

Perityle discoidea (Ph.) Johnston, supra pg. 128.

On a gravelly hillside near Tocopilla (*J.* 3585).

Bahia ambrosioides Lag. Gen. et Sp. Nov. 30 (1816).

Growing at ca. 200 m. alt. in a quebrada near Antofagasta (*Pennell* 13023) and on a rocky slope with *Cereus* in the hills near Tocopilla (*J.* 3587). Reiche, Grundz. Pfl. Chile 166 (1907), also reports it from Tocopilla.

Amblyopappus pusillus H. & A. Jour. Bot. iii. 321 (1841).

I found a small colony of this on a gravelly slope near Tocopilla (*J.* 3586) whence it has also been reported by Reiche, Grundz. Pfl. Chile 166 (1907).

Senecio leptanthus Ph. Anal. Univ. Chile lxxxviii. 15 (1894).

Growing on the gravelly floor of a quebrada near Antofagasta (*J.* 3655).

Polyachyrus annuus Johnston, supra pg. 134.

Growing on a gravelly hillside near Tocopilla (*J.* 3583, type) and in Queb. Huantajaya near Iquique (*Werdermann* 758).

Polyachyrus roseus Ph. Fl. Atac. 28 and Viage Des. Atac. 202 (1860).

Collected near Antofagasta by Rose (no. 19418). I collected an annual, apparently juvenal plant of this species in a quebrada near Antofagasta (*J.* 3656).

Leucheria modesta (Ph.) Reiche, Anal. Univ. Chile cxvi. 192 (1905) and Fl. Chile iv. 415 (1905).

I collected this species on a gravelly slope in the hills near Tocopilla (*J.* 3584) whence it was reported by Reiche, l. c.

Sonchus tenerrimus L. Sp. Pl. 794 (1753).

There is a specimen of this species from Tocopilla in the museum at Santiago which is apparently the basis of Reiche's, Grundz. Pfl. Chile 166 (1907), report of it from that locality.

FAMILY UNKNOWN

Tetreilema boliviense Turcz. Bull. Soc. Nat. Moscou xxxvi. pt. 2, 200 (1863).

The type of this species was collected by d'Orbigny (no. 276) at Cobija. Turczaninow described two species under his genus *Tetreilema* neither of which has been identified. He placed *Tetreilema* in the *Verbenaceae* but it seems probable that the two species represent different genera and perhaps even distinct families.

3. UNDESCRIBED SPECIES FROM THE CORDILLERAS OF ATACAMA

Ephedra Wraithiana, sp. nov., erecta fruticem globosum 1–2 m. altum robustum pallide viridem formans; ramulis oppositis erectis 2–3 mm. crassis rigidis 15–20 cm. longis internodiis 5–7 ca. 2–3 cm. longis cortice obscure tuberculatis tenue striatis pallidulis; foliis oppositis 4–5 mm. longis, juventate erectis apicem versus in vaginas cylindricas connatis, lobis subulatis ascendentibus ca. 1 mm. longis, maturitate separatis basi incrassatis et brunneis; strobilis masculinis solitariis vel glomeratis sessilibus in nodis ramulorum gestis oblongo-ovoideis obtusis obscure tetragonalibus ca. 5 mm. longis 3–4 mm. crassis 12–16-floris, bracteis luteis ovato-orbicularibus ca. 2 mm. longis per partem quartam inferiorem vel paullo ultra connatis apice obtusis vel rotundis margine scariosis; perianthio oblongo-obovato bracteas subsuperanti; columna staminali paullo vel vix exserta; antheris sessilibus 5; galbulis floralibus bifloris solitariis vel glomeratis ad nodos ramulorum sessilibus, bracteis ochroleucis membranaceis ovato-orbicularibus ca. 6 per quartam partem basi connatis, tubillo recto 1.5 mm. longo breviter exserto a limbo obliquo integro terminato; galbulis maturis ellipsoideis 7–8 mm. longis, semine exserto plumbaceo ovato dorse convexo facie plano.—CHILE: abundant on hillsides and gravelly benches, Quebrada de Potrerillos above Agua Dulce, Dept. Chañaral, ca. 2600 m. alt., Oct. 22, 1925, *Johnston 3705*; common, Quebrada del Salto below Portezuelo de San Pedrito, Sierra de San Miguel, Dept. Copiapó, ca. 3200 m. alt., Nov. 5, 1925, *Johnston 4865* (TYPE, Gray Herb.).

This species belongs to the section *Pseudobaccatae* and is apparently most closely related to *E. americana* H. & A. It differs from that species, however, in being a very much more robust plant and in having shorter coarser more erect branchlets, leaves more completely connate, more ellipsoid galbuli and apparently fewer anthers. In the coarseness of its twigs *E. Wraithiana* suggests the Argentine, *E. ochreatea* Miers, but that species, of course, has ternate leaves and baccate fruit. The proposed species is the common Ephedra in the arid cordilleras east and northeast of Copiapó where it forms large bushes which not infrequently become 2 m. tall and develop a coarse trunk 1–3 dm. thick and as much as a meter in length. Like the other Chilean species of the genus it is known as "Pingo-pingo." In the vicinity of the Potrerillos mines it is used as fuel although it is not considered as desirable as "Barilla" (*Adesmia* spp.) since it produces more smoke in burning. The species is named in honor of Mr. William Wraith of the Andes Copper Company. It is a pleasure to acknowledge here my appreciation of the kindly interest and invaluable help of Mr.

Wraith at the time when I was beginning my botanical work in northern Chile.

Cardamine (?) **cremnophila**, sp. nov., glaberrima; radice perenni longa descendente multicapitali apicem versus 5–12 mm. crassa; caulibus pluribus 5–15 cm. longis ascendentibus simplicibus vel furcatis, infra medium non rariter suffruticosis et subpersistentibus 3–8 mm. crassis evidenter cicatricosis saepe cum vestigiis foliorum subpersistentibus pallidis conspicue ornatis, supra medium foliosis; foliis confertis, laminis late cordatis herbaceis subconcoloribus obtusis integerrimis vel conspicue dentatis 3–6.5 cm. longis 2.5–5.5 cm. latis, petiolis 7–15 cm. longis 2–3 mm. latis; racemis exsertis aphyllis; pedunculis 5–10 cm. longis; pedicellis anthesi 5–10 mm. longis, maturitate ad 2 cm. longis laxe ascendentibus vel plus minusve declinatis gracilibus sed a toro turbinato ca. 2 mm. crasso terminatis; sepalis ovati-oblongis vel elliptico-oblongis 5–6 mm. longis ca. 2 mm. latis apice rotundis margine hyalinis post anthesin deciduis; petalis albis 11–13 mm. longis 5–6 mm. latis, lamina obovata in unguem gracilem longum contracta; filamentis linearibus 6–7 et 7–8 mm. longis; ovario elongato 20–30-ovulato; capsula ca. 3 mm. longa ca. 2 mm. crassa torulosa paullo compressa subtereti 3–4 mm. longe stipitata, valvis nervo medio carinatis; seminibus uniseriatis compressis ca. 1.8 mm. longis cancellatis.—CHILE: locally common in sheltered places about a cliff in the upper part of Quebrada de San Miguel, Sierra de San Miguel, Dept. Copiapó, ca. lat. 27° 25' S., long. 69° 23' W., ca. 2700 m. alt., Nov. 8, 1925, *Johnston 4927* (TYPE, Gray Herb.).

A peculiar species apparently without any very immediate relative. I could find no material in the Philippi Herbarium at all like it. It is evidently a perennial, having a strong sparingly branched tap root roughened with prominent warty excrescences which are apparently the nodules of rhizophilous bacteria. The plant grew in slightly moist soil in sheltered niches on a cliff and among rocks in shaded talus. It formed low-domed herbaceous masses 2–3 dm. broad and grew in the company of *Cajophora coronata* H. & A. My guides called it "Yerbo gato." In general appearance the plant is most suggestive of *Cardamine* although it is quite atypical of that genus in its habit of growth. The slightly immature fruit at hand seems to be subterete and to have a strong medial keel on the valves. These characters suggest *Nasturtium* although the habit of the plant, its large flowers and uniseriate seeds are more at variance with that genus than with *Cardamine*. I suspect that when fully mature fruit of *Cardamine cremnophila* is available the plant will prove to be worthy of special generic recognition.

Hexaptera macrocarpa, sp. nov., pilosa fusco-viridis 1–2 dm. alta; caulibus pluribus foliosis ascenderet ramosis 1–2.3 mm. crassis e radice crassa orientibus; foliis integerrimis concoloribus 1–1.5 cm. longis 2–6 mm. latis saepe oblanceolatis sed rariter ad formam plus minusve oblongo-obovatum variantibus supremis non rariter ellipticis, apice obtusis callosis, ad basem versus attenuatis; racemis simplicibus terminalibus 5–10 cm. longis 2–3 cm. crassis multifloris; pedicellis gracilibus 8–16 mm. longis stricte ascendentibus; sepalis oblongis ca. 4 mm. longis et 1.5 mm. latis margine hyalinis apice rotundis dorso pubescentibus; petalis pallide flavescentibus ca. 5 mm. longis 1.5–2 mm. latis quam sepalis evidenter longioribus, lamina ovata longe unguiculata; siliculis circumscriptione late elliptico-orbicularibus 10–12 mm. longis 9–11 mm. latis, valvis purpurascens ellipticis 5–6 mm. longis ca. 4 mm. latis compressis conspicuissime alatis, alis hyalinis 2–3 mm. latis; dissepimento lineari 8–10 mm. longo.—CHILE: diluvial gravel just below Laguna de Valeriano, Dept. Vallenar, ca. 3900 m. alt., Jan. 8, 1926, *Johnston 6058* (TYPE, Gray Herb.).

Growing in the compact diluvial outwash which fills Quebrada de Valeriano just below Laguna de Valeriano. It was seen at no other place and was much less common there than its congener, *H. cuneata* Gill. & Hook., with which it grew. The new species seems to be related to *H. spathulata* Gill. & Hook. and to *H. Jussiaei* Barn. The former species, which is known only from the cordilleras between Mendoza and Santiago, also has entire oblanceolate leaves but differs from our plant in having much smaller very much more narrowly winged fruit and a suffruticose much less diffuse habit. *Hexaptera Jussiaei* differs in its cuneate tridentate leaves and smaller fruit. It is very unlikely that *H. macrocarpa* could be a form of *H. Jussiaei* since that species is represented in the region about Laguna de Valeriano by the northern geographic phase which has been described by Philippi as *H. tridentata*.

Astragalus valerianensis, sp. nov., perennis ca. 3 dm. altus sparsissime strigosus; caulibus erectis vel stricte ascendentibus ramosis internodiis 2–6 cm. longis; rhachi folii 4–6 cm. longa per tertiam partem vel fere ad medium nuda, foliolis suboppositis 5–8-jugis oblongis vel ellipticis 1–1.8 cm. longis 1.5–5(–6) mm. latis apice obtusis vel emarginatis 0.4–0.8 mm. longe petiolulatis; stipulis 4–6 mm. longis ultra medium (2.5–4 mm. longe) connatis membranaceis inconspicue ciliatis; pedunculis erectis vel stricte ascendentibus rectis 8–13 cm. longis quam foliis duplo vel subduplo longioribus; bracteis persistentibus obovatis vel oblongis acutis 1–2 mm. longis; floribus

laxe racemosis 2–3 mm. longe graciliter pedicellatis; tubo calycis campanulato 2.5–3 mm. longo sparse strigoso basi rotundato, lobis calycis triangularibus inaequilongis ca. 1 mm. longis inconspicue ciliatis; vexillo oblongo-obovato ca. 9 mm. longo fere ad 6 mm. lato paullo reflexo, lamina in unguem latum brevem paullatim angustata apice rotunda saepe emarginata medium versus ochroleuca aliter purpurea; alis carinam conspicue superantibus, laminis oblongis 5–6 mm. longis ca. 2.5 mm. latis ad basem versus purpureis alibi ochroleucis, unguibus linearibus ca. 3.5 mm. longis; carina oblonga ca. 3 mm. longa apice obtusa, lamina oblonga ca. 3 mm. longa ad apicem versus purpurea alibi ochroleuca, ungue lineare ad 3 mm. longo; ovario glaberrimo anguste lanceolato compresso breviter stipitato; leguminibus ellipsoideis valde inflatis magnis 4–4.5 cm. longis ca. 2.5 mm. crassis sessilibus pendulis 4–4.5 mm. longe pedicellatis chartaceis saepe purpureo-tinctis glaberrimis; seminibus brunneis ca. 4 mm. longis oblique ovatis compressis laevibus.—CHILE: loamy talus along the Rio de Valeriano near La Cueva, Dept. Vallenar, ca. 2800 m. alt., Jan. 8, 1926, *Johnston 6033* (TYPE, Gray Herb.).

This species which belongs to the section *Phaca* is characterized by its very long strict peduncles, very large pendulous legumes and small purple corollas. I saw it only once. It formed a very large and populous colony on a talus slope and on the adjacent floor of the quebrada of the Rio de Valeriano a short distance below La Cueva. I was quite unable to match my specimens of it in the Philippi Herbarium at Santiago.

Cristaria glomerulata, sp. nov., abundanter glandulifera ut videtur perennis; caulibus decumbentibus vel laxe ascendentibus 1–3 dm. longis laxe ramosis pilis brevibus simplicibus glanduliferis dense obsitis et pilis stellatis minutis sparse ornatis, internodiis 1–3 cm. longis; foliis ad apicem versus caulis paullo reductis; lamina folii firmiuscula ambitu suborbiculata vel ovato-orbiculata usque ad medium in lobos 3–7 inaequales plus minusve abundanter evidenterque dentatos vel subpinnate lobulatos palmatifida pilis stellatis sparsis adpressis vestita sparse glandulifera basi reniformi vel truncata subtus paullo pallidiori vel plus minusve purpureo-tincta; petiolo quam internodiis adjacentibus et lamina saepe evidente longiori dense glandulifero sparsissime stellato-pubescenti; floribus rariter solitariis saepius glomeratis; glomerulis 5–10-floris ca. 1 cm. diametro 3–10 mm. longe pedunculatis foliis adjacentibus distincte brevioribus; pedicellis gracillimis glanduliferis calycem saepe brevioribus axillis bractearum ovatarum lanceolarumve 1–2 mm. longarum glanduliferum erumpentibus; calyce ad anthesim ca. 4 mm. longo glandulifero pilis

simplicibus et stellatis vix adpressis villosis, lobis oblongis vel ovatis saepe obtusiusculis apicem versus glabrescentibus et herbaceis; petalis purpurascens 3–4 mm. longis sepalis aequilongis; carpellis 10–15 glabratis alis ovatis 2 mm. longis aequilongis.—CHILE: gravelly open soil near Potrerillos, Dept. Chañaral, ca. 2800 m. alt., Oct. 24–26, 1925, *Johnston* 4725, 4744 (TYPE, Gray Herb.).

A very distinct species belonging to the group of glanduliferous plants containing *C. glandulosa* Ph., *C. inconspicua* Ph. and *C. multiflora* Gay. It is, however, quite distinct from these species being most closely related to *C. multiflora* from which it differs greatly in leaf-outline, habit, etc. In Reiche's treatment of the genus, Fl. Chile i. 243 (1896), it keys out with *C. glandulosa*, from which it differs in its smaller petals, very glandular stems and petioles, different inflorescence as well as much more northern range.

Euphrasia adenonota, sp. nov., annua minima erecta 1–3 cm. alta simplex vel rariter brevissimeque ramosa brevissime albo-hirsutula purpureo-tincta gracillima; cotyledonibus persistentibus glaberrimis obovatis; foliis crassiusculis trilobatis 2–5 mm. longis, margine valde revolutis et incrassatis, subtus dense glanduliferis cum costa lata incrassata cuneiformi eglandulosa evidenter notatis, supra (praesertim marginem versus) hirsutulis, lobis ovatis vel ellipticis obtusis vel rotundis integris, mediali longissimo; floribus 1–3 in axillis foliorum superiorum maximorum gestis; calyce 2–3 (maturitate ad 4) mm. longo ad medium versus lobato sparse hirsutulo basem versus in pedicellum 1–2 mm. longum gradatim contracto, lobis oblongis vel elliptico-oblongis margine revolutis apice obtusis vel rotundis; corolla 4–4.5 mm. longa subcylindrica calycem 1–2 mm. longe superante glabra, lobis superioribus paullo longioribus rectis 1 mm. longis oblongis obtusis integris, lobis inferioribus ascendentibus; antheris glabris suberectis, loculis calcaratis; capsula late obovata compressa inclusa glaberrima.—CHILE: moist silt and peat in a vega at the head of Laguna de Valeriano, Dept. Vallenar, 4000 m. alt., Jan. 9, 1926, *Johnston* 6067 (TYPE, Gray Herb.).

This interesting little plant belongs to the section *Trifidae* and finds its closest relatives in *E. perpusilla* Ph. [cf. Skottsberg, Zur Gefäßspfl. Westpatag. 19–21, fig. 3, (1923)] and *E. antarctica* Benth. It is, however, quickly separable from these annuals by its very small size, broad calyx-lobes, glanduliferous lower surfaces of the leaves and very broad thickened ribs of the leaves. In addition it differs from *E. perpusilla* in producing short stiff white hairs on the leaves and calyx and in having less revolute leaves. From *E. antarctica*, in particular, it differs in its simple or subsimple habit, and in its less deeply and more broadly lobed leaves.

Clos, in Gay's *Flora de Chile*, v. 146 (1849), reports *E. antarctica* from the Cordillera de Hurtado in the department of Ovalle. According to notes kindly furnished me by Dr. F. W. Pennell this record is based upon material referable to *E. adenonota*, for there is a collection of it in the museum at Santiago made by Gay (no. 1090) in Jan. 1837 and labeled as obtained "in andibus humidis, Hurtado, Coquimbo, alt. 3000 m." This collection is associated with a manuscript name that has never been published. Wettstein, *Monog. Euphr.* 279-80 (1896), cites a collection from the Andes of Illapel which he doubtfully refers to *E. antarctica*. This collection perhaps may also represent *E. adenonota*. My collection from Laguna de Valeriano comes about 180 km. to the north of the locality where Gay collected the species and consequently sets the northern limit, as now known, for the genus in South America. The plant was locally abundant in the large meadow at the upper end of Laguna de Valeriano where I found densely crowded colonies in peat or in tufts of moss or in the silt between the large cushions of *Oxychloe*. The plants are stained with purplish. The corolla is white and is striped down each lobe with red-purple.

Senecio pelolepis, sp. nov., discoideus perennis suffruticosus coactis densissimis candidis vestitus; radice valida; caulibus vetustioribus laxe ascendentibus vel decumbentibus; caulibus junioribus erectis simplicibus 10-18 cm. longis numerosis obscure angulatis basem versus 1.5-2(-3) mm. crassis ad apicem capitula 1-3 laxe disposita 1-4 cm. longe pedunculata gerentibus; foliis strictis oblongis 8-16 mm. longis 2-4 mm. latis concoloribus supremis paullo reductis apice obtusis vel rotundis margine paullo revolutis integerrimis vel distincte irregulariterque sparsi-dentatis -lobulatisve; pedunculis strictis saepe inconspicue bracteolatis; capitulis campanulatis ca. 1 cm. longis 6-7 mm. crassis erectis basi cum bracteis ca. 6 ovatis vel lanceolatis 2-4 mm. longis calyculatis; tegulis 1-2 mm. latis flosculis paullo brevioribus ca. 13 atratis arachnoideis mox glabrescentibus margine anguste hyalinis apice triangularibus plus minusve squarrosis; receptaculo plano alveolato marginibus alveolorum angustis elevatis plus minusve erosis; flosculis homomorphis tubulosis hermaphroditis 40-50 luteis 8-9 mm. longis glaberrimis, dentibus 0.6-0.7 mm. longis triangularibus vesiculosus incrassatis apice incurvis; filamentis ca. 3 mm. longis 0.5-0.7 mm. infra apicem valde expansis et in texturam vesicularem abrupte transmutatis deinde apicem versus gradatim attenuatis; antheris 2.4-2.7 mm. longis cum appendicula ad 0.5 mm. longa triangulari-ovata coronatis; stylo glaberrimo 8-9 mm. longo in lobos ad 1.5 mm. longos lineari-oblongos summam ad apicem ciliatos

divisis; achaeniis glaberrimis costatis.—CHILE: gravelly bench at Junta del Medio, upper Rio de la Carmen, Dept. Vallenar, lat. 29° 22' S., long. 70° 5' W., 2900 m. alt., Jan. 16, 1926, *Johnston 6220* (TYPE, Gray Herb.); dry gravelly bench below Los Cuartitos, upper Rio de la Carmen, Dept. Vallenar, 3300 m. alt., Jan. 17, 1926, *Johnston 6231*.

This species is related to *S. leucus* Ph. from which it differs in its very much firmer and denser chalky-white tomentum, in its smaller heads borne solitary or in groups of 2 or 3, and in the very dark colored involucre. The plant forms a loose unkempt white bush 3–6 dm. tall. My material from near Los Cuartos has been disturbed by cattle and shows numerous erect leafy stems springing directly from a very dense low caudex.

Senecio tinctolobus, sp. nov., perennis humilis griseo-tomentosus discoideus; caulibus numerosis herbaceis erectis vel decumbentibus 2–4 cm. longis simplicibus e caudice fruticuloso erumpentibus, internodiis 1–5 mm. longis; foliis alternis ascendentibus oblanceolatis vel spathulato-oblongis 5–12 mm. longis 2–5 mm. latis in lobulos vel dentes 0.5–1 mm. latos 0.1–1.5 mm. longos oblique incisus vel rariter integerimis concoloribus crassiusculis enervatis ad basem versus attenuatis et in partem petioliformem paullo differentiatibus plus minusve late affixis margine paullo revolutis; capitulis campanulatis erectis terminalibus solitariis 0.5–1(–1.5) cm. longe pedunculatis folia evidenter superantibus 12–15 mm. longis 11–13 mm. crassis, basi cum bracteis 8 subulatis 3–7 mm. longis erectis calyculatis; tegulis 18–22 erectis flosculis subaequilongis arachnoideis et cinerascentibus deinde glabris et viridescentibus apice acutis margine anguste hyalinis; receptaculo plano alveolato marginibus alveolorum integris glabris; flosculis homomorphis tubulosis hermaphroditis 8–9 mm. longis glaberrimis ca. 120, tubo flavo ca. 3.5 mm. longo, faucibus elongatis flavis, lobis triangularibus incrassatis vesiculosus ca. 0.5 mm. longis rubiginosis apice incurvis; filamentis glabris ca. 0.75 mm. infra apicem valde expansis et in texturam vesicularem abrupte transmutatis deinde apicem versus gradatim contractis; antheris 2.3–2.5 mm. longis cum appendicula ovato-oblonga ca. 0.4 mm. longa coronatis; stylo glaberrimo in lobos 1.3–1.4 mm. longos oblongo-lineares summum ad apicem ciliatos diviso; achaeniis ca. 12-costatis glaberrimis ca. 4 mm. longis elongatis.—CHILE: common on rocky slopes above Laguna de Valeriano, Dept. Vallenar, ca. 4000 m. alt., Jan. 9, 1926, *Johnston 6072* (TYPE, Gray Herb.).

This species falls in group xii of the discoid species as defined by Reiche, Fl. Chile iv. 220 (1905). The leaves are very variable in

outline ranging from entire or sparsely dentate to deeply lobed, being sometimes cleft half way to the midrib. The tomentum is grayish and close, though it thoroughly covers the stems and leaves it is not particularly thick. The florets are yellow with the lobes reddish brown.

Polyachyrus rigidus, sp. nov., fruticosus 3–6 dm. altus prope basem ramosissimus; caulibus erectis rigidis foliosis glabris stipitato-glandulosis 1–3 dm. longis; foliis rigidis firmis pinnatifidis stipitato-glandulosis apicem versus caulis reductis subtus pallidioribus juventate evanescenter inconspicueque tomentellis margine paullo revolutis, inferioribus late oblanceolatis 5–6 cm. longis 1–1.5 cm. latis ad basem versus in petiolum anguste (0–1 mm. late) alatum vix auriculatum attenuatis, medialibus oblongis 3–5 cm. longis 1.5–2 cm. latis sessilibus basi in auriculas amplexicaules 3–4 mm. latas evidenter productis, lobulis subovatis angulatis dentatis vel angulate lobulatis, apicibus lobulorum dentiumque acutis vel submucronatis neque acuminatis neque spinescentibus; glomerulis capitulorum 2–3 laxe cymosis ca. 1.3 mm. diametro subglobosis 0.5–2(–5) cm. longe pedunculatis; pedunculo bracteis foliaceis 0.5–1.5 cm. longis ornato; receptaculo glomeruli subgloboso tomentoso; bracteis 5 mm. longis rigidis firmis anguste lanceolatis glanduligeris; involucris flosculorum 2-floris ca. 5 mm. longis; tegulo exteriori ceteris subaequilongo glandulifero infra medium callo prominenti saepe incrassato; flosculis albis ca. 9 mm. longis, tubo (faucibus vix differentiatis) ca. 4 mm. longo extus inconspicue glanduloso, labia interiori in lobos 2 lineares 3.5 mm. longos divisa, labia exteriori 3.7 mm. longa 1.9 mm. lata apice tridentata, filamentis ca. 2 mm. longis; antheris (partibus polleniferis) ca. 1.8 mm. longis appendicula ca. 1.6 mm. longa coronatis basi caudis 1.8 mm. longis ornatis; setis pappi 5–6 mm. longis.—CHILE: a glandular oily bush growing about rocks on a dry hillside below Agua Dulce, Quebrada de Potrerillos, Dept. Chañaral, ca. 2550 m. alt., Oct. 22, 1925, Johnston 4700 (TYPE, Gray Herb.).

This species is probably most closely related to *P. latifolius* Ph. from which it differs in being a more compact shrubby plant and in having smaller firmer more glandular less sharply toothed or lobulate leaves of which the lower ones completely lack auriculate bases. From *P. carduoides* Ph. it differs in having leaves with the under surfaces nearly glabrous and the margins lacking spinescent or acuminate teeth.

Pachylaena rosea, sp. nov., glaberrima paullo glaucescens; caulibus subterraneis e radice crassa valida perenne erumpentibus; foliis apice caulis in superficie humi rosulatis congestis pallide virides-

centibus concoloribus vetustate rubicundis lamina orbiculata vel reniformi 2–4 cm. longa et lata denticulata in petiolum alatum 1–2 cm. longum 3–8 mm. latum abrupte contracta; capitulis campanulatis vel campanulato-hemisphaericis 1.5–4 cm. crassis 2–3 cm. longis e rosulis foliorum orientibus primo aspectu sessilibus sed vere 5–15 mm. longe pedunculatis pedunculo inter folios occulto; involucri infra medium cupuliformi et vix lobato, lobis erectis imbricatis partibus superioribus denticulatis; lobis involucri interioribus 15–20 cuneato-oblongis vel ligulatis saepe pallide rubescentibus flosculos disci 2–5 mm. longe superantibus, ceteris oblongis vel ovatis distincte brevioribus irregulariter 2–3-seriatis aliis basi bractearum interiorum subregulariter 1–2-seriate affixis aliis paucis basem versus involucri irregulariter dispersis; receptaculo concavo vel latissime concavo-infundibuliformi scrobiculato exappendiculato; flosculis exterioribus 15–20 evidenter ligulatis roseis 2.3–2.8 cm. longis pistilliferis sed cum loculis antherarum abortivis quamobrem incompletis achaenia abortiva gestis in partibus lateralibus involucri cupuliformis (? i. e. margine erecto receptaculi) 2–5 mm. supra basem affixis, limbo 1.5–2 cm. longo 2–3 mm. lato erecto bractearum interiores involucri paullo vel vix superanti apice integro vel inconspicue 2–3-dentato; flosculis disci hermaphroditis perfectis 50–100 flavis ca. 1.5 mm. longis, tubo (faucibus vix differentiat) ad 1 cm. longo, labia exteriori ligulata ad 5 mm. longa tridentata revoluta, labia interiori in lobos 2 filiformes ad 4 mm. longos revolutos divisa; pappi setis ca. 14 mm. longis albis eleganter plumosis biseriatis numerosis; achaeniis 10–12 mm. longis 2–3 mm. crassis stramineis costatis.—CHILE: local on talus near Potrero de Toledo, Rio de la Laguna Grande, Dept. Vallenar, 2660 m. alt., Jan. 5, 1926, *Johnston 5897* (TYPE, Gray Herb.).

Obviously a close relative of *P. atriplicifolia* Don from which it differs in having the ray-florets conspicuously cerise or rose-colored, the smaller heads narrower and denser, and the undivided lower part of the involucre deeper and very sparingly provided with bracts outside. The plant was seen only once. It grew on a gravelly slope near the trail about opposite Potrero de Toledo at ca. 2600 m. alt. This altitude is lower than that frequented by *P. atriplicifolia* for in the same watershed I observed it down only to ca. 3200 m. alt.

II. SOME UNDESCRIBED SPECIES FROM PERU.

Linum parvum, sp. nov., annuum erectum herbaceum 4–9 cm. altum; caule solitario fere ad apicem simplici deinde laxissime sparseque cymoso-ramoso striato 0.5 mm. crasso minute stipitato-glandulifero; foliis paucis oblanceolatis vel linearibus 5–10 mm. longis 1.5–2



Johnston, I. M. 1929. "Undescribed species from the cordilleras of Atacama." *Contributions from the Gray Herbarium of Harvard University* (85), 164–172.
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