

# ZOE

VOL. 5.

SEPTEMBER, 1906 — APRIL, 1908.

No. 11.

EDITOR - - - KATHARINE BRANDEGEE.

## CONTENTS:

	PAGE
Plants of California: T. S. BRANDEGEE . . . . .	227
New Species of Mexican Plants: T. S. BRANDEGEE . . . . .	235
Plants of Sinaloa: T. S. BRANDEGEE . . . . .	241
New Species of Mexican Plants: T. S. BRANDEGEE . . . . .	244
Studies on Californian Plants—II: H. M. HALL. . . . .	263

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5(I) : 227-242  
5(II) : 243-258  
5(III) : 259-266

15 Sept 1906  
5 March 1908  
20 Apr 1908

Address all communications to the Manager  
of the UNIVERSITY PRESS, UNIVERSITY  
OF CALIFORNIA, BERKELEY, CALIFORNIA.

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VOL. V.

SEPTEMBER, 1906.

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## PLANTS OF CALIFORNIA.

BY T. S. BRANDEGEE.

*Isomeris arborea* Nutt. The type locality of this capparid is San Diego. The original description of its fruit, "capsule an inch or more long and three-fourths of an inch broad," is very nearly the description of an orbicular capsule. Some of the Desert forms have capsules 7 cm. long including the stipe, and 1 cm. wide, and are long-attenuate at each end. The form of the capsule from the type locality is nearly that of *I. globosa*.

*Fagonia Californica* Benth. The form that grows in the foothills of the western side of the Colorado Desert is frutescent, erect, and the angles of the stems are scabrous, often as much so as those of *F. aspera* from Chili. On the hills of the Desert, east of the Cuyamaca Mountains, grows a form so distinct that it seems almost another species, but it probably can be referred to the variety *Barclayana*; it is prostrate on barren ground, the stems are slightly angled and not frutescent, the leaves and flowers are larger than those of other forms, and the whole plant is thickly beset with amber-colored glands. My specimens from Magdalena Bay, the type locality, have broader leaflets than the California mountain specimens, the stems are hardly frutescent at base and are not scabrous. At San Jose del Cabo the plants are pubescent, and in the adjacent mountains the form is glabrous, the leaflets are very narrow and the stipules long and slender.

*Enothera cardiophylla* Torr. The "Botany of California" gives as the habitat of this species: "Near the Colorado River and eastward in Arizona." It grows in the cañons of Carriso and Split Mountains of the Colorado Desert.

ISSUED SEPTEMBER 15, 1906.

*Nemacaulis Nuttallii* Benth. This littoral plant is common along the seashore near San Diego. It also grows abundantly on a sand-dune of the Colorado Desert near Carriso Creek. The two forms named by Nuttall *N. denudata* and *N. foliosa*, are well marked at Ocean Beach, San Diego.

*Peucephyllum Schottii* Gray. This bush has been found north of San Diego County and in northern Lower California, but has not been reported from the intermediate region. I collected it in the cañons of Carriso Mountains, Colorado Desert.

*Malperia tenuis* Watson. On preceding pages this species was noted as growing near the boundary line about Signal Mountain. It grows also about Split and Carriso Mountains, many miles north of the Mexican boundary line.

*Krynitzkia barbiger* Gray, var. **inops**. Stems weak, flexuous, with upwardly appressed pubescence; leaves broadly linear; inflorescence congested into glomerules; calyx-lobes much elongated at maturity, often more than 1 cm. long, densely bearded below the middle; fully mature nutlets elongated, obclavate, with rather large and sharp-pointed muriculations, the groove open from apex to the dilated base.

The type was collected on the Mojave Desert, June, 1884; other specimens not so fully mature are from Inyo, April 16, 1891; San Felipe, April 25, 1899; Keeler, April 14, 1891, and the Needles, Arizona; Dr. E. F. Clark. All in the Brandegees Herbarium.

**Allium præcox.** *A. peninsulare* Jones, Cont. Bot. x. 22, not Lemmon. Five dm. high and less from a bulb 3-4 cm. below the surface of the ground: leaves 2-4 from near the base of the stem, 2 dm. long or less, 4 mm. wide or less: spathe splitting usually into two acuminate segments 2.5 cm. long: umbels 10-20 flowered; pedicels 2-3 cm. long: perianth segments equal in length, 5 mm. long, ovate-acuminate, the inner ones narrower, nearly white, with purple midnerve becoming dull purple: stamens shorter than the perianth, gradually widened to the base; anthers purple: style nearly as long as the filaments, stigma not lobed; capsule crestless: bulb coatings with narrow, linear, horizontally contorted reticulations.

This species has been referred to *A. unifolium*, *A. campanulatum*, *A. serratum* and *A. peninsulare* by different botanists. *A. peninsulare* Lemmon, is a plant common in the foothills distant from the coast, rose-pink in color and appears to be a luxuriant form of *A. serratum*.

*A. præcox* is common about San Diego, on northern slopes of cañons, especially near the coast, and is a conspicuous part of the early flora of February. It has been distributed in collections from Ensenada; of Cleveland, from San Diego; El Cajon, San Diego County; S. B. Parish, San Bernardino, No. 4667; A. W. Anthony, 187; Santa Cruz Island. T. S. Brandegee: C. F. Baker, 3391. Dr. Watson's description of *Allium hyalinum*, Proc. Am. Acad., xxiv. 87, not *A. hyalinum* Curran, Bull. Cal. Acad. i. 155, seems to have been drawn from the Santa Cruz Island specimens.

**Salvia Greatai.** Shrubby, branching, the young stems white and tomentose with white branching hairs, 1-1.5 m. high: leaves ovate-lanceolate, tipped with a spine and also spinose-pinnatifid, sessile, 2.5 cm. long, white-tomentose on both faces, especially beneath: flowers in 4-5 sessile, capitate 6-10-flowered clusters near the ends of the branches, surrounded by spinulose-awned, tomentose bracts, the outer bracts broad ovate and spinulose-toothed, the inner becoming linear-lanceolate: calyx tomentose, 1 cm. long, the upper lip tipped with a spine, and near its base are two smaller spines representing lobes; lower lip of two linear-lanceolate lobes 3 mm. long, spinulose-awned: corolla nearly twice as long as the calyx, ochroleucous, slightly and gradually amplified; upper lip 3 mm. long, with two pointed lobes; lower lip slightly longer, 3-lobed, the middle lobe broadest and longest and irregularly fimbriate: anther of the lower fork of the connective half as long as the upper and polleniferous.

This species has characters both of § *Echinosphace* and § *Pycnosphace*, but is very unlike *S. carduacea* and *S. Columbariæ* of these sections. It was collected by H. M. Hall and L. A. Greata in Cañon Springs wash, about four miles northeast of Dos Palmas, Riverside County, California. No. 5848, H. M. Hall.

**Tetracoccus Hallii.** A rigidly branched shrub of gray appearance, 2 m. high, the smaller branches often spinescent,

dicocious: leaves nerveless, in fascicles of 3-8 covering the branches, obovate, attenuate at base, sparingly short-hirsute, 4 mm. long, 2-3 mm. wide: staminate flowers 4-5 from the leaf, bearing nodes on pedicels 5 mm. long: petals none; sepals 6, minute, the alternate ones reddish-colored: stamens 4-6, surrounding a central irregularly lobed disk, 2 mm. long: pistillate flowers nearly sessile; petals none; sepals similar to those of the staminate flower; ovary usually 3-celled, cells 2-ovuled; styles 3-4, nearly distinct, recurved; immature capsule pubescent, 7 mm. wide. No mature fruit seen.

Collected by H. M. Hall and L. A. Greata at "Chuckwalla Bench, midway between Cañon Springs and Chuckwalla Spring, Colorado Desert, Riverside County, California. It grows both on the mesa and along a small wash, but was not at all common." No. 5865, H. M. Hall.

The genus *Tetracoccus* has hitherto consisted of a single species, based on specimens collected by Dr. Parry and C. R. Orcutt, near Santo Tomas, northern Lower California. Since then it has been collected by D. Cleveland, eight miles north of Table Mountain, near the U. S. boundary line, and by C. R. Orcutt, near Temecula and the line of Riverside County, California. The new species is very distinct from the original one.

**Argithamnia Californica.** - Annual, monœcious, glabrous throughout, erect, branching, 15 cm. high: leaves ovate-acuminate, attenuate at base into a petiole 5-7 mm. long, serrate, 2-3 cm. long, 10-12 mm. wide: staminate flowers 2-4 in short axillary racemes about as long as the petioles, on pedicels 1 mm. long; bracts linear, white-margined; sepals linear-lanceolate; petals ovate, acuminate, 2.5 mm. long; glands acuminate, 1 mm. long: stamens in two verticels from the column: pistillate flower on a pedicel 1 mm. long: sepals 4-5 mm. long, linear-lanceolate, white-margined, glandular-denticulate; petals acuminate; denticulate; capsule 4 mm. wide; styles united near the base and deeply bifid, not dilated above; seed apiculate, rugose-reticulated.

Collected by H. M. Hall at Marshall Cañon, seven miles west of Coachella; north base of El Toro Mountain, Colorado Desert, Riverside County, California, where it is common. No. 5796, H. M. Hall.