

River and other streams. Typical High Sierra country with elevations from 4,000 to 14,000 feet, and many peaks above 12,000 feet.

HOOVER, mostly in Mono County—20,540 acres, located in the Mono National Forest along the crest and east side of the High Sierra. Contains many mountain lakes, meadows and numerous peaks over 13,000 feet elevation.

MARBLE MOUNTAIN, in Siskiyou County—237,527 acres, in the Klamath National Forest, so called because of the limestone formation which resembles white marble. A high wilderness country with many lakes and streams.

MIDDLE EEL-YOLLA BOLLY, mostly in Trinity County—143,386 acres, in the California and Trinity national forests. Located on the headwaters of the Trinity River and smaller streams. A country of virgin forests and rugged topography with several high peaks.

SALMON-TRINITY ALPS, in Trinity, Siskiyou and Shasta counties—196,420 acres, in the Klamath, Shasta and Trinity national forests. A region of granite peaks ranging from 7,000 to 8,000 feet, with remnants of former glaciers and showing the results of glacial action. Contains many alpine lakes and streams.

SAN GORGONIO, in San Bernardino County—20,000 acres, in the San Bernardino National Forest along the summit of the San Gorgonio Range. Elevations vary from 7,000 to 11,485 on San Gorgonio Peak, the highest mountain in southern California. Topography rough and broken and in some places precipitous.

SAN JACINTO, in Riverside County—23,291 acres, in the San Bernardino National Forest. A picturesque region surrounding San Jacinto Peak, 10,805 feet, from whose summit can be had a wide view of mountains and deserts.

SOUTH WARNER, in Modoc County—70,682 acres, in the Modoc National Forest. Located on a high ridge, 15 miles long, overlooking the Nevada deserts. This ridge is a "fault" which resulted in the formation of the Warner Mountains. There are many glacial lakes and peaks over 9,000 feet.

THOUSAND LAKE VALLEY, in Shasta County—16,335 acres, in the Lassen National Forest. A rugged timbered area surrounding McGee Peak, containing many lakes scattered in the pine and fir forest.

VENTANA, in Monterey County—45,520 acres, in the Monterey Division of the Santa Barbara National Forest. A rough country with elevations from 1,200 to 4,800 feet on the headwaters of the Carmel and Big Sur rivers.

FIELD NOTE ON A DESERT WASH

JOHN THOMAS HOWELL

A SAN FELIPE VIGNETTE. A collecting trip to the San Felipe Wash on the western borders of the Colorado Desert in November, 1927, disclosed still the destructive force and evident ravages of floods which swept through the region during the preceding winter. Canyon

roads in the vicinity are marked now by rocky beds washed clean of earth and road-embankments are scarred by treacherous and deeply gnawed gullies. Here and there on the broad sandy, gravelly flood-plain of the San Felipe, now dry after the rainless months of summer and autumn, lie piles of broken and uprooted brush, collected and dropped by the torrent. Hundreds of individuals of *Agave deserti* are strewn along the wash, showing that somewhere above, the flood had ripped out a planting of this rare endemic. Many of the uprooted *Agaves* are withered and will probably die, but many have been left half buried in the sand and are growing where they have been dropped. But all the work of the flood is not destruction for gravel bars and sand banks have been built and where there were quiet back-waters flats of silt and fine sand have been deposited. In such a place on finely sifted soil, protected by shrubs of *Chrysothamnus paniculatus* now covered with a mass of yellow bloom, a trio of interesting *Euphorbias* are growing together. All are annuals and all spread prostrate, much-branched stems over the ground, stems that are starred with delicately colored and variously shaped flower-like involucre. Can this one, appearing in richness of color like a magic carpet of the East, be an annual phase of *E. polycarpa*? So it would seem, related perhaps to *E. cinerascens* Engelm., a type with slightly pubescent herbage and very narrow gland-appendages. Here, scarcely a span distant, is *E. setiloba*, the fine stems copiously glandular, bearing myriad small involucre with gleaming-white, stellate gland-appendages. No artifact of man was ever contrived so amazingly. And, as if planning to imitate their nearly endless array of form and color, yet another species grows in the colony. It is *E. pediculifera*, a more elegant species than the others with pale grey-green herbage and broad white gland-appendages which fade to deep rose in age. From all about, the sparsely planted rocky walls of the desert canyon look down, seeming grim and unordered in contrast to the minute details of beauty on the alluvium below. The shrubs on those arid slopes, scraggly and dormant, exhibit from a distance, the monotony of a single species, but experience has shown that at appropriate seasons such brush produces flowers of many orders and kinds. And there too, among disintegrating rocks and in shallow soil-pockets grow many small plants, each in its own niche or cranny, each as fine and as inspiring as the fragile mats of *Euphorbia*.

NOTES AND NEWS

An extremely readable paper on "The vegetation of the Mohave and Colorado deserts of southern California" by the late S. B. Parish has been published in *Ecology* for July, 1930 (11:481-499, figs. 1-9).

Mr. Carl Purdy is making cultural studies of all Pacific Coast *Cotyledons* and *Sedums*. He would be glad to receive living material of the native species for his garden at The Terraces, Ukiah, California.



Howell, John Thomas. 1931. "FIELD NOTE ON A DESERT WASH." *Madroño; a West American journal of botany* 2, 47–48.

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