

WEST COAST BOTANY,

AN

ANALYTICAL KEY

TO THE

FLORA OF THE PACIFIC COAST,

IN WHICH ARE DESCRIBED OVER

EIGHTEEN HUNDRED SPECIES OF FLOWERING PLANTS GROWING
WEST OF THE SIERRA NEVADA AND CASCADE CRESTS,
FROM SAN DIEGO TO PUGET SOUND.

BY

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TEACHER OF BOTANY IN THE STATE NORMAL SCHOOL, SAN JOSE, CALIFORNIA.

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BORRAGINACEÆ.



Amsinckia lycopoides. a. Calyx spread apart to show the ripe akenes.

Mostly roughly pubescent herbs, with alternate entire leaves without stipules, scorpioid inflorescence, and perfectly regular 5-anded flowers; the ovary of 4 lobes or divisions around a central style, ripening into seed-like nutlets. Calyx free, 5-parted or 5-cleft, persistent. Corolla with a 5-lobed limb, commonly imbricated in the bud. Stamens distinct, inserted in the tube or throat of the corolla alternate with its lobes. The one-sided and coiled apparent spikes or racemes straighten as the blossoms develop. Key to genera and species, p. 152.

Borrago officinalis has escaped from gardens in Santa Cruz. It is a very rough herb with clusters of nodding deep blue flowers, the rotate corollas and connivent anthers reminding one of potato blossoms.

LITHOSPERMUM.

L. arvense, Linn. Annual, a foot high, hoary with appressed hairs: leaves narrowly lanceolate or linear: flowers small white, sessile in leafy terminal cymes: nutlets conical, wrinkled. An Old World weed now apparently established in San Francisco.

AMSINCKIA.

A. campestris, Greene. Rather stout, 1-2 feet high, the short and rather dense spikes aggregated at the top of the stem: leaves linear-oblongate: sepals hardly twice the length of the nutlets: corolla inconspicuous: nutlets very dark brown, irregularly transverse-rugose and echinate-muricate. Byron Springs.

A. echinata, Gray. Erect, 1-2 feet high, very hispid with white spreading bristles: leaves linear lanceolate: sepals narrow, yellow-hispid: corolla small and very slender: nutlets almost prickly-muricate, not rugose. Perhaps not within our limits.

A. collina, Greene. Near *A. tessellata*, but slender and not branched: leaves narrowly linear-lanceolate, acute: calyx intensely gray-brown: corolla without folds in the throat: nutlets marked with few and sharp transverse ridges and intervening low tessellated granulations. Hills east of Livermore.

A. grandiflora, Kleeberger. Simple up to the terminal spikes, hispid: lower leaves oblanceolate, the upper lanceolate, all acute: sepals broad, often 4 or 3 only, tawny-hairy: corolla an inch long, deep yellow; the funnelform throat 6 lines long above the short proper tube which bears the nearly sessile anthers: nutlets light gray, sharply triangular, perfectly smooth and shining, the back straight or even concave. Antioch, hills east of Livermore, and north of Tulare Lake. This is **A. vernicosa** var. **grandiflora** of this book, but is undoubtedly a distinct species, and may well be called *Kleeberger's Amsinckia*, since (while a student in Yale College) he was the first to describe it.

KRYNITZKIA.

Sections 1 and 2 of this genus (species 1 to 6) and **Echinosperrum Greenei** form the genus **Allocarya**, in *Bay Reg. Bot.* The following new species may be added to § 2.

K. stricta, Greene. Slender, erect and somewhat succulent: stem simple, or nearly so, 6 inches or less high, glabrous or nearly so, all except the floral leaves opposite: flowers very small: calyx lobes closed over the growing fruit: nutlets light gray, shining, numerous close transverse ridges. Calistoga.

K. diffusa, Greene. Procumbent, a foot or less long, loosely branching from the base; racemes leafy for half their length; lowest pedicel 6 lines long, the others hardly a line: calyx widely spreading: flowers small, nutlets dark brown, broadly ovoid, incurved, the back with rather sharp granulations and ridges.

K. humistrata, Greene. Stout and succulent, the branches mostly prostrate, a foot long: pedicels short and thick, often diflexed: calyx lobes in fruit becoming 4-6 lines long, turned to one side so as to stand vertically in a row: nutlets with minute muriculations and sharp transverse wrinkles which have tufts of minute bristles. This is *K. Californica*, var. *subglochidiata*. Probably a good species.

K. myriantha, Greene. A diffuse, slender, prostrate or trailing annual a foot or more long: lower flowers on short, slender pedicels, the others forming close spikes: nutlets distinguished from those of *K. Chorisiana* by narrower outline, greater length, a more glossy surface and more prominent ridges on the back. Perhaps the more floriferous form of the latter species. Monterey.

K. vestita, Greene. Distinguished from *K. mollis* by stout, nearly erect annual stems 2 feet or more high, rather rough pubescence and dark nutlets reticulated, the scar surrounded by a ridge. Petaluma.

K. plebeia, Gr. Depressed branches a span or more long: floral leaves linear-oblong: nutlets ovoid a line long, the back rugose-reticulate glabrous, not granulate or muriculate. Humboldt Bay, C. C. Marshail.

K. Austinæ, Greene. Erect, slender, simple or a few branches, about a span high, nearly glabrous, except the calyx: leaves narrowly linear 1½-3 inches long: nutlet ovate-acuminate, strongly keeled on both sides, the dorsal keel and margins with stout prickles, the uppermost barbed. Butte Co.

K. stipitata, Greene. Ten to 18 inches high, erect and simple or with ascending branches from the base, light green, nearly glabrous: calyx nearly sessile, segments spreading foliaceous, in fruit often 6 lines long: corolla short-funnelform, 3-6 lines broad: nutlets slender-ovoid, the back covered with blunt tubercles and transverse wrinkles, divergent, stipitate. This, according to Greene, is one of the most common species in Central California. Moist land.

K. Hickmanii, Greene. Very slender, diffuse, the filiform racemose branches 6-10 inches long: calyx a line long, on filiform pedicels: corolla a line or more broad: nutlets dark colored, tuberculate. Monterey Co.

K. hirta, Greene. Annual, more than a foot high, erect, flaccid, simple below with many pairs of connate-sheathing linear leaves, loosely racemose above, bristly hairy: racemes in pairs: pedicels slender, a line long: calyx lobes erect, very hairy: corolla 3 lines broad: ovoid nutlets dark colored, the back granulate and obscurely wrinkled. Umpqua Valley, Or.

K. scripta, Greene. Somewhat succulent strigose-hairy: branches prostrate, 6-10 inches long: pedicels stout in the axils of leafy bracts: sepals oblanceolate at length, standing vertically in row: nutlets a line long, the back dark and smooth, marked by a sharp irregular flexuose with white ridges, these beset with tufts of short spreading bristles.

Section 3 is equivalent to **Cryptanthe** in *Bay-Reg. Bot.* The following species are to be added:

C. flaccida, Greene, is **K. oxycarya** of this book.

K. Clevelandi, Greene. A foot or more high with few ascending branches rough with bristly hairs: calyx slender, appressed to the rachis: nutlets 2 or 1, shining.

K. hispidissima, Greene. Size of the last, but more branching, more densely hispid with softer hairs, and the inflorescence more elongated: corolla conspicuous: nutlets 4, similar to those of *K. leiocarya*, much surpassed by the slender calyx lobes. San Luis Obispo Co.

K. nemaclada, Greene. Slender, very diffusely branching, a foot high, sparsely bristly-hairy: spikes very loose, almost filiform: calyx a line long appressed to the rachis, bristly: nutlets 4, ovoid-acuminate $\frac{1}{2}$ a line long, shining. Colusa Co.

K. Rattani, Greene. Hispid with slender hairs and slightly canescent, about a foot high, slender but rigid: leaves linear: spikes in 3s on an elongated naked common peduncle, rather densely flowered: calyx appressed to the rachis, its bristles spreading and straight: nutlets (3 maturing) lance-ovoid $1\frac{1}{2}$ lines long, brownish and smooth but not shining. First collected by Hickman in Monterey Co.

K. crinita, Greene. Annual, slender 8-12 inches high, somewhat fastigiately branched from the base, rather stiffly hirsute: leaves linear: dense spikes elongated:

calyx about 4 lines long, densely white-hairy; nutlet solitary ovoid, the dull brown surface smooth but not polished. Shasta Co.

SOLANACEÆ.

Herbs or shrubs, with alternate leaves and no stipules, regular 5-merous flowers on bractless pedicels, a single style and a 2-celled ovary; the fruit a many-seeded berry or capsule. Key to genera and species, p. 157.

This small order of, perhaps, not more than twenty species west of the Sierra Nevada, and less than 70 in North America, is remarkable for the diversity of properties exhibited by its members, and the almost universal use by man of several of its species. At first view, the classification seems absurd which puts fiery cayenne pepper and insipid egg plants, the wholesome tomato and deadly nightshade, nutritious potatoes and poisonous tobacco together in one family. A careful examination shows that these seemingly very different plants are much alike after all. The four most important plants of this order—potato, tobacco, red or Cayenne pepper, and tomato—are natives of tropical America, and were consequently not used in the Old World before the sixteenth century. The following ornamental plants of the order are common in cultivation: Jerusalem Cherry (*Solanum Pseudo-Capsicum*, a small shrub with red berries; Jasmine Solanum (*S. jasminoides*), a shrubby climber, with a profusion of nearly white blossoms a little smaller than those of the potato; the well-known Matrimony Vine (*Lycium vulgare*); Tree Datura or Stramonium (*Datura arborea*), with hanging flowers six or seven inches in length; *Cestrum*, a shrub with drooping tubular red flowers in terminal bunches; and *Petunia*, with funnel-form corollas of various colors.

SOLANUM.

S. elæagnifolium, Sav. A low perennial, silvery, whitened by a dense coat of stellate hairs, often with small prickles: calyx 5-angled, lobes slender: corolla violet, an inch or less broad. Tulare Co.

S. villosum, Lam. Annual, hairy: leaves an inch long or more, sinuate-dentate: corolla white, minute. Introduced.

S. alatum, Moench. Similar but with angular stem and red berries. Introduced.

S. cupuliferum, Greene. Distinguished from **S. umbelliferum** by leaves transversely rugose, margin crisped, hairs with pustulate base and flat corolla.

SCROPHULARIACEÆ.

A corolla more or less bilabiate, with the lobes imbricated in the bud; didynamous or diandrous stamens; a single style and a 2-celled ovary and capsule mark this large order. In *Pentstemon* there is a fifth rudimentary stamen. *Verbascum* has five perfect stamens. Key to genera and species, p. 158.