

FLORA OF PERU

BY

J. FRANCIS MACBRIDE

CURATOR, PERUVIAN BOTANY



BOTANICAL SERIES
FIELD MUSEUM OF NATURAL HISTORY
VOLUME XIII, PART V, NUMBER 2
DECEMBER 9, 1960

PUBLICATION 902

Library of Congress Catalog Card Number: 36-10426

PRINTED IN THE UNITED STATES OF AMERICA
BY CHICAGO NATURAL HISTORY MUSEUM PRESS

Prostrate or laxly ascending annual with many slender minutely appressed villous stems 3–several cm. long; leaves linear, little dilated toward base, subacute, sparsely hispid-villous; racemes lax, regularly bracted, the linear bracts 0.5–2 cm. long; calyx appressed villous, finally 2–2.5 mm. long including the erect lanceolate lobes; corolla subtubular, about 1 mm. wide; nutlets ovate, about 1.5 mm. long, somewhat angled, irregularly tuberculate or papillate, very obscurely carinate; areola suprabasal, large, more or less excavated.—Clearly related to the Chilean *A. procumbens* (Colla) Greene but lacking transverse ridges (Johnston). Doctor Ramón Ferreyra, the distinguished Peruvian botanist, has kindly transferred this interesting species to which our friend assigned my name. Brand included this in *A. humilis* (R. & P.) Greene, but it is probably distinct.

Lima: In short grass, Viso near Matucana, 2,700 meters, 599, type.

Allocarya pygmaea (HBK.) Macbr. Field Mus. Bot. 4: 119. 1927. *Anchusa pygmaea* HBK. Nov. Gen. & Sp. 3: 92. 1818. *Eri-trichium humilis* (R. & P.) A. DC., var. *congestum* Wedd. Chlor. And. 2: 88. 1859. *Plagiobothrys congestus* (Wedd.) Johnst. Contr. Gray Herb. 68: 75. 1923.

Resembles *A. humilis* but not so coarse, canescently hispid-villous, at least the leaves which usually exceed the ordinarily glomerate racemes, these 1–3 cm. long, leafy-bracted; calyx canescent or at most flavescent.—*Amsinckia humifusa* [Poeppig] Walp. Nov. Act. Caes. Leop. Nat. Cur. 19. suppl. 371. 1843, essentially a nomen nudum, probably belongs here in part (Johnston). F.M. Neg. 32969.

Arequipa: Chiray, 3,900 meters, *Weberbauer 6889*.—Puno: Chu-
quibambilla, *Pennell 13397*. Occa Pampa, 3,700 meters, (*Shepard 107*).—Moquequa: Carumas, 4,000 meters, *Weberbauer 7325*. To Argentina.

12. CRYPTANTHA Lehm.

References: Johnston, Contr. Gray Herb. 74: 1–114. 1925; l.c. 78: 30–74. 1927.

Peruvian species (at least) erect slender hispidulous annuals, one (*C. parviflora*) not producing cleistogamous flowers, all with opposite basal leaves and inconspicuous white flowers in bracted or bractless racemes. Calyx parted basally. Nutlets usually 4, laterally affixed

by a medially, often basally dilated groove to a more or less pyramidal gynobase and somewhat enclosed in the mature calyx.—Brand disagreed with Johnston in application of some names, especially as to *C. parviflora* (Phil.) Reiche, which he restricted to Chile; the careful and thoughtful later student saw the type as well as several Chilean and Peruvian collections.

Nutlets thin-margined, dissimilar; spikes not bracted or only at base.

C. parviflora.

Nutlets obtusely if at all margined; spikes bracted except *C. peruviana*.

Corolla showy, to 7 mm. wide; style scarcely or not exerted.

C. varians, *C. granulosa*.

Corolla 0.5–1.5 (2) mm. wide; style longer than nutlets.

Calyx in fruit 3–4 mm. long, narrow lobes suberect to tips.

C. filaginea.

Calyx in fruit 5–6 mm. long, broad lobes spreading at tips.

C. limensis.

Corolla to 1.5 mm. wide; style barely longer than nutlets.

C. peruviana.

Cryptantha filaginea (Phil.) Reiche, Anal. Univ. Chile 121: 829. 1908; 46. *Eritrichium filagineum* Phil. l.c. 90: 536. 1895.

A dm. or two tall, the basally or apically branched slender stems finely strigose and hispid, the leaves linear or lanceolate, obtuse, 1–2.5 (–3) cm. long, 1–2 mm. wide, pustulate, finely short-hispid; spikes solitary or geminate with caducous linear bracts 3–6 mm. long; fruiting calyx oblong, 3–4 mm. long, usually crowded, sessile, readily deciduous, the lobes finally linear, appressed short hispid below, hirsute on prominent midrib, above slightly pubescent; corolla white, narrow, rarely 2 mm. broad; nutlets usually 4, nearly alike, the axial one most persistent, tuberculate, usually obscurely granulate, 1.2–1.8 mm. long, acute, angled, often margined, the narrow or closed groove forked at base; style much longer than nutlets, the gynobase a third to a fourth shorter.—An old plant, probably *C. parviflora*, with the type, possibly suggested the name (Johnston).

Arequipa: Mollendo hills, *Johnston 6280*; *Hitchcock 22384*. Chile.

Cryptantha granulosa (R. & P.) Johnst. Contr. Gray Herb. 68: 54. 1923; 44. *Myosotis granulosa* R. & P. Fl. Peruv. 2: 5. 1799. *C. latifolia* Johnst. l.c. 73: 73. 1924, fide author.

A few cm. to 3 dm. tall, the stems often laxly branched, finely more or less appressed hispid; leaves sessile, linear to oblong, 2–3.5 cm. long, 2–4 or rarely 5–10 mm. wide, sparsely pustulose-setose; spikes solitary or geminate, 3–12 cm. long, the few to many bracts 3–5 (–10) mm. long; fruiting calyx subsessile, ovate, 2–4 mm. long, mature lobes linear or lance-linear, obtuse, sparsely appressed hispid, but short-hirsute on midrib below; corolla about 5 mm. long, 4–4.5 mm. across at tip; nutlets 4, alike or the axial subsistent one slightly the largest, 1.3–1.8 mm. long, tuberculate or papillate and somewhat glandular, rounded or obtuse at base, acute, angled, groove closed or dilated basally; gynobase to three-fourths length of nutlets, about equaling the style.—After Johnston, who decided his *C. latifolia* was a luxuriant phase of the species; Brand described the throat glands as oculiform. Illustrated, Pflanzenreich IV. 252: 66, fig. 4.

Lima: Chancay, *Ruiz & Pavón*, type; *Stork & Vargas 9350*. Mt. San Agustín near Lima, *Weberbauer 5695*. Chorillos, near Lima, *5861* (type, *C. latifolia*). Near Mala, *Vargas 9320*.—Arequipa: Molendo, (*Hitchcock 22357*); *Johnston 3532(?)*; *Mexia 04181*; *Worth & Morrison 15765* and east of Chala, *15611*. Near Atiquipa, *Worth & Morrison 15653*.

Cryptantha limensis (A. DC.) Johnst. Contr. Gray Herb. 70: 46. 1924; 48. *Eritrichium limense* A. DC. Prodr. 10: 133. 1846. *C. Macbridei* Johnst. l.c. 73: 74. 1924. *C. Woitschachii* Brand, Repert. Sp. Nov. 20: 317. 1924.

Finely appressed hispid, sometimes a dm. or so tall, the oblong-lanceolate subobtusate leaves more or less pustulate, 1–3 cm. long, 2–4 mm. wide; spikes solitary or geminate, 3–5 cm. long; fruiting calyx subsessile, ovate-oblong, 5–6 mm. long, the finally linear to oblanceolate lobes very hirsute below on midrib, the herbaceous spreading upper part merely hispid; corolla subtubular, about a mm. wide; nutlets 4, alike or nearly, truncate at base, acute, angled, tuberculate, 1.5–1.7 mm. long, the groove dilating into a suprabasal triangular areola; axial nutlet the most firmly set, now and then the largest, the gynobase about three-fifths as high, the style longer.—After Johnston (as determinations) who concluded that both recently proposed species are clearly synonyms.

Lima: Stony slopes, Chorillos, *5869* (type, *C. Macbridei*). San Agustín base, *Weberbauer 5693*. Barranca, *Worth & Morrison 9107*; *Weberbauer 5700* (this and preceding det. Brand *C. granulosa*; col-

lections may be mixed). Near Lima, *Abadia*, type.—Arequipa: In and on edge of fertile belt, Mollendo, *Johnston 3531*. North of Mollendo, *Worth & Morrison 15474*. Without data, (*Woitschach*, type, *C. Woitschachii*).

Cryptantha parviflora (Phil.) Reiche, Anal. Univ. Chile 121: 821. 1908; 39. *Eritrichium parviflorum* Phil. Fl. Atac. 39. 1860. *C. piscoensis* Brand, Repert. Sp. Nov. 20: 49. 1924. *C. umbelliformis* Brand, l.c. 317, fide Johnston. *C. Seleri* Brand, l.c.

Slender, usually with a single stem laxly branched from near base, sometimes about 2 dm. tall, more or less appressed canescent hispid and often also with few short-hispid trichomes; leaves linear, mostly 1–4 cm. long, 1–2 mm. wide, appressed hispid or spreading short hirsute, somewhat pustulate beneath, the upper early rather obscurely; solitary or geminate spikes, these many, 1–5 cm. long, bractless or with one bract at base; fruiting calyx ovate or oblong-ovate, 1.5–2 mm. long, sessile, readily deciduous, the mature calyx lobes lanceolate-oblong, connivent, densely short hirsute; corolla 0.3–0.5 mm. broad; nutlets usually 4, clearly different, ovate or triangular-ovate, tuberculate or muricate, acute, rounded at base, dorsally convex, the edges sharply margined, the groove at least below dilated into a shallow triangular areola; odd nutlets abaxial, largest and most persistent about 1 mm. long, the consimilar ones 0.6–0.8 mm. long, readily deciduous; gynobase about two-thirds height of odd nutlet, the style much surpassing the latter.—Johnston saw no authentic material of *C. Seleri* but assumed it to be the hispid plant collected by Pennell and *C. umbelliformis* to be a young state of this, while *C. piscoensis* with appressed pubescence is a somewhat coarser form collected at Quive by Pennell. He remarked the close relationship of this species to the North American *C. angustifolia* (Torr.) Greene and *C. Grayi* (V. & R.) Macbr., resembling the former in nutlets, the latter in aspect and measurements.

Lima: Quive, *Pennell 14300*. Near Chosica, *Weberbauer 5337* (type, *C. umbelliformis*).—Ica: Above Pisco, 1,200 meters, *Weberbauer 5375* (type, *C. piscoensis*).—Arequipa: Tingo, *Pennell 13112*. Above Arequipa, *Pennell 13177*. Yura, (*Born*).—Moquegua: Southwest of Moquegua, *Weberbauer 7398a*. Chile.

Cryptantha peruviana Johnst. Contr. Gray Herb. 73: 74. 1924; 50. *C. Weberbaueri* Brand, Repert. Sp. Nov. 20: 318. 1924 and *C. cajabambensis* Brand, l.c. 319, fide Johnston. *C. debilis* (Phil.)

Reiche var. *peruviana* (Johnst.) Brand, Pflanzenreich IV. 252: 49. 1931.

Short-hispid, sometimes long-branched, slender, often a dm. or two tall, the many obscurely pustulate linear leaves 1–3 (–6) cm. long, 1–2 mm. wide; spikes solitary or geminate, early congested, finally to 5 cm. long, bractless; fruiting calyx subsessile, ovate, 2.5–3 mm. long, the narrowly lanceolate lobes erect, appressed hispid-villous, somewhat hirsute along the midrib; corolla subtubular, the limb 0.8–1.4 mm. wide; nutlets 4 or fewer, alike, the subsistent axial one always present, all lanceolate-ovate, acute, 1.5–1.8 mm. long, coarsely muricate or also rugose, granulate, acute at edges, the groove closed or basally dilated; style barely exceeding nutlets, the gynobase about three-fifths as long.—Closely related to *C. globulifera* (Clos) Reiche of Chile and Argentina with fruiting calyces 3–4 mm. long, the lobes connivent above with somewhat spreading tips (Johnston); stems stouter, leaves a little longer, var. *peruviana* according to Brand. I have not seen *C. debilis*, described as decumbent-ascending, nutlets 4, transverse-rugose—data contrary to Brand's conclusion.

Ancash: Hacienda Cajabamba between Samanco and Huaraz, (*Weberbauer 3041*, type, *C. cajabambensis*). Rocky places, 3,200 meters, Ocos, (*Weberbauer 2658*, type, *C. Weberbaueri*).—Lima: Rocky slope, 3,600 meters, Río Blanco, 674, type.—Arequipa: In gravel along streams, base of El Misti, *Pennell 13235*. El Chachani, *Hinckley 77*.—Moquegua: Open mixed formation, Tocata, 2,200 meters, *Weberbauer 7398*. Chile?

Cryptantha varians Brand, Repert. Sp. Nov. 24: 57. 1927.

Erect, slender, branched and lightly hispid with rather long somewhat spreading trichomes; leaves linear, 2–4 cm. long, 2–3 mm. wide; terminal spikes elongating, sometimes sparsely bracted by reduced leaves; sepals oblong, obtuse, 2 mm. long; corolla to 3.5 mm. long, 4 mm. across at tip; throat glands semilunate; gynobase subulate, little shorter than the fruiting setose-hispid calyx, this 2.5 mm. long; nutlets 1–3, ovoid, acute, 1.25 mm. long, brown, densely whitish granulate, the groove at base divaricately forked.—Referred by Johnston to *C. granulosa* (R. & P.) Johnst. but perhaps distinguished by the smaller flowers, more pubescent calyx, and fewer nutlets—differences of course that may be shown to be variable by study of sufficient collections.

Lima: Rocky outcrop north of Chosica, *Weberbauer 5340*, type.