 4-I-1991, Arroyo 9167 (CONC). Metropolitan Region, Prov. Cordillera, Embalse El Yeso alrededor de Termas del Plomo, ca 13 km NE del embalse, 33°38' S, 69°56' W, 2930 m, 13-I-2002, R. J. & N. L. Soreng 7163 (CONC); Lagunillas, interior de San José de Maipo, 33°37' S, 70°18' W, 2250 m, 11-12-X-1936, Garaventa 5614-A (CONC); Cajón del Morales, entre la laguna y el glaciar, 33°46' S, 70°04' W, 2450 m, 27-I-2002, Teillier & Márquez 5283 (CONC). Prov. Santiago, El Arrayán, 33°21' S, 70°28' W, 885 m, X-1954, Levi 2249 (CONC); Cajón del Arrayán, año 1859, Philippi s.n. (SGO 37313, 63482); Cerro Manquehue, 33°22' S, 70°35'

W, 750 m, 18-IX-1956, Schlegel 1198 (CONC). Region of O'Higgins, Prov. Colchagua, Centinela, 34°37' S, 71°00' W, 350 m, X-1928, Montero 1251 (CONC). Region of Aysén, Prov. General Carrera, PN Cerro Castillo, Portezuelo Ibañez, ca. 60 km SSE de Coyhaique, 46°04' S, 72°02' W, 1150-1340 m, 6-II-2002, R. J. & N. L. Soreng 7293 (CONC). Region of Magallanes, Prov. Magallanes, Estancia Brazo Norte, 52°03' S, 71°10' W, 200 m, 3-IV-1070, Pisano 2554 (CONC); Prov. Última Esperanza, PN Torres del Paine, Cerro Diente, 50°47' S, 72°57' W, 600 m, 13-I-1986, Arroyo & Squeo 860027-A (CONC).

42. **Poa stenantha** Trin. var. **stenantha**, Mém. Acad. Imp. Sci. St.-Pétersbourg, Sér. 6, Sci. Math. 1(4): 376. 1830. TYPE: V spp. Kamtsch. Unalaschk. Sitk. Ins. Karagin (lectotype LE-TRIN-2700.04, designated by R. J. Soreng, Fl. Argentina 3(II): 334. 2012; isolectotype US-556779!).

Poa chorizantha E. Desv., Hist. Fis. Pol. Chile, Bot. 6: 407. 1854. TYPE: Chile, *C. Gay s.n.* (holotype P bc-00624257!; isotypes BAA col. typus-2514 fragm. ex K y P; P bc-00624258!).

Plants hermaphroditic, perennial, caespitose, without rhizomes or stolons. Culms 12-50 cm high. Sheaths glabrous; ligules 1.5-3 mm long, oval, toothed on the margin, glabrous or scabrous on the back, hyaline, decurrent with the sheath; blades 3-12 cm long x 0.7-2.5 mm wide, flat or folded, glabrous, apex navicular. Panicle 5-12.5 x 1-3.5 cm, loose, usually open, sometimes purple; rachis scabrous; pedicels 1.5-12 mm long, scabrous. Spikelets 5.5-10.5 x 2.5-6 mm, 3-6-flowered, three times as long as wide, laterally compressed; rhachilla internodes 0.7-1.2 mm long, glabrous; glumes smaller than the spikelet, glabrous, the keel smooth, both 3-veined, sometimes tinged with purple; lower glume 3.6-4.7 x 0.7-1.2 mm; upper glume 4.3-5.2 x 1-1.4 mm; lemmas lanceolate, 5-veined, glabrous between the veins, the keel ciliate in the lower half, glabrous in the upper half, the marginal veins hairy in the lower third, the intermediate veins glabrous; lower lemma 4.5-5.5 x 1-1.4 mm; callus glabrous or with a crown of hairs 0.2-2 mm long; paleas 4-5 mm long, with ciliate keels, scabrous between keels on abaxial surface; lodicles 0.7-0.8 mm long, bilobed, the lobes acute, sometimes with some stiff hairs at the apex; anthers 1.2-2 mm long. Caryopsis 2 x 0.4 mm (Fig. 7d).

References. The first record in the country was made by Desvaux (1854), for central Chile (Rancagua). Later, it was accepted by Navas (1966), Nicora (1978), Marticorena & Quezada (1985), Soreng *et al*. (2003), Zuloaga *et al*. (1994, 2008, 2019), Soreng & Peterson (2008), Ugarte *et al*. (2011), Giussani *et al*. (2012), Rodríguez *et al*. (2018) and Finot *et al*. (2022).

Iconography. Soreng (2007: 595), Giussani *et al*. (2012: 335).

Chromosome numbers. 2n = 42, [81, 84, 86?] (Soreng 2007).

Distribution and habitat. Native to the Northern Hemisphere, where it is found in Canada and the United States of America. In the Southern Hemisphere it grows in Chile and Argentina. In Chile it is found in the regions Metropolitan, Ñuble, Araucanía, Aysén, Los Ríos and Magallanes (33°23'- 54°12 'S), between 670 and 2200 m.

Distinctive features. Inflorescence lax, somewhat contracted to open, nutant; spikelets with glumes smaller than adjacent florets; florets 3-4 (-7), with callus glabrous or a crown of hairs 0.2-2 mm long, the median nerves and the keel pilose; lemmas keeled.

Phenology. Flowering between November and March.

Notes. Related to *Poa secunda*, it differs by the florets laterally compressed (subterete in *P. secunda*). All the Chilean material is attributed to var. *stenantha*; var. *vivipara* Trin. has not been collected in the country. According to Ugarte *et al*. (2011) the first record of this taxon in the country would correspond to 1938, but there is material attributed to this species collected by Augusto Borchers in the s. XIX in Termas de Chillán.

Additional specimens examined. CHILE. Region of Ñuble, Prov. Diguillín, Termas de Chillán, Valle de las Nieblas, 36°54' S, 71°31' W, 2200 m, 27-XI-1947, Pfister s.n. (CONC 7517); Baños de Chillán, 36154' S, 71°31' W, 2000 m, without date, Borchers s.n. (SGO 37331, 45758). Region of the Araucanía, Prov. Malleco, Curacautín, Termas de Río Blanco, 38°34' S, 71°38' W, 29-I-1938, Montero 3688, 3689 (CONC). Region of Los Ríos, Prov. Valdivia, Neltume, RN Huilo Huilo, camino a Puerto Pirihueico, Cordillera Piedra del Encanto, 39°59' S, 71°47' W, 1415 m, Teillier *et al*. 7380 (CONC). Region of Aysén, Prov. Aysén, Cerro Castillo, SE de Coyhaique 45 km hacia Lago General Carrera, 46°01'S, 71°58'W, 1000 m, 2-II-2002, R. J. & N. L. Soreng 7262 (CONC); Portezuelo Ibáñez, ca. 60 km SSE de Coyhaique, 46°04' S, 72°02' W, 1150-1340 m, 6-II-2002, R. J. & N. L. Soreng 7288 (CONC); Prov. Capitán Prat, Villa O'Higgins, Río Mosco, 48°27' S, 72°28' W, 1000 m, 21-III-2003, García 60 (CONC). Region of Magallanes, Prov. Tierra del Fuego, Forestal Trillium, Sector Vicuña, Lote 12, 54°12' S, 68°47' W, 7-I-1995, Pisano *et al*. 7372 (CONC); Prov. Última Esperanza, Cerro Paine, 51°08' S, 72°40' W, 800 m, 24-II-1974, Pisano 4335 (CONC); Cerro Corona, La Victorina, Lago Paine, 50°95' S, 72°47' W, 600 m, 21-II-1982, Pisano 5594 (CONC); Sierra de los Baguales, 50°45' S, 72°24' W, 670 m, 19-II-2002, R. J. & N. L. Soreng 7339 (CONC).

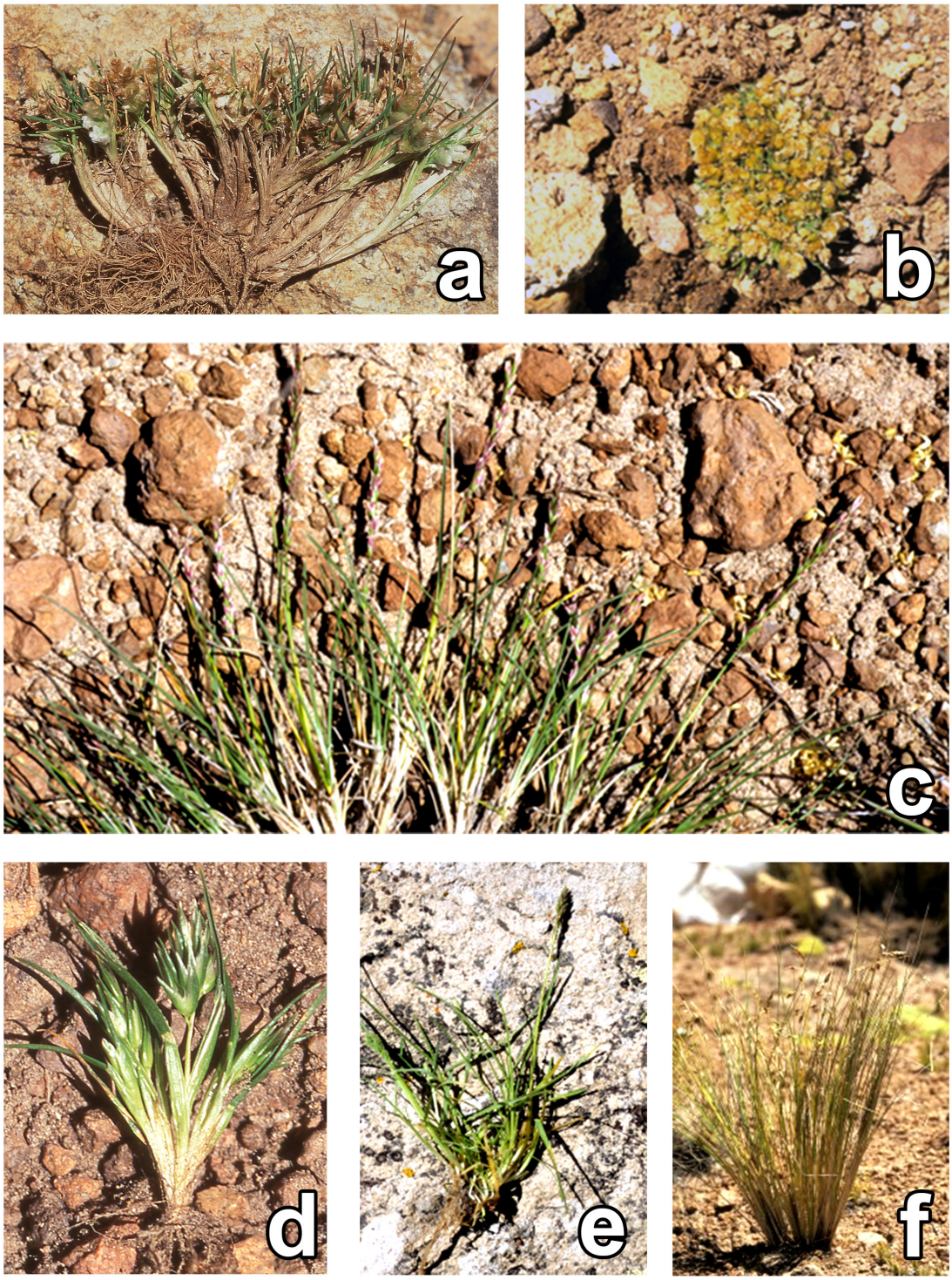

Figure 5. a-b. *Poa lepidula*. Chile. Tarapacá, Zapahuira, Portezuelo de Chapiquiña. c. *Poa gymnantha*. Chile. 66 km NW of Colchane, on road towards Chilcayo, Puerto Capitán, just E of Cerro Capitán. d. *Poa macusaniensis*. 22 km E of Zapahuira at Portezuelo Chapiquiña. e. *Poa laetevirens*. Tarapacá, Huara to Colchane Canyon. f. *Poa lilloi*. 66 km NW of Colchane, on road towards Chilcayo, on Puerto Capitán, just E of Cerro Capitán. Photos: a-f by Robert J. Soreng. / a-b. *Poa lepidula*. Chile. Tarapacá, Zapahuira, Portezuelo de Chapiquiña. c. *Poa gymnantha*. Chile. 66 km NW of Colchane, camino a Chilcayo, Puerto Capitán, justo al E de Cerro Capitán. d. *Poa macusaniensis*. 22 km E de Zapahuira en Portezuelo Chapiquiña. e. *Poa laetevirens*. Tarapacá, Huara a Cañón de Colchane. f. *Poa lilloi*. 66 km al NO de Colchane, camino a Chilcayo, en Puerto Capitán, justo al E de Cerro Capitán. Fotos: a-f de Robert J. Soreng.

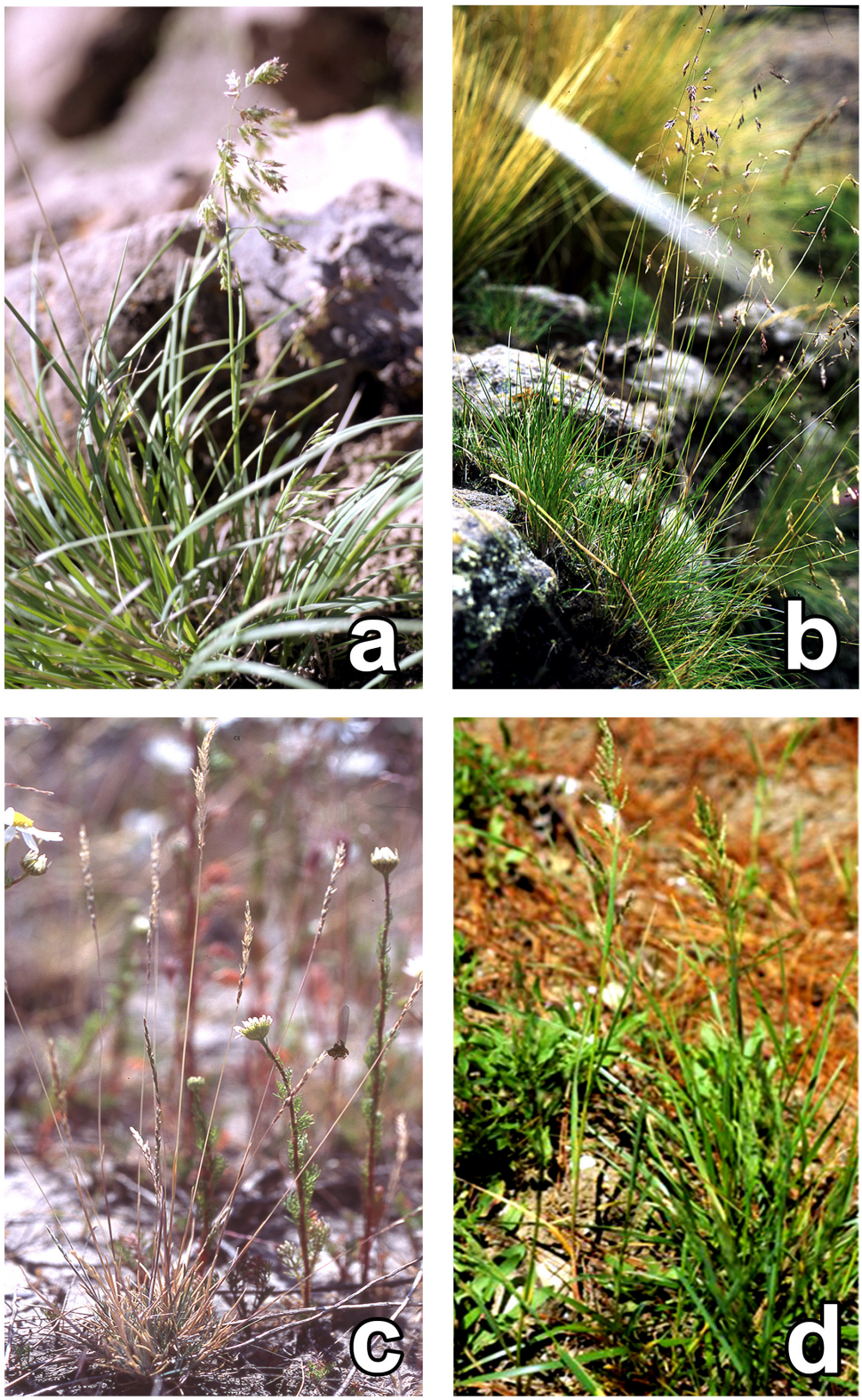

Figure 6. a. *Poa grisebachii*. Chile. Tarapacá. Huara to Colchane, Sierra Domeyko. b. *Poa kurtzii*. Bolivia. c. *Poa atropidiformis* var. *patagonica*. Argentina, Santa Cruz, Güer Aike. d. *Poa trivialis*. Bio-bío, Cocholgüe. Photos: a-d by Robert J. Soreng. / a. *Poa grisebachii*. Chile. Tarapacá. Huara a Colchane, Sierra Domeyko. b. *Poa kurtzii*. Bolivia. c. *Poa atropidiformis var. patagonica*. Argentina, Santa Cruz, Güer Aike. d. *Poa trivialis*. Bio-bío, Cocholgüe. Fotos: a-d de Robert J. Soreng.

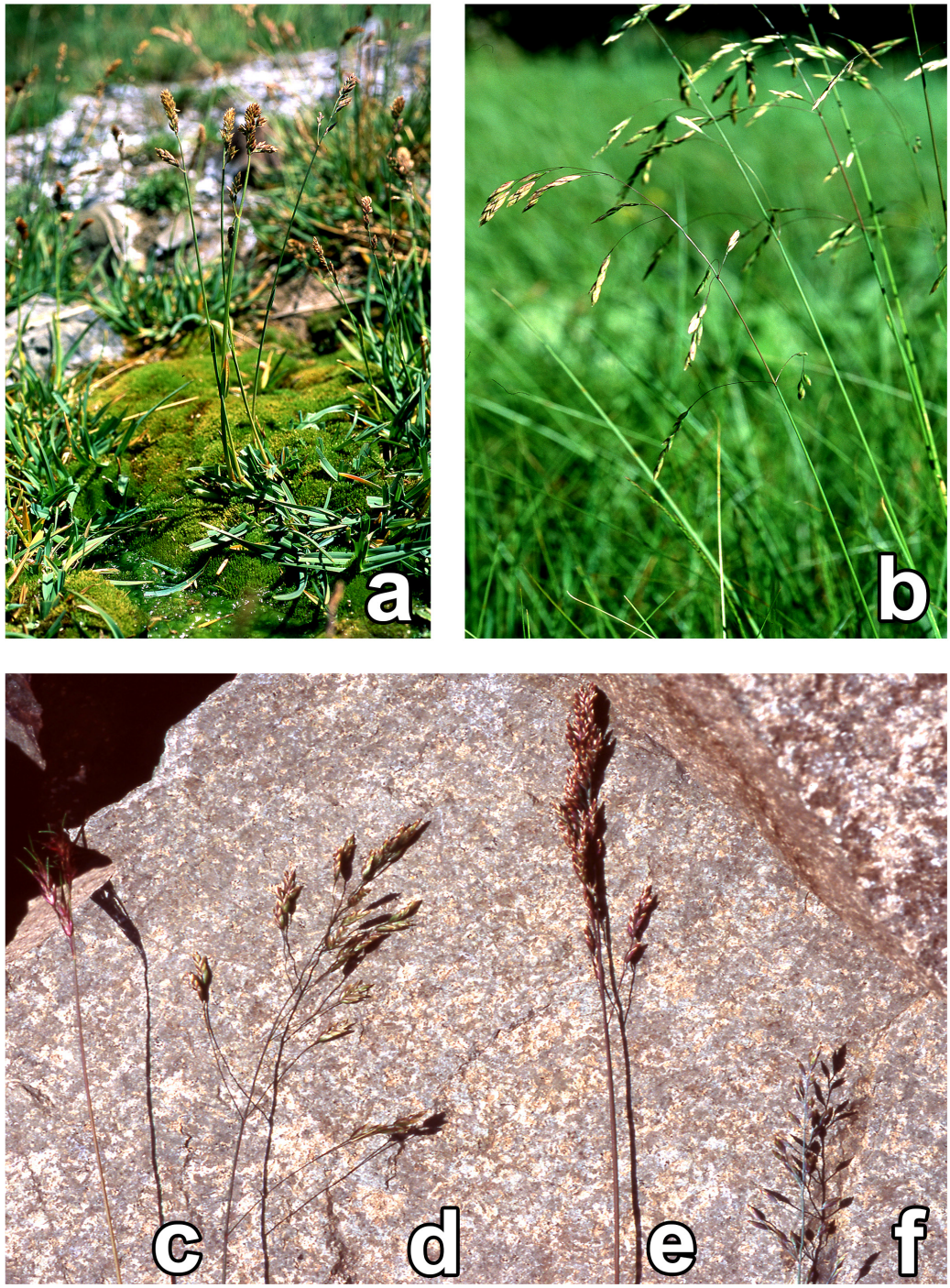

Figure 7. a. *Poa planifolia*. Chile. Metropolitan Region, Río Yeso, above Embalse del Yeso and up to and around Termas del Plomo. b. *Poa hachadoensis*. Araucanía Region, Parque Nacional Conguillo, W entrance, E end of Laguna Captrén, valley between Volcan Llaima and Sierra Nevada, E of Temuco ca. 70 km. c. *Poa alopecurus* subsp. *fuegiana*. Aysén Region, R.N. Cerro Castillo, Portezuelo Ibáñez. d. *Poa stenantha*. Aysén Region, R.N. Cerro Castillo, Portezuelo Ibáñez. e. *Poa secunda*. Aysén Region, R.N. Cerro Castillo, Portezuelo Ibáñez. f. *Poa glauca*. Aysén Region, R.N. Cerro Castillo, Portezuelo Ibáñez. Photos: a-f by Robert J. Soreng. / a. *Poa planifolia*. Chile. Región Metropolitan, Río Yeso, por sobre Embalse del Yeso hasta Termas del Plomo y alrededores. b. *Poa hachadoensis*. Región de la Araucanía, P. N. Conguillío, entrada O, extremo E de Laguna Captrén, valle entre Volcán Llaima y Sierra Nevada, ca. 70 km al E de Temuco. c. *Poa alopecurus* subsp. *fuegiana*. Región de Aysén, R.N. Cerro Castillo, Portezuelo Ibáñez. d. *Poa stenantha*. Región de Aysén, R.N. Cerro Castillo, Portezuelo Ibáñez. e. *Poa secunda*. Región de Aysén, R.N. Cerro Castillo, Portezuelo Ibáñez. f. *Poa glauca*. Región de Aysén, R.N. Cerro Castillo, Portezuelo Ibáñez. Fotos: a-f de Robert J. Soreng.

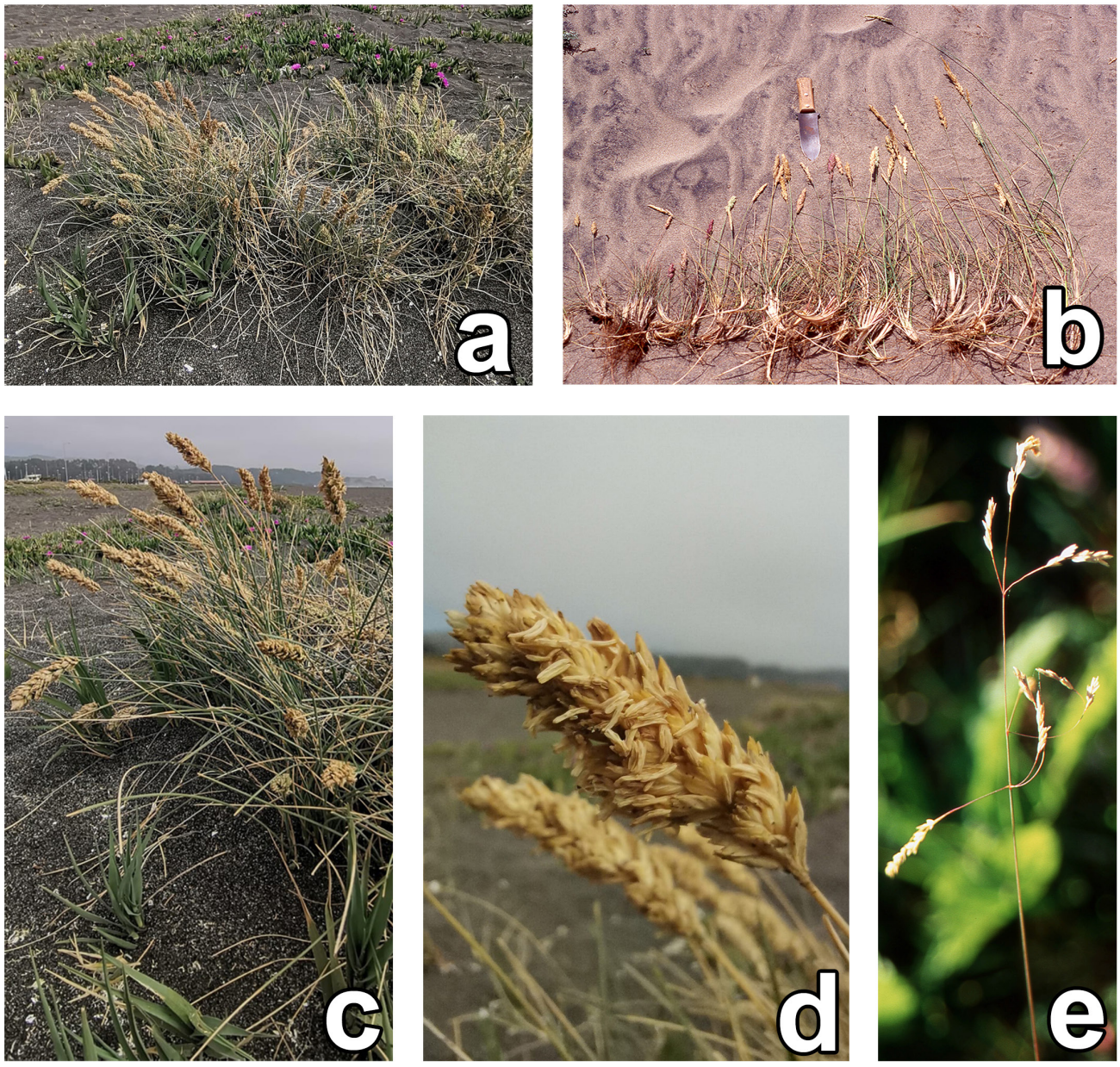

Figure 8. a-c. *Poa cumingii*. a. Valparaíso Region, Prov. San Antonio, Las Cruces, Punta del Lacho. b. Coquimbo Region, Pichidangui. c-d. Ñuble Region, Prov. Itata, Cobquecura. e. *Poa yaganica*. Magallanes Region, Última Esperanza, National Park Torres del Paine. Photos: a. by Patricio Novoa; b, e. by Robert J. Soreng. c-d. by Nicolás Villalobos. / a-c. *Poa cumingii*. a. Región de Valparaíso, Prov. San Antonio, Las Cruces, Punta del Lacho. b. Región de Coquimbo, Pichidangui. c-d. Región de Ñuble, Prov. Itata, Cobquecura. e. *Poa yaganica*. Región de Magallanes, Última Esperanza, P. N. Torres del Paine. Fotos: a. de Patricio Novoa; b, e. de Robert J. Soreng. c-d. de Nicolás Villalobos.

Doubtful and excluded taxa

Poa acrochaeta Hack., Repert. Spec. Nov. Regni Veg. 10(243-247): 172. 1911 = **Nicoraepoa andina** (Trin.) Soreng & L. J. Gillespie

Poa androgyna Hack., Repert. Spec. Nov. Regni Veg. 6: 159. 1908. Originally described for Bolivia, it was recorded for the first time for Chile by Soreng *et al*. (2003), with acceptance level 2 and later cited by Zuloaga *et al*. (2008, 2019), Rodríguez *et al*. (2018) and Finot *et al*. (2022). It has been cited for Bolivia, Chile, Ecuador and Peru (Renvoize 1998, Zuloaga *et al*. 2008, Rodríguez *et al*. 2018), but was later excluded from Peru by Sylvester *et al*. (2016). As Sylvester *et al*. (2016) pointed out, the name *P. androgyna* is taxonomically difficult to apply and there is no certainty about its identity.

It is related to *P. horridula*, although this latter species is highly variable and there is no certainty about its morphological limits; in a broad sense, *P. horridula* includes *P. androgyna*, but there are no studies that demonstrate the presence or absence of discontinuity between them. Morphometric studies and ideally also molecular studies are required to characterize the complex. The Chilean materials originally attributed to *P. androgyna* were redetermined as *P. grisebachii*.

Poa argentina Speg., Revista Fac. Agron. Vet. La Plata 3(30-31): 584. 1897 = **Festuca argentina** (Speg.) Parodi

Poa aristata Phil., Anales Univ. Chile 43: 574, 1873 = **Nicoraepoa andina** (Trin.) Soreng & L. J. Gillespie

Poa berningeri Pilg., Notizbl. Bot. Gart. Berlin-Dahlem 10(97): 761. 1929 = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa borchersii Phil., Anales Univ. Chile 94: 172. 1896 = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa brevis Hitchc. There is a sheet from Marticorena *et al*. *83486* collected in Huasco, Quebrada Cantarito that was determined as *Poa brevis* and cited by Arroyo *et al*. (1984) as *Poa brevis* aff. for high Andean valleys, in water courses, between 3200 and 3800 m, in the Atacama Region. However, we have not been able to confirm the identity of this material.

Poa chilensis Moris, Ann. Storia Nat. 4: 60. 1830 = **Eragrostis pilosa** (L.) P. Beauv.

Poa chonotica Phil., Linnaea 29(1): 97. 1858 = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa chubutensis Speg., Anales Mus. Nac. Hist. Nat. Buenos Aires 7: 196. 1902 = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa conceptionis Steud., Syn. Pl. Glumac. 1: 259. 1854 = **Eragrostis polytricha** Nees

Poa danthonioides Steud., Syn. Pl. Glumac. 1: 258. 1854. Cited for Chile by Marticorena & Quezada (1085). Soreng *et al*. (2003) and tropicos.org cite it as doubtful (level of acceptance 3).

Poa douglasii Ness, Ann. Nat. Hist. 1: 284. 1838. This species, endemic to the United States of America, was cited for Chile by San Martín *et al*. (1992), as part of the secondary dune flora in central Chile, probably confused with *P. cumingii* Trin.

Poa eremophila Phil., Fl. Atacam. 56. 1860 = **Puccinellia frigida** (Phil.) I. M. Johnst. The original material was distributed under *Poa deserticola* Phil. (name mentioned in Viaje al desierto de Atacama hecho de orden del gobierno de Chile en el verano de 1853-54: 59).

Poa eriophora Steud., Syn. Pl. Glumac. 1: 258. 1854. Apparently it could be a synonym for *Poa bonariensis* or *P. lanuginosa*. Soreng *et al*. (2003) and CNWG (tropicos.org) cite it with a level of acceptance 3.

Poa philippii Steud., Syn. Pl. Glumac. 1: 426. 1854 = **Rhombolytrum koelerioides** (Trin.) L.N. Silva.

Poa pumila Phil., Verz. Antofagasta Pfl. 87. 1891 = **Puccinellia frigida** (Phil.) I. M. Johnst.

Poa taltalensis Pilg., Notizbl. Bot. Gart. Berlin-Dahlem 10(97): 762. 1929 = **Puccinellia frigida** (Phil.) I. M. Johnst.

Poa tricolor Nees ex Steud., Syn. Pl. Glumac. 1: 259. 1854. TYPE: Chile [Valparaíso], *Cuming [468]*, 1831 (holotype: B; isotypes: BAA col. typus 2712 fragm.! image, E bc -373929! image, E bc- 373930! image, K bc-1097551! p.p. (with *P. pardoana* and *P. fibrifera*), US-88718! Bc-386433 fragm., image). According to the original description, it is characterized by the culm glabrous below the panicle, leaves flat, acuminate, rigid, scabrous; ligule oval, obtuse; panicle linear-lanceolate, elongated, interrupted at the base; spikelets with 4-6 tricolor flowers; lemmas with subglabrous base, ciliate on the keel. Accepted by Marticorena & Quezada (1985). Soreng *et al*. (2003) consider it a doubtful species (acceptance level 3), but later, Zuloaga *et al*. (2008) accept this species as endemic to Chile. Rodríguez *et al*. (2018) do not cite this species for Chile. *Poa tricolor* could be synonym of *P. lanuginosa*.

Poa violascens Phil., Linnaea 20: 100. 1858. TYPE: Chile, [Region of Biobío], prope Arauco, *C. Gay 164* (holotype SGO-PHIL-143!; isotype SGO-45741!). The type of *P. violascens* Phil. corresponds to *P. alpina* L., however, this species has never been collected in Chile again. It is possible that this species may have been introduced and never naturalized in Chile, however, this seem improbable because it is an apomictic species that could easily been naturalized. It is more likely that the specimen was not actually collected in Chile but was mixed with collections from Europe and labeled as from Chile (Soreng pers. comm.).

Poa polytricha (Nees) Kunth, Enum. Pl. 1: 331. 1833 = **Eragrostis polytricha** Nees.

Poa pycnantha Phil., Anales Univ. Chile 94: 165. 1896 = **Eragrostis pycnantha** (Phil.) Parodi ex Nicora.

Poa tenuifolia A. Rich., Tent. Fl. Abyss. 2: 425. 1850 = **Eragrostis tenuifolia** (A. Rich.) Hochst. ex Steud., Syn. Pl. Glumac. 1: 268. 1854.

Tovarochloa T. D. Macfarl. & P. But = **Poa** L.

Trisetum rigidulum (Steud.) Domin, Biblioth. Bot. 65: 296. 1907.= **Poa denudata** Steud.

Tzvelevia E. B. Alexeev, Byull. Moskovsk. Obshch. Isp. Prir. Otd. Biol. 90(5): 103. 1985. = **Poa** L.

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Appendix 1. List of names and synonyms of all taxa mentioned in this work. Accepted names are indicated in **bold** and synonyms in *italics*. / Lista de los nombres y sinónimos de todos los taxones mencionados en este trabajo. Los nombres aceptados se indican en **negritas** y los sinónimos en *cursivas*.

Aira spiciformis Steud. = **Poa spiciformis**

Aira superbiens Steud. = **Poa alopecurus** subsp. **fuegiana**

Anthochloa lepida Nees & Meyen = **Poa lepidula**

Anthochloa Nees & Meyen = **Poa**

Anthochloa rupestris J. Rémy = **Poa lepidula**

Aphanelytrum (Hack.) Hack. = **Poa**

Arundo alopecurus Gaudich. ex Mirb. = **Poa alopecurus**

Arundo antarctica Gaudich. ex Mirb. = **Poa alopecurus** subsp. **alopecurus**

Austrofestuca (Tzvelev) E. B. Alexeev = **Poa**

Brachyelytrum subg. *Aphanelytrum* Hack. = **Poa**

Calamagrostis macloviana Steud. = **Poa alopecurus** subsp. **alopecurus**

Catabrosa burkartii Hitchc. = **Poa perligulata**

Catabrosa thomsonii Hook. f. = **Poa infirma**

Colpodium planifolium (Kuntze) K. Schum. = **Poa planifolia**

Colpodium thomsonii (Hook. f.) Hack. = **Poa infirma**

Dactylis caespitosa G. Forst. = **Poa flabellata**

Dasypoa Pilg. = **Poa**

Dasypoa tenuis Pilg. = **Poa scaberula**

Deyeuxia vivipara Phil. = **Poa alopecurus** subsp. **fuegiana**

Deyeuxia vulcanica Phil. = **Poa tristigmatica**

Dissanthelium Trin. = **Poa**

Dissanthelium atropidiforme (Hack.) Soreng = **Poa atropidiformis**

Dissanthelium atropidiforme (Hack.) Soreng var. *patagonicum* (Parodi) Soreng = **Poa atropidiformis** var. **patagonica**

Dissanthelium macusaniense (E. H. L. Krause) R. C. Foster & L. B. Sm. = **Poa macusaniensis**

Dissanthelium minimum Pilg. = **Poa macusaniensis**

Dissanthelium patagonicum Parodi = **Poa atropidiformis** var. **patagonica**

Dissanthelium peruvianum (Nees & Meyen) Pilg. = **Poa serpaiana**

Distichlis ammobia Phil. = **Poa cumingii**

Distichlis volckmannii Phil. = **Poa cumingii**

Eragrostis infirma (Kunth) Steud. = **Poa infirma**

Eremopoa Roshev. = **Poa**

Festuca angustata Griseb. = **Poa scaberula**

Festuca elliotii Hack. = **Poa holciformis**

Festuca flabellata Lam. = **Poa flabellata**

Festuca fuegiana Hook. f. = **Poa alopecurus** subsp. **fuegiana**

Festuca lanata Spreng. = **Poa lanuginosa** var. **lanuginosa**

Festuca patagonica Phil. = **Poa secunda** subsp. **secunda** var. **secunda**

Festuca pogonantha Franch. = **Poa alopecurus** subsp. **fuegiana**

Festuca shuka Speg. = **Poa alopecurus** subsp. **shuka**

Festuca spaniantha Phil. = **Poa secunda** subsp. **secunda** var. **secunda**

Festuca subg. *Austrofestuca* Tzvelev = **Poa** subsect. **Austrofestuca**

Festuca urvilleana Steud. = **Poa flabellata**

Graminastrum E. H. L. Krause = **Poa**

Graminastrum macusaniense E. H. L. Krause = **Poa macusaniensis**

Koeleria pooides Nees ex Steud. = **Poa holciformis**

Koeleria rigidula Steud. = **Poa denudata**

Koeleria sterilis Steud. = **Poa spiciformis** var. **spiciformis**

Megastachya infirma (Kunth) Roem. & Schult. = **Poa infirma**

Neuropoa Clayton = **Poa**

Ochlopoa (Asch. & Graebn.) H. Scholz = **Poa**

Ochlopoa annua (L.) H. Scholz = **Poa annua**

Ochlopoa infirma (Kunth) H. Scholz = **Poa infirma**

Oreopoa Gand. = **Poa**

Paneion bulbosum (L.) Lunell var. *viviparum* (Koeler) Lunell = **Poa bulbosa** L. var. **vivipara**

Paneion Lunell = **Poa**

Paneion compressum (L.) Lunell = **Poa compressa**

Panicularia Heist. & Fabr. = **Poa**

Parodiochloa C. E. Hubb. = **Poa** sect. **Parodiochloa**

Parodiochloa flabellata (Lam.) C. E. Hubb. = **Poa flabellata**

Phalaridium Nees & Meyen = **Poa**

Phalaridium peruvianum Nees & Meyen = **Poa serpaiana**

Poa

Poa acinaciphylla E. Desv.

Poa acrochaeta Hack. = **Nicoraepoa andina**

Poa acutifolia Hauman = **Poa planifolia**

Poa acutissima Pilg. = **Nicoraepoa pugionifolia**

Poa aestivalis J. Presl = **Poa annua**

Poa algida Trin. = **Poa annua**

Poa alopecurus (Gaudich. ex Mirb.) Kunth

Poa alopecurus (Gaudich. ex Mirb.) subsp. *prichardii* (Rendle) Giussani & Soreng = **Poa lanuginosa** var. **patagonica**

Poa alopecurus subsp. **alopecurus**

Poa alopecurus subsp. **fuegiana** (Hook. f.) D.M. Moore & Dogg.

Poa alopecurus subsp. **shuka (**Speg.) Parodi

Poa alpigena Lindm. = **Poa pratensis** subsp. **alpigena**

Poa altoperuana R. Lara & Fern. Casas = **Poa kurtzii**

Poa ampla Merr. = **Poa secunda** J. Presl subsp. **juncifolia**

Poa androgyna Hack. (a doutbful or dubious name)

Poa anfamensis Negritto & Anton = **Poa scaberula**

Poa annua L.

Poa annua L. subsp. *exilis* (Tomm. ex Freyn) Asch. & Graebn. = **Poa infirma**

Poa annua L. var. *eriolepis* E. Desv. = **Poa annua**

Poa annua L. var. *exilis* Tomm. ex Freyn = **Poa infirma**

Poa annua var. *tomassinii* Asch. & Graebn. = **Poa infirma**

Poa antarctica (d'Urv.) Raspail = **Poa alopecurus** subsp. **alopecurus**

Poa araucana Phil. = **Poa denudata**

Poa argentina Speg. = **Festuca argentina** (Speg.) Parodi

Poa ariguensis Steud. = **Poa trivialis** L. subsp. **trivialis**

Poa aristata Phil. = **Nicoraepoa andina**

Poa asperiflora Hack. = **Poa kurtzii**

Poa atacamensis Parodi = **Poa laetevirens**

Poa atropidiformis Hack.

Poa atropidiformis Hack. var. **atropidiformis**

Poa atropidiformis var. **patagonica** (Parodi) Nicora

Poa ayseniensis Hack. = **Poa glauca** Vahl subsp. **glauca**

Poa bergii Hieron. var. *chubutensis* Speg. = **Poa lanuginosa** var. **lanuginosa**

Poa berningeri Pilg. = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa boecheri Parodi = **Poa lanuginosa** var. **patagonica**

Poa boelckei Nicora = **Poa tristigmatica**

Poa boliviensis Hack. = **Poa pratensis** subsp. **pratensis**

Poa borchersii Phil. = **Nicoraepoa andina** subsp. **chonotica**

Poa breviculmis Pilg. = **Poa yaganica**

Poa buckleyana Nash var. *sandbergii* (Vasey) M. E. Jones = **Poa secunda** subsp. **secunda** var. **secunda**

Poa bulbosa L. fo. *vivipara* (Koeler) Maire = **Poa bulbosa** L. var. **vivipara**

Poa bulbosa L. subsp. *vivipara* (Koeler) Arcang. = **Poa bulbosa** L. var. **vivipara**

Poa bulbosa L. var. **vivipara** Koeler

Poa caespitosa (G. Forst.) Hook. ex Speg. = **Poa flabellata**

Poa chilensis Moris = **Eragrostis pilosa** (L.) P. Beauv.

Poa chilensis Trin. = **Poa holciformis**

Poa chilensis Trin. var. *oligoclada* Phil. = **Poa holciformis**

Poa chilensis Trin. var. *planifolia* (Kuntze) Hauman = **Poa planifolia**

Poa chilensis Trin. var. *robustior* Phil. = **Poa holciformis**

Poa chiloensis Phil. = **Poa denudata**

Poa chonotica Phil. = **Nicoraepoa andina** subsp. **chonotica**

Poa chorizantha E. Desv. = **Poa stenantha** Trin. var. **stenantha**

Poa chrysantha Lindm. = **Poa yaganica**

Poa chubutensis Speg. = **Nicoraepoa andina** subsp. **chonotica** (Phil.) Finot, Soreng & Giussani

Poa commersonii Franch. = **Poa alopecurus** subsp. **fuegiana**

Poa compressa L.

Poa conceptionis Steud. = **Eragrostis polytricha** Nees

Poa conformis Nees ex Steud. = **Poa cumingii**

Poa conglomerata Rupr. ex Peyr. = **Poa scaberula**

Poa controversa Steud. = **Poa flabellata**

Poa controversa Steud. var. *minor* Steud. = **Poa flabellata**

Poa crocata Michx. = **Poa palustris**

Poa cumingii Trin.

Poa curva Nees ex Steud. = **Poa cumingii**

Poa dactyliformis Steud. = **Poa scaberula**

Poa decolorata Pilg. = **Poa ligularis** var. **resinulosa**

Poa darwiniana Parodi

Poa denudata Steud.

Poa deserticola Phil. = **Puccinellia frigida**(Phil.) I. M. Johnst.

Poa dialystostachya Phil. = **Poa paposana**

Poa dusenii Hack. = **Poa spiciformis** var. **ibari**

Poa eligulata Hack. = **Poa denudata**

Poa eremophila Phil. = **Puccinellia frigida** (Phil.) I. M. Johnst.

Poa eyerdamii Hultén = **Poa palustris**

Poa flabellata (Lam.) Raspail

Poa flabellata (Lam.) Raspail var. *alopecurus* (Gaudich. ex Mirb.) Raspail = **Poa alopecurus**

Poa flabellata (Lam.) Raspail var. *antarctica* (d'Urv.) Raspail = **Poa alopecurus** subsp. **alopecurus**

Poa fonckii Phil. = **Poa denudata**

Poa forsteri Steud. = **Poa flabellata**

Poa fuegiana (Hook. f.) Hack. = **Poa alopecurus** subsp. **fuegiana**

Poa fuegiana (Hook. f.) Hack. var. *involucrata* Hack. = **Poa alopecurus** subsp. **fuegiana**

Poa fulvescens Trin. = **Poa secunda** subsp. **secunda** var. **secunda**

Poa gayana E. Desv. = **Poa denudata**

Poa glauca Vahl subsp. **glauca**

Poa glauca var. *crocata* (Michx.) M. E. Jones = **Poa palustris**

Poa gracillima sensu auct., non Vasey = **Poa secunda** subsp. **secunda** var. **secunda**

Poa grisebachii R. E. Fr.

Poa gymnantha Pilg.

Poa hachadoensis Nicora

Poa hachadoensis Nicora var. *pilosa* Nicora = **Poa marticorenae**

Poa holciformis Griseb. = **Poa grisebachii**

Poa holciformis J. Presl

Poa humillima Pilg.

Poa humillima Pilg. var. *exserta* Hack. ex Buchtien = **Poa humillima**

Poa ibari Phil. = **Poa spiciformis** var. **ibari**

Poa infirma Kunth

Poa janczewskii Zapal. = **Poa palustris**

Poa julietii Phil. = **Poa tristigmatica**

Poa juncifolia Scribn. = **Poa secunda** J. Presl subsp. **juncifolia**

Poa kurtzii R.E. Fr.

Poa laetevirens R. E. Fr.

Poa lanuginosa Poir.

Poa lanuginosa var. **lanuginosa**

Poa lanuginosa var. **patagonica** (Phil.) Giussani & Soreng

Poa lepida Nees = **Poa lanuginosa** var. **lanuginosa**

Poa lepidula (Nees & Meyen) Soreng L. J. Gillespie

Poa ligularis Nees ex Steud.

Poa lilloi Hack.

Poa limicola Pilg. = **Poa yaganica**

Poa macusaniensis (E. H. L. Krause) Refulio

Poa magellanica Phil. ex Speg. = **Poa alopecurus** subsp. **alopecurus**

Poa marticorenae Soreng, Giussani & Finot

Poa maullinica Phil. = **Poa trivialis** L. subsp. **trivialis**

Poa mendocina Nicora & F. A. Roig

Poa modesta Phil. = **Poa trivialis** L. subsp. **trivialis**.

Poa munozensis Hack. = **Poa kurtzii**

Poa nahuelhuapiensis Nicora = **Poa denudata**

Poa nemoralis L.

Poa obvallata Steud. = **Poa tristigmatica**

Poa oligeria Steud. = **Poa pratensis** subsp. **alpigena**

Poa ovata Tovar = **Poa gymnantha**

Poa pachypogon Nees ex Steud. = **Poa tristigmatica**

Poa palustris L.

Poa palustris var. *strictula* (Steud.) Hack. = **Poa palustris**

Poa paposana Phil.

Poa pearsonii Reeder

Poa perligulata Pilg.

Poa pfisteri Soreng

Poa pflanzii Pilg. = **Poa kurtzii**

Poa phalaroides Nees ex Steud. = **Poa cumingii**

Poa philippii Steud. = **Rhombolytrum koelerioides** (Trin.) L.N. Silva

Poa planifolia Kuntze

Poa poecila Phil. = **Poa spiciformis** var. **spiciformis**

Poa pogonantha (Franch.) Parodi = **Poa alopecurus** subsp. **fuegiana**

Poa polytricha (Nees) Kunth, Enum. Pl. 1: 331. 1833 = **Eragrostis polytricha** Nees

Poa pratensis L.

Poa pratensis L. var. *iantha* Laest. = **Poa pratensis** subsp. **alpigena**

Poa pratensis subsp. **alpigena** (Lindm.) Hiitonen

Poa pratensis subsp. **pratensis**

Poa pratensis var. *alpigena* Fr. = **Poa pratensis** L. subsp. **alpigena**

Poa pratensis var. *alpigena* Fr. ex Blytt. = **Poa pratensis** L. subsp. **alpigena**

Poa prichardii Rendle = **Poa lanuginosa** var. **patagonica**

Poa pseudoaequigluma Tovar = **Poa gymnantha**

Poa pumila Phil. = **Puccinellia frigida** (Phil.) I. M. Johnst.

Poa pycnantha Phil. = **Eragrostis pycnantha** (Phil.) Parodi ex Nicora

Poa rigidifolia Steud. = **Poa alopecurus** subsp. **alopecurus**

Poa rigidifolia Steud. var. *ibari* (Phil.) Giussani = **Poa spiciformis** var. **ibari**

Poa rotundata Trin. = **Poa palustris**

Poa sandbergii Vasey = **Poa secunda** subsp. **secunda** var. **secunda**

Poa scaberula Hook. f.

Poa scaberula Hook.f. var. *nudiflora* Hauman = **Poa scaberula** subsp. **parviceps**

Poa sect. **Anthochloa** (Nees & Meyen) Soreng & L. J. Gillespie

Poa sect. *Ochlopoa* Asch. & Graebn. = **Poa** sect. **Micrantherae**

Poa secunda J. Presl

Poa secunda J. Presl subsp. **juncifolia** (Scribn.) Soreng

Poa secunda subsp. **secunda** var. **secunda**

Poa serpaiana Refulio

Poa shuka (Speg.) Parodi = **Poa alopecurus** subsp. **shuka**

Poa spiciformis (Steudel) Hauman & Parodi

Poa spiciformis var. **ibari** (Phil.) Giussani

Poa spiciformis var. **spiciformis**

Poa stachyodes Phil. = **Poa cumingii**

Poa stenantha Trin. var. **stenantha**

Poa strictula Steud. = **Poa palustris**

Poa subaristata Phil. = **Poa tristigmatica**

Poa superata Hack. = **Poa grisebachii**

Poa superbiens (Steud.) Hauman & Parodi = **Poa alopecurus** subsp. **fuegiana**

Poa taltalensis Pilg. = **Puccinellia frigida**

Poa tenuifolia A. Rich. = **Eragrostis tenuifolia** (A. Rich.) Hochst. ex Steud.

Poa trachyantha Hack. = **Poa yaganica**

Poa trachyphylla Hack. = **Poa trivialis** L. subsp. **trivialis**.

Poa tristigmatica E. Desv.

Poa trivialis L. subsp. **trivialis**

Poa vaginiflora Steud. = **Poa denudata**

Poa vaginifolia Steud. ex Lechler = **Poa denudata**

Poa vaginiformis Steud. ex F. Phil. = **Poa denudata**

Poa villaroelii Phil. = **Poa acinaciphylla**

Poa yaganica Speg.

Poagris Raf. = **Poa**

Puccinellia atacamensis (Parodi) Soreng = **Poa laetevirens**

Sesleria americana Nees ex Steud. = **Poa flabellata**

Sieglingia antarctica (Hook.f.) Kuntze = **Poa darwiniana**

Stenochloa Nutt. = **Poa**

Vilfa macusaniensis Steud. ex Lechl. = **Poa macusaniensis**

Appendix 2. Alphabetical list of the accepted species, subspecies and varieties. The numbers in parentheses correspond to the numbers of the species in the taxonomic treatment. / Lista alfabética de especies, subespecies y variedades aceptadas. Los números entre paréntesis corresponden a los números de las especies en el tratamiento taxonómico.

1. *Poa acinaciphylla* (16)
2. *P. alopecurus* (21)
3. *P. alopecurus* subsp. *alopecurus* (21a)
4. *P. alopecurus* subsp. *fuegiana* (21b)
5. *P. alopecurus* subsp. *shuka* (21c)
6. *P. annua* (1)
7. *P. atropidiformis* (11)
8. *P. atropidiformis* var. *atropidiformis* (11a)
9. *P. atropidiformis* var. *patagonica* (11b)
10. *P. bulbosa* var. *vivipara* (3)
11. *P. compressa* (39)
12. *P. cumingii* (25)
13. *P. darwiniana* (18)
14. *P. denudata* (27)
15. *P. flabellata* (4)
16. *P. glauca* (36)
17. *P. grisebachii* (12)
18. *P. gymnantha* (5)
19. *P. hachadoensis* (31)
20. *P. holciformis* (23)
21. *P. humillima* (6)
22. *P. infirma* (2)
23. *P. kurtzii* (13)
24. *P. laetevirens* (19)
25. *P. lanuginosa* (26)
26. *P. lanuginosa* var. *lanuginosa* (26a)
27. *P. lanuginosa* var. *neuquina* (21b)
28. *P. lanuginosa* var. *patagonica* (21c)
29. *P. lepidula* (8)
30. *P. ligularis* (28)
31. *P. ligularis* var. *ligularis* (28a)
32. *P. ligularis* var. *resinulosa* (28b)
33. *P. lilloi* (14)
34. *P. macusaniensis* (9)
35. *P. marticorenae* (32)
36. *P. mendocina* (33)
37. *P. nemoralis* (37)
38. *P. palustris* (38)
39. *P. paposana* (24)
40. *P. pearsonii* (15)
41. *P. perligulata* (7)
42. *P. pfisteri* (30)
43. *P. planifolia* (17)
44. *P. pratensis* (34)
45. *P. pratensis* subsp. *alpigena* (34a)
46. *P. pratensis* subsp. *pratensis* (34b)
47. *P. scaberula* (20)
48. *P. scaberula* subsp. *parviceps* (20a)
49. *P. scaberula* subsp. *scaberula* (20b)
50. *P. secunda* (41)
51. *P. secunda* subsp. *juncifolia* (41a)
52. *P. secunda* subsp. *secunda* (41b)
53. *P. serpaiana* (10)
54. *P. spiciformis* (29)
55. *P. spiciformis* var. *ibari* (29a)
56. *P. spiciformis* var. *spiciformis* (29b)
57. *P. stenantha* (42)
58. *P. tristigmatica* (22)
59. *P. trivialis* (40)
60. *P. yaganica* (35)

Appendix 3. Index of specimens examined. The number in parentheses corresponds to the species in the taxonomic treatment, as recorded in the alphabetical list (see Appendix 2). / Índice de especímenes examinados. El número entre paréntesis corresponde a la especie en el tratamiento taxonómico, según se enumera en la lista alfabética (ver Apéndice 2).

Aedo 7091 (23), 15452 (17); Anónimo s.n. 18-XI-1967, (40); Arancio 459-A (13), 589 (19); Arroyo 84-893 (8), 84-929 (9), 84-1100 (34a), 85-175 (11b), 85-498 (8); 85-654 (34a); 9139 (22), 9167 (41b); Arroyo & Humaña 99-1224 (38); Arroyo & Squeo 850889-A (21b), 860027-A (41b); Arroyo *et al*. 993 (21b); 1202 (21b); 6023 (27), 6302 (27), 6297 (27), 6171 (27), 6326 (27), 6395 (27); 85175[a] (29a); 91148 (23), 92-117 (21a), 995084 (1). 841155 (34b); 851153 (34b); Aste s.n. (25);

Balaza 72 (25); Barros s.n. 13-IX-1927, (24), 62 (27), 67 (27), 1588 (40), 1590 (40), 1599 (27), 1659 (24), 1807 (40), 1898 (27), 4081 (16), 4320 (25), 5009 (29b). 5638 (20b), 5639 (20b), 5640 (20b), 5642 (20b), 5643 (20b), 5644 (20b); 5936 (37), 5938 (37), 5942 (37); Behn s.n. 15-XI-1946 (27); Bohlen von & Cavieres 92-315 (21a); Bohlen von 37 (25); Borchers s.n. sin fecha (42); Buchtien s.n. (20b);

Cañulaf s.n. 29-XII-1946 (27); Cárdenas 34 (40); Carrasco 201 (34b); 208 (27); Castillo s.n. XI-1960 (1), 20186 (16); Cekalovic 87-B (11a), s.n. 12-I-1968 (40); Claude-Joseph 1312 (16);

Díaz 1545 (1); Dollenz 1383 (35); 1422 (35), 1433 (35); Domínguez 119 (37), 279 (29a), 333 (40), 398 (29a), 935 (21b), 968 (21b);

Elvebakk 326 (3), 635 (3);

Faúndez et al. 41 (25), 484 (40), 776 (40); Fernández-Alonso et al. 2741 (40); Finot 2149 (1), 2431 (40), 2466 (1); 2979 (25); Finot *et al*. 676 (1);

Garaventa 424 (24); 2216 (24); 2422 (24), 2452 (24); 5614-A (41b); García 6 (37), 57 (21b), 60 (42), 69 (37), 646 (28b), 650 (28b); 3759 (16), 3777 (37), 3929 (22), 3975 (27), 4074 (40); García & Faúndez 3593 (16); García & Valdivia 3127 (23); García et al. 2285 (40), 2620 (40), 3246 (34b), 3368 (23); Gardner & Knees 3904 (22); Gastó s.n. año 1971 (34b); Gaudichaud 48 (2); Giussani s.n. X-2001 (25); Gleisner 159 p.p. (34b); Gómez s.n. 8-II-2012 (21b); Gunckel 696 (27), 1644 (27), 1840 (27), 2430 (27), 2464 (27), 3646 (27), 7186 (27), 7198 (27), 7202 (27), 7350 (27), 7353 (27), 12919 (27), 12922 (40), 14909 (27), 15106 (27), 16026 (27); 16561 (1), 18529 (25), 18815 (25), 18964 (25), 20386 (25), 20398 (25), 20401 (25), 23856 (25), 24390 (25), 27369 (25), 28054 (40), 30441 (25), 35598 (25), 36753 (34b), 38202 (40), 40604 (27), 40897 (27); 41512 (40), 46991 (25);

Hernández s.n. (21b); Hollermayer 24 (27), 208 (25), 1251 (34b), 1259 (27), 7723 (27); Hutchinson 46 (27);

Jaffuel s.n. X-1910 (25); Jiles s.n. I-1942 (22), 935 (24); 1416 (24); 1741 (24); 1823 (24); 2443 (23); 2807 (25), 4294 (24); Johnston 6024 (20a); Junge s.n. XI-1934 (25), s.n. 23-XII-1934 (40), s.n. 31-X-1935 (34b), 177 (25);

Kalin & Humaña 1224 (40), 980615 (29b); Kalin *et al*. 2651 (6), 994684 (28b); 995025 (28b); Kohler & Weisser 236 (25); Kohler 211 (25), 570 (25), 605 (25); Kunkel 297 (27); 303 (40);

Lammers et al. 7746 (25); Landero 714 (29a); Lépez & Márquez 77 (34b); Levi 2249 (41b), s.n. XII-1955 (25), s.n. X-1956 (25); Looser 1490 (25); López 152 (1);

Macaya et al. SGA-16-017 (41a); Magens 139 (39), 217 (38), 3039 (36), 3193 (29a), 3597 (36); Maldonado s.n. 20-XI-2003 (28a); Marticorena & Jiménez 496 (37); Marticorena & Matthei 591 (41b); s.n. 24-X-1961 (34b); Marticorena *et al*. 132 (14), 160 (25), 165 (25), 205 (8), 229 (8); 251 (8); 379 (5); 418 (24); 534 (24); Marticorena s.n. I-2009 (41a); Matthei & Quezada 871 (1), 1078 (1); Matthei & Rodríguez 565 (40); Mieres 3305 (16); 3306 (16); Molina & Muñoz s.n. II-2009 (1); Möller 27 (25), s.n. XII-1963 (40); Montero 1131 (25), 1251 (41b), 1346 (27), 1452 (24), 2105 (25), 2288 (1), 3019 (34b), 3688 (42), 3689 (42), 3710 (34b), 3713 (27), 3715 (27), 3833 (27), 3918 (40), 3995 (27), 4072 (25), 4248 (27), 4526 (34b), 4716 (27), 5225 (34b), 6113 (26b), 6125 (27), 6229 (34b), 7094 (27), 9982 (27), 10963 (25), 11826 (27), 11934 (27); Mooney & Mooney 531 (17); Moreau s.n. 6-XII-1966 (34b); Muñoz & Coronel 1362 (1); Muñoz & Sierra 7119 (34b). 7151 (34b); Muñoz 241 (26a); Muñoz M. & C. 523 (34b), 550 (34b), 554 (34b); Neger s.n. I-1896 (27);

Palma & Inostroza 6 (25); Pennell 12312 (32), 12314 (32); Peterson & Soreng 15604 (8), 15615 (12), 15641 (19), 15654 (13), 15655 (19), 15656 (5), 15659 (7), 15675 (5), 15676 (13), 15707 (12), 15712[a] (12), 15716 (12), 15717 (13), 15718 (8), 15725 (9), 15729 (7), 15730 (5), 15734 (8), 15744 (10), 15750 (13), 15751a, b (13), 15751c (12), 15753 (10), 15757 (19), 15758 (5), 15759 (8); 15768 (5); 15771 (9); 15772 (10); Peterson *et al*. 15524 (8); 15525 (6), 15575 (20a), 15576 (20a); Pfister & Ricardi s.n. 19-X-1950 (25); s.n. I-1952 (34b); s.n. 1-I-1952 (34b); s.n. 4-I-1952 (40), s.n. 10-I-1952 (34b); Pfister s.n. XI-1943 (30), s.n. 29-X-1944 (27), s.n. 29-XI-1944 (27), s.n. XII-1945 (27), s.n. 12-X-1946 (27), s.n. I-1947 (23),

27-XI-1947 (42), s.n. 10-I-1948 (27), s.n. 7-XI-1948 (27);331 (25); 360 (34b); s.n. 10-XII-1954 (34b); s.n. 8-XII-1945 (34b); s.n. año 1941 (40); Pflanzelt 170 (34b), 353 (21b); Philippi s.n. año 1862 (26a), s.n. año 1877 (23), s.n. año 1887(26a); Pisano 2380 (34b), 2403 (34b), 2523 (35), 2554 (41b), 2555 (34b), 2585 (34b), 2912 (34b), 3404 (4), 3492 (35), 3610 (40), 3619 (11a), 3672 (20b), 4084 (21c), 4335 (42), 5269 (4), 5594 (42), 5634 (18), 5683 (4), 6008 (21b); 6235 (21b); 6363 (29a); 6486 (21b); 6598 (21b); Pisano & Bravo 408 (24); Pisano & Henríquez 6816 (37), 6879 (35); Pisano & Venturelli 1878 (20a); Pisano *et al*. 7248 (34a), 7298 (34a), 7315 (35), 7372 (42), 7498 (29b), 7591 (1), 7615 (35), 7656 (40);

Quezada & Ruiz 419 (1); Quintana 31 (38);

Reiche s.n. año 1907 (26a); Ricardi 2131 (24), 5236 (25); Ricardi & Matthei 24 (34b), 99 (34b), 235 (11a), 259 (34b), 372 (20b), 389 (36), 485 (29a); Ricardi *et al*. 204a (5), 204b (8), 242 (8), 245 (8), 319 (8), 337 (13), 1875 (27), Riegel s.n. X-1954 (25); Rodríguez & Marticorena 3001 (34b); Rodríguez & Ruiz 4370 (28b), 4429 (34b), 4456 (28b), 4484 (29b); Rojas 25 (21b), 26 (21b); Rose 19112 (2); Ruiz s.n. XII-1953 (40);

Saldivia & Larraín 241 (25), 273 (27); Schlegel 1198 (41b), 2256 (21b); 2380 (20b), 5891 (17), 7193 (34b), 8193 (20b). Serey 1 (25); Silva 108 (21a); Solís 319 (21b); Soreng 7086 (25), 7140 (21a), 7143 (22), 7149 (22); Soreng *et al*. 7052 (24), 7054 (24), 7071 (24), 7075 (24); R. J. & N. L. Soreng 7007 (34b), 7021 (34b), 7022 (27), 7024 (40), 7028 (25); 7032 (34b), 7033 (25), 7055 (24), 7060a (23), 7060b (27), 7064 (27), 7081 (25); 7082 (26a), 7086 (25), 7087a (25), 7094 (25), 7095 (27), 7097 (22), 7098b (34b), 7100 (23), 7101 (25), 7102 (25); 7110 (27), 7115 (27), 7119 (34b), 7123 (34b), 7126 (22), 7128 (27), 7129 (27), 7139 (22), 7146 (27); 7147 (22), 7157a (23), 7160 (17), 7161b (27), 7163 (41b), 7164 (17), 7169 (16), 7170 (16), 7171 (16), 7172 (27), 7175 (34b), 7177 (31), 7181 (40), 7184 (31), 7185 (22), 7192 (31), 7195 (34b), 7197 (22), 7198 (22), 7199 (22), 7200 (34b), 7205b (27), 7217 (22), 7224 (27), 7229 (22), 7230 (22), 7240 (25), 7241 (1), 7244 (25), 7246 (25), 7262 (42), 7263 (36), 7274 (21a), 7280 (26c), 7283 (21a), 7286 (21b), 7287 (36), 7288 (42), 7293 (41b), 7296 (36), 7297 (1); 7304 (20b), 7312 (21a), 7317 (35), 7319 (21b), 7324a (21b), 7324b (21b), 7327 (35), 7328 (35), 7329 (21a), 7330 (26c), 7332 (36), 7337 (36), 7338 (34b), 7339 (42), 7348 (35), 7350 (20b), 7351 (35), 7363 (11a); 7364 (11a), 7366 (29b); Stuessy *et al*. 5488 (1).

T.B.P.A. 468 (34b), 547 (29a), 1575 (21b), 5038 (40); Teillier & Márquez 5245 (23), 5248 (34b); Teillier & Márquez 5283 (41b); Teillier & Romero 6552 (28a); 6554 (28a); Teillier 3260 (19), 5881 (25), 7735 (15); Teillier et al. 5820 (23), 7984 (25), 7380 (42); Teneb 11 (28b), 264 (37); 840 (29b); Tomé 233 (26b);

Véjar s.n. (21a); Villagrán et al. 8484 (33); Villalobos 4 (1);

Weinberger 1457 (27); 1477 (27); Werdermann 1165 (8); 1859 (22);

Zoellner s.n. XI-1963 (26a), 2615 (27).