
**REVISION OF SOLANUM SECTION ETUBEROSUM (SUBGENUS POTATOE)**

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**Abstract**

*Solanum* section *Etuberosum* contains morphologically very similar diploid (2n = 2X = 24), self-compatible, rhizomatous perennials, distributed in Masatierra Island (Juan Fernández Archipelago) and adjacent mainland Chile and Argentina, from 40 m to 2500 m. This study is based on comparative morphological studies of field collections from throughout the range of the section, study of later plantings of our collections in field plots, and other herbarium material including all types. We recognize *S. etuberosum*, *S. fernandezianum*, and *S. palustre*.

**Introduction**

*Solanum* L. sect. *Etuberosum* (Bukasov & Kameraz) A. Child contains diploid (2n = 2X = 24), self-compatible, rhizomatous perennials, distributed in Masatierra Island and adjacent mainland Chile and Argentina (Fig. 1). They grow from 40 m to 2500 m elevation, in moist deciduous forests to upland dry scrub forests along the margins of streams or near waterfalls. All three species are morphologically very similar and are sometimes difficult to distinguish, especially from herbarium material. Previous treatments (Correll 1962; Hawkes 1990; Montaldo & Sanz 1962; Fig. 2) have recognized five species.

The present study of *Solanum* sect. *Etuberosum* is based on considerably more data than was available to previous workers. We collected from throughout the range of the section (Contreras-M. 1987; Spooner et al. 1991; Spooner & Clausen 1993), and obtained herbarium specimens, including all types, from 18 herbaria. Our study is based on comparative morphological studies of these specimens, and 81 later plantings at Sturgeon Bay, Wisconsin, U.S.A. We recognize *S. etuberosum* Lindl., *S. fernandezianum* Phil., and *S. palustre* Poepp.

**Taxonomic History and Intrageneric Relationships**

The genus *Solanum* is the largest genus in the Solanaceae, with 1,000–1,100 species (D’Arcy 1991). D’Arcy (1972) divided *Solanum* into seven subgenera, including subgenus *Potatoe* (G. Don) D’Arcy, which contains the domesticated potato (*S. tuberosum* L.) and pepino (*S. muricatum* Aiton).

The taxonomic history of *Solanum* sect. *Etuberosum* begins with the publication of *S. etuberosum* by Lindley (1835), described from plants grown in Scotland from seed.
Fig. 1. Distribution of *Solanum fernandezianum*, *S. etuberosum*, and *S. palustre*.
Hypotheses of Species Boundaries in Solanum sect. Etuberosum

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Fig. 2. Flow chart of hypotheses of species and variety boundaries of the constituent taxa of Solanum sect. Etuberosum accepted by Correll (1962), Montaldo & Sanz (1962), Hawkes (1990), and this study. The following standardized abbreviations follow Hawkes (1990) and Huaman & Ross (1985): brd, Solanum brevidens; brd glb, S. brevidens var. glabrescens; etb, S. etuberosum; fnd, S. fernandezianum; los, S. looseri; pls, S. palustre; sbn, S. subandinum.

sent from Chile to the Horticultural Society of Scotland. All subsequent new species and varieties now placed in sect. Etuberosum were also described in the genus Solanum, and there has never been any controversy regarding generic placement.

The similarity of members of sect. Etuberosum to sect. Petota Dumort. (tubercoring potatoes and wild relatives) was evident from the description of S. etuberosum (Lindley 1835, t. 1712) “There can be no doubt that this is a species essentially distinct from the potatoe, and yet it is impossible to point out any character by which it is to be positively distinguished [from potatoes] except the want of tubers, and the smoothness of the calyx and flower stalks; these latter having a shining, nearly downless surface, instead of the rough dull appearance which we meet with those parts in the common potatoe.” Variability currently documented within sect. Petota (Hawkes 1990; this study) shows that the character states of the pedicels and calyx mentioned by Lindley (1835) are insufficient to distinguish sect. Etuberosum from sect. Petota. Some members of both sections are extremely similar morphologically, and the only morphological characters we know that distinguish these sections is the presence of thickened rhizomes and the basal to near-basal pedicel articulation in sect. Etuberosum, and presence of tubers and pedicels articulated noticeably above the base in sect. Petota (Spoonier et al. 1993).


Child (1990) removed ser. Etuberosa from sect. Petota and transferred it to sectional rank based on basal pedicel articulation and lack of tubers. Chloroplast DNA and morphological data of sect. Etuberosum, sect. Petota, ser. Juglandifolia, Lycopersicon Mill. (tomatoes), other near relatives in subgenus Potateae, and appropriate outgroups support sect. Etuberosum and sect. Petota as separate clades. Subsection Estolonifera is shown to be paraphyletic (Spooner et al. 1993), with sect. Etuberosum to be the sister taxon to potatoes and tomatoes, and ser. Juglandifolia to be part of the tomato clade. We follow Child’s treatment relative to sect. Etuberosum.

**Intra- and Intersectional Crossing Relationships**

Artificial hybrids between S. etuberosum, S. fernandezianum, and S. palustre have low fertility, and these species are hypothesized to differ from each other by chromosome structural rearrangements (Matsubayashi 1991; Ramanna & Hermsen 1979, 1981). All species in sect. Etuberosum exhibit crossing barriers to members of sect. Petota, but sterile intersectional hybrids can be made between them (Hermsen & Taylor 1979), and fertility can be restored by artificial allopolyploidization of the hybrids (Ramanna & Hermsen 1979; Hermsen et al. 1981). Despite these crossing barriers, sexual gene transfer between both S. etuberosum and S. palustre to cultivated tuber-bearing species has been accomplished with the aid of bridging species and somatic fusion hybrids, and valuable disease resistances can be transferred from sect. Etuberosum to the cultivated potatoes (see Spooner et al. 1991, for a review).

**Concepts of Species and Morphology**

The species concept adopted here is based on morphology. Despite the similarity of species, especially as herbarium specimens, and occasional overlap of diagnostic character states, the taxa are generally easily distinguished in living condition.

Prior taxonomic treatments (Correll 1962; Hawkes 1990; Montaldo & Sanz 1962) relied on pedicel articulation to distinguish S. fernandezianum (with basal pedicel articulation) from S. etuberosum and S. palustre (pedicels articulate 1-4 mm from the base). While all collections of S. fernandezianum we observed had basal pedicel articulation, so did some collections of S. etuberosum and S. palustre (pedicels articulate 1-4 mm from the base). Prior taxonomic treatments (Correll 1962; Hawkes 1990; Montaldo & Sanz 1962) relied on pedicel articulation to distinguish S. etuberosum from S. palustre (pedicels articulate 1-4 mm from the base). While all collections of S. fernandezianum we observed had basal pedicel articulation, so did some collections of S. etuberosum (e.g., Spooner & Contreras 4324, 4330, 4350, 4489A), and S. palustre (e.g., Spooner & Clausen 4521, 4537; Spooner & Contreras 4391, 4407, 4456, 4458, 4467). Montaldo & Sanz (1962) distinguished S. subandinum F. Meigen (with pedicel articulation 3-4 mm from the base) from S. etuberosum and S. palustre (pedicels articulate 1-2.2 mm from the base). We observed continuous variation of pedicel articulation from 0 mm–12 mm from the base for S. etuberosum and S. palustre.

Prior taxonomic treatments relied on pubescence to separate these species. Our study showed pubescence to be taxonomically useful only to distinguish Solanum fernandezianum (usually glabrous, sometimes sparsely puberulent) from S. etuberosum and S. palustre (usually moderately puberulent to densely pubescent, sometimes sparsely puberulent). Solanum etuberosum and S. palustre show much variability for length and density of non-glandular hairs, and both species have eglandular to densely glandular phenotypes, with two distinct glandular trichomes, Type A and Type B, morphologically identical to some members of S. sect. Petota (Gibson 1976; Spooner
and van den Berg 1992). Type A glandular trichomes are 120–210μ in length, with
tetralobulate heads 50–70μ in diameter, in which the glandular material is entirely
membrane-bound. Type B glandular trichomes are 600–950μ in length, with an ovoid
gland at the tip, 20–60μ in diameter, which continuously discharges a clear viscous
exudate not bound by a membrane.

Our examination of germplasm accessions of S. etuberosum and S. palustre showed
some populations of both species to have only Type A or Type B trichomes, or both.
Solanum etuberosum, Spooner & Contreras 4388, showed no Type A or Type B trichomes,
and Spooner & Contreras 4330 showed a dense indument of Type B trichomes; S.
palustre, Spooner & Clausen 4538, showed no Type A or Type B trichomes, and Spooner
& Clausen 4533 showed a dense indument of Type A trichomes. As with pedicel
articulation, we found continuous variation within S. etuberosum and S. palustre for hair
length, hair density, and glandularity. These pubescence characters are not useful,
therefore, to separate taxa we synonymize under S. etuberosum and S. palustre, as was
done by some other taxonomic treatments.

Correll (1962) and Hawkes (1990) distinguished S. subandinum by its small
stature (<2dm tall) and lack of interstitial leaflets. Our collection at the type locality
of S. subandinum (Spooner & Contreras 4335) showed plants over 0.5 m tall, and with
leaves in the upper internodes occasionally lacking interstitial leaflets (like the
type), but with lower leaves possessing them. Such variation is common throughout
the range of S. etuberosum, and S. subandinum was based on a dwarf plant and
inadequate population samples to document this variation. We therefore designate
it as a synonym of S. etuberosum.

Taxonomy

The distinguishing characters of sizes, colors and pubescence are much easier to
discern in living material, and dried specimens can be difficult to identify. Solanum
fernandezianum and S. palustre always have a conspicuous purple dot on fresh mature
seeds that is always absent on S. etuberosum; but this character is not evident from
dried seeds, and seeds are rarely present on herbarium material. Corolla colors
mentioned below are from the R.H.S. color charts (Royal Horticultural Society
1986). A hand lens or stereoscopic microscope is needed to distinguish the glabrous
to sometimes sparsely puberulent leaves of S. fernandezianum from the usually
more densely pubescent leaves of S. etuberosum and S. palustre. The
small anthers and included styles distinguish S. fernandezianum from S. etuberosum
and S. palustre, and the length of the calyx acumens usually distinguishes S.
etuberosum and S. palustre.

Taxonomic Treatment

1990.—TYPE: Solanum etuberosum Lindl.

Solanum sect. Etuberosa Bukasov & Kameraz, Osnovy Selektii Kartofelia [Bases of Potato
Breeding, in Russian], Gosudarstvennoe Izdatel'sto Sel'skokhozyaistvennoi
Literatury, Moscow. 18. 1959.

Stems erect to ascending, up to 1 m long (one anomalous plant with a trailing
stem to 4 m long collected), branched, terete to angular, up to 2 cm wide at base,
green to purple, glabrous to densely pubescent, glandular with Type A and Type B
glands (see above) or eglandular, with branched or unbranched rhizomes up to 1
cm in diameter and 10 cm long; leaves odd-pinnate, 4–7-jugate, up to 35 cm long
and 20 cm wide, with 1–8 interjected leaflets between sets of leaflet pairs, the
interjected leaflets to 2 cm long and 2 cm wide; the leaflets plane or undulate, gray-green to dark green to purple, glabrous to sparsely puberulent to densely pubescent, glandular or eglandular; lateral leaflets subequal to decreasing in size from the middle to the apex and base, the basal pair usually more reduced, sessile to petiolate, with petiolules 0–10 cm long, the leaflets elliptic to lanceolate to narrowly ovate, acute to acuminate at the apex, cuneate to obliquely rounded to obliquely cordate at the base, the middle pair 4–10 cm long, 1.5–4 cm wide, the margins entire; terminal leaflet nearly the same size and shape as the middle lateral leaflets or slightly wider and more ovate; pseudostipular leaves ovate to elliptical to ovate, up to 2.8 cm long and 1.5 cm wide, clasping the stem; inflorescence pseudoterminal, a cymose panicle, with 12–65 flowers; peduncles 1–8 cm long, glabrous to puberulent to glandular, simple to 3-branched; pedicels 0.9–20 mm long, glabrous to puberulent, articulate 0–13 mm from the base; calyx 2.5–4.2 mm long, glabrous to puberulent, lobed at about the middle, symmetrical with five lobes, the acumen rounded to acuminate, 0.2–2.5 mm long; corolla rotate to rotate-pentagonal, 17–30 mm in diameter, violet to violet-blue, homogeneous in color or with a white “star” (white color radiating from center of corolla to tips of corolla lobes), or darker in center; anthers lanceolate, 4–7 mm long; styles 3–11 mm long; ovary globular; fruits green to deep purple, globose, 13–23 mm in diameter; fresh mature seeds all white or white and with a purple spot formed by the purple embryo visible through the seed coat. Chromosome number (all three species counted): 2n = 24 (Bamberg & Martin 1993).

Key to Species of Solanum sect. Etuberosum

1. Leaves glabrous except for occasional puberulent hairs along veins, rarely between the veins; anthers 4–5 mm long; styles 3.5–5 mm long, included or slightly exceeding the stamens; endemic to Masatierra Island, Chile .......................... 1. S. fernandezianum

1. Leaves sparsely puberulent to densely pubescent on veins and between veins, sometimes moderately to densely glandular-pubescent; anthers 5–7 mm long; styles 8–11 mm long, exceeding the stamens; endemic to continental Chile and Argentina.

2. Calyx acumens (0.5) 1–1.2 (2.8) mm long; corollas usually violet (R.H.S. colors 83 A to 83 B) and usually uniformly so; fresh mature seeds white; stems and leaves typically light yellowish-green to grey-green, occasionally tinged or mottled with purple ................................. 2. S. etuberosum

2. Calyx acumens (0.2) 0.5–1.3 (1.7) mm long; corollas usually light violet-blue in center (R.H.S. color 92A), darker violet-blue beyond (color 92C), with or without white “star” (white color radiating from center of corolla to tips of corolla lobes); fresh mature seeds white with a purple spot formed by the purple embryo visible through the seed coat; stems and leaves typically medium to dark green and deeply tinged or mottled purple ......................................................... 3. S. palustre

Stems deep green, sometimes tinged purple, glabrous or with occasional puberulent hairs; leaves up to 35 cm long and 20 cm wide, 4-6-jugate, the leaflets plane, dark green, sometimes tinged with purple, glabrous except for occasional puberulent hairs along the veins, rarely between the veins; middle lateral leaflets 5-10 cm long, 1.5-4 cm wide; pseudostipular leaflets up to 20 mm long and 15 mm wide; flowers 14-30 per inflorescence; peduncles 1-10 cm long; pedicels 6-15 mm long, articulate at the very base; calyx 5-6 mm long, the acumens 0.2-0.9 mm long; corolla 20-30 mm in diameter, usually light violet-blue in center, darker violet-blue beyond, with or without white star; anthers 4-5 mm long; styles 3.5-5 mm long; fruits 10-13 mm in diameter; fresh mature seeds white and with a purple spot formed by the purple embryo visible through the seed coat.

Phenology. Flowering from January through March.

Distribution (Fig. 1). Restricted to Masatierra Island, Chile; in mesic habitats at edge of woods, shaded rock walls, valley bottoms; 100-610 m.

Additional specimens examined. Note: Collections by Andrea Clausen are abbreviated as “Cl.”, Andres Contreras M. as “Co.”, and David M. Spooner as “S.”. Collections by S. & Cl. are accompanied by map numbers from the Argentinian Instituto Geográfico Militar 1:250,000-scale, and those by S. & Co. by the Chilean Instituto Geográfico Militar Carta Regular 1:250,000-scale; only the map number is given (e.g., 4172-2 for Argentina, or SJ-19-13 for Chile). The herbarium acronym PTIS refers to the Potato Introduction Station Herbarium at Sturgeon Bay, Wisconsin (Bamberg and Spooner 1994), to appear in Edition 9 of Index Herbariorum (ed. 8, Holmgren et al. 1990).

CHILE. Juan Fernández Archipelago. Masatierra Island: Plazoleta del Yunque, 18 Feb 1935, H. Behn s.n. (CONC); Apr 1830, Bertero 1515 (G, K); Mirador de Selkirk, 700 m, 3 Mar 1967, T. Cekalovsk s.n. (CONC); Quebrada del Mastuerzo, 100 m, 3 Mar 1967, T. Cekalovsk s.n. (CONC); La Vaquería, up quebrada to the right (N) from the waterfall with Aristotelia chilensis, 150 m, 19 Jan 1991, D. Crawford et al. 11862 (OS); La Vaquería, up quebrada to the right (N) from the waterfall, edge of Myrceugenia forest, 230 m, 19 Jan 1981, 11864 (OS); on the W side ca. 40 m below the cordon running from El Yunke (the Anvil) to La Damajuana, sheer rock walls, partial shade, 600 m, 1 Mar 1939, J. L. Morrison 17337 (G, K); Challenger Expedition, Nov 1875, Moseley s.n. (BM [2], K); Philippi s.n. (W [2], [photo: BM]); 1904, F. Philippi s.n. (BM); 1876, Philippi 755 (G, G, [photo of specimen at B]); Portezuelo Villagra, 570 m, 3 Dec 1916, C. & I. Skottsberg 12 p.p. (C, K, S, [photo: BM]), Portezuelo, 570 m, 24 Dec 1916, 12 p.p. (GB, [photo: BM], K), Portezuelo, 550 m, 5 Dec 1917, 12 p.p. (LL, [photo: BM]); Cerro Agudo, third quebrada, vegetation tree ferns, Drimys, Coprosma, one plant seen, 610 m, 21 Jan 1991, T. Stuessy et al. 11890 (OS); on patch in small clearing on steep hillside in Myrceugenia fernandeziana forest, no tubers or seeds yet formed, 340 m, 11 Feb 1980, T. F. Stuessy & R. W. Sanders 5178 (CONC, OS); Quebrada Piedra Agujereada, bosque de Drimys, Myrceugenia y Fragaria, 400 m, Feb 9, 1980, E. Ugarte & O. Parra 9164 (OS).


Solanum kunzei Phil., Anales Univ. Chile 91: 6. 1895.—TYPE: Chile. Región Metropolitana: Valley of Río Colorado, 1700 m, El Alfalfar [Alfalfal or El Alfalfal, 1400 m, 45 km E of Santiago, 33°30'5, 70°11'W, fide Instituto Geográfico Militar, Chile, undated] Dec 1887, L. Kunze s.n. (holotype: SGO! [photo: PTIS!]; isotype: W! [photos: BM! F!], [drawing: W!]).


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There is confusion regarding numbers on the type. The number “62” appears in the original description, and “62” and “Diar: 715” appear on printed herbarium labels. The number “780” also appears on handwritten labels. Poeppig’s (1834, 1836) personal itineraries do not clarify these numbers. Urban (1896) mentions Poeppig’s Chile collections labelled as “E. F. Poeppig Coll. pl. Chil. III”, and Diar. is an abbreviation for the German word Diarien (diaries). It is possible that the number “715” is Poeppig’s original collection number of the approximately 900 collections Poeppig made in Chile. Other numbers may have been placed on his collections by another person.

There also is confusion regarding the locality of “Río Aconcagua”. This river is near Viña del Mar and is listed on the type collection of another of Poeppig’s collections that is the type of S. palustre (E. F. Poeppig 73 (Diar. 184)), and S. etuberosum likely never grew at the low altitude of Viña del Mar. Truvun Leuvu is another name for Trubunleo (G. Marticorena, pers. comm.). Trubunleo is a name for a river (located at 37°23’S, 71°28’W) and a waterfall (located at 37°22’S, 71°30’W [United States Department of Interior 1967]). It is likely that E. F. Poeppig Coll. pl. Chil. III 62 (Diar. 715) (780) was collected in the Andes Mountains near Antuco (located at 37°20’S, 71°41’W (United States Department of Interior 1967). Antuco is an area where the two species co-occur (Fig. 1, middle of Region VIII), as documented in our collections (S. etuberosum, S. & Co. 4489, 4490; S. palustre, S. & Co. 4488). E. F. Poeppig Coll. pl. Chil. III 62 (Diar. 715) (780) are mixed collections of S. palustre and S. etuberosum. The S. palustre part originally was named as Solanum palustre var. glabrescens Walp. (see below).

E. F. Poeppig Coll. pl. Chil. III 62 (Diar. 715) (780) are mixed collections of S. palustre and S. etuberosum. The S. palustre part originally was named as Solanum palustre var. glabrescens Walp. (see below).
4-6-jugate, the leaflets plane or undulate, light yellowish-green to gray-green, glabrescent to more commonly moderately to densely glandular-pubescent, sometimes with both Type A and Type B glands; middle lateral leaflets 5–10 cm long, 1.5–4 cm wide; pseudostipular leaflets up to 2.0 mm long and 15 mm wide; flowers 12–35 per inflorescence; pedicles 1–8 mm long; pedicels 6–20 mm long, the articulation 0–13 mm above the base; calyx 5–8 mm long, the acumens (0.5) 1–1.2 (2.8) mm long; corolla 22–35 mm in diameter, usually homogenously violet; anthers 5–7 mm long; styles 8–11 mm long; fruits 14–23 mm in diameter; fresh mature seeds all white.

Phenology. Flowering from December through March.

Distribution (Fig. 1). Central Chile, from Región V–IX, in the foothills and mid to upper slopes of the Andes mountains; in areas of low, dry scrub forest, along streams or in the mists of waterfalls, always in full sun and usually in rocky soils: 430–2500 m.

Additional specimens examined. CHILE. Region V: Provo Santiago, Casa Piedra, Peñalolén, at the end of a quebrada, 26 Feb 1942, A. Montaldo 282 (SGO); Lagunillas, Jan 1887, C. Sage s.n. (SGO); Provo Santiago, in mountains, ca. 5 km SSW (by air) from San José del Maipo, in Yerba Buena, sector El Toyo, SI-19-6, 33°40′S, 70°25′W, 1530 m, Mar 1983, Co. 507, 509 (VALD), 33°41′S, 70°24′W, 1500 m, 29 Jan 1989, S. & Co. 4323 (PTIS, VALD, WIS); Provo Santiago, ca. 6 km SSW (by air) of San José del Maipo, in Quebrada Los Lunes, SI-19-6, 33°41′S, 70°26′W, 1500 m, Mar 1983, Co. 508 (VALD), 33°42′S, 70°23′W, 1500 m, 29 Jan 1989, S. & Co. 4324 (PTIS, VALD, WISC); Provo Santiago, sector Agua del Minero, Quebrada de Macul, Cerros de Peñalolén, SI-19-5, 33°30′S, 70°28′W, 1500 m, 30 Jan 1989, S. & Co. 4325 (PTIS, VALD, WIS), Provo Cachapoal, on W bank of Río Cipreses, Reserva Nacional Río de los Cipreses, growing alone among rocks next to stream, SI-19-10, 34°21′S, 70°25′W, 2200 m, 1 Feb 1989, 4326 (PTIS, VALD). Región VI: Cordillera de Colchagua, 5000–7000 ft, Dec 1860, L. Landbeck s.n. (W [2], [photo: F]); Cordillera de Colchagua, 1802, R. A. Philippi s.n. (G [2]), Cordillera de Colchagua, 1862, s.n. (G), Cordillera de Colchagua, 1876, s.n. (G), Cordillera de Colchagua, s.n. (W); Provo Colchagua, ca. 3 km (by air) SSE of Sierras de Bellavista, by streams, in Quebrada Las Aletillas, SI-19-9, 34°50′S, 70°44′W, 1540 m, 1 Feb 1989, S. & Co. 4328 (PTIS, VALD), Provo Cachapoal, in Sierra de los Punzones, Minas del Rosario, 100 m W of W end of tunnel, 1.3 km W of W end of Laguna los Cristales, SI-19-9, 34°34′S, 70°31′W, 2110 m, 19 Mar 1989, 4473 (PTIS, VALD), Provo Cachapoal, Sierra de los Punzones, S side of Laguna los Cristales, ca. 3 km (by air) NE of Laguna Negra, SI-19-9, 34°34′S, 70°30′W, 2245 m, 17 Mar 1989, 4474 (PTIS, VALD), Provo Cachapoal, where stream flowing north out of Laguna Negra crosses road to Minas del Rosario, SI-19-9, 34°34′S, 70°32′W, 1800 m, 17 Mar 1989, 4479 (PTIS, VALD), Provo Cachapoal, 0.5 km upstream (S), of Minas del Rosario road (through Las Nieves), 6.1 km W of gate at mine station, 15.4 km E of Las Nieves at gate on E edge of town, SI-19-9, 34°33′S, 70°36′W, 1150 m, 17 Mar 1989, 4480 (PTIS, VALD). Región VII: Cordillera de Maule, 1856 and 1857, P. Germain s.n. (G [2], K, W, [photo: F]); Cordillera Linares, Jan 1856, Philippi s.n. (W), Talca, s.n. (G, [photo: of specimen at B]); Quebrada La Leona, N of Rio Claro, ca. 60 km SE of Molina, Parque Inglés, SI-19-13-14, 35°28′S, 70°56′W, 820 m, 3 Feb 1989, S. & Co. 4330 (PTIS, VALD, WIS), Provo Talca, Quebrada La Leona, N of Rio Claro, ca. 60 km SE of Molina, in Parque Inglés, ca. 1.5 km upstream of 4330, leaves not noticeably glandular, SI-19-13-14, 35°27′S, 70°56′W, 1400 m, 3 Feb 1989, [missing no.] (PTIS, VALD, WIS), Provo Talca, in bed of small stream flowing from the S into Río Maule, ESE of Talca, ca. 3 km W of turnoff past army post to Laguna La Invernada, 33 km E of Cipreses, ca. 1.5 km downstream of 4330, leaves densely glandular, SI-19-13-14, 35°48′S, 70°53′W, 880 m, 5 Feb 1989, 4333 (PTIS, VALD, PROV), Provo Curicó, in valley ca. 300 m S of Río Teno, off the now abandoned Curicó-Vergara Pass road to border with Argentina, ca. 15 km E of Los Queües, ca. 12 km (by air) W of Los Cipreses, SI-19-13-14, 35°03′S, 70°40′W, 1040 m, 18 Mar 1989, 4481 (PTIS), Provo Curicó, ca. 3 km S of Río Teno, off now
abandoned Curicó-Vergara pass road to border with Argentina, ca. 15 km E of Los Quenes, small valley adjoining Río Teno, ca. S km W of Los Cipresses, SI-19-13-14, 35°05'S, 70°36'W, 1240 m, 18 Mar 1989, 4482 (PTIS, VALD); Volcán Peteroa, Prov. Talca, Curicó, 2500 m, Jan 1925, E. Werdermann 615 (F, G, K; [photos: F, M]).

**Región VIII:** Chillán, Las Trancas, 1240 m, 8 Jan 1978, Co. 210 (VALD), Chillán, Las Cascadas, 1265 m, 8 Jan 1978, 211 (VALD), Chillán, Gruta de los Pangués, 1300 m, 8 Jan 1978, 212 (VALD), Chillán, Termas de Chillán, 1750 m, 9 Jan 1978, 213 (VALD), between Nuble and Biobío. Estero Ponce, 615 m, 9 Jan 1978, 214 (VALD), Biobío, Estero Quillelailebu, 785 m, 11 Jan 1978, 215, 216, 217 (all VALD), Biobío, Cajón del Pino, 1780 m, 21 Jan 1978, 218 (VALD), Biobío, Refugio Antuco, 1220 m, 22 Jan 1978, 219 (VALD); Prov. Nuble, common in large mats among rocks on seepage slopes and along stream above Termas de Chillán, 6 Feb 1958, D. S. Corell 1443 (K); below Baños de Chillán, 5000 ft, 24 Dec 1907, H. J. Elwes s.n. (K); Andes of Antuco, Jan 1839, C. Gay 1184 (K; [photos: F, W]); Termas de Chillán, 6 Feb 1942, A. Montaldo 244 (SGO, [photo: Montaldo and Sanz, 1962, p. 81]); Copahue, 1898-1897, F. W. Neger (M); Baños de Chillán, Feb 1892, Philippi 21 (W); Antuco, Reynolds 78 (K); Caracoles, Trafín, H. Smith s.n. (VALD); Prov. Nuble, Gruta de los Pangués, 4 mile below the hotel on the road to the Termas de Chillán, 4200 ft, 16 Jan 1961, E. E. Smith & B. Sparre 136-H-T (459 S&S) (G, K); Prov. Nuble, Dept. San Carlos, bank of Los Sauces River, Los Sauces, SJ-19-1-2, 36°39'S, 71°16'W, 710 m, 7 Feb 1989, S. & Co. 4336 (PTIS, VALD), Prov. Nuble, at base of waterfall at Las Trancas, on N side of road to Termas de Chillán, ca. 10 km W of Termas de Chillán, SJ-19-1-2, 36°53'S, 71°29'W, 1250 m, 8 Feb 1989, 4337 (PTIS, VALD, WIS), Prov. Nuble, in small valley on S side of road, ca. 4 km W of Termas de Chillán, at Gruta los Pangués, SJ-19-1-2, 36°54'S, 71°25'W, 1460 m, 8 Feb 1989, 4338 (PTIS, VALD, WIS), Provo Biobio, in dry volcanic cinders just N of road on S side of a W-diverting spur of Laguna de la Laja, at sector Puerto, SJ-19-5, 37°22'S, 71°25'W, 1380 m, 9 Feb 1989, 4341 (PTIS, VALD, WIS), Prov. Biobío, ca. 5 km SE of Alto Biobío, on N side of Río Pangue, 300 m upstream of Puente Pangue, SJ-19-5, 37°53'S, 71°36'W, 440 m, 10 Feb 1989, 4349 (PTIS, VALD, WIS), Prov. Biobío, ca. 3 km SE of Alto Biobío, SJ-19-5, 37°54'S, 71°36'W, 430 m, 10 Feb 1989, 4350 (PTIS, VALD), Prov. Biobío, on rocks in Río Rucue, a large population growing for ca. a 4 km stretch, centered 2 km ESE of Mileo (where dirt road meets Río Rucue), 7 km (by air) SW of Antuco, SJ-19-5, 37°22'S, 71°43'W, 500 m, 23 Mar 1980, 4485 (PTIS, VALD), Prov. Biobío, in stream flowing from the N into Río Queuco, ca. 50 m W of Puente Nitrao, by Baños Nitrao, 48 km NE of Alto Biobío, SJ-19-5, 37°41'S, 71°20'W, 820 m, 24 Mar 1989, 4489 (PTIS, VALD), Prov. Biobío, 70 km NE of Alto Biobío on road to Hito Paso de Copahue (at border with Argentina), 5 km E of border with Argentina, by hot sulphur springs, where a small stream crosses the jeep road near the headwaters of Río Queuco, SJ-19-5, 37°49'S, 71°10'W, 1810 m, 24 Mar 1989, 4490 (PTIS, VALD); Antuco, Capullhue, H. Vollmann 31 (W[2], [photo: F]).

**Región IX:** Prov. Malleco, 7 km E of jct. of road at E end of Laguna Malleco, in stream flowing W into this lake, ca. 1 km E of bridge over this stream, SJ-19-9, 38°12'S, 71°46'W, 1005 m, 11 Feb 1989, S. & Co. 4352 (PTIS), Prov. Malleco, on rocks in stream, where Río Nancero joins Río Biobío, at Puente Nancero, SJ-19-9, 38°20'S, 71°20'W, 810 m, 16 Feb 1989, 4387 (PTIS), Prov. Malleco, Sector Cierre Viejo, on jeep trail starting just S of Tuyo and leading NW along Río Ranquil, SJ-19-9, 38°14'S, 71°15'W, 1080 m, 16 Feb 1989, 4388 (PTIS, VALD), Prov. Cautín, 16 km W of police post in Icalma on N side of road, SJ-19-9, 38°51'S, 71°26'W, 900 m, 16 Feb 1989, S. & Co. 4491 (PTIS, VALD).

Indefinite: seeds from Mexico [apparently an error or from cultivated plants], ex herb. B. Lambert s.n. (W). ARGENTINA. Prov. Mendoza, Cordillera del Aitu, Kurtz 10081 (CORD; This possibly is mislabelled from a Chilean locality [Hawkes and
Revision of Solanum section Etuberosum (subgenus Potatoe)

Hjerting, 1969, Appendix III; Spooner and Clausen, 1993). CHILE. Cordillera del Manquehue, banks and thickets, 8 Jan 1905, R. M. Middleton s.n. (BM, K); Cypress Valley, subalpine region, near Cauquenes hot springs, E. Reid s.n. (K); Las Damas, Dec 1872, E. C. Reed s.n. (K); Juan Fernández Islands [Masatierra Island]: Portezuelo de Villagra, 580 m, 3 Dec 1916, C. & I. Shottberg 12 p.p. (BM, [photo: F]; this is the only specimen of S. etuberosum from the Juan Fernández Islands, has the same number as other collections from there, and possibly is mislabelled).


Schlechtendal worked at Berlin (B) until 1833, then at HAL. Material from his herbarium is at B (mainly destroyed), W, and other herbaria (Stafleu & Cowan 1985). It is likely he had access to both B and W specimens.

The number “73” appears in the original description, and “73” and “Diar: 184” appear on printed herbarium labels. The origin of these numbers is unclear, as in other Poeppig collections from Chile (see S. etuberosum var. antucense, above). Poeppig (1854) shows an itinerary map and mentions collections in “Vina del Mar” in 1827.


Schlechtendal published the name “Solanum palustre var. parvijzora glabrescens?” Poepp.” in Hort. Hal. 1: 6. 1841, based on E. F. Poeppig Coll. pl. Chil. III 62 (Diar: 715) (780) p.p. His use of the question mark and trinomial (he elsewhere used binomials) makes his acceptance of this name and application of Articles 23.1 and 34.1 of the International Code of Botanical Nomenclature unclear. We reject the Schlechtendal trinomial and attribute the first publication of “var. glabrescens” to Walpers. Hawkes (1990) published the new combination Solanum brevidens Phil. var. glabrescens (Poepp. ex Schltdl.) Hawkes, which we change as listed above for this reason.


Stems medium to dark green and usually tinged or mottled purple, sparsely puberulent to more commonly moderately to densely glandular-pubescent, sometimes with both Type A and Type B glands; leaves up to 35 cm long and 21 cm wide, 4–7-jugate, the leaflets plane, typically medium to dark green and deeply tinged or mottled purple, glabrescent to more commonly moderately to densely glandular-pubescent, sometimes with both Type A and Type B glands; midle lateral leaflets 5–10 cm long, 1.5–4 cm wide; pseudostipular leaflets up to 28 mm long and 15 mm wide; flowers 20–65 per inflorescence; peduncles 1–10 cm long; pedicels 9–18 mm long, the articulation 0–13 mm above the base; calyx 3.5–4.2 mm long, the acumens (0.2) 0.5–1.3 (1.7) mm long; corolla 20–30 mm in diameter, usually light violet-blue in center, darker violet-blue beyond, with or without white star; anthers 5–7 mm long; styles 8–11 mm long; fruits 13–19 mm in diameter; fresh mature seeds white and with a purple spot formed by the purple embryo visible through the seed coat.

Phenology. Flowering from December through May.

Distribution (Fig. 1). Central Chile, Región V–X (but mostly from Región VIII–X, because the coastal populations originally collected in Región V near Concón and Viña del Mar likely extirpated, the single population from Región VI an apparent disjunct, and not known from Región VII), mostly found in the lower to mid slopes of the Andes mountains, but also in the coastal range, in mesic habitats, often in areas of recent fires, in full sun or partial shade, in organic soils; 40–1170 m.

Additional specimens examined. ARGENTINA. Neuquén: Parque Nacional Nahuel Huapi, Hotel Correntoso, R. de Barba 1319 (B, LIL), Parque Nacional Nahuel Huapi, Desfiladero Huemul, 17 Dec 1946, 1329 (W), between Espejo and Correntoso, Parque Nacional Nahuel Huapi, 16 Jan 1947, 1498 (G); Hotel Ruca Melén, 15 Dec 1955, T. W. Bücher et al. 1711 (C); Parque Lanín, Jan 1974, E. H. Bücher 5003 (M [2]), Lago Paimún, Jan 1974, 5004 (M [2]), Lago Huechulaquen, Jan 1976, 5004 (M [2]); Andes Expedition, 38°–41°, N. Lago Huechulaquen, 3500 ft., 31 Dec 1926, Comber 942 (K [2]); Nahuel Huapi National Park, J. Dienes n. (PTIS); border of Lake at Puerto Manzano, near Casa Dienes, 10 Jan 1970, U. Eschke 0.1326 (G); Llao-Llao, Lago Nahuel Huapi, 770 m, Dec 25, 1953, E. Ljungner 591 (GB, [photo: F]); Dept. Los Lagos, near Villa La Angostura, 15 Feb 1952, T. M. Petersen 1516 [Petersen on the other sheet] (C [2]); Peninsula Quetrihué, Lago Nahuel Huapi, 16 Jan 1951, H. Slemmer 1520 (G, W [2]); Dept. Huiliches, on both sides of dirt road, on N side of Lago Huechulaquen, 12.7 km E of police post at W end of lake, 3972–4, 39°45’S, 71°20’W, 1020 m, 19 Feb 1990, S. & Cl. 4517 (BAL, PTIS), Dept. Huiliches, on both sides of dirt road, on N side of Lago Huechulaquen, 22.3 km E of police post on W end of lake, 3972–4, 39°45’S, 71°16’W, 1020 m, 19 Feb 1990, 4518 (BAL, PTIS), Dept. Huiliches, roadside, on N side of Lago Lácar, on way to Hua-Hum, 24.5 km W of Rt. 234, just N of San Martín de los Andes, 4172–2, 40°08’S, 71°31’W, 915 m, 20 Feb 1990, 4519 (BAL, PTIS), on dirt road on N side of Lago Lácar, on way to Hua-Hum, 28.2 km W of Rt. 234, just N of San Martín de los Lagos, 4172–2, 40°08’S, 71°38’W, 790 m, 20 Feb 1990, 4520 (BAL, PTIS), on N side of dirt road on NE side of Lago Nonthué, 42 km W of Rt. 234, 7.9 km W of Arroyo Quechequena, on Rt. 234 just N of San Martín de los Andes, 2.7 km E of police post, 4172–2, 40°07’S, 71°38’W, 790 m, 20 Feb 1990, 4521 (BAL, PTIS), in stream just above waterfall at Quila Quina, on S side of Lago Lácar, SW of San Martín de los Andes, 4172–2, 40°11’S, 71°27’W, 790 m, 20 Feb 1990, 4522 (BAL, PTIS), on S side of Lago Curruhue, 29.5 km W of jct. of road on S side of this lake to Chile border at Puerto Carirriñe and road to San Martín de los Andes, 3972–4, 39°51’S, 71°29’W, 1100 m, 21 Feb 1990, 4524 (BAL, PTIS), on S side of Lago Curruhue, 27.0 km W of jct. of road on S side of this lake to Chile border at Puerto Carirriñe and road to San Martín de los Andes, 3972–4, 39°51’S, 71°30’W, 1070 m, 21 Feb 1990, 4525 (BAL, PTIS), on S side of road to Lago Curruhue, 30.7 km W of jct. of this lake to Chile border at Puerto Carirriñe, and road to San Martín de los Andes, 3972–4, 39°51’S, 71°33’W, 1060 m, 21 Feb 1990,
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4526 (BAL, PTIS), on N side of Laguna Verde, on road to Puerto de Caririña at Chile border, 1.8 km past road on W end of Lago Curruhue that divides to a campground and to the Chile border, 39°72.4, 39°50'S, 71°34'W, 1040 m, Feb 21 1990, 4527 (BAL, PTIS), on S side of Lago Epulafquen, on road to Puerto Caririña at Chile border, 11.6 km past road on the W end of Lago Curruhue that divides to a campground and to the Chile border, 39°72.4, 39°49'S, 71°37'W, 950 m, 21 Feb 1990, 4528 (BAL, PTIS), along Rt. 65, 2.5 km E of Rt. 234, 41°72.4, 40°37'W, 71°37'W, 840 m, 22 Feb 1990, 4529 (BAL, PTIS), along Rt. 65, S of Lago Traful, 24.8 km E of Rt. 234, 0.4 km W of Lago Traful, 41°72.4, 40°39'S, 71°24'W, 780 m, Feb 22 1990, 4530 (BAL, PTIS), along an abandoned road just W of Rt. 231, 2.5 km S of Ruca Malén, 41°72.4, 72°37'W, 40°70'W, 770 m, 23 Feb 1990, 4531 (BAL, PTIS), on road to Chile border at Puyehue, 41°72.4, 40°47'W, 71°47'W, 720 m, 23 Feb 1990, 4532 (BAL, PTIS), along Rt. 65, 2.5 km E of Rt. 231, 4.7 km SE of junct. of road to Chile to Puerto Puyehue, 41°72.4, 40°43'W, 71°42'W, 670 m, 23 Feb 1990, 4533 (BAL, PTIS), Dept. Los Lagos, on SE side of Rt. 231, 4.7 km SE of junct. of road to Chile to Puerto Puyehue, 41°72.4, 40°49'S, 71°40'W, 780 m, Feb 22 1990, 4534 (BAL, PTIS), Dept. Los Lagos, along Rt. 231, 1.6 km SE of Arroyo de la Estacada, SE of Villa La Angostura, ca. 1 km S of entrance into park, along old road, 41°72.4, 40°47'W, 71°40'W, 700 m, 24 Feb 1990, 4535 (BAL, PTIS), Dept. Los Lagos, along Rt. 231, 8.2 km NW of Arroyo de la Estacada, just NW of Puerto Manzano, SE of Villa La Angostura, 41°72.4, 40°48'S, 71°37'W, 730 m, 24 Feb 1990, 4536 (BAL, PTIS), Dept. Los Lagos, along Rt. 231, 8.1 km SE of Arroyo de la Estacada, by Puerto Manzano, SE of Villa La Angostura, 41°72.4, 40°48'W, 71°30'W, 680 m, 24 Feb 1990, 4537 (BAL, PTIS), Dept. Los Lagos, on NE side of Rt. 231, 3 Jun 1923, D. K. Behn s.n. (F [2], [photo: F]), Via del Mar, 3 Jun 1923, s.n. (F). Region VI: Prov. Colchagua, 5.7 km E of the intersection of the road to Bellavista and the road to Termas del Flaco, in shaded canyon on S side of road, SI-19-9, 34°45'S, 71°34'W, 820 m, 1 Feb 1989, S. & Co. 4329 (PTIS, VALD, WIS). Region VIII: Contulmo, 29 Dec 1919, D. K. Behn s.n. (F [2]), Contulmo, 25 Jan 1919, s.n. (N); Andes of Antuco, 1878, Poeppig s.n. (M); Traga trapa [= Trapatrapa] Jarman, 1887, C. F. Rahmer s.n. (W); Prov. Biobío, ca. 3 km SE of Alto Biobío, on N side of Rio Pangue, 200 m downstream of bridge (Puente Pangue), SI-19-5, 37°54'S, 71°36'W, 430 m, 10 Feb 1989, S. & Co. 4351 (PTIS, VALD), among rocks in Río Rucue, 2 km E of Mileo (where the dirt road meets Río Rucue), 7 km (by air) SW of Antuco, SJ-19-5, 37°22'W, 71°34'W, 500 m, 29 Mar 1989, 4486 (PTIS, ALD), along S side of Río Rucue where floodplain meets slope, 4 km ESE of Mileo (where dirt road meets Río Rucue), 6 km SSW of Antuco, SJ-9-5, 37°22'W, 71°42'W, 510 m, 23 Mar 1989, 4487 (PTIS, VALD), Prov. Biobío, at Puente Boquiamargo, 3.2 km N of police post, Alto Biobío, along N side of road to Los Chenques (frontier road to Argentina), SJ-19-5, 37°51'S, 71°39'W, 490 m, 24 Mar 1989, 4488 (PTIS, VALD), Región IX: Prov. Cautín; Lautaro, 20 Dec 1913, V. M. Baesa s.n. (M); Temuco, Fundo Venecia, 38°41'S, 71°50'W, 850 m, 6 Jan 1978, Co. 207, 208, 209 (all VALD), Lago Caburga, Paillaco, 39°10'S, 71°45'W, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337 (all VALD); Prov. Cautín, on seepage slope among bamboo along road from Cherquenco to Refugio Llaima, 16 Jan 1958, D. S. Correll Cl4 (K); Prov. Cautín, Conguillío, Jan 1985, A. Delgado s.n. (VALD); Pucón 1000 ft., Jan 1928, C. Elliott 199 (K [2]); Villarrica, 1897, F. W. Neger s.n. (M [2]); [Prov. Cautín], Temuco Palguín, Salto Chino, 7 Feb 1958, H. Smith s.n. (VALD [2]);
Solanaceae IV

Prov. Malleco, below falls at Salto Indio (where Rio Indio joins Rio Cautín), E of Caracautín, SJ-19-9, 38°27'S, 71°45'W, 700 m, 14 Feb 1989, S. & Co. 4353 (PTIS), Prov. Malleco, on N side of road from Caracautín to Manzanar, 4 km E of Salto Indio (where Rio Indio intersects Rio Cautín), SJ-19-9, 38°28'S, 71°54'W, 720 m, 14 Feb 1989, 4354 (PTIS, VALD), Prov. Malleco, just up river of bridge crossing over this river, 5.5 km S of Caracautín, SJ-19-9, 38°27'S, 71°51'W, 480 m, 15 Feb 1989, 4355 (PTIS), Prov. Malleco, in stream bank ca. 0.5 km upstream of Puente Blanco, where Caracautín-Longquimay road crosses Rio Calleco, ca. 5 km E of Caracautín, SJ-19-9, 38°27'S, 71°50'W, 630 m, 15 Feb 1989, 4356 (PTIS), Prov. Malleco, 13 km W of police post in Icalma, SJ-19-9, 38°51'S, 71°24'W, 1170 m, 16 Feb 1989, 4390 (PTIS, VALD, WIS), Prov. Malleco, just up river of bridge crossing over this river, 5.5 km S of Caracautín, SJ-19-9, 38°27'S, 71°50'W, 480 m, 15 Feb 1989, 4355 (PTIS), Prov. Cautin, sector Trafun, at Las Vertientes in front of park superintendent's house, on footpath to waterfall, in Parque Nacional Conguillío, SJ-19-9, 38°47'S, 71°39'W, 680 m, 17 Feb 1989, 4392 (PTIS, VALD), 1.2 km S of south end of Laguna Arco Iris, 13 km W of guard superintendent's house, just S of Laguna Verde, SJ-19-9, 38°42'S, 71°38'W, 990 m, 17 Feb 1989, 4393 (PTIS, VALD), Prov. Malleco, at S-facing base of large escarpment, just N of Volcán Llaima, valley of Rio Captren, ca. 5 km W of W end of Laguna Conguillío, SJ-19-9, 38°38'S, 71°44'W, 980 m, 17 Feb 1989, 4395 (PTIS, VALD), Prov. Cautin, sector Ballica Fundo Venezia, on hill 10 km SW of Cherquenquen, on road to Llococura, on Cordillera de Melo, SJ-19-9, 38°47'S, 71°55'W, 780 m, 17 Feb 1989, 4396 (PTIS, VALD), Prov. Cautin, at Huife Alto, 20 km NW of stream on NW side of road, 8.2 km NE of Termas de Huife, SJ-19-13, 39°11'S, 71°35'W, 850 m, 9 Mar 1989, 4461 (PTIS, VALD), Prov. Cautin, on E side of road from Villa San Pedro to Papat (this road not on any road or topographic maps), in a small stream in a small valley, NE of San Pedro, ca. 17 km (by air) NE of Pucón, SJ-19-13, 39°15'S, 71°45'W, 500 m, 9 Mar 1989, 4462 (PTIS, Prov. Cautin), 100 km downstream of Salto El León, ca. 1 km (by air) E of Termas Palgún, SJ-19-13, 39°25'S, 71°45'W, 750 m, 10 Mar 1989, 4463 (PTIS, VALD, WIS), Prov. Cautin, frequent along baths and wells at Termas Palgún, SJ-19-13, 39°25'S, 71°46'W, 760 m, 10 Mar 1989, 4464 (PTIS, VALD), Prov. Cautin, on 100 m downstream (N) of Salto Chino, ca. 0.5 km NE of jct. of road to Termas Palgún and Salto El León, SJ-19-13, 39°24'S, 71°45'W, 680 m, 10 Mar 1989, 4465 (PTIS, VALD), Prov. Cautin, by edge of potato field on jeep road from Huilicile to Caren, ca. 1 km (by air) on NW side of top of hill, SJ-19-13, 39°25'S, 71°36'W, 920 m, 10 Mar 1989, 4466 (PTIS, VALD), Prov. Cautin, on SE side of road, SW of Termas de Panguí, SJ-19-13, 39°15'S, 71°31'W, 930 m, 11 Mar 1989, 4467 (PTIS, VALD), Prov. Cautin, 2.2 km N of Carretera-Humedo-Valle Grande road along the road to Los Chilcos and Recllra Alto, on E side of Río Panguí, in wet slippage bank by river, SJ-19-13, 39°18'S, 71°34'W, 780 m, 11 Mar 1989, 4468 (PTIS, VALD, WIS), Prov. Cautin, 5.2 km along the road to Paso de Huiriínin (crossing at Argentina border), from jct. of this road and road just outside of Curarehue to Reigolín, 1.5 km W from W end of small lake by W end of Huincapillihue, SJ-19-13, 39°21'S, 71°29'W, 790 m, 11 Mar 1989, 4469 (PTIS, VALD), Prov. Cautin, on W bank of Río Trancura, ca. 50 km S of bridge crossing over this river in town of Curarehue, in back of house number 1016, SJ-19-13, 39°16'S, 71°35'W, 400 m, 12 Mar 1989, 4470 (PTIS, VALD), Prov. Cautin, ca. 1 km E of valley N of police post at Reigolín, on road diverging to the E, 6.1 km N of this post, SJ-19-13, 39°05'S, 71°27'W, 1010 m, 12 Feb 1989, 4471 (PTIS, VALD), Prov. Cautin, along streamlet flowing from the E into Río Blanco, ca. 100 m N of where a hot spring enters Río Blanco, SJ-19-13, 39°06'S, 71°35'W, 740 m, 12 Feb 1989, 4472 (PTIS, VALD), sector Chanleque, Parque Nacional Nahuelbuta, at end of dirt road, ca. 5 km (by air) W of La Paz, ca. 22 km (by air), W of center of Angol, by home of park guard, SJ-18-8, 37°47'S, 72°57'W, 750 m, 22 Mar 1989, 4484 (PTIS, VALD), Región X: Valdivia, Cordillera Pelada, localidad Roblental, 600 m, 40°12'S, 73°23'W, 660 m, 22 Apr 1978, Ca. 236 (VALD), Valdivia, Paillaco Nuevo Caburga, 750 m, 28 Jan 1979, 301 (VALD), Valdivia, Terma de Palguín, 750 m, 305, 306 (both VALD), Valdivia, Gol-Gol, 400 m, 240
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313, 314 (both VALD); on edge of thicket along road from Termas de Puyehue to Argentina, 20 Jan 1958, D. S. Correll C24 (LL, [photo: F]); Cordillera de Ranico, Mar 1852, W. R. F. Holhemauer 826 (G [2], W); Panguipulli, 200 m, Nov 1927, B. A. Hollermeyer 338 (M, [photo: F]); Payahuente, 160 m, Dec 1924, 351 (BM, [photos: F, F, G]); Cordillera de Ranico, Mar 1852, W. Leecher 826 (G, [photo: F]); Chiloé Island, Ancud, Dalcahue, 9 km north of Capilla Quetalar, 26-27 Feb 1941, A. Montaldo 53 (listed by Correll, 1962 for LL, SGO, specimens not seen), Chiloé Island, Ancud, Astillero, 6 km south of Delcahue, 26 Nov 1941, 54 (listed by Correll, 1962 for LL, SGO, specimens not seen); near Lago Ranico, Jan 1887, C. F. Rahmer s.n. (W, [photo: F]); Valdivia, camino a Coñaripe, 5 Dec 1964, C. Ramírez s.n. (VALD [2]); Osorno, Salto del Plimaquén, 22 Apr 1939, C. Rudolph 5575, 5596 (both VALD), Osorno, Río Bueno, 26 Dec 1948, 5589, 5591 (both VALD), 19 Feb 1942, 5595 (VALD), Osorno, Gol Gol inferior, 6 Mar 1948, 5592, 5593, 5606, 5607 (all VALD), 8 Dec 1943, 5597, 5598 (both VALD), Osorno, Plimaquén, 22 Apr 1939, 5599, 5601 (both VALD), Osorno, Peulla, 27 Dec 1939, 5602, 5604 (both VALD), 26 Apr 1937, 5603 (VALD); Plimaquén Falls, 200 ft., Dec 1939, C. Sandeman 401 (K); Provo Valdivia, ca. 100 m downstream of bridge overflow stream at W end of Laguna Pullinque (a small lake on the S side of Laguna Calafquén), SJ-18-16, 39°34'S, 72°10'W, 170 m, 21 Feb 1989, S. & Co. 4397 (PTIS, VALD), Provo Valdivia, on N side of road at Nomeco, on S side of Laguna Calafquén, ca. 150 m E of Puente Nomeco, SJ-18-16, 39°34'S, 72°06'W, 250 m, 21 Feb 1989, 4398 (PTIS, VALD), Provo Valdivia, at base of large hill, just N of intersection of roads on E end of Lago Calafquén, ca. 1 km (by air) E from E end of Lago Calafquén, SJ-18-16, 39°34'S, 71°59'W, 250 m, 21 Feb 1989, 4399 (PTIS, VALD), Provo Valdivia, 18 km NW of Termas de Liquiñe, SJ-19-13, 39°36'S, 72°55'W, 390 m, 21 Feb 1989, 4400 (PTIS, VALD), Provo Valdivia, in streambed adjacent to Termas de Liquiñe, SJ-19-13, 39°44'S, 71°52'W, 270 m, 21 Feb 1989, 4401 (PTIS, VALD), Provo Valdivia, 8.1 km S of crossing of road to Liquiñe-Los Ántiques road and road to Choshuenco, just N of Pasas, just NW of Lago Neltume in valley at bridge crossing, SJ-19-13, 39°44'S, 71°52'W, 400 m, 22 Feb 1989, 4402 (PTIS, VALD), Provo Valdivia, 14.6 km S of road jct. of Liquiñe-Los Ántiques road and road to Choshuenco, on SE side of Lago Neltume, SJ-19-13, 39°43'S, 71°58'W, 260 m, 22 Feb 1989, 4403 (PTIS, VALD), Provo Valdivia, 100 m NE of corner of road crossing of road to Volcán El Mocho and road to Choschenco, SJ-18-16, 39°54'S, 72°08'W, 130 m, 22 Feb 1989, 4405 (PTIS, VALD), Provo Valdivia, 32.7 km S of Puente Puerto Fuy, over Río Fuy, on W side of private road, SK-18-3-19-1, 40°02'S, 71°58'W, 550 m, 22 Feb 1989, 4406 (PTIS, VALD, WIS), Provo Valdivia, just upstream of entrance to Petroglypho Cachillagua, on S side of Río Bueno, ca. 5 km (by air) E of center of town of Río Bueno, SK-18-3-19-1, 40°20'S, 72°52'W, 920 m, 23 Feb 1989, 4407 (PTIS, VALD, WIS), Provo Osorno, on N side of road CH 215, E of Osorno, ca. 50 m N of road by fence, 1.7 km W of Puerto Gol Gol Gol #1 (over Río Gol Gol), 8 km (by air) E of end of Lago Puyehue, SK-18-3-19-1, 40°39'S, 72°14'W, 170 m, 24 Feb 1989, 4408 (PTIS, VALD), Provo Osorno, 6 km from Argentina-Chile customs station Pajaritos, ditch on S side of road CH 215, E of Osorno, 13.9 km W of border with Argentina, SK-18-3-19-1, 40°40'S, 72°04'W, 710 m, 24 Feb 1989, 4409 (PTIS, VALD), Provo Llanquihue, at Puente Peulla, wet shaded slope by boat landing, SK-18-6-19-4, 41°06'S, 72°02'W, 155 m, 2 Mar 1989, 4450 (PTIS, VALD), Provo Llanquihue, on road from Peulla (in Chile) to San Carlos de Bariloche (in Argentina), ca. 3 km W of Argentine-Chile border, SK-18-6-19-4, 41°04'S, 71°51'W, 800 m, 2 Mar 1989, 4451 (PTIS, VALD), Provo Llanquihue, at base of Salto Los Novios, along trail S of hotels in Peulla, ca. 0.5 km S of border crossing road, SK-18-6-19-4, 41°06'S, 72°01'W, 170 m, 2 Mar 1989, 4452 (PTIS, VALD), Provo Llanquihue, on S side of Lago Todos Los Santos, just across lake from hotel and marina at Petrohué, ca. 300 m S of lake, SK-18-6-19-4, 41°08'S, 72°24'W, 160 m, 3 Mar 1989, 4453 (PTIS, VALD), Provo Llanquihue, just N of Ralún, 5.3 km E and then N from Puente Petrohué (the bridge crossing over Río Petrohué on N end of Bahía Ralún), SK-18-6-19-4, 41°22'S, 72°16'W, 40 m, 4 Mar 1989, 4454 (PTIS, VALD), Provo Llanquihue, ca. 8 km (by air) N
of town of Ralun, ca. 3 km E (by air) SSW of S end of Lago Galletué, SK-18-6-19-4, 41°18'S, 72°16'W, 480 m, 4 Mar 1989, 4455 (PTIS, VALD), Prov. Valdivia, next to logging road on W side of valley of Rio Hua-Hum, ca. 2 km W of border crossing with Argentina, ca. 1 km S of border crossing road CH 203, S of Pirihueico, SK-18-3-19-1, 40°03'S, 71°41'W, 680 m, 7 Mar 1989, 4456 (PTIS, VALD), Prov. Valdivia, E of End of Lago Pirihueico, 2.3 km N of jct. of road diverting 1 km S of border crossing road CH 203, beginning 1 km S of S end of Lago Pirihueico, SK-18-3-19-1, 41°01'S, 71°42'W, 650 m, 7 Mar 1989, 4458 (PTIS, VALD), Prov. Valdivia, E of Lago Pirihueico, on road diverting 1 km S of border crossing road CH 203, beginning 1 km S of S end of Lago Pirihueico, SJ-19-13, 39°56'S, 71°42'W, 665 m, 7 Mar 1989, 4459 (PTIS, VALD).

Indefinite: Arquilhue, collector unknown (W).

Acknowledgments

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References

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INDEX TO COLLECTIONS EXAMINED

*Solanum fernandezianum* fnd
*S. etuberosum* etb
*S. palustre* pls

The abbreviations in parentheses refer to the corresponding names in the text; an asterisk refers to a type specimen.

Behn D. K. s.n. (fnd, pls).
Bertero 1515 fnd.
Böcher et al. 1711 pls.
Bridges T. 719 (pls*).
Brücher, E. F. 5005 pls.
Bustillos s.n. (etb*).
Célabovsk s.n. fnd.
Correll, D. S. C14, C24, both pls; C143 etb.
Crawford, D. et al. 11862, 11864, both fnd.
de Barba, R. 1319, 1329, 1498, all pls.
Delgado A. s.n. pls.
Diem, J. s.n. pls.
Germain, P. s.n. (fnd*, etb).
Elliott C. 199 pls.
Elwes H. J. s.n. etb.
Eskuche, U. 0.1326 pls.
Fonck, Fr. s.n. (pls*).
Gay C. 1184 etb*).
Gillies, J. s.n. (etb*).
Hohenrauer W. R. F. 826 pls.
Hollermayer, P. A. 351, 388, both pls.
Landbeck, L. s.n. etb.
Lechler, W. 826 pls.
Kunze, L. s.n. (etb*).
Looser G. 876 (etb*).
Middleton R. M. s.n. etb.
Montaldo, A. 53, 54, both pls; 244, 282, both etb.
Morrison, J. L. 11337 fnd.
Neger F. W. s.n. etb;
Pearce, R. W. s.n. (pls*).
Petersen T. M. [Pedersen] 1516 pls.
Poeppig, E. F. s.n. pls; 60, Diar. 715, 780 p.p. (etb*, pls*); 73, Diar. 184 (pls*).
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Philippi F. s.n. fnd; 755 fnd.
Philippi, R. A. s.n. (*etb*).
Philippi, unknown first initials 21 *etb*.
Rahmer, C. F. s.n. pls.
Ramírez C. s.n. pls.
Reed, E. C. s.n. *etb*
Reid E. s.n. *etb*.
Reiche, C. s.n. (*etb*).
Reynolds 78 *etb*.
Rudolph C. 5589, 5591, 5592, 5593, 5595, 5597, 5598, 5599, 5600, 5601, 5603, 5604, 5606, 5607, all pls.
Sandeman 401 pls.
Skottsberg, C. and I. 12 p.p. (1, 2).
Sleumer H. 1520 pls.
Smith H. pls.
Spooner, D. M. and A. Clausen 4517, 4518, 4519, 4520, 4521, 4522, 4524, 4525, 4526, 4527, 4528, 4529, 4530, 4531, 4532, 4533, 4534, 4535, 4536, 4537, 4538, 4539, 4540, 4541, all pls.
Spooner, D. M. and A. Contreras M. 4323, 4324, 4325, 4326, 4328, all *etb*; 4329 pls; 4330, 4331, 4333, 4336, 4337, 4338, 4340, 4341, 4349, 4350, all *etb*; 4351 pls; 4352 *etb*; 4353, 4354, 4355, 4356, all pls; 4387, 4388, both *etb*; 4390, 4391, 4392, 4393, 4395, 4396, 4397, 4398, 4399, 4400, 4401, 4402, 4403, 4405, 4406, 4407, 4408, 4409, 4450, 4451, 4453, 4454, 4455, 4456, 4457, 4458, 4459, 4461, 4462, 4463, 4464, 4465, 4466, 4467, 4468, 4469, 4470, 4471, 4472, all pls; 4473, 4474, 4479, 4480, 4481, 4482, all *etb*; 4483 pls; 4485 *etb*; 4486, 4487, 4488, all pls; 4489, 4490, both *etb*.
Stuessy, T. et al. 11890 fnd.
Stuessy, T. F. and R. W. Sanders 5178 fnd.
Ugarte, E. and Parra O. 9164 fnd.
Werdermann, E. 615 *etb*.