POLYPSECADIUM O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86): 176. 1924.
Type species: *P. harmsianum* (Muschl.)O. E. Schulz.

Plants annual or perennial herbs, subshrubs, or shrubs. Trichomes absent or simple, rarely stalked and 2-4-rayed. Stems erect to ascending, branched above. Basal leaves absent; cauline leaves long petiolate or rarely uppermost auriculate or sagittat at base, coarsely dentate pinnately lobed. Racemes many flowered, lax, ebracteate, corymbose, elongated considerably in fruit; fruiting pedicels slender, ascending, divaricate, strongly recurved or reflexedt. Sepals oblong, free, deciduous, erect to ascending, subequal, margin not membranous; petals white to lavender or purple, obovate to spatulate, apex obtuse; claw distinct, glabrous; stamens 6, erect, slightly tetradynamous; filaments glabrous, free, dilated at base; anthers linear or linear-oblong, not or apiculate at apex; nectar glands confluent, subtending bases of all stamens, rarely lateral and toothlike; ovules (22–)40–300(–360) per ovary. Fruit dehiscent siliques, linear, terete, unsegmented; valves with a prominent midvein, with obscure to distinct lateral veins, glabrous or rarely sparsely pubescent, smooth or rarely torulose; replum rounded; septum complete, veinless; style obsolete or distinct and to 5 mm long; stigma capitate, entire or 2-lobed, usually considerably wider than stype. Seeds biseriate or subbiseriate, very rarely uniseriate, wingless or rarely distally winged, oblong to ovoid, plump, not mucilaginous when wetted; cotyledons incumbent.

A genus of 15 species distributed from Colombia south into Patagonian Argentina and Chile.

1. Uppermost leaves strongly auriculate or sagittate at base.
   2. Petals purple or violet; leaves densely strigose abaxially; Peru.....*P. effusum*
   2. Petals white; leaves glabrous or sparsely pubescent abaxially; Colombia, Ecuador.....*P. solidagineum*
1. Uppermost leaves petiolate, if auriculate (some plants of *P. tucumanense*) then middle and lower leaves pinnately lobed.
   3. All cauline leaves uniformly dentate or denticulate.
      4. Style 2–5 mm long; plants 4–8 m tall; Colombia, Ecuador.....*P. adscendens*
      4. Style obsolete or 0.5–1(–2) mm long; plants 0.2–2(–3) m tall; Argentina, Bolivia, Chile, Peru.
         5. Seeds uniseriate; fruit (4–)4.5–9.5 cm long.
            6. Fruits (4.5–)5.5–9.5 cm long, torulose; petals 5–7 mm long; fruiting pedicels (8–)10–18 mm long, slender, curved.....*P. rusbyi*
            6. Fruits 4–4.5 cm long, smooth; petals 4–5 mm long; fruiting pedicels 7–10 mm long, stout, straight .....*P. apolobamba*
         5. Seeds biseriate; fruit 1–3(–4) cm long.
            7. Fruits reflexed; fruiting pedicels 0.3–1(–1.5) cm long; stigma considerably wider than style; ovules and seeds (150–)200–300(–360) per fruit; Argentina and Bolivia.....*P. harmsianum*
            7. Fruits erect to divaricate-ascending; fruiting pedicels (1.2–)1.7–2.6(–3) cm long; stigma at most as wide as style; ovules and seeds 22–80 per fruit; Chile and Peru.
               8. Plants perennial; uppermost leaves ovate, oblong, or laneolate; seeds 1.8–2.2 mm long; ovules 22–32 per ovary; central Chile.....*P. litorale*
               8. Plants annual; uppermost leaves linear to linear-lanceolate; seeds 1–1.3 mm long; ovules 60–80 per ovary; southern Peru.....*P. llatasii*
   3. At least some cauline leaves irregularly dentate and/or pinnately lobed.
      9. Stems, leaves, and sometimes ovaries with branched trichomes; Patagonia.....*P. magellanicum*
      9. Plants glabrous or with simple trichomes, rarely (*P. zoellneri*) leaf margin with few Y-shaped trichomes; elsewhere.
         10. Fruiting pedicels curved downwards; fruits often secund, 6–9 cm long; seeds apically winged .....*P. tucumanense*
         10. Fruiting pedicels straight or curved upwrds; fruits not secund, 1–4(–6) cm long; seeds wingless.
            11. Fruits 4–6 cm; margin of middle and lower leaves with some Y-shaped trichomes; north Chile .....*P. zoellneri*
            11. Fruits 1–3(–4.5) cm; margin of middle and lower leaves glabrous or exclusively with simple trichomes; north and central Argentina, south Brazil.
               12. Petals 5–8 mm long; leaves often hastate at base; ovules (90–)110–190 per ovary; seeds coarsely reticulate.....*P. grandiflorum*
               12. Petals 2.5–5 mm long; leaves not hastate at base; ovules 26–80(–100) per ovary; seeds minutely reticulate.
                  13. Fruiting pedicels erect to erect-ascending; fruits often tortuous.....*P. arnottianum*

13. Fruiting pedicels divaricate to descending; fruits not tortuous.
    14. Seeds reddish brown; leaves glabrous; Brazil (Santa Catarina).....*P. brasiliense*
    14. Seeds yellowish brown; at least lower leaves ciliate; Argentina (Catamarca, Córdoba, Jujuy, La Rioja, San Luis, Tucumán).....*P. gilliesii*

Polypsecadium adscendens (O. E. Schulz) Al-Shehbaz, Darwiniana 44: 354. 2006. Basionym: *Sisymbrium adscendensO. E. Schulz* in Engler, Pflanzenreich IV. 105(Heft 86): 71. 1924. TYPE: Ecuador. between Cotocollao and Pifo, *A. Sodiro 39* (holotype, B!).

Perennial vines, pilose; trichomes simple, 0.1–0.4 mm long. **Stems** (1–)3–9 m tall, erect, pilose, woody at base, branched above. **Leaves** cauline, middle ones with petioles 1–4 cm long; blade broadly lanceolate to ovate, 4–10 × 1.5–4.5 cm, pilose, base obtuse to cuneate, margin callose denticulate, apex acute to acuminate; uppermost leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size upwards, moderately to sparsely pilose. **Racemes** ebracteate, lax, elongated considerably in fruit; rachis straight, not striate, pilose; fruiting pedicels horizontal to slightly descending, 5–12 mm long, straight, stout, glabrous. **Sepals** oblong, 4–5, glabrous, membranous at margin, not saccate at base, ascending; petals white, oblanceolate-obovate, 5–6 × 1.5–2 mm, not clawed; filaments white, median pairs 4–5 mm long; anthers oblong, 0.5–1 mm long; ovules 32–56 per ovary. **Fruits** linear, 2–3 cm × 1.2–1.5 mm, not torulose, straight; valves with a distinct midvein, glabrous; gynophore 0.2–0.5 mm long; style (1–)2.5–5 mm long; stigma capitate, narrowers than style. **Seeds** brown, ovoid, uniseriate, 0.9–1.1 × 0.6–0.7 mm; cotyledons incumbent.

Elevation: 2400–2600 m.

Distribution: Colombia (Boyaca), Ecuador (Pichincha).

Specimens examined: **COLOMBIA**: **Boyaca**: 9 km N of Santa Rosa de Veterba, *Barkley & Mullen 38C113* (GH, MO). **ECUADOR**: **Pichincha**: Pululagua, *Asplund 6718* (F, MO, S, TEX).

The collector's notes indicate that the plant is a vine five (*Asplund 6718*) to nine (*Barkely & Mullen 38C113*) meters tall.

Polypsecadium apolobamba Al-Shehbaz & A. Fuentes, Novon 18: 1. 2008. TYPE: Bolivia. Dep. La Paz: Prov. Franz Tamayo, ANMI [Area Natural de Manejo Integrado] Apolobamba, Piara hacia Pelechuco, bosque de yungas montano superior pluvial transicionando a ceja de monte, 2700–2900 m, 14°47′48″S, 69°00′52″W, 17 April 2006, *A. Fuentes, M. Mendoza, M. C. Lopez & R. Roque 10076* (holotype, MO; isotypes, LPB, MO).

Perennial herbs ca. 1.6 m tall; glabrous except for leaves. **Stems** erect, glabrous, several branched above. **Cauline leaves** petiolate, middle ones with petioles 2–4 cm long, blade broadly lanceolate, 10–13 × 3.5–4.5 cm, sparsely pilose with simple trichomes 0.2–0.4 mm long, base cuneate, margin denticulate, apex acuminate; upper cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards, moderately to sparsely pilose. **Racemes** ebracteate, lax, elongated considerably in fruit; rachis straight, striate; fruiting pedicels reflexed or horizontal, 7–10 mm long, straight, stout, glabrous. **Sepals** greenish pink, oblong, 3.5–4 × 1.2–1.6 mm, glabrous, membranous at margin, not saccate at base; petals white, obovate, 4–5 × 1.7–2 mm, not or obscurely clawed, only slightly longer than sepals; filaments white, median pairs 3–4 mm long, lateral pair 2–2.5 mm long; anthers oblong, 1–1.2 mm long; ovules 66–80 per ovary. **Fruits** narrowly linear, 4–5.5 cm × 1.2–1.8 mm, not torulose, straight; valves with a distinct midvein, glabrous; gynophore ca. 0.5 mm long; style 1–2 mm long; stigma capitate, considerably wider than style. **Seeds** yellow, oblong, uniseriate, 1–1.3 × 0.5–0.6 mm; cotyledons incumbent.

Polypsecadium apolobambanum, which is known thus far from and named after the type locality, is easily distinguished from the other two Bolivian species of *Polypsecadium*. From *P. harmsianum* (Muschler) O. E. Schulz, which also grows in northern Argentina (Jujuy, Salta, Tucumán), it differs by having pilose (vs. glabrous) leaves, uniseriate (vs. biseriate) seeds, and fruits 4 –5.5 (vs. 1–2) cm long. From *P. rusbyi* (Britton) Al-Shehbaz, which also grows in southern Peru (Cuzco), it differs by having obovate petals 4–5 mm long (vs. oblanceolate petals 7–8 mm long), straight and smooth fruits 4–5.5 cm long (vs. curved and torulose fruits (4.5–)5.5–8.5 cm long), and stout and straight fruiting pedicels 7–10 mm long (vs. slender and strongly curved pedicels 10–18 mm long).

Polypsecadium arnottianum (Gillies ex Hook. & Arn.) Al-Shehbaz, Darwiniana 44: 354. 2006. Basionym: *Sisymbrium arnottianum* Gillies ex Hook. & Arn., Bot. Miscell. 3: 138. 1833. *Hesperis arnottiana* (Gillies ex Hook. & Arn.) Kuntze, Revis. Gen. Pl. 2: 934. 1891. TYPE: Villavicenzio, 5000 m, *Gillies s.n.* (lectotype, here designated, K!; isolectotype, GL).

Gillies (in Hooker & Arnott, 1833) cited two of his Argentinean collections, the one above and another at altitude of 4500 m from El Morro, San Luis, *Gillies s.n*. (K, GL, fragment of GL at BAA). Both sheets at K and GL have two plants and carry Gillies handwriting, but the one at K has all of the collection details, including altitudes, and therefore should be taken as the type instead that in GL, as interpreted by Romanczuk (1982).

Perennial herbs, glaucous, glabrous throughout. **Stems** (2–)4–9(–11) dm, with woody base up to 1.5 cm diam., erect, glabrous, 1 or several from base, branched above. **Leaves** petiolate, basal and lowermost cauline with petioles (1–)2.5–9(–19) cm long, blade broadly ovate, subcordate, or lanceolate, (2–)3–8(–12) × (0.7–)1.5–4.5(–7) cm, glabrous, base cuneate to truncate, margin coarsely denticulate or with 2–5 lobes on each side, lobes dentate; uppermost cauline leaves narrowly ovate to lanceolate, gradually reduced in size and width upwards. **Racemes** ebracteate, 25–80(–120)-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels divaricate ascending to suberect, 6–15 mm long, straight or curved upward, glabrous. **Sepals** oblong, 3–5 mm, glabrous, not saccate at base; petals white, oblanceolate, 4–7 × 1.7–3 mm, not clawed; filaments white, median pairs 3.5–5 mm long; anthers oblong, 1.3–1.8 mm long; ovules 52–80 per ovary. **Fruits** linear, 1.5–3.2(–4.5) cm × 1.2–2 mm, torulose, tortuose or rarely straight, usually subappressed to rachis; valves with a distinct midvein, glabrous; style 0.5–1 mm long; stigma capitate, slightly 2-lobed, considerably wider than style. **Seeds** brown, oblong, subbiseriate or rarely uniseriate, 1.2–1.5 × 0.5–0.6 mm; cotyledons incumbent.

Flowering: Nov–Feb.

Elevation:1800–5000 m.

Distribution: Argentina (Catamarca, Mendoza, Salta, San Juan).

Specimens examined: **ARGENTINA**. **Catamarca.** Antofagasta, Sierra de Antofagasta, *Rodriguez 39* (SI). **Mendoza**: La Chilca, *Sanzin 123* (SI). Dep. Las Heras, Villavicencio, *Roig 7454* (BAA); subida de Villavicencio, Los Caracoles, *Boelcke* et *al. 16658* (SI), *Boelcke et al. 16660* (SI); near Upsallata, Mina de Queste, 27 km E of Uspallata, *Brooks et al.* (E, MO); Quebrada del Toro, *Covas 614* (SI), *Boelcke et al. 9970* (BAA); Los Hornillos, *Boelcke et al. 16661* (BACP), *Boelcke et al. 6314* (BAA); Los Hornillos y la Cruz del Paramillo, *Roig 3176* (BAA), *Leal 20155* (BAA); Estancia Canota, *Leal 22923* (BAA, BACP). **Salta**: Dep. Pastos Grandes, Puna de Atacama, Feb–May 1900, *Holamberg s.n.* (LP); Cordillera El Trontón, 1926, *Marzode s.n.* (SI). **San Juan**: Dep Angaco, Sierra de Pie de Palo, *Kiesling 4413* (BACP, SI); Camino al Mogote de los Corralitos, *Kiesling et al. 4812* (SI), *Kiesling et al. 6328* (BACP). Dep. Calingasta, Portezuelo de la Ollita, *Kiesling et al. 7711* (MO, SI). Dep. Iglesias, Guardia Vieja, 30°20′S, 69°40′W, *Kiesling et al. 8022* (SI); Reserva San Guillerma, Caserón del Alto, *Rivero 46* (MO, SI); San Guillermo, Los Caserones, *Cajal et al. 33* (SI); Base del Co Imán, *Kiesling et al. 8809* (MO, SI); Quebrada de Agua Blanca, *Kiesling et al. 6985* (SI); Quebrada del Agua Negra, cerca de El Arenal, *Kiesling et al. 8000* (MO, SI); Quebrada del Agua Negra, Arrequintin, *Cabrera et al. 18004* (BAA).

Polypsecadium brasiliense (O. E. Schulz) Al-Shehbaz, Darwiniana 44: 354. 2006. Basionym: *Sisymbrium brasiliense*O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86) 76. 1924. TYPE: Brasilia, *Sello 4288* (holotype, B!; fragment, BAA!).

Plants pernnial, glabrous throughout. **Stems** erect, glabrous, 0.8–1.5 dm tall. **Basal leaves** not observed; middle cauline leaves with petioles 2–4 cm long; blade broadly lanceolate, lower ones 7–15 cm long, thin, lyrate-pinnatifid, dentate, denticulate; uppermost leaves lanceolate, 4-7 x 0.5-1 m, accuminate, repand-dentate. **Racemes** corymbose, elongated considerably in fruit; fruiting pedicels slender, 8–12 mm long, divaricate, straight, glabrous. **Sepals** oblong, 2–3 mm, ascending, glabrous; petals white, narrowly obovate, 3.5–4.5 × 1.5–2 mm, rounded, not clawed; median filaments 3–4 mm; anthers oblong, 1–1.5 mm; ovules 36–52 per ovary. **Fruits** terete, 2–2.5 cm × ca. 1 mm, straight or slightly curved, divaricate; valves not torulose, glabrous, with a prominent midvein; septum complete, not veined; style 1–2 mm long; stigma entire. **Seeds** ovate, subbiseriate.

Elevation: ca. 800 m.

Distribution: Brazil (Santa Catarina).

Specimens examined: **BRAZIL**: **Santa Catarina**: Rio do Rastro, Orleães, *Reitz 3413* (US).

Polypsecadium effusum (O. E. Schulz) Al-Shehbaz, Darwiniana 44: 354. 2006. Basionym: *Sisymbrium effusum*O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86): 72. 1924. TYPE: Peru. Huancavelica: Prov. Tayacaja, valley of Mantaro, opposite Surcubamba, 2800 m, 15 Mar 1913, *A. Weberbauer 6499* (holotype, B!, fragment, BAA!; isotype, GH!).

Shrubs, pubescent with simple trichomes 0.1–0.8 mm long. **Stems** to 2 m, many branched below and above, sparsely strigose below, glabrous above. **Leaves** cauline, sparsely strigose adaxially, densely canescent strigose abaxially; lowermost leaves with petioles 0.5–1.5 cm long, blade lanceolate, 4–8 × 1–2.5 cm, margin repand to denticulate, apex acute; uppermost leaves distinctly smaller upwards, those below first branch of panicle 3–6 ×0.6–1 cm, sessile, strongly amplexicaul and with auricles 0.5–1.5 cm long, apex acuminate, indumentum as that of lower

leaves. **Racemes** in panicles, ebracteate, 30–62-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels horizontal to divaricate, 1–2 cm long, straight or curved downward, glabrous. **Sepals** oblong, 3–4 mm, glabrous, not saccate at base; petals purple to violet, narrowly obovate, 4–5 × 1–1.5 mm, not clawed; median filaments 2.5–4 mm long; anthers oblong, ca. 1 mm long; ovules 28–40 per ovary. **Fruits** (immature) linear, pilose; style 0.5–1 mm long; stigma capitate, considerably wider than style. **Seeds** not seen.
Flowering: Jan–Mar.
Elevation: 2800–3400 m.
Distribution: Peru (Huancavelica).
Specimens examined: **PERU**: **Huancavelica**: Prov. Huancavelica, Ayán, abajo de Conaica, *Tovar 146* (GH, US). Prov. Tayacaja: Salcabamba, *Stork & Horton 10263* (F, NA, UC, US).

Polypsecadium gilliesii (Romanczuk) Al-Shehbaz, Darwiniana 44: 354. 2006. Basionym: *Sisymbrium gilliesii* Romanczuk, Darwiniana 24: 141. 1982. TYPE: Argentina. San Luís: Dep Gral Pedernera, San José del Morro, Ea. La Morena, Cerro El Morro, 1700 m, *O. Boelcke & D. Moore 16634* (holotype, SI!; isotypes, BAA!, 2SI!).

Perennial herbs, glaucous, glabrous throughout or pilose basally with simple trichomes 0.4–1.7 mm long. **Stems** (4.5–)6–12(–15) dm, with woody, erect, glabrous or sparsely pilose, often 1 from base, branched above. **Leaves** petiolate, basal and lowermost cauline with petioles 1–7 cm long, blade broadly ovate or lanceolate, 4–11(–20) × 2–5(–7) cm, glabrous or pubescent, base cuneate to truncate, margin coarsely denticulate or 2–5-lobed on each side, lobes dentate lobes; uppermost cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards. **Racemes** ebracteate, 20–72-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels horizontal to divaricate, 6–20 mm long, straight or curved upward, glabrous. **Sepals** oblong, 3–4.5 mm, glabrous, not saccate at base; petals white, oblanceolate, 4–7 × 1.5–3 mm, not clawed; filaments white, median pairs 3.5–5 mm long; anthers oblong, 1.5–2 mm long; ovules 66–106 per ovary. **Fruits** linear, 1.2–3.5(–4.5) cm × 1.5–2 mm, torulose, not tortuose, curved inwards or straight, not appressed to rachis; valves with a distinct midvein, glabrous; style 0.5–1.5 mm long; stigma capitate, 2-lobed, considerably wider than style. **Seeds** brown, oblong, biseriate, 0.7–1.2 × 0.5–0.6 mm; cotyledons incumbent.
Flowering: Oct–Mar.
Elevation: 700–4300 m.
Distribution: Argentina (Catamarca, Córdoba, Jujuy, La Rioja, Salta, San Luis, Tucumán).
Specimens examined: **ARGENTINA**. **Catamarca**: Diera de Belen, Vayas, *Lorentz 604* (B, CORD); Dep. Ambato, Sierra de Ambato, subiendo desde El Rodeo haci el Cerro Manchado, *Hunziker & Di Fulvio 19787* (SI). Dep. Andalgala, El Condado, *Jörgensen 1137* (SI). Dep. Belén, Quebrada de los Potrerillos-El Rodeo, arriba de Granadillas, *Sleumer & Vervoorst 2451* (G). **Córdoba**: Gruta de Ongamira, *Burkart 10281* (SI), *Giardelli 306* (SI); Ascochinga, *Nicora 1091* (BAA); Ascochinga-La Quebrada, *Giardelli 853* (SI). Dep. Punilla, Sierra Chica, Cerro Uritorco, *Hunziker 18062* (NY, SI), *Hunziker 8531* (SI). Dep San Alberto, en la falda del cerro vecino al Dique La Viña, *Hunziker 7859* (BAA). **Jujuy**: Above Azul Pampa, 8 Feb 1985, *Shapiro s.n.* (GH); Dep. Humahuaca: Ruta 9, de Tres Cruces a Humahuaca, Esquinas Blancas, *Cialdella et al. 504* (MO, SI). Dep. Rinconada: ruta de Mina Pirquitas a Peñas Blancas, 9 km de Mina Pirquitas, *Zuloaga et al. 6015* (MO, SI); Mina Pirquitas, *Schwabe et al. 1171* (GH). Dep. Santa Bárbara: Abra de los Morteros, *Cabrera et al. 24091* (SI). Dep. Tilcara: Yala de Monte Carmelo, *Fabris et al. 6465* (BAA). Dep. Tumbaya, San Antonio de los Pibes, *Sleumer 3230* (LIL, SI). **La Rioja**: Chilecito, Sta. Florentina, Mina de Oro, *Rentzell 19203* (SI); La Veg de La Hoyada, *Jimenez 15160* (SI); Río Amarillo, *Hunziker 1961* (SI). Dep. Capita, El Cantadero, *Meyer 3484* (GH). Dep Famtina, Real Viejo, *Kurtz 14728* (SI); Sierra de Famatina, Río Amarillo, *Hunziker 1961* (SI); La Hoyada, *Kurtz 15026* (SI); camino al la mina La Mexicana, *Kiesling et al. 6375* (BACP). Dep. Sarmiento, La Pumilla, *Hunziker & Caso 4142* (BAA). **Salta**: Valle Guaico anch, 23 Jan 1932, Kerdel s.n. (LP). **San Luis**: Cerros Largo, *Burkart 12049* (SI); Sierra del Morro, *Pastore 25* (SI). **Tucumán**: Dep. Chicligasta, Estancia Santa Rosa, Venturi 4057 (LIL, SI). Dep. Tafi, Infiernillo, Quebrada Honda, *Hjerting et al. 9240* (BAA) Tafi del Valle Portezuelo, Rancho de Don Feliepe Diaz, *Solbrig 3364* (GH). Dep. Trancas, Los Corrales, W Lara, 15 Feb 1920, *Schreiter s.n.* (BAA); Lara, *Rodriguez 323* (SI).

Polypsecadium grandiflorum Romanczuk & Boelcke, Hickenia 1(56): 301. 1982. TYPE: Argentina. Tucumán: Quebrada de Los Sosa, 4 Dec. 1960, *A. Burkart 22111* (lectotype, SI!; isolectotypes, BACP!, SI!). Two sheets are at SI, and neither were designated nor annotated by the authors of the species. The one with mature fruits is taken here as the lectotype.

Perennial herbs, glaucous, glabrous throughout or sparsely hirsute on leaves with simple trichomes 0.2–0.5 mm long. **Stems** 1–2 m, 0.5–1.5 cm diam. at base, erect, hollow, simple at base, glabrous, often several branched above.

Leaves cauline, petiolate, middle ones with petioles 1–3 cm long; blade broadly ovate or lanceolate or deltoid, 6–15 × 2–8 cm, glabrous or sparsely hirsute, base often hastate, margin coarsely and irregularly dentate or pinnately lobed; uppermost cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards. **Racemes** ebracteate, 40–120-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels horizontal to divaricate or descending, 7–12(–15) mm long, straight or curved upward or downward, glabrous. **Sepals** oblong, 3–4.5 mm, glabrous, not saccate at base; petals white, obovate, 5–8 × 2–4 mm, not clawed; filaments white, median pairs 3.5–5 mm long; anthers oblong, 1–1.5 mm long; ovules (90–)110–190 per ovary. **Fruits** linear, 1–2.5 cm × 1.5–2 mm, not torulose, not tortuose, curved inwards or straight, not appressed to rachis; valves with a distinct midvein, glabrous; style 0.5–1.5 mm long; stigma capitate, considerably wider than style. **Seeds** brown, oblong, biseriate, 0.6–0.7 × 0.4–0.5 mm, coarsely reticulate; cotyledons incumbent.

Flowering: Nov–Jan.

Elevation: 1000–3300 m.

Distribution: Argentina (Catamarca, Jujuy, Tucumán).

Specimens examined: **ARGENTINA**. **Catamarca**: Dep Andalgala, Ea. Junka Suma, 21 Jan 1949, *Hjerting s.n.* (BAA); El Rodea, *Bruzzone 73* (BAA); Andalagalá, *Wall 53* (S); Chabarilla, *Brücher 9114* (M). **Jujuy**: Dep Santa Bárbara, Sierra de Santa Bárbara, El Tipal, *Fabris 8083* (BAA); El Duraznal, *de la Sota 3060* (BAA, LP), camino a Cachipunco, *Rotman 874* (SI). Dep. Tumbaya, Abra del cerro Morado, *Fabris et al. 6251* (LP); Volcán Chilcayo, Fabris et al. 6234 (LP), *Kiesling et al. 1013* (LP). **Tucumán**: Dep. Chicligasta, Estancia Las Pavas, *Venturi 3083* (GH, US), *4660* (GH, SI); Las Lenguas, Quebrada Rio Cochuna, 24 Nov. 1938, *Descole et al. s.n.* (GH); Cañada del Muños, Tafí de Valle, Dec 1911, *Castillon s.n* (SI). Tafi, entre Ricon y Carieras, 2300 m, 4 Feb 1908, *Lillo s.n.* (NY).

Polypsecadium harmsianum (Muschl.)O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86): 177. 1924. *Thelypodium harmsianum* Muschl., Bot. Jahrb. Syst. 40: 267. 1908. TYPE: Bolivia. Tarija: Tucumilla near Tarija, 30 Dec. 1903, 2800 m, *K. Fiebrig 2452* (holotype, B!; isotypes, G!, K!).

Thelypodium harmsianum Muschl. var. *dentatum* Muschl., Bot. Jahrb. Syst. 40: 268. 1908. *Polypsecadium harmsianum* (Muschl.)O. E. Schulz var. *dentatum* (Muschl.)O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86): 177. 1924. TYPE: Bolivia. [Tarija]: Calderillo, 3200 m, 22 Mar 1904, *K. Fiebrig 3155* (holotype, B!; isotypes, BAA!, CONC!, G!, GH!, K!, P!, S!).

Sisymbrium ragoneseanumO. E. Schulz, Repert. Sp. Nov. Regni Veg. 38: 32. 1935. TYPE: Argentina. Salta: Depto. Anta, Sierra Gonzalez, June 1934, *A. Ragonese 278* (holotype, B!; isotype, BAA!).

Perennial herbs, glaucous, glabrous throughout. **Stems** (0.6–)1–2(–2.5) m, 0.5–2 cm diam. at base, erect, hollow, simple at base, often several branched above. **Leaves** cauline, petiolate, middle ones with petioles 1–6 cm long; blade ovate to ovate-lanceolate, 3.5–14 × 1.5–7.5 cm, glabrous, base obtuse, margin entire or subapically denticulate; uppermost cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards. **Racemes** ebracteate, 20–40-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels reflexed, 4–10(–15) mm long, curved at base, glabrous. **Sepals** oblong, 2–2.8 mm, glabrous, not saccate at base; petals white, obovate, 2–3 × 0.8–1 mm, not clawed; filaments white, median pairs 2–3 mm long; anthers ovate, 0.3–0.5 mm long; ovules (150–)200–300(–360) per ovary. **Fruits** linear, 1–3(–4) cm × 1.5–2 mm, not torulose, not tortuose, straight or curved, sometimes subappressed to rachis; valves with obscure midvein, glabrous; style 0.5–1 mm long; stigma capitate, 2-lobed, considerably wider than style. **Seeds** brown, ovoid, biseriate, 0.4–0.5 × 0.3–0.4 mm, minutely reticulate; cotyledons incumbent.

Flowering: Jan–Mar.

Habitat: rocky banks, edge of scrub, partial shade in quebrada, steep banks; 2100-3100 m.

Elevation: 900–3200 m.

Distribution: Argentina (Jujuy, Salta, Tucumán), Bolivia (Chuquisaca, Tarijo, La Paz).

Specimens examined: **ARGENTINA**. **Jujuy**: Yala, Volponi 416 (LP). Dep Capital, entre León y Nevado de Chañi, Mesada, *Fabris et al. 3977* (LP), *Fabris 4207* (BAA, LP). Dep Valle Grande, Serranía de Calilegua, Tolditos, *Fabris et al. 5730* (BAA, LP); Río Jordán, *Fabris et al. 5713* (LP). **Salta**: Dep Caldera, Potero del Castillo, *Sleumer & Vervoorst 2810* (BAA, LIL); Santa Victoria, *Hjerting et al. 163* (BAA). Dep. Chicoana, 15 km W Chicoana, camino Escoipe, *Krapovickas & Schinini 30226* (F). Dep. Orán, Santa Cruz, *Pierotti 1283* (NY). Dep. Rosar. de Lerma, Quebrada del Toro, Ruta 51, km 31.7, *Novara 7560* (M). **Tucumán**: Dep. Famaillá, Camino in Villá Nougués, *Venturi 1107* (US); Dep. Burruyacu, Cerro del Campo, *Venturi 7862* (CAS, FI, GH, K, MO, SI, UC, US); Cañada del Muños, Tafí de Valle, Dec. 1911, *Castillon s.n.* (SI); Dep Tafi, Zanja, cerca Vacahuasi, *Lillo 53352*

(NY); entre Rincón y Carreras, *Lillo 53353* (UC); camino desde Las Carreras hacia El Mollar, 14 km antes de El Mollar, 26°57′S, 65°46′W, *Cialdella et al. 101* (SI); Hoyada, *Peterson & Hjerting 918* (BAA); Chicligasta, Ea Las Pavas, *Venturi 4660* (SI); Tanya, cerca Vacahuasi, 14 Apr 1900, *Lillo s.n.* (NY). **BOLIVIA**. **Chuquisaca**: Boeto, ca. I km below Nuevo Mundo towards Rio Grande, *Wood 10866* (K); ca. 3 km from Punilla towards Sucre, *Wood 8055* (K). **La Paz:** Saavedra: ca. 11 km below Charazani on rd to Apolo, *Wood & Goyder 15446* (K); Yamparaez, S rim of La Candelaria valley on rd from Tarabuco to Icla, *Wood & Carretero 16188* (K). **La Paz**: Prov. Bautista Saavedra, Charazani-Tales, Chullina, *Feuerer 4057* (HBG).

Polypsecadium litorale (Phil.) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym: *Sisymbrium litorale* Philippi, Linnaea 28: 667. 1856; *Hesperis litoralis* (Phil.) Kuntz, Rev. Gen. Pl. 2: 934. 1891. TYPE: Chile, Tomé, Nov 1855, *P. Germain s.n.* (holotype, SGO 63186!)

Sisymbrium litorale var. *virgatum*O. E. Schulz in Engler, Pflanzenreich IV. 105(Heft 86): 72. 1924. TYPE: Chile. Los Chorillos, Concon, Sep 1827, *Pöppig s.n*. (holotype, W!; fragments BAA!).

Plants perennial, glabrous throughout. **Stems** erect, glabrous, 5–30 dm tall. **Basal leaves** not observed; middle cauline leaves with petioles 0.5–1.5 cm long; blade oblong-ovate to lanceolate, 2–6 × 1–2.5 cm, fleshy, often crowded, flat, denticulate; uppermost leaves narrower and smaller. **Racemes** corymbose, elongated considerably in fruit; fruiting pedicels stout, 15–30 mm long, divaricate to descending, straight, glabrous. **Sepals** broadly ovate, 3.5–4.5 × 1.5–2.5 mm, ascending, glabrous; petals white to lavender, spatulate, 5.5–7.5 × 1.5–2.5 mm, rounded, not clawed; filaments 3.5–4.5 mm; anthers oblong, 1–1.2 mm; ovules 22–32 per ovary. **Fruits** terete, 2.5–4 cm × 2–3 mm, straight, spreading to divaricate or descending; valves not torulose, glabrous, with a prominent midvein and distinct marginal veins; septum complete, not veined; style 1–2 mm long; stigma entire. **Seeds** ovate, subbiseriate, 1.8–2.2 × 1–1.2 mm.

Flowering: Oct–Nov

Rocky bluff above beach,

Elevation: 0–50 m

Distribution: Chile (Región VIII).

Specimens examined: **CHILE**. Laraquete, [37°10′S, 73°10′W], 21 Nov 1945, *Pfister s.n.* (CONC); San Vicente-El Mirador-Talcahuano, 29 Oct. 1950, [36°46′S, 73°8′W], *Pfister s.n.* (CONC), Ricardi s.n. (CONC). **VIII**: Concepción, Rocoto, *Sparre 9972* (CONC); Dep Talcahuano, Rocoto, [36°48′S, 73°10′W], 13 Nov 1970, *Inostroza & Palma s.n.* (CONC), *Gleisner 165* (CONC); San Vicente, Talcahuano, [36°46′S, 73°8′W], 30 Sep 1938, *Junge s.n.* (CONC), *Pennell 12874* (GH, SGO); Concepcion, *Jaffuel 2943* (GH); Cocepcion, 1856-1857, *Germain s.n.* (G, K, P); Tumbes, 1893-1896, *Neger s.n.* (M), *Jaffuel 2943* (GH).

Polypsecadium llatasii (Al-Shehbaz) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym: *Sisymbrium llatasii* Al-Shehbaz, Ann. Missouri Bot. Gard. 77: 219. 1990. TYPE: Peru. Lambayeque: Prov. Cerro Reque, 580 m, 28 Sep 1986, *S. Llatas Quiroz 2102* (holotype, F!; isotypes, GH!, SI!).

Plants annual herbs, glabrous throughout. **Stems** erect, glabrous, 2–8 dm tall. **Basal leaves** not observed; middle cauline leaves with petioles 1–2 cm long; blade oblong to lanceolate, 2.5–7 × 0.5–2.5 cm, flat, obscurely dentate or repand; uppermost leaves narrower and smaller. **Racemes** corymbose, elongated considerably in fruit; fruiting pedicels slender, 8–15 mm long, divaricate, straight, glabrous. **Sepals** ovate-oblong, 3–4 × 1.5–2 mm, ascending to spreading, glabrous; petals white to lavender, broadly obovate, 6–7 × 3–4 mm, rounded, not clawed; filaments 3–3.7 mm; anthers oblong, 0.7–0.9 mm; ovules 60–80 per ovary. **Fruits** terete, 2–4 cm × 1.7–2 mm, straight, spreading to divaricate; valves not torulose, glabrous, with a prominent midvein and obscure marginal veins; septum complete, not veined; style 0.5–1 mm long; stigma entire to obscurely 2-lobed. **Seeds** oblong to oblong-ovate, biseriate, 1–1.3 × 0.5–0.9 mm.

Flowering Sep–Oct.

Habitat: coastal areas in loma vegetation.

Elevation: 540–580 m.

Distribution: Peru (Lambayeque).

Specimens examined: **PERU**. **Lambayeque**: Prov. Chiclayo, Cerro Reque, *Llatas 2308* (MO), *Llatas 331* (NY), *Llatas 3053* (NY).

Polypsecadium magellanicum (Juss. ex Pers.) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym: *Brassica magellanica* Juss. ex Pers., Syn. Pl. 2: 207. 1807. *Sisymbrium magellanicum* (Jussieu ex Person) Hook.f., Fl. Antarct. 2: 243. 1847; *Hesperis magellanica* (Juss. ex Pers.) Kuntze, Revis. Gen. Pl. 2: 934. 1891; *Arabis magellanica* (Juss. ex Pers.) Dusén,

Gefässpfl. Magell. 177. 1900. TYPE: Argentina. “Detroit de Magellanes”, *Commerson s.n.* (holotype, P!, fragments BAA!; isotypes 2P!).

Cardamine patagonica Speg., Revista Fac. Agr. La Plata 3(30-31): 490. 1897. TYPE: Argentina. Río Santa Cruz, Feb. 1882, *C. Spegazzini* (holotype, LP).

Schizopetalon fuegianum Speg., Anal. Mus. Nac. Hist. Nat. Buenos Aires 5: 48. 1896; *Sisymbrium fuegianum* (Speg.) Speg., Anal. Soc. Ci. Argent. 47: 167. 1901. TYPE: Argentina, Aicina, *C. Spegazzini s.n.* (lectotype, here designated, LP).

Sisymbrium fuegianum (Speg.) Speg. var. *glabrum* Speg., Anal. Soc. Ci. Argent. 47: 168. 1901. TYPE: Argentina. Santa Cruz: Lago Argentinao, Karraik, March 1898, *C. Ameghino s.n.* (holotype, LP).

Sisymbrium fuegianum (Speg.) Speg. var. *hispidum* Speg., Anal. Soc. Ci. Argent. 47: 168. 1901. TYPE: Argentina. Santa Cruz: Lago Argentinao, Karraik, March 1898, *C. Ameghino s.n.* (holotype, LP).

Perennial herbs, sparsely to densely pubescent with simple and stalked, Y-shaped or irregularly forked 3–5-rayed . **Stems** 3–10(–15) dm, with woody caudex, erect, pubescent with simple trichomes to 1.5 mm long and smaller forked ones, branched above. **Basal leaves** petiolate, pinnatipartite to pinnatifid, pubescnt; petiole 3–10(–15) cm long; blade 6–15(–18) × 3–5(–8) cm, pubescent, with 4–8 lateral lobes on each side, lobes entire to repand or dentate; uppermost cauline leaves gradually reduced in size and width upwards, fewer lobed, petiolate. **Racemes** ebracteate, (15–)25–77-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels horizontal to divaricate, 0.7–1.5(–2.5) cm long, straight or curved upward, glabrous or pubescent. **Sepals** oblong, 3–5 mm, subglabrous or pubescent, not saccate at base; petals white, obovate to spatulate, 6–10 × 2–4 mm, not clawed; filaments white, median pairs 5–6 mm long; anthers oblong, 1–1.5 mm long; ovules 34–56 per ovary. **Fruits** linear, 1.2–2.5(–3.5) cm × 1.7–3 mm, not torulose, not tortuose, curved inwards or straight, not appressed to rachis; valves with a distinct midvein, glabrous or pubescent; style 0.5–2 mm long; stigma capitate, wider than style. **Seeds** brown, oblong, biseriate, 1.3–2 × 0.8–1 mm; cotyledons incumbent.

Flowering: Dec–Jan.

Habitat: grassland, sandstone outcrops, among rocks

Elevation: 0–1100.

Distribution: Argentina (Santa Cruz, Tierra del Fuego), Chile (Región XII).

Specimens examined: **ARGENTINA**. **Santa Cruz**: Dep Güer Aike, ruta 293, 70 km W Rio Gallegos, hacia Río Turbio, pasando Las Buitreras, *Boelcke et al. 12381* (BAA); Río Gallegos, Cerro Tres Hermanos, *Sleumer 929* (BAA, UC); lago San Martin, Rio Fosiles, April 1905, *Dusén s.n.* (K); Rio Gallegos, Estancia Stag River, *Tweede 99* (K); Güer Aike, Ea Las Viscachas, 50°46′S, 72°1′W, *TBPA 2453* (SI); Ea La Verdadera Argentina, Co de la Virgen, 50°49′S, 72°13′W, *TBPA 2318* (MO, SI); Ea. Mte. Aymond, Oreja de Burro, *Boelcke et al. 16807* (BACP). Depto. Lago Argentino, lago Argentino, brazo Norte, Ventisquero Upsala, Bah'ia Ciprés, 50°5′S, 73°17′W, *Boelcke et al. 12569* (BAA, BAB, SI); Ea. Aita, Cerro Huiliche, hacia arroyo afluente del Moyano, *Claudia & Damián 459* (SI); Lago Viedma, *Dusén 5881* (PRC, SI). Depto. Rio Chico, Ea La Calandria, *Spegazzini 29* (BAA).**Tierra del Fuego**: San Sebastian, NE edge of Barrancas de Carmen Sylva, 53°18′S, 68°33′W, *Moore & Goodall 251* (K); Depto Ushuaia, Estancia Haberton, cerro Fox Trap, *Boelcke et al. 15269* (BAA). Puerto Pescado, 54°52′S, 67°27′W, *Moore 1405* (BAA, K); Gable Inner Channel, Ea. Haberton, *Goodall 991* (UC, US); Gable Island, *Goodall 3636* (BAB, MICH, NA, SI, UC); Viamonte, S of Cabo Peñas, *Mexia 7949* (B, F, GH, K, MO, UC); 2 km E of Estancia El Salvador, beyond Ea. San Julio, *Goodall 3967* (GH); Sandy Point, *Lechler 973* (G, K, P); Dep Río Grande, 60 km SW R'io Grande, Ea El Salvador, *Boelcke et al. 15085* (BAA). **CHILE**. Escorial de Paliaike, *Pisano 3684* (BAA); **XII**: Est. Brazo Norte, [52°3′S, 71°10′W], *Pisano 2549* (CONC); Last Hope Inlet, foot of Mt. Dorothy, *Mexia 7990* (GH, K, UC); Sierra de los Baguales, Cerro Santa Lucía, 50°44′S, 72°20′W, *Arroyo et al. 841073* (CONC); Cerro Donso, Sector Río de las Chinas, 50°44′S, 72°1′W, *Arroyo et al. 870341* (CONC); Escorial de Pali Aike, Cerro Diablo, [52°2′S, 69°45′W], *Pisano 5177* (GH, CONC); Cerro Los Onas, Est. Tres Arroyos, San Sebastián, 53°21′S, 68°40′W, *Pisano & Henríquez 6722* (CONC); San Gregorio, Parq. Nac. Pali Aike, sector Cueva de Pali Aike, *Domínguez & Elvebakk 20 (*CON); Gallegos Chico, 52°01′S, 70°43′W, *Pisano 2907* (CONC).

Polypsecadium rusbyi (Britton) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym: *Sisymbrium rusbyi* Britton, Bull. Torrey Bot. Club 16: 16. 1889. TYPE: Bolivia. Sorata, 10,000 ft, Feb 1886, *H. H. Rusby 1432* (Holotype, NY!).

Perennial herbs, glabrous or hirsute with simple trichomes 0.2–1.5 mm long. **Stems** 0.7–3 m, erect, hollow, simple at base, often several branched above, glabrous or pilose. **Leaves** cauline, petiolate, middle ones with petioles 1–3 cm long; blade lanceolate to ovate-lanceolate, 4–12 × 1.5–4 cm, subglabrous or hirsute, base obtuse to cuneate, margin close denticulate; uppermost cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards. **Racemes** ebracteate, 50–90-flowered, corymbose, elongated considerably in fruit; rachis straight, glabrous or sparsely pubescent; fruiting pedicels horizontal to divaricate or descending, (8–)10–18 mm

long, curved straight, glabrous. **Sepals** oblong, 3.5–4 mm, glabrous, slightly saccate at base; petals white or cream, narrowly obovate to spatulate, 5–7 × 1.5–2 mm, clawed; filaments white, median pairs 4–5 mm long; anthers oblong, ca. 0.7 mm long; ovules 64–100 per ovary. **Fruits** linear, 4–9.5 cm × 1–1.5 mm, torulose, slightly tortuose, curved; valves with obscure midvein, glabrous; style 0.1–1 mm long; stigma capitate, 2-lobed, considerably wider than style. **Seeds** brown, oblong, uniseriate, 1.5–2 × 0.8–1 mm, reticulate; cotyledons incumbent.
Flowering: Jan–Jul.
Habitat: Steep slopes with tall shrubs with grasslands,
Elevation: 2800–3600 m.
Distribution: Bolivia (La Paz), Peru (Cuzco).
Specimens examined: **BOLIVIA**. without locality, *Bang 1896* (GH, K, M, MO, NY). **La Paz**. Omasuyos, between Achacachi and Sorata, cerca de Humanata, *Ceballos et al. 606* (BACP, G, SI); Inquisivi, ca. 3–4.5 km NE Quime, 16º57´S, 67º12´W, *Lewis 35194* (MO, NY); Inquisivi, trail between Chichipata and Hacienda Jucumarini, ca. 2 km N of Quime, *Lewis 88998* (MO). Prov. Larecaja: vicinity of Yalbaya, *Mandon 906* (G, GH, K, NY, P). **PERU Cuzco**. Prov. Urubamba, Dist. Chinchero, 13º23´S, 72º2´W, *C. & E. Franquemont 298* (F, GH, MO, NY). Prov. Paruro, Llaulli-ccasa, *Vasgas 899* (F).
Franquemont 298 label says that the plant is an erect herb 2.5–3 m tall, flowers cream, collected on 26 Jan 1986.

Polypsecadium solidagineum (Triana & Planch.) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym*: Sisybmrium solidagineum* Triana & Planch., Ann. Sci. Nat. Ser. IV, 17: 64. 1862. *Hesperis solidaginea* (Triana & Planch.) Kuntze, Revis. Gen. Pl. 2: 935. 1891. TYPE: Colombia. Boqueron de la Mesa, 1845, *J. Goudot s.n.* (holotype, P!).

Shrubs, sparsely pubescent on leaves with simple trichomes 0.1–0.6 mm long. **Stems** 1–1.7 m, many branched above, glabrous throughout. **Leaves** cauline, glabrous adaxially, ciliate and sparsely hirsute abaxially; lowermost leaves with petioles 0.5–1.5 cm long, blade lanceolate, 4–11 × 0.7–2 cm, margin callose denticulate, apex acuminate; uppermost leaves distinctly smaller upwards, those below first branch of panicle 4–9(–13) ×0.5–1.5(–3) cm, sessile, strongly amplexicaul and with auricles 0.5–1.5 cm long, apex acuminate, indumentum as that of lower leaves. **Racemes** in panicles, ebracteate, 20–6-flowered, corymbose, elongated considerably in fruit; rachis straight, glabrous; fruiting pedicels horizontal to descending, 5–12 mm long, straight or curved downward, glabrous. **Sepals** oblong, 3–4 mm, glabrous, not saccate at base; petals white, narrowly obovate, 4–5 × 1–1.5 mm, not clawed; median filaments 2.5–3 mm long; anthers oblong, 0.7–1 mm long; ovules 40–60 per ovary. **Fruits** linear, 2–5 × ca. 1.5 mm, glabrous, valves not torulose, with a prominent midvein and distinct to obscure lateral veins; style 1–2.5 mm long; stigma capitate, wider than style. **Seeds** ovoid, 1–1.5 × 0.7–0.9 mm, brown, minutely reticulate, sometimes apiculate; cotyledons incumbent.
Flowering: Oct–Mar.
Elevation: 2780–4200 m.
Habitat: disturbed ground, forest remnants, thickets.
Distribution: Colombia, Ecuador (Azuay, Chimborazo, Cotopaxi, Imbabura, Loja, Pichincha).
Specimens examined: **ECUADOR**. Quito, *Jameson 218* (G); Paluguillo, *Benoist 3877* (MO, P); Condorguachoua, *Benoist 4077* (P). **Azuay**; El Chorro, ca. 6 km above Molleturo on road to Cuenca, *Harling & Andersson 22862* (GB, QCA). **Chimborazo**: Km 22 Chunchi-Zhud, 2°22′S 79°58′W, *Laegaard et al. 103012* (AAU, MO); Pallatango, *Sodiro 46* (B). **Cotopaxi**: Parq. Nac. Cotopaxi, Estación Boliche, 0°40′S 78°30′W, *Freire et al. 910* (QCA) **Imbabura**: S slopes of Volcán Cotacachi, 18 km from Cotacachi to Apuela, 0°18′N 78°22′W, *Molau et al. 2637* (AAU, GB, QCA). **Loja**: Reg. Central, Las Chinchas, *Acosta Solis 7725* (F). **Pichincha**: Pichincha, *Benoist 3139* (MO, P); Mt. Guamani, *Asplund 8727* (NY).

The species (as *Sisymbrium solidagineum*) was reported by Pittier et al. (1945) from Venezuela, but that report was based on misidentified plants of another species, either *S. pandurifolium* Kuntze or *Exhalimolobos hispidulus* (DC.) Al-Shehbaz & C. D. Bailey.

Polypsecadium tucumanense (O. E. Schulz) Al-Shehbaz, Darwiniana 44: 355. 2006. Basionym: *Sisymbrium arnottianum* Gillies ex Hook. & Arn. var. *tucumanenseO. E. Schulz* in Engler, Pflanzenreich IV. 105(Heft 86): 75. 1924. *Sisymbrium tucumanense* (O. E. Schulz) Romanczuk, Darwiniana 24: 119. 1982. TYPE: Argentina. Tucumán: Sierra de Tucumán, cerca de la Ciénaga, 10–17 Jan 1874, *G. Hieronymous & P. G. Lorentz s.n*. (holotype, B!; fragment BAA!).

Sisymbrium arnottianum Gillies ex Hook. & Arn. var. *dolichocarpum* O. E. Schulz, Notizbl. Bot. Gart. Berlin-Dahlem 11: 876. 1933. TYPE: Argentina. Tucumán: Sierra Calchaquíes, La Puerta, 4000 m, 30 Jan1933, *A. Burkart 5246* (holotype, B!; isotype, SI!).

Sisymbrium tucumanense (O. E. Schulz) Romanczuk var. *rigidocarpum* Romanczuk, Darwiniana 24: 120. 1982. TYPE: Argentina. Tucumán: Depto. Chicligasta, Ea. Las Pavas, Puesto El Bayo, 3200 m, 12 Mar 1924, *S. Venturi 3084* (holotype, SI!; isotypes, BAA!, GH!).

Perennial herbs, , sparsely hirsute with simple trichomes 0.5–2.5 mm long. **Stems** 0.3–1.5 m, 0.5–1.5 cm diam. at base, erect, usually hollow, simple at base, sparsely hirsute or glabrous in raceme, often several branched above. **Leaves** cauline, petiolate, lower ones with petioles 1–5 cm long; blade pinnately lobed, 3.5–22 × 1.5–10 cm, sparsely hirsute; lateral lobes 3–5 on each side, coarsely and irregularly dentate; upper cauline leaves narrowly lanceolate to linear-lanceolate, gradually reduced in size and width upwards, often auriculate. **Racemes** ebracteate, 20–82-flowered, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels horizontal to descending and sometimes secund, 0.7–1.5(–2.2) cm long, straight or curved upward or downward, glabrous or rarely with a few trichomes. **Sepals** oblong, 3.5–5 mm, glabrous, not saccate at base; petals white or pale yellow, obovate, 4.5–8 × 2–4 mm, short clawed; filaments white, median pairs 3.5–5 mm long; anthers oblong, 0.7–1 mm long; ovules 70–166 per ovary. **Fruits** linear, 6–9 cm × 1.5–2 mm, not torulose, not tortuose, straight or curved, not appressed to rachis; valves with a distinct midvein, glabrous; style 0.5–1.5 mm long; stigma capitate, considerably wider than style. **Seeds** brown, ovoid, uniseriate, 1.5–2 × 0.8–1 mm, coarsely reticulate, distally winged; cotyledons incumbent.

Flowering: Dec–Jan.

Elevation: 3000–4000 m.

Distribution: Argentina (Tucumán).

Specimens examined: **ARGENTINA**. **Tucumán**: Dep. Chicligasta, Estancia Santa Rosa, *Venturi 4057* (SI); Estancia Las Pavas, *Venturi 4660* (CAS, GH, UC, US); Pto. El Bayo; Estancia Las Pavas *Venturi 3084* (BAA, GH, US), *Venturi 4637* (BAA, CAS, GH, SI); La Cascada, *Meyer 15024* (NY). Depto. Leales, Chañar Pozo, *Venturi 374* (CAS). Dep. Tafi, La Puerta, *Parodi 10796* (BAA); Peñas Azules, *Parodi 10940* (BAA), *Olea 8760* (LIL).

Polypsecadium zoellneri Al-Shehbaz, Darwiniana 44: 357. 2006. TYPE: Chile. Prov. Atacama [Región III]: La Guardia (Río Jorquera), [27°50´S, 69°45´W], 2500 m, 12 Jan. 1970, *O. Zöllner 4008* (holotype, CONC).

Plants perennial herbs, glabrous except for leaf margin. Stems erect, glabrous. Basal leaves and lower cauline leaves not observed; middle cauline leaves with petioles to 1.5 cm long; blade lanceolate, 3–8 × 1–3 cm, pinnatifid to coarsely dentate, sparsely ciliate with simple and forked Y-shaped trichomes; uppermost leaves narrower, smaller, dentate. Fruiting Racemes corymbose, elongated considerably in fruit; fruiting pedicels 6–12 mm long, divaricate, straight, glabrous. Flowers not seen. Fruits linear, terete, 4–6 cm × 1.4–1.8 mm, straight or slightly curved upward, spreading to divaricate; valves not torulose, glabrous, with a prominent midvein and distinct marginal veins; septum complete, not veined; style obsolete; stigma obscurely 2-lobed. Seeds 78-88 per fruit, reddish brown, oblong to oblong-ovate, biseriate, 1–1.3 × 0.7–1 mm; cotyledons incumbent.

Polypsecadium zoellneri is most closely related to the Argentinian endemic *P. gilliesii*, from which it is readily distinguished by having larger and thicker fruits (4–6 cm × 1.4–1.8 mm vs. 1.5–3.5(-4.5) cm × 0.9–1.2 mm), reddish brown seeds 1–1.3 mm long (vs. yellowish brown seeds 0.7–1 mm long), and margins of lower and middle leaves with simple and forked (vs. exclusively simple) trichomes.