

ribbed, the 1-2 ovate-oblong nutlets smooth or obscurely tuberculate; spikes geminate or ternate, bractless, 2-6 cm. long, usually becoming loosely flowered at maturity; fruiting calyx oblong, 2-2.5(-3) mm. long, base conical and usually tapered off into a short pedicel, rarely subsessile; mature calyx-lobes linear, erect, usually rather densely short villous-hispid, midrib short-hirsute; corolla white, 2-5 mm. broad; fruit 2-ovulate; nutlets usually solitary, axillary, inflexed, densely tuberculate or verrucose, ashy or brown, ovate, 1.5-2 mm. long, 1-1.3 mm. broad, apex acute, base rounded, back obtuse, sides usually acute, groove open; gynobase $\frac{1}{4}$ - $\frac{2}{3}$ height of nutlet; style much surpassing or at least equalling the nutlet.—*Pittonia* i. 111 (1887); Reiche, Anal. Univ. Chile cxxi. 814 (1908) and Fl. Chile v. 219 (1910). *Myosotis linearis* Colla, Mem. Acad. Torino xxxviii. 129, t. 42, fig. 2 (1835). *Eritrichium lineare* DC. Prodr. x. 131 (1846); Clos in Gay, Fl. Chile iv. 469 (1849). *Krynitzkia linearis* Gray, Proc. Am. Acad. xx. 280 (1885). *E. lineare*, var. *sericeum* A. DC. l. c. *C. linearis*, var. *sericea* Reiche, l. c. *E. minutiflorum* Ph. Linnaea xxxiii. 190 (1864). (?) *C. minutiflora* Brand in Fedde, Repert. xx. 319 (1924). *E. fallax* Ph. Anal. Univ. Chile xc. 518 (1895). *C. fallax* Reiche, l. c. 817 and 222; not *C. fallax* Greene (1902). *E. gracile* Ph. Anal. Univ. Chile xc. 519 (1895). *C. gracilis* Reiche, l. c. 816 and l. c. 221. *E. affine* Ph. Anal. Univ. Chile xc. 523 (1895).

CHILE. TALCA: Talca, Corinto, 1913, *Espinosa* (IP); Peumo, Sept. 1921, *Claude-Joseph* 1433 (US); Talca, Oct. 1921, *Claude-Joseph* 1650 (US); Mondaca, Cord. Talca, 1861-62, *Volckmann* (MS). COLCHAGUA: San Fernando, Sept. 1864, *Philippi* (MS); Colchagua, Nov. 1860, *Landbeck* (MS, TYPE of *E. minutiflorum*; G, photo.); hills, Prov. Colchagua, *Gay* 1626 (MS). OHIGINS: Cocalan, 1913, *Baeza* (IP); Rancagua, Oct. 1878, *Bertero* 444 (G, NY; ISOTYPES of *M. linearis* ?). SANTIAGO: Renca, Oct. 1877, *Philippi* (MS); fields, San Cristobal, Santiago, Aug. 1830, *Gay* 1629 (MS); Nuñoa, Nov. 1922, *Claude-Joseph* 2107 in pt. (US); Cajon del Arragua, Oct. 1859, *Philippi* (MS). VALPARAISO: rocky hills, Quillota, 1829, *Bertero* 1158 (NY). COQUIMBO: vicinity of Illapel, Oct. 1914, *Rose* 19269 (NY, US); Coquimbo, 1856, *Harvey* (G); Coquimbo, Nov. 1864, *Philippi* (MS); Coquimbo, Sept. 1885, *Philippi* (MS, TYPE of *E. affine*; G, photo.). INDEFINITE: Chile, *Reed* (G); Chile, *Gillies* (NY, G); central Chile, *Reid* (NY); collection without data (MS, a fragment of TYPE of *E. affine* ?).

The type of *E. fallax* is lost. However a study of the original descriptions leaves little doubt that it is a synonym of the present species. The only material I could find at Santiago of *E. affine* is a small fragment determined by Philippi. This material is certainly referable to *C. linearis*.

37. **C. aprica** (Ph.) Reiche. Annual 1-4(-5.5) dm. tall, with a firm root 2-4 mm. thick; stems solitary or rarely several, usually erect and loosely branched, sparsely strigose and hispid; leaves linear-lan-

ceolate to linear, acute, 2-5(-10) cm. long, 1.5-3(-4) mm. broad, strigose and hispid; cleistogenes few, produced at the collar of the plant, the pubescent weakly ribbed calyx apparently indehiscent, the 1 or 2 nutlets smooth or obscurely tuberculate; spikes geminate or ternate, bractless, 2-5 cm. long, elongating and loosening at maturity; fruiting calyx ovate to obliquely ovate-oblong, 3-5 mm. long, pedicellate or subsessile; pedicels short or evident, slender, 1-2 mm. long; mature calyx-lobes lance-linear, connivent, somewhat villous-hispid, the midrib sparsely hirsute; corolla white, 3-4 mm. broad; fruit biovulate; nutlets commonly 1, axillary, ovate or oblong-ovate, incurved, verrucose or muricate, 2-2.5(-3) mm. long, back obtuse, apex acute, base obtuse, sides acute, groove gradually dilated towards the broad open forking; gynobase about $\frac{2}{3}$ length of nutlets; style much surpassing the nutlets or at least equalling them.—Anal. Univ. Chile cxxi. 814 (1908) and Fl. Chile v. 219 (1910). *Eritrichum apricum* Ph. Linnaea xxxiii. 190 (1864). *E. Bridgesii* Ph. Anal. Univ. Chile xc. 515 (1895). *E. lignosum* Ph. Anal. Univ. Chile xc. 524 (1895). *E. denudatum* Ph. Anal. Univ. Chile xc. 527 (1895). *E. Closii* Ph. Anal. Univ. Chile xc. 528 (1895). *E. Rengifoanum* Ph. Anal. Univ. Chile xc. 529 (1895). *Plagiobothrys rufescens*, var. *Renjifoanus* Reiche, l. c. 812 and l. c. 217. *C. candelabrum* Brand in Fedde, Repert. xx. 47 (1924). *C. congesta* of Reiche, l. c. 816 and l. c. 221; not DC.

CHILE. SANTIAGO: Lampa, Nov. 1, 1864, *Philippi* (MS, TYPE of *E. Bridgesii*; G, photo.); Lampa, Nov. 1, 1864, *Philippi* (MS, TYPE of *E. lignosum*; G, photo.); Lampa, *Philippi* (MS, TYPE of *E. Closii*; G, photo.); collection without data [from Lampa?], (MS, TYPE of *E. denudatum*; G, photo.); Salto de Agua, Valle Ramon, Nov. 1860, *Philippi* (MS, TYPE of *E. Rengifoanum*; G, photo.); Santiago, *Philippi* (G, frag. of TYPE of *C. candelabrum*). ACONCAGUA: Cajon del Boldo, Catemu, Sept. 1860, *Philippi* (MS, TYPE of *E. apertum*; G, photo.). COQUIMBO: vicinity of Choapa, Oct. 6, 1914, *Rose* 19217 (NY, US). ATACAMA: (?) Quebrada de Serna, 1885, *San Roman* (MS; G, photo.).

A very close relative of *C. linearis*, with which it appears to intergrade and of which it may possibly be only a large coarse phase. The proper status of *C. aprica* can not be ascertained from herbarium studies alone. Until reliable field observations are made the species must remain one of dubious status.

The collection made by San Roman in Quebrada de Serna, which I have cited above, is incomplete and fragmentary and is very doubtfully referred to the present species. Although in many ways suggesting *C. Gayi* rather than *C. aprica* it has biovulate chasmogamic flowers which make it fit best, for the time being, in the latter species. It is a stiff coarse plant 1.5-2 dm. tall which has dried very dark, the

pubescence is denser, the calyx is coarser and the nutlets seem less densely and finely roughened than in *C. aprica*. The plant is a peculiar one and more collections are much needed. I suspect that it will be found to be worthy of specific recognition.

38. **C. dolichophylla** (Ph.) Reiche. Annual, 1.5–2.5 dm. tall, with a firm root 2–4 mm. thick; stems erect, usually loosely and ascendingly branched, leafy, strigose and hispid; leaves linear, ascending, 4–9(–11) cm. long, 1.5–3 mm. broad, acute; cleistogenes few, borne at collar of plant, the calyx pubescent with thickened ribs, the two unequal nutlets smooth or tuberculate; spikes geminate or ternate, bractless, becoming 1–2 cm. long or perhaps longer; fruiting calyx ovate-oblong, 4–5 mm. long, sessile; mature calyx-lobes lance-linear, erect, appressed hispid-villous, sparsely hirsute on the weakly thickened midrib; corolla very conspicuous, 6–8 mm. broad, white; flowers 4-ovulate; nutlets 4, homomorphous, oblong-ovate, 2.5–3 mm long, transversely rugose or somewhat verrucose-rugose especially towards base, sides acute, apex acute, back obtusish; gynobase ca. $\frac{2}{3}$ height of nutlets; style very much surpassing nutlets, about half again as long as the gynobase.—Anal. Univ. Chile cxxi. 830 (1908) and Fl. Chile v. 235 (1910). *Eritrichium dolichophyllum* Ph. Anal. Univ. Chile xc. 520 and 522 (1895).

CHILE. COQUIMBO: Paihuano, Dept. Elqui, 1884, *Peralto* (MS, TYPE; G, photo.); Frai Jorge Estancia, Dept. Ovalle, Aug. 13, 1917, *Skottsberg* (G).

39. **C. Gayi**, sp. nov. Annu erecta 1.5–3.5 dm. alta e radice firma 3–4 mm. crassa oriens; caulibus solitariis breviter ascendentique ramosis sparse breviterque hispidis; foliis linearibus vel anguste lanceolatis 2–3.5(–4.5) cm. longis 2–3(–5) mm. latis late sessilibus acutiusculis adpresse hispidis subtus minute pustulatis; cleistogenis (fide tab. Gayi) ad collum plantae congestis ovatis 5–6 mm. longis, calycibus costatis, nuculis 2; apicis geminatis vel ternatis 1–3(–4) cm. longis ebracteatis; calycibus fructiferis ovatis 3–4 mm. longis brevissime pedicellatis vel sessilibus; lobis calycis maturitate lanceolatis vel oblongis erectis dense hispidis costa paullo encrassatis; corolla alba 4–5 mm. lata; fructu 4-ovulato; nuculis (1–)4 (axillare paullo differentiata) 2.5–3 mm. longis dense minuteque granulatis sparse tuberculatis pallidis ovato-oblongis apice acutis dorso obtusis medio longitudinaliter costatis marginibus acutis ventre $\frac{2}{3}$ longitudinis ad gynobasem affixis; stylo nuculas evidenter superanti gynobasi aequilongis.

CHILE. COQUIMBO: Arqueros, Dept. La Serena, Oct. 1836, *Gay* 1921 (MS, TYPE; G, photo. and frag.).