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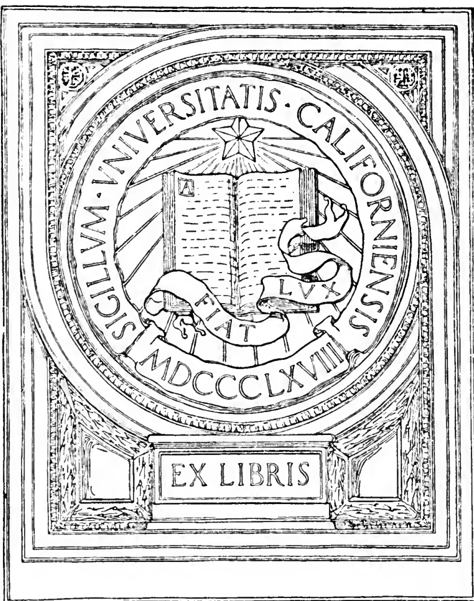
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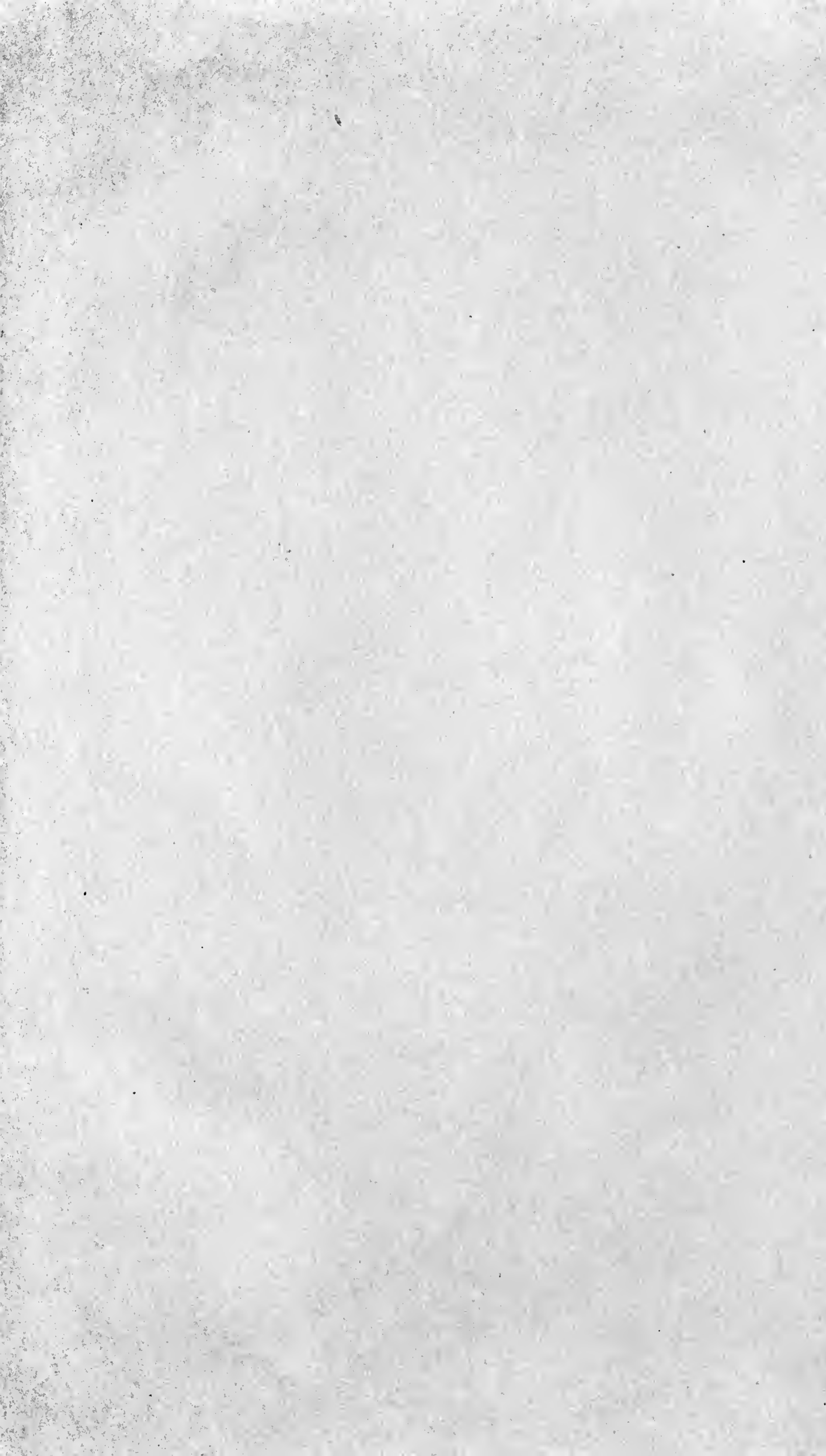
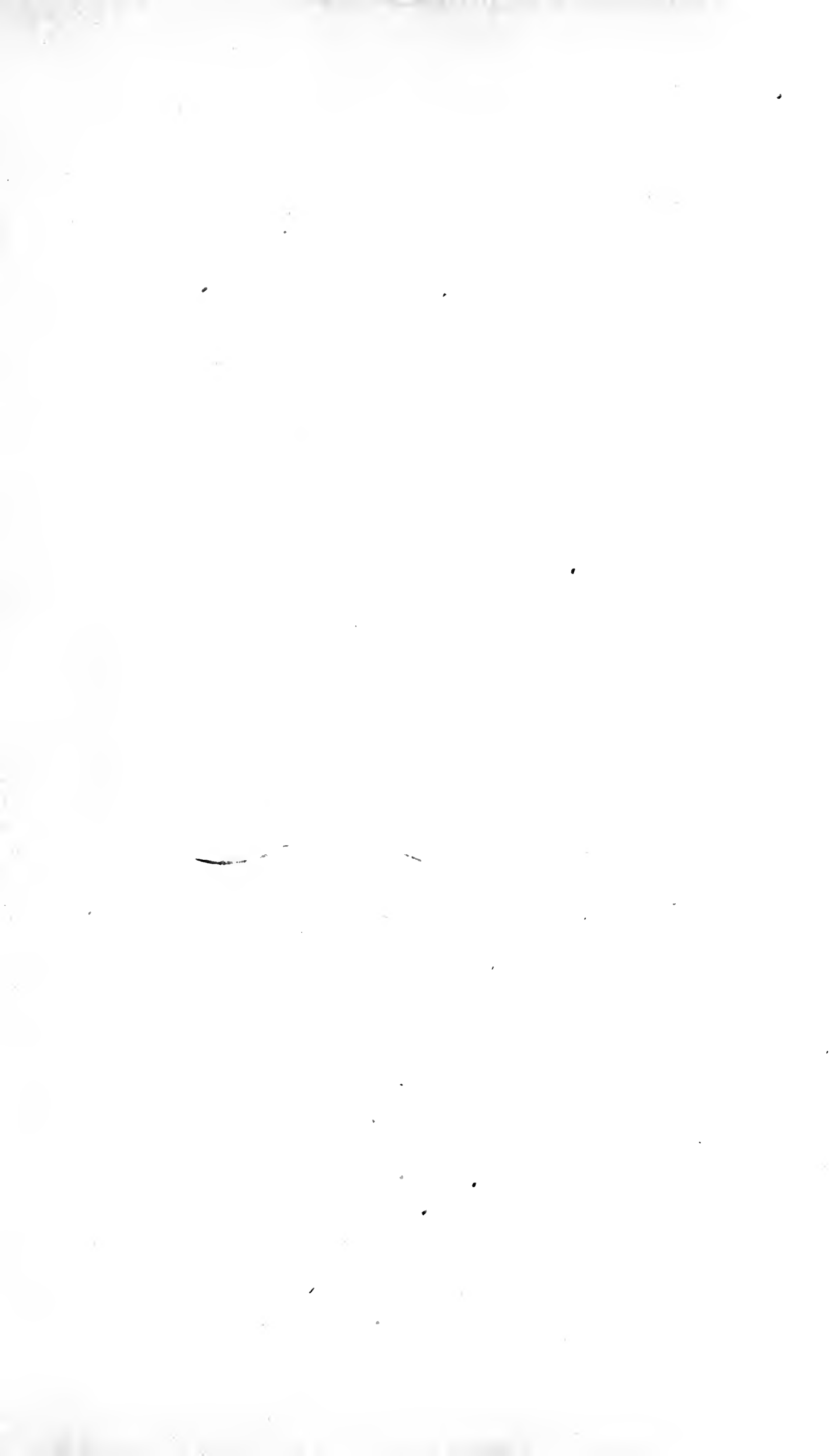


*"Hast thou named all the birds without a gun;*
*Loved the wood-rose and left it on its stalk;*
*Unarmed faced danger with a heart of trust;*
*And loved so well a high behavior in man or maid,*
*That thou from speech refrained,*
*Nobility more nobly to repay?—*
*O be my friend and teach me to be thine."*—Emerson.



# POPULAR STUDIES OF CALIFORNIA WILD FLOWERS

by

BERTHA M. RICE and ROLAND RICE

Directors of

The Annual State Wild Flower Exhibit.

Founders and Directors of

The Outing Farm

A Summer Camp for City Children.

The special hand-colored edition is limited to 700 copies.
The excellent water-coloring is the work of
Myrtle Hill McQuarrie.

*(Illustrations are from Photographs)*

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## ACKNOWLEDGMENT

These flower stories originally appeared, the greater number of them, in the Oakland *Tribune*. They were written by request of the Sunday editor for the magazine section of that paper. The articles have been carefully revised and many items of interest added thereto. As to my son's share in this labor of love, I wish to say that the stories appearing in this volume under his name were originally prepared by him, but were included in the group first published in the *Tribune* under my name. In the midst of activities connected with a summer camp for city children, with many groups of boys or girls and their various leaders coming and going, I found it difficult to devote the necessary time entailed in the preparation of such subjects. I could hardly have finished the task without Roland's loyal assistance and sympathetic support.

I wish to thank the kind friends in all parts of the State who have encouraged us in the preparation of this volume. We are especially indebted to Mrs. Roxana Ferris, of the Dudley Herbarium at Stanford University, and to Dr. LeRoy Abrams, also of Stanford University, the most able of botanists, for valuable assistance in the identification of difficult species and in the scientific nomenclature of the same.

B. M. R.

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By BERTHA M. RICE

*Inscribed*
*To those high hills*
*Of happiness and peace*
*Where unnumbered*
*City children*
*Have enjoyed*
*"Vacation days."*

430494

**Washington Lilies Growing in Pine Woods, Yosemite**

It was in His sermon on the Mount, that Jesus said: "Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these."

## White Mountain Lilies

**By Bertha Marguerite Rice**

*White lilies growing on the mountain side,*
*In your loved forms I see*
*A sacred symbol of the Christ who died,*
*The Christ who lives for me.*

*O tall, straight mountain lilies, sweet and fair,*
*Your incense waft above.*
*Your tender greetings softly heavenward bear*
*To the dear Christ I love.*

*O Lilies! fair and pure and sweet and white,*
*Thoughts of the Crucified,*
*I read a message in your souls of light,*
*His love, who for me died.*

*Within your hearts no stain of earth doth hide,*
*Though from the earth you spring,*
*Then let not earth's taint in my soul abide,*
*Though still to earth I cling.*

*O radiant lilies! blooming for the Christ,*
*Type of His purity;*
*O fragrant lilies! incense offering souls,*
*Waft prayerful thoughts for me.*

---

*Oh, may my heart from selfish aims be free,*
*Filled with His love divine,*
*To feel, to know, to have His purity,*
*Christ's cause on earth be mine!*

## Prefatory Comment

As to my own efforts in behalf of the flowers, I desire to state that not through the study of botany or the love of science have I taken up this work, but because of a sincere and abiding affection for these divine messengers. The flowers of God's planting, growing in His natural gardens, represent the fullness and perfection of His love. Born and raised on an Iowa farm, I early learned where and when the wild flowers grew and blossomed. During my entire life it has been my happy privilege to be closely associated with the out-door world. As the director of "Wild Flower Day" at the Panama-Pacific International Exposition, I formed an extensive acquaintance with flower enthusiasts. Together we have endeavored to interest people in the unparalleled beauty and charm of our native flowers, and in the importance of conserving them as valuable assets of civilized communities. Much interest has since been awakened by means of the annual State exhibit; all specimens sent in were carefully gathered by experts in the various localities, and were classified by scientists.

During the past several years my son has carried out a policy of nature study, in connection with the groups of children who have been our happy and welcome guests, and whose opportunities for observation of the wonders of hills and woodlands have previously, of necessity, been somewhat limited. The work of these field study clubs has been conducted not only during the summer vacation period, but also at other seasons of the year, through various trips to the country and in the vicinity of the Bay Regions. Many children have in this manner formed an inspiring acquaintance with flowers and trees through contact with the life out of doors.

The flower stories in this book have been the natural outgrowth of a keen interest and delight in such subjects, but the publishing of the same, in their present form, has necessarily entailed careful study and considerable research through historical references and old legends and folk-lore, in which the ancients delighted, and which have given rise to many of the popular appellations now applied to flowers. The mysteries of flower lore have a distinct appeal.

It would require many volumes to relate even a few of the interesting facts and fancies regarding the thousands of different species of native plants belonging to this State. We can only hope to introduce the reader to various phases of popular interest regarding a fascinating and inexhaustible subject.

B. M. R.

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*"There is a lesson in each flower,*
*A story for each stream and bower;*
*In every herb on which you tread,*
*Are written words, which rightly read*
*Will lead you from earth's fragrant sod,*
*To hope, and holiness, and God."*

—Allan Cunningham.

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*"From mountains far and valleys near*
*The harvests sown today*
*Thrive in all weathers without fear,—*
*Wild planters, plant away!"*

—EMERSON.

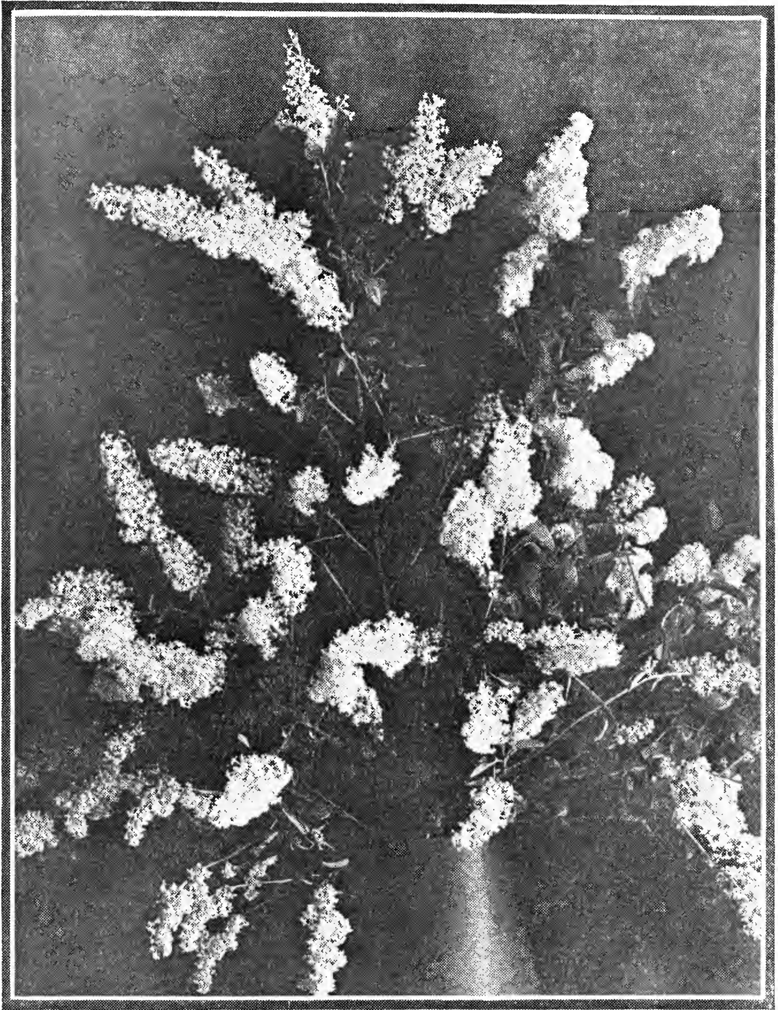
## Hymn to the Flowers

*"'Neath cloistered boughs, each floral bell that swingeth*
*And tolls its perfume on the air,*
*Makes Sabbath in the fields, and ever ringeth*
*A call to prayer.*

*"Your voiceless lips, O Flowers, are living preachers,*
*Each cup a pulpit, and each leaf a book,*
*Supplying to my fancy numerous teachers*
*From loneliest nook.*

*"Were I, O God, in churchless lands remaining,*
*Far from all voice of teachers or divines,*
*My soul would find, in Flowers of Thy ordaining,*
*Priests, sermons, shrines!"*

—Horace Smith.



**The Ceanothus**

*My hills are Poets; all the year*
*They sing to me their lays sublime;*
*They sing you songs with voices clear*
*And sweetest sing in April time.*

*Then they their purple robes put on,*
*Robes spun in April's Lilac looms,*
*Their royal flowered robes they don,*
*For then the Ceanothus blooms!*

*Oh! Kingly Poets are my hills;*
*But kingliest in April time,*
*For then each green breast gladdest thrills*
*And pulses with most royal rhyme.*

*These are the days, the singers' days,*
*When my King-Poets send aloft*
*Their highest, purest songs of praise,*
*Strains of the Ceanothus soft.*

*Faint, faint at first, then deeper toned,*
*Till all the banks are gowned and caped,*
*And my hill monarchs, high enthroned,*
*Are in the Ceanothus draped.*

*Stay, Spring, still let my monarchs wear*
*Their robes and sing their songs sublime.*
*Let it be April all the year,*
*And always Ceanothus time.*

—Bailey Millard.

## Ceanothus. Wild Lilac

**(*Buckthorn Family*)**

**By Bertha M. Rice**

If you have never seen California hills in springtime. abloom with Wild Lilac in all its softened blues, exquisite lavenders or delicate white shades, you have missed scenes that rival in loveliness the famed cherry festivals of Japan. If you cannot be here to enjoy the poet's "Ceanothus Time," call on some of the best art dealers and bid them show you pictures of California's bloom-clothed hillsides. Sights such as these have inspired the best in art from painters of the West as well as of those from other lands who frequently make the journey to these shores just to catch a bit of this tender glory.

Ceanothus is one of our justly celebrated wild flowers. The individual flowers, though small, form dense showy panicles of bloom, and in the spring it covers the hills for miles with a radiance that seems almost too delicate for earth-born loveliness. There are many varieties of the plant generously distributed about the State, from the pretty creeping Ceanothus growing on the sea's edge to that of the tangled chaparral thickets clothing innumerable hillsides. It scatters its fragrant blooms through the stately redwood forests of the Coast Range and trails its decorative "Squaw Carpets" under the yellow pines of the high Sierras. A variety known to botanists as *C. cordulatus* Kellogg, bordering higher altitudes, is popularly called "Snow Bush"; for when in full bloom it resembles fields of newly fallen snow. During several months of the year these "Snow Bushes" are obliged to carry heavy burdens of real snow that have shaped and given them their flat-topped and compact form, which provide such excellent shelter for the birds. It may be that this is one of the reasons they are called Snow Bushes. The name is singularly appropriate. They seem wonderful plants, to me, and add greatly to the interest and charm of those high mountains. We have found them drifting their snowy blooms at an altitude of more than 9,000 feet.

The popularity of Ceanothus is partly due, perhaps, to its adaptability to various soils and climates; for while indigenous to the Pacific Coast, it can be grown almost anywhere. It has long been cultivated in European gardens and is much admired there for its innumerable clusters of lovely, fragrant flowers, called "California Blue Blossoms."

Ceanothus has an interesting little cousin in the Eastern States, known to botanists as *C. americanus* L., but famed as "New Jersey Tea." It provided a welcome beverage, in Revolutionary days, when people would not or could not afford to buy the English teas because of exorbitant and unjust taxation. This variety is sometimes called "Red-root"; it furnished an excellent dye, another commodity highly prized by those thrifty colonists.

But our Ceanothus is a shrub of many parts, as are so many of our native growing things. It is one of the good shrubs that

. . . . . . . .



help to make up our chaparral belt. It does well as a water cover on dry, stony hillsides to prevent erosion. It furnishes the only browse for stock in some parts of the mountains. Cattle and sheep seem to do well with certain varieties for food. To the hunters the bushes are known as buck brush or deer brush. Deer lie in hiding in its dense thickets and feed upon it also. Indians and mountaineers make a tea from the roots and bruised foliage of the species known as "Squaw Carpets" or "Mahala Mats" (*C. prostratus* Benth.), which they take for kidney trouble and blood disorders. This variety has handsome holly-like leaves. Its low-trailing branches starred with feathery purplish blossoms cover miles of mountainside, forming veritable carpets of soft, springy texture under the pine trees. Children are especially fond of its odd and highly decorative scarlet seed vessels. One of our finest varieties (*C. integerimus*) is sometimes called the "White Tea Tree." But the beverage concocted from the bark of its roots is used only for medicinal purposes, valued as a remedy for malaria and catarrhal as well as for kidney trouble. This variety is widely distributed and is quite variable in appearance. Its blossoms are sometimes white and sometimes blue. "Soap-Bush" was the term applied to these plants by the Mexicans in early days. Its blossoms really make a delightful lather, very fragrant and cleansing in quality. By merely crushing the blooms as they are rubbed on the hands in the brook, they leave the skin clean and fragrant and with a velvety softness. There are several varieties in the southern part of the State, the blossoms of which are particularly rich in saponaceous qualities. But the blossoms of practically all varieties furnish an excellent substitute for soap. Its seed vessels when green have the same quality.

A delicately beautiful variety of the creeping Ceanothus, not common outside of the Yosemite and very abundant there in the lower part of the pine belt, forms a magnificent sight in the spring, when its loose, leafy mats are thickly sprinkled with pretty blue blossoms. Surely the Wood Nymphs and Brownies have wonderful carpets! This variety is known to botanists as *C. diversifolious* Kellogg, and is somewhat similar in appearance to *C. prostratus* Benth.

Ceanothus is at its best in Mendocino County, where it grows in dense tangles, and is almost a tree, sometimes attaining a height of thirty-five feet or more. Several varieties bloom in this county in many shades of lavender and blue, paling to white. From Mendocino County, also, there has been sent to me, for the State Exhibit, a variety, the most exquisite pink in color, which may be one of the hybridized forms. A singular greenish blossom (*C. adolphia californica*) was sent from San Diego County.

There are innumerable and lovely species of this interesting shrub. Dr. LeRoy Abrams in his *Flora of Los Angeles and Vicinity* names many varieties and gives careful descriptions of species found in the southland; many of these species are common in the chaparral belt of all our mountains. Among the more localized varieties is "Parry's Lilac," found on the Napa Valley hills. Hybridized forms

of Ceanothus sometimes add to the confusion of botanists. The term "Wild Lilac" is somewhat misleading, for although there is some resemblance between the blossoms, it is not related to the lilac. Its botanical name, *Ceanothus,* is quite as popular. It is sometimes called Blue Myrtle.

The shrub bore another quaint name by the old settlers—"Wait-A-Bit"—which is quite descriptive of the thornlike twigs which hold one back, occasionally, while walking or riding through its thickets. The word Ceanothus is from the Greek *Keanothos,* meaning a kind of thistle, and was probably given our plant because of thorn-like characteristics of certain species. The term "Mahala Mats" as applied to the prostrate variety has a somewhat poetic origin, being the Indian name, meaning "Squaw's Carpet."

Its elusive fragrance is most pleasing in the fresh spring of the year, when the hills are suddenly tinted with its wild, sweet blooms. It is one of our very best honey flowers, and the drowsy hum of the bees may be heard throughout the day as they diligently gather its nectar. Later its odd looking dark seeds are a favorite food of the quail.

Of course, many promising hillsides have most necessarily been cleared of Wild Lilac and other shrubby growths. But I am sure there must always remain enough of it to give distinctive color and charm to many of our mountain regions.

*"The most helpful and sacred work which can at present be done for humanity, is to teach people not 'how to better themselves,' but how to 'satisfy themselves.' . . We shall find that the love of nature, wherever it has existed, has been a faithful and sacred element of feeling . . . Nature-worship will be found to bring with it such a sense of the presence and power of a Great Spirit as no mere reasoning can either induce or controvert; . . it becomes the channel of certain sacred truths, which by no other means can be converted."*—JOHN RUSKIN.

Field of Purple Lupine Growing in Yosemite National Park

*There, too, a thousand purple lupine-eyes*
*Dream in the purple of the summer skies.*

—BLAND.

## Lupines

**By Bertha M. Rice**

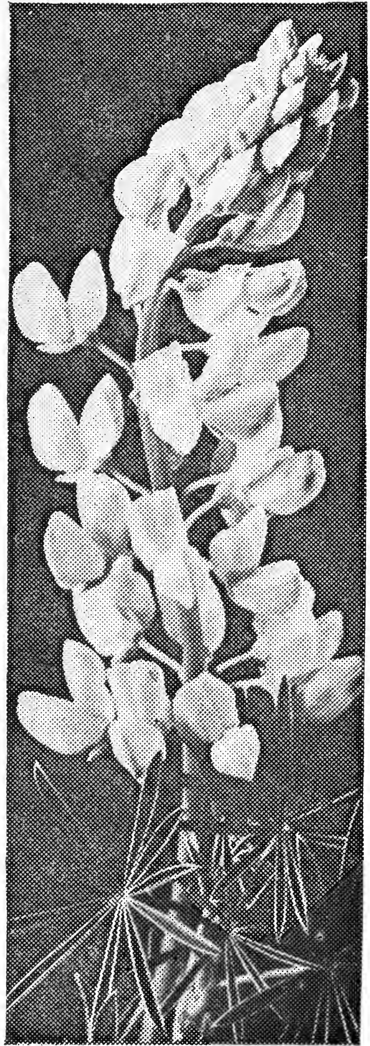
Blue and Gold, the college colors of the University of California, are said to have been chosen originally because of the great abundance of Golden Poppies and Blue Lupines in the vicinity. The choice could not have been a more pleasing one at any rate; for these beautiful blooms still haunt the locality and companion the wayfarer on many pleasant journeys throughout the State. Their beautiful colors are portrayed in numerous flowery landscapes, adorning our art galleries and exhibited by art dealers. Such vivid scenes probably seem an exaggeration to any one never having viewed these gay contrasts in California's open fields; but Dame Nature is at her brilliant best on the Pacific Coast, where her color combinations are at times a bit startling, but wholly satisfactory.

Wonderfully good friends are the golden poppies and blue lupines, though widely different as to family relations. Both are "Royal Good Fellows," not nectar bearing, but exceedingly generous with their pollen to their insect friends. As night approaches they grow sleepy, and carefully tuck their petals around their precious pollen to protect it from the dew and other harmful influences. They seem determined to make the most of their bright flower lives and they are prime favorites with lovers of the outdoor world. But the Lupine is better fitted to win out in the struggle for existence; the Poppy, more easily uprooted, is gradually disappearing from many of its habitats.

When speaking of Lupines, we must remember that the family is an exceedingly large and puzzling one. There are more than fifty species in California. An attempt to list them here would be useless. But they are not all blue by any means. They flower in all shades of blue, purple, lavender, yellow, pink, and white, and are mostly annuals or perennials; a few are herbaceous or woody; many varieties are of a shrubby growth.

The small Blue Lupine, *L. micranthus* Dougl., so plentiful throughout California, on plains and foothills, is one of the most common varieties. Its billowing sheets of delicate colors lend gladness to the springtime. As the season advances, their delicate blue and white blossoms, through fertilization, assume more of a purplish cast, and likewise remind us that summer is advancing.

In early days, giant Lupines grew in some of the arroyos to a height of twelve feet or more. Three or four clusters together are described as forming a mammoth bouquet, ninety feet around. But it is rarely ever that one comes across such a truly aboriginal bouquet nowadays. Fremont told of his mounted cavalcade riding through seas of Lupine, where the blue flower spikes towered above their heads on horseback; and Edwin Markham writes: "I have frequently seen whole hillsides given over to a sea of blue Lupines, head high." Thoreau wrote of "hills blued with Lupine," and occasionally one may still see just such a sight as that—whole hillsides, glorified with its blueness, blue as the skies bending over.



For miles and miles along the coast, and occurring frequently in light, sandy soil from Oregon to Southern California, a variety known as Beach Blue or Chamisso's Lupine matches its blue with the blue of the sea. It was named in honor of the poet-botanist, Adelbert von Chamisso, spoken of as a "French nobleman by birth, a Prussian soldier by training, a poet by inspiration, and a botanist by choice." He it was who named our California Poppy "Eschscholzia" after his friend the German naturalist, who, in turn, bestowed the name "Chamisso's Lupine" upon this flower. For naming our Golden Poppy Eschscholzia, we have never quite forgiven Chamisso, but we are pleased to be reminded, by this blue Lupine, of that dreamy poet-scholar, and brave adventurer, who was among the first to give knowledge to the world of our wonderful wild flowers. This variety is of shrubby growth, from one to several feet in height. It is quite variable in color, sometimes a blue and white, but as the blossoms grow older, and fertilization has taken place, the white turns to lavender or purple. The standard has a permanent yellow spot. Its foliage is especially lovely, a silky, silvery green, forming a pleasant contrast to the profuse spikes of its bright-hued flowers. It blossoms nearly the year round.

There are wonderful stretches of blue Lupines along the coast near Carmel, and one frequently sees the wild doves feasting upon the ripened seeds. Last spring as we followed the winding trails of Mount Tamalpais, some of the hills were most fair to look upon, covered with a shrubby growth of blue and white Lupines.

There is a particularly handsome variety, *L. stiversii* Kellogg, yellow and rose in color, growing in the Yosemite, but rarely found

in the Coast Range. There is also a frilly white Lupine, quite frequently seen, and a false yellow Lupine which comes early on our hills. But fairest of all is our lovely canon Lupine, *L. cytisoides* Agardh., with its long racemes of deep pink and magenta flowers. It grows on the creek banks and in damp places of the cool, quiet woods. Perhaps it is partly because of its pleasant environment that it seems to possess a sweeter and more enduring beauty than its sisters of the same family.

The yellow beach Lupine, a large, shrubby variety, growing from three to ten feet high and found along the coast from Central California southward, is considered by many to be quite the handsomest of all. It is known botanically as *L. arboreus,* and it has very pretty foliage and long racemes of showy, delightfully fragrant yellow flowers. Moreover, it has something besides beauty and charm to recommend it to Californians. Its memory will live as long as San Francisco stands guarding the Golden Gate.

The roots of *L. arboreus* reach down through their sandy home for a depth of twenty feet or more, forming natural sand binders. The discovery of this important fact was of tremendous value in the upbuilding of Golden Gate Park. A number of shifting, wind-swept sand dunes were converted into solid ground by planting great quantities of this yellow Lupine with barley until the Lupines had secured a strangle hold on the ground. Later, many varieties of trees were planted successfully on the land. In such manner was built up one of the most attractive parts of this world-famous park.

The foliage of several species of Lupine furnish nutritious forage for stock, particularly sheep. But the ripened seeds of certain varieties are poisonous and have caused serious losses among stock. A disease known as "Lupinosos" to veterinarians is caused by animals eating these seeds. A certain yellow variety, *L. luteolus* Kellogg, growing in the northern part of the State, known locally as Butter Flowers, because of the color, is considered a serious pest by farmers through its habit of monopolizing their fields.

The Indians utilized the seeds of Lupines for food after boiling them to extract the poison. They also used the young plants for greens, boiling or roasting them by methods of their own.

There is a quaint little Alpine Dwarf, *L. danaus* Gray, pinkish white in color, found above timber line in the Yosemite, and reported from near Mount Dana, at an altitude of 12,500 feet.

A beautiful and fragrant purplish blue Lupine, *L. Grayi* Wats., which frequently covers whole hillsides in the open pine forest of the Yosemite, is sometimes called Gray's Lupine, in honor of that distinguished and eminent American botanist, Dr. Asa Gray.

Several varieties of California Lupines are cultivated in European gardens. But they can never be half so beautiful "Over There" as they are at home a-gypsying down our sun-washed beaches, rioting over the mesas, or clambering up the mountain steeps to wave in triumph from the high Sierras. Associated with the Golden Poppies, they form a characteristic feature of California landscapes.

**THE GOLDEN POPPY**
**Our State Flower**

***Eschscholzia californica* Cham.**

## God's Gold

By Joaquin Miller

*"This Golden Poppy is God's gold;*
*The gold that lifts, nor weighs us down,*
*The gold that knows no miser's hold,*
*The gold that banks not in the town,*
*But careless, laughing, freely spills*
*Its gold far up the happy hills."*

# The Golden Poppy—State Flower
## *Eschscholzia californica* Cham.
### By Bertha M. Rice

The Golden Poppy was officially adopted as the State Flower by the California Legislature in 1903. Long previous to that date it had been unanimously acclaimed the floral emblem of the Commonwealth. A more appropriate choice could hardly have been made; for this wonderful glowing poppy symbolizes in a strange and striking manner the Golden State—its golden traditions, its golden flower fields and its sunny clime. And then also the flower was born on these shores and it may always be found blooming in some portion of the State on any day throughout the year.

In early days thousands upon thousands of acres of these matchless, shimmering "fire-flowers," as certain tribes of Indians called them, were massed at the feet of Mt. Wilson and Mt. Lowe. Their brilliant gleaming could be distinguished far out at sea, a certain indication that the mariner was opposite the mission landings. The term "Cape Las Flores" as applied to these wild poppy fields by the Spanish mariners is said to have originated with Cabrillo's sailors in 1542. But there is no real authority for this statement.

The flower is at its brilliant best from February until June, and a field of these burnished blossoms shimmering in the sunlight, billowing gracefully with every vagrant breeze that blows, forms a picture that beggars description and one that haunts the memory ever afterward with visions of golden glory.

No blossom of later days has been so sung, or painted, described or written about, or is so rich in historic incident as the Golden Poppy. But it is yet unrhymed to the satisfaction of poets, and no painter can ever hope to catch the tender, elusive sheen of its satiny petals.

Some botanists claim that there are more than one hundred varieties of the California Poppy in this State, and then it has a host of attractive relatives; but the Golden Poppy varies greatly in size and color, its blossoms being paler or richer and smaller or larger according to the season or the locality in which it grows. Of the many species and sub-species of this plant as described by certain botanists, ten species and marked varieties, including the most numerous and showy plants, are to be found only in California. Two species are on the coast islands; two others are mostly in this State, but extend northward into Washington, and one of them to the banks of the Colorado River; two others are in California and extend southward to Arizona, and but one species is found in Utah; and southward to northern Mexico, wholly without the confines of California. The most radical of scientists, as well as those of the very conservative school, agree that it is eminently proper and fitting to call the *Eschscholzia* the California Poppy. To be fully appreciated, the flower must be seen growing on its native heath.

Most of the species of *Eschscholzia* are impatient of fixed type and vary most unaccountably in detail of form and color under cultivation. This tendency in the plant has caused botanists much trouble, but has proven a welcome feature to skilled horticulturists, who find the plant so pliable that it has been moulded by selection into a great variety of colors and forms. Luther Burbank succeeded in producing a pure crimson Eschscholtzia, and several other remarkably handsome things which are considered very wonderful and beautiful by those who prefer made-over flowers. But to appreciate one of the most graceful and elegant flowers in the world, one must find the Golden Poppy, growing under favorable conditions, in its native habitat.

Its graceful stem, a foot or more tall; its finely dissected, bluish-green foliage, and above all, the rich golden cup, three or four inches in diameter, with its satiny texture and indescribable sheen, like the bloom on fruit, form a dream of pure loveliness. No artist has ever done the poppy justice, nor yet has it ever been described. The blossoms in the full perfection of their glory seem to have caught the sun's fire, and have a teasing, elusive quality, a maddening, gladdening something, that just escapes you—that has never been named—that will never be caught by the artist's brush—that will remain, always, as was intended—this flower's tender secret, its delicate, elusive charm. And it is so dainty in its habits! The exquisite texture of its lovely satin gown is carefully protected, sheathed in a clean green cap, which is slowly pushed off when it is ready to open its petals. All day its glory is shared with the world, and from the plentiful stores of its rich golden pollen the bees and other insects may gather at will; but it will have none of the "fly-by-nights," and so surely it withdraws itself from the eventide, folding its silken draperies, petal upon petal, over its rich golden heart, protecting its pollen from the dews and harmful influences, to unfurl the next day when the sun is high in the heavens. It is a true child of the sun. Who that has seen a California Poppy field at mid-day, matching its glory with the glory of the sun-god, has not marveled at this great wealth of brilliant color? Even in death, the Poppy is beautiful, for its petals, lightly shed, are still fresh and fair, and when dried they turn to a dusky gold.

Indians had many superstitions regarding the flower. One was that a nursing mother must not touch, nor allow her infant to touch, its glowing petals, or the milk would dry in the mother's breast. To certain tribes of Indians this blossom was the "Great Spirit Flower," and when the gold diggers came rushing into their land to tear up the mountains in their eager search for the glittering ore, the Indians averred that the bright leaves of the "Great Spirit Flower," falling back to earth year after year, finally turned into this strange gold for which the white men were always seeking. They believed that a deity reigned over the poppy fields; and in Southern California, near Pasadena, where the fabled "Altar Cloth of San Pasqual" (that lost glory of the Golden Land) was said to have been located, were Indians thought to have been sun-worshipers. In early spring, when the sun-gold of the poppies sheeted the hills with their dazzling

glory, these Indian women wove fine garlands and wreaths of its blossoms, and on a spring day, when the flowers were in full perfection of their mid-day loveliness, they executed their weird "dance of the poppies." This took place on the trail up Mt. Wilson; and the Indian women in their picturesque garb, made of braided grasses, with the blazing poppy fields for a background, must have presented a strange scene. That was in the days when the poppy fields were uncrossed save by El Camino Real and the trails of the aborigines. From mostly forgotten Indian lore a few of the tribal names for the poppy have been rescued. One name was "tesanaht"; and in Southern California they called it "a-tow-sha-nat"; while the place where Pasadena now stands was "a-tow-shan-a-my," "place of poppies." Northern California tribes called the flower "dis-shu-le" and "to-shu-le" and "shu-le." But then they called all flowers "shu-le." The Indians used the young plants for greens. They used its blossoms and leaves for medicinal purposes.

There is a pretty legend attached to the Spanish name "Calce-de-oro" as applied to the poppy. An early Spanish explorer, upon first seeing the flower, reverently raised its golden cup to his lips and exclaimed: "Behold! I have found the Holy Grail—the Calce-de-oro" (which means chalice of gold).

Sister Anna Raphael, of Notre Dame College, in San Jose, has told us that Padre Junipero Serra is said to have exclaimed when first he saw the Golden Poppy fields: "O happy omen!" She embodied this thought in the following sweet lines:

*"Be still to us by dusty ways,*
*An angel-song of peace and praise,*
*Be still a chalice lifted up,*
*The Holy Grail's anointed cup*
*That blesses, strengthens, purifies,*
*And woos our spirit to the skies."*

It was probably this thought that gave rise to another tradition, immortalized by Carrie Stephans Walter:

*"but one day came,*
*An hundred years and more ago, a band*
*Of holy friars to our shores. . . .*
*The sun-gold flower they 'Amapola' named*
*. . . Adding, as whispered benedicite,*
*'Copa-de-oro,' Holy Grail, which holds*
*Within its sacred chalice heaven's gift*
*Of Golden Beauty, California's dower."*

("Amapola" means poppy, and "copa-de-oro," cup of gold.)

The Spaniards had other quaint names for the flower. Among them were "dormidera" (the sleepy one) and "torosa" and "torongo"—but I am not quite sure of their meaning. They used the plant for remedial purposes and also steeped its leaves in bear oil or olive oil to make a tonic for their hair, which they claimed produced a wonderful growth and imparted a peculiar luster.

The gold diggers, despite their eagerness to uncover the wealth within the hills, were struck by the unusual beauty of these flowers, as evinced by the fact that many pressed specimens were enclosed in their letters back home. They called it the "Gold Flower." In the early fifties, the poppy was called the "Californicus."

Its discovery to the botanical world was a very interesting incident. In 1815, Count Romanzoff of Russia sent the "Rurick" on an exploring expedition under the command of Otto von Kotzebue to find if possible a passage north of America connecting the Atlantic and Pacific Oceans. A group of enthusiastic young scientists accompanied the expedition: Aelbert von Chammisso, poet, author and botanist; Dr. John Frederick Eschscholz, a German surgeon and naturalist, and a youth by the name of Choris, the artist. Kotzebue, twenty-eight years of age, was the son of a great German dramatist whose plays were then the most popular in the world. Eschscholz, but twenty-two years old, had already won fame as a naturalist. Choris, two years younger, afterward became one of the historical painters of Russia. Chammisso, the botanist, thirty-four years old, was a French nobleman by birth. He had won fame as the author of an unusual story entitled "Peter Schlemihl," an amusing tale of a man who sold his shadow. It was this group of distinguished young men who first sent specimens, notes, and drawings of the California Poppy to Europe. But it was not until 1820 that Chammisso published a detailed account of the flower, which he had named *Eschscholzia* in honor of his friend and co-worker, and *californica,* after the land of its birth. This account was first published in Madrid, Spain, just a century ago. Chammisso referred to his companion in labor as "the very skillful, very learned, very amicable Eschscholz, Dr. of medicine and equally expert in botany and entomology." From seeds collected by Chammisso the flower was probably introduced into European gardens, and later its popularity was established by seeds collected by David Douglas and sent back to the Royal Horticultural Gardens in England, from whence they were later distributed to all parts of the world, including the Atlantic States, which received their first seeds from Europe.

California is particularly rich in romantic incident. The discovery of the *Eschscholzia californica* Cham. is an interesting tale. But to Californians this beautiful blossom will always be simply the Golden or California Poppy; after all, are not the people the best judge of what a flower should be called—a flower so endeared to them by memories of home and by its sunny, friendly presence everywhere throughout the length and breadth of the Golden State?

In a February, 1910, number of *Collier's Weekly,* Caspar Whitney deplores the gradual disappearance of the California Poppy fields. He writes:

"Fifteen years ago, California had acres upon acres of those beautiful flower things, the Wild Poppy. Even ten years ago, great golden fields of these exquisites of the open plenteously adorned the southern half of the State. Then tourists began pulling them up by the armsful—by the roots. Not with the wish to elsewhere establish poppy loveliness through transplanting did these vandals

uproot this jewel of wild flowerdom, but only to feed that coarse passion which delights in destroying flowers and killing birds. So ravaged are those once joyously laden fields that now one must actually seek them, as one looks for the big trees, in certain sequestered spots.

"California should enact a law protecting its remaining poppies, because to get a sight of those golden fields has taken many a traveler to the coast; and California's natural beauties are assets which the Californians will be wise in safeguarding against foreign vandalism and native gluttony."

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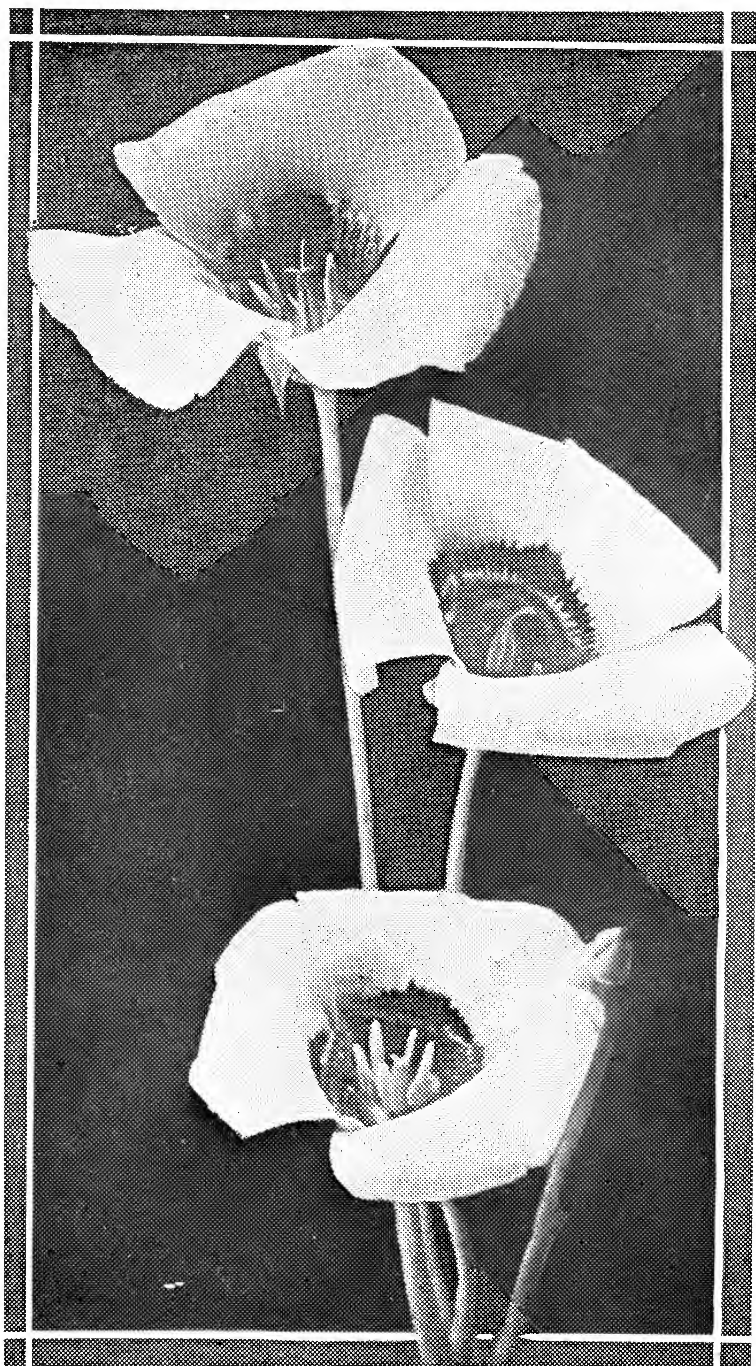
## California Poppy

### (Copa De Oro)

*Thy satin vesture richer is than looms*
*Of Orient weave for raiment of her kings!*
*Not dyes of olden Tyre, not precious things*
*Regathered from the long-forgotten tombs*
*Of buried empires, not the Iris plumes*
*That wave upon the tropics' myriad wings,*
*Not all proud Sheba's queenly offerings*
*Could match the golden marvel of thy blooms,*
*For thou art nurtured from the treasure-veins*
*Of this fair land; thy golden rootlets sup*
*Her sands of gold—of gold thy petals spun.*
*Her golden glory, thou! on hills and plains*
*Lifting, exultant, every kingly cup*
*Brimmed with the golden vintage of the sun.*

—Ina Coolbrith.



Mariposa Lily (*Calochortus*)

# Mariposa Lily *(Calochortus)*

**By Bertha M. Rice**

The Mariposa Lily inspired one of the finest poems in the English language. I refer to the exquisite tribute to this beautiful blossom by California's poet laureate, Ina Coolbrith. Nor is Miss Coolbrith the only famed Westerner whose worshipful praise of the Mariposa is engraved in the literature of the West. John Muir's outburst of adoration for a member of this lily family is, I think, the highest tribute ever paid by man to a flower, although the species to which he refers is quite a different one from the airy-winged butterfly tulip which Miss Coolbrith had in mind.

*C. albus,* whose common name is "Lantern of the Fairies," belongs to that section of the *genus* known as Globe Tulip. Of this lovely blossom, the great naturalist wrote:

"Found a lovely lily (*Calochortus albus*) in a shady *adenostoma* thicket near Coulterville. It is white with a faint purplish tinge inside at the base of the petals, a most impressive plant, pure as a snow crystal, one of the plant saints that all must love and be made so much the purer by it every time it is seen. It puts the roughest mountaineer on his good behavior. With this plant the whole world would seem rich though none other existed. It is not easy to keep on with the camp crowd while such plant people are standing preaching by the wayside."

There are three groups of *Calochortus*: The Mariposa Lilies with their lovely cup-shaped flowers; the Globe Tulip with nodding, globular flowers, and the exquisite little Star Tulips with erect, star-like blossoms.

Almost every locality has its "Mariposa." There are forty or more varieties in California and all of them are extremely beautiful. There are many forms which seem to hybridize until only experts can tell one from another, and botanists are forever disagreeing on the nomenclature. It would probably be more correct to say Mariposa Tulip than Mariposa Lily, for botanists place them in the tulip family. The rather tall, cup-shaped, or open campanulate flowers on very erect stems resemble tulips. The California varieties, many of them, are said to be more delicately beautiful than the tulips of Europe.

When speaking of "Mariposa," it seems well to remember that the name was given by the early Spanish-Californians and means "Butterfly," which is very appropriate; the flowers resemble nothing so much as delicately tinted and mottled butterflies hovering over the grass on open glades and fields. Their fragile, grass-like stems are so delicately green and tall, and so lightly and airily do the blossoms nod in the passing breezes, that I am always reminded, when coming across them, of some beautiful lines written by Carroll de Wilton Scott, of San Diego:

*"Beautiful winged Mariposas,*
*Graceful and shy and tall,*
*Poising like butterfly blossoms,*
*Fairest of wild flowers all:*
*Dressed in your velvets and satins,*
*Raiment a queen might share,*
*Loveliest jewels that summer*
*Wears in her gold-brown hair."*

Who can look upon the Mariposas so endeared to poets and flower lovers, without appreciation of their enchanting beauty? But it is hard to choose a favorite from among so many forms of loveliness, the gay "Butterfly Lily" of Ina Coolbrith's poem, or the sainted White Lily of John Muir's choice. Charles Francis Saunders, in speaking of *C. albus,* the White Globe Tulip, says: "Paraphrasing a certain old dictum about the strawberry, one might say that doubtless God could have made a lovelier flower, but never did." This lovely little flower is also called the "Satin Bell" and the "Alabaster Lily." It is sometimes called the "Hare Bell," but the small Globe Tulip is not bell shaped. The tips of its petals are prettily crossed; we have another flower, quite *different* in appearance, called the "Hare Bell," and it belongs to the Bell Flower family, *Campanulaceae.* Our little Globe Tulip or "Lantern of the Fairies" may often be found blooming in late spring or early summer in shady places, in the Coast Ranges and Sierras throughout the State. A close relative of *C. albus* is the yellow Globe Tulip, *C. pulchellus* Dougl., which grows about a foot high and is found on Mt. Diablo. This soft, lemon-colored flower is often confused with the Golden Lily Bell, *C. amabilis* Purdy (the "Diogenes Lantern"), which is found in the north Coast Ranges. But a marked difference in the flowers is noticeable. *C. pulchellus* is very rare. *Pulchellus* means "little beauty." This flower was first collected by David Douglas in the Mt. Diablo region, the only place it has ever been seen, and it is seldom found of recent years.

The little Star Tulips are exceedingly lovely and dainty blossoms. They include the dear little "Pussy's Ears" so popular with children. *C. maweanus,* with tiny, bell-shaped flowers, is white or lilac colored, and barely an inch across. The blossoms are thickly covered with white or purplish hairs. It is a low little plant from three to five inches high, with a few delicate, grass-like leaves and branching stems. It blooms in the Coast Range and Sierra foothills from Central California northward into Oregon. This variety, because of its color, is more frequently called "Mouse Ears." Its specific name, *"Maweanus,"* was given in honor of George Maw, a noted horticulturist of England. There is also a yellow "Pussy's Ears," *C. benthamii,* and *C. umbellatus,* which is white or lilac colored. Both are to be found in the low, wooded hills of Central and Northern California.

The Mariposa Tulips or "Butterfly Lilies" are more frequently seen on dry, open hillsides. They have three petals and three sepals, and a hairy, crescent-shaped honey gland at the base of each

petal. They are among the most characteristic flowers of the West. And to quote Carl Purdy: "Until one has seen a good collection of these plants, he has no idea how much Nature can do in the variation of one flower." There are several well-marked strains, all said to be variations of *C. venustus.* But ranging in color from white to cream, palest to a clear bright yellow, orange, pink, claret, magenta, flaming vermilion, lilac, purple, green-banded, and a mingling of all other shades, wonderfully blotched and mottled with exquisitely delicate pencilings, eyes and dots, in rich contrasting colors; yet each variety carries out a color scheme of its own. They bloom in the spring in the Coast Ranges and in the summer in the Sierras, and nearly all are confined to the Pacific Coast. But certain varieties grow in the Rocky Mountain regions, and one has been discovered as far east as Dakota and Nebraska. Abrams mentions several varieties in his "Flora of Los Angeles and Vicinity"; they are particularly beautiful in that locality. The famous Catalina Mariposa, *C. catalina* Wats., is common throughout Southern California, blooming on the plains and foothills and coast islands from February until May. This flower is white or lilac, with a dark red blotch at the base of each petal. It was first described from a specimen collected on the Santa Catalina Island about fifty years ago.

Mary Austin, in her charming book, "The Land of Little Rain," says: "Farther south in the trail there will be poppies meeting ankle-deep, and singly, peacock-painted bubbles of calochortus blown out at the tops of tall stems." She was of course speaking of the early springtime. Flowers are short lived in that region.

The flaming vermilion, tulip-shaped Desert Mariposa is a delight of motorists in the early spring along Southwestern desert roads; this glorious flower blooms in the hot, bright sunlight close to the sand; and with a semblance of shade or protection, it is even more beautiful. "The wonder of it is increased," says Saunders, "by finding it in the midst of such barren, sun-scorched wastes as popular speech calls 'God-forsaken.' The flower is a reproach to such a phrase, and seems to preach to us the universality of the divine providence." This species (*C. kennedyi*) is somewhat rare in California, but Margaret Armstrong speaks of it as being so abundant in the foothills and mountain slopes of Arizona as to give a beautiful orange-red color to the landscape for miles in the spring.

In his "Flora of Middle Western California," Jepson mentions three of the popular Mariposas to be found in this section of the State: *C. splendens* Dougl. and *C. venustus* Dougl., the white Mariposa Lily, which is sometimes white and often lilac colored, with a rose-colored blotch near the apex, and eyes and pencilings of rich colors; also *C. luteus Dougl.,* which has very erect stems with fan-shaped petals, somewhat more claw-shaped than the preceding species. This Mariposa occurs from a clear yellow to a deep orange, and instead of the central blotch, its penciled lines radiate from gland to center of petal. Its honey gland is densely matted with yellow hairs, with scattered single hairs to the center of the petals.

The yellow Mariposa Lily is a favorite with many, but *C. luteus* is the least lovely of all Mariposas. A well-marked variety of the

yellow Mariposa growing near the Yosemite is a far more handsome, robust type. The petals are from two to four inches across, bright yellow, with a rich maroon spot near the center, and the hairy, crescent-shaped honey gland is brown, flecked with maroon. It has a yellowish-green pistil and creamy anthers. *C. luteus* var. *oculatus* frequently verges into *C. venustus,* and gorgeous varieties of both are to be found in the Yosemite regions. Hall mentions, in his "Yosemite Flora," *C. venustus* and *C. nuttalli* T. & G.; this latter variety is rather common, he says, in Yosemite meadows. "The plants are tall and the flowers beautifully colored, while at higher altitudes they are much dwarfed and the flowers are very pale." Of *C. venustus* he says: "This is one of the handsomest of all the Mariposa Lilies and is remarkable for the range of its color forms. Along the Wawona road, near Alder Creek, one form has deep wine-red petals, which are darker towards the middle and are crossed below by a broad yellow band, while on nearby plants the petals are nearly white, with a dark brown eye surrounded by yellowish."

*C. nuttalii,* commonly called the "Sego Lily," is the State flower of Utah, where it is highly esteemed not only for its beauty, but also because its edible corms formed a substantial part of the diet of the early Mormon pioneers when they crossed the desert. These flowers are rather common in the Southwest and vary somewhat in colors, but are usually a lovely lilac with the usual splashes of color in the center. This flower was named by the Ute Indians. Through a misunderstanding of the word, the Mormons formerly pronounced it "Sago Lily," but "Sego" was the Ute term. They consumed great quantities of its corms. The Indians called these corms "Noonas," and they were esteemed by them as the very greatest of all delicacies. A somewhat amusing story is told of a foreign collector of California bulbs, who was gathering them for the European trade. Anxious to secure a quantity of these choice tulip corms, he hired Indians to dig them, but the Indian women ate the "Noonas" as fast as they dug them up. It was only by furnishing them with liberal supplies of food that he could persuade the squaws to part with these wild corms.

It has always seemed a singular thing to me that while the bulbs or corms of our wild lilies and the roots of other native plants are known to have figured conspicuously in the aborigines' bill of fare, there was no apparent decrease in the early wild gardens. But I have wondered, sometimes, if the scarcity of these lilies at the present time is not due, partly, to the prevalence of collectors, who have been supplying our native bulbs to European and other dealers, although there are horticulturists in California who have devoted years to raising their own stock, and who have greatly improved and perfected many varieties suitable for gardens.

The Digger Indians of California received their name because the first white men saw them digging about in search of lily corms and roots of different sorts—"Indian Potatoes" or "Wild Onions," the early settlers called them. When the Indians saw that white men were encroaching upon some of their food supplies (which

were big natural gardens or fields of these corms and roots), it caused one of our Indian wars.

The beautiful wild lilies are not so plentiful now, and it seems better for us to enjoy the rare charm of these elegant blossoms when we have the fortune of chancing upon them, rather than feasting upon their delectable corms, even should they appeal to our Anglicized palate. There are so many lovely varieties and so many variations in the well-known strains that it would be an impossible task to name them all. They can be likened only to orchids in point of exquisite gradations of shades. But one of their chief charms is their delicate, grass-like stems, usually a foot or more high; this gives the blossom its swaying grace and that appearance of butterflies hovering over the grasses. *Calochortus* means beautiful grass.

These gay blossoms are favorites with insects of all kinds. Bees, butterflies and other members of the insectivorous world jostle each other in friendly rivalry as candidates for their sweets.

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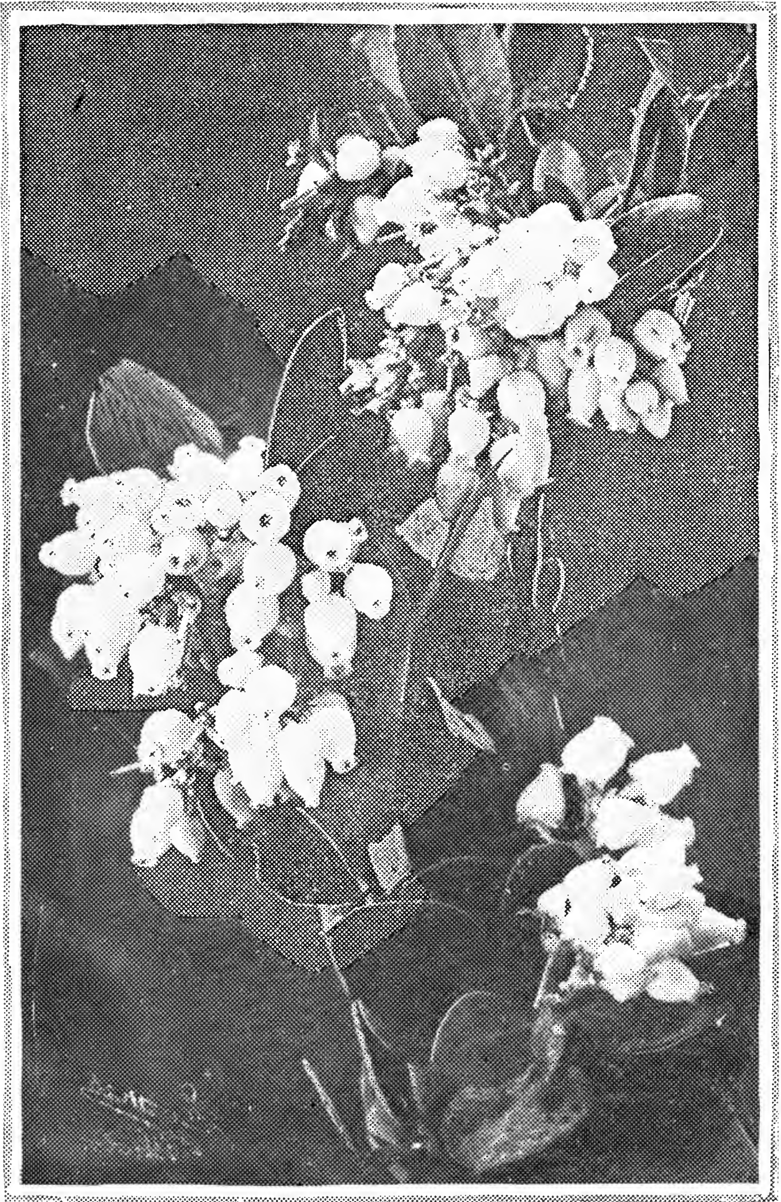
## Mariposa Lily

*Insect or blossom? Fragile, fairy thing,*
*Poised upon slender tip, and quivering*
*To flight! a flower of the fields of air;*
*A jeweled moth; a butterfly, with rare*
*And tender tints upon his downy wing,*
*A moment resting in our happy sight;*
*A flower held captive by a thread so slight*
*Its petal-wings of broidered gossamer*
*Are, light as the wind, with every wind astir,—*
*Wafting sweet odor, faint and exquisite.*
*O dainty nursling of the field and sky,*
*What fairer thing looks up to heaven's blue*
*And drinks the noontide sun, the dawning's dew?*
*Thou winged bloom! thou blossom-butterfly!*

—Ina Coolbrith.



MANZANITA (Arctostaphylos)

*"About the flowers grave lessons cling.*
*Let us softly steal like the tread of spring*
*And learn of them."*

# The Manzanita *(Arctostaphylos)* Heath Family

**By Bertha M. Rice**

One of the most interesting shrubs in the world is the Manzanita (*Arctostaphylos*). In the early days of California it was one of the very first things to attract the attention of the traveler. It is still so typical and characteristic a feature of this State that it deserves especial attention. Although an extremely handsome shrub, the Manzanita is something more than merely decorative. It has played its part in the history of our land, and is still much beloved by the bees and the birds, the chipmunk, the fox and the coyote.

This unusual shrub or little tree never fails to win exclamations of surprise and delight from visitors to our land when first they note its unusual coloring and quaint appearance. For whether delicately crowned with faintly flushed little alabaster globes lighting the way for those industrious gatherers of honey, the bees, or feasting with its dark red berries the hungry quail and other small colonists of the woodland, it is alike an interesting and lovely thing. No less attractive is it in its season of rest, for its rich red wood, so clean and highly polished, its curiously contorted branches, and its good-looking foliage are ever unique and charming to the beholder.

When Fremont was making the difficult journey down the slopes of the Sierra Nevada Mountains near the American River with his famished party of men and horses, he took occasion to comment on the Manzanita when writing in his very interesting journal. He says: "A new and singular shrub, which has made its appearance since crossing the mountains, was very frequent today. It branched out near the ground, forming a clump eight or ten feet high, with pale green leaves of an oval form; and the body and branches had a naked appearance, as if stripped of the bark, which is smooth and thin, of a chocolate color, contrasting well with the pale green of the leaves." It is remarkable that Fremont could think of such things as trees and shrubs when writing of the trials and hardships of his party on their journey down into the Sacramento Valley, through the rugged Sierra Nevada Mountains, in late winter. He mentioned the Manzanita twice; the second time to tell that it was then in bloom with little white, globe-shaped flowers.

The Manzanita has been most famous with travelers from the East on account of its beauty of polished dark red bark, and of its singular habit of twisting and turning so that the collector of canes is forever baffled by this most desirable shrub in trying to find a straight limb. We have read of a standing offer of a reward of five thousand dollars from an Eastern institution for a perfectly straight piece of Manzanita five feet long. The holder of the reward money need never worry.

Manzanita is a pretty Spanish name meaning "Little Apples." The scientific name, *Arctostaphylos,* is translated as "Bear-Berry." But the true Bear-Berry is the *Arctostaphylos uva-ursi,* which is

low trailing or spreading over the ground, with its flowers or fruits in little clusters. This species is found in the high mountains of Northern California and across the continent and in Europe.

When speaking of Manzanita, we may be speaking of one or several varieties, but all have the generic name of *Arctostaphylos;* the shrubs are extremely variable and even botanists find it difficult to discriminate between certain of the species. A number of the scientists divide the genus into innumerable species, while others name a few, but allow for much variation within the species. They belong to the famous Heath Family, whose members are always of extreme interest to nature lovers. This plant is a close relative of the stately Madrona, the handsome Rhododendron, the lovely Azalea, and the Huckleberry, also the singular Snow-Plant, and has many other well-known relatives.

A very beautiful variety of Manzanita found growing on Mt. Tamalpais and near Santa Cruz, and reported from other localities, has the most delicate little pink flowers, very like arbutus.

Occasionally the Manzanita becomes almost a tree. There was a famous Manzanita tree near St. Helena, in Napa County, which I believe was the largest specimen known. It measured eleven and one-half feet at the base of its trunk and was thirty-five feet high, with proportionately wide-spreading branches. An interesting sketch that made its appearance in "Garden and Forest" many years ago, tells how this dignified patriarch once escaped the woodsman's axe. A lover of trees was passing by as a woodsman raised his axe to fell the tree. He begged the man to spare its life, giving him a small sum of money to bind the bargain. I have often wondered if this venerable tree is still standing. A few years ago it was still holding high carnival with the bees and the birds in season and out of season. For, aside from its honey flowers and nutritious fruit, it furnished good nesting places and provided shelter for the flitting visitors of that region.

Of the species more widely distributed in California, probably *Arctostaphylos manzanita Parry* is better known, as this is the true Manzanita or "little apple" of the Spanish-speaking people. In mountain regions a clear amber jelly of delicious taste is made from its fruit.

The fruit of the Big-Berried Manzanita is much larger. Its berries often exceed three-quarters of an inch across, and instead of the usual seeds, it has a stone half an inch in diameter. But this species is rare and of somewhat local occurrence. It has been reported as occurring in the Mt. Diablo Range and other localities from Monterey south to Los Angeles.

Probably the most widely distributed species, more common in the chaparral districts of all our mountains, is *A. tomentosa* Douglas. In the mountains of Northern California, hogs consume great quantities of the fruit and are said to fatten on them. Many people in the foothills make an excellent vinegar from crushed Manzanita berries. An infusion prepared from its leaves is the basis of an official drug used in catarrhal troubles. Its leaves boiled in hot water furnish a decoction used by others for relief from Poison

Oak. Its green berries chewed slightly and held in the mouth will quench the thirst of travelers on hot, dry hillsides where water is sometimes almost as scarce as in the desert regions.

In the days of the Red Man, Manzanita tracts were recognized by family or tribal rights, and the squaws regularly harvested or threshed the berries into their big burden baskets. The Indians ate the fruit both in its raw state or dried and pounded into "Pinole" (a meal), often cooked as mush. They also made a cider from its berries, which they used as we would vinegar with greens. They greatly relished this Manzanita cider, served with Lupines, which had been boiled in water with the aid of hot stones. It may be said that these berries were a staple food with the Indians and grizzly bears in the early days of California, both being able to digest the rather dry, puckery seeds, which are not so agreeable to civilized palates. But it was the *Arctostaphylos uva-ursi* which was the true "Kini-kinnick" of the Western Indians. They preferred its berries and used its foliage, not only for medicinal purposes, but in the curing of animal skins. The old chieftains were wont to manufacture a harmless tobacco from its leaves, which they dried and powdered and smoked on ceremonial occasions in their "pipes of peace."

The Manzanita is of special interest because of its wonderful root system. Many a pioneer clearing his land to set out a vineyard or orchard, learned that there was far more wood under the ground, in the Manzanita roots, than in the little twisted limbs above; and the wood makes a splendid fuel, being esteemed in the old days of the barbecue for roasting meats over the steady heat of its coals, which burned for a long time because of the oil in the wood.

These shrubs often form a large percentage of the chaparral belt, so characteristic a feature of California foothills and mountains. It is to such shrubs as the Manzanita and Ceanothus that California is indebted for the protection of its water sheds in the chaparral belt. They help to conserve the water. The Manzanita is well able to resist fires, which in the ages past were often set by the Indians to trap game, which at times burned over great sections of the forests. It was fortunate that Manzanitas had their root systems so well established that when fires came along and their tops burned off, they were able to send up new and vigorous growths the following year. There are regions on Mt. Tamalpais which furnish striking illustrations of this kind. The Manzanita is very hardy, growing in dry and rocky soils as well as in the shade of big trees, where it is sometimes confused, by superficial observers, with its close relative, the Madrona (Bret Harte's famous "Robin Hood of the Western Wood"). It greatly resembles the Madrona in the color of its wood and in the manner of shedding its bark, and there is a certain similarity between their blossoms, but there the similarity ends. For the Madrona is a fine and shapely tree, frequently forming park-like groves in the lower foothills; its blossoms more nearly resemble the Lily-of-the-Valley; its rather large berries are a bright orange-yellow in color, while the berries of the Manzanita are dark red and

usually much smaller. The Manzanita bark is a much deeper brown than that of the Madrona, and there is no mistaking the large, deciduous, magnolia-like leaves of the Madrona, while the small, light colored, evergreen leaves of the Manzanita are curiously set on edge to prevent evaporation. It is this ability to conserve its moisture which is so valuable a feature in this plant, enabling it to thrive in the sterile soil of the chaparral regions, where its presence is little short of a benediction in the wilderness. This shrub sems to love the dry, sunny hillsides, and together with its close friends and companions, the Ceanothus or Wild Lilac and the beautiful Chaparral Pea (*Pickeringia*), with its bright pink blossoms, they supply those otherwise arid regions, during their successive seasons of bloom, with a variety and charm unequaled by that of any other portion of the State.

The Manzanita blooms when other flowers do not. At Christmas time and before, and from New Year's Day on into the late spring, its little waxen globes, with perhaps a rosy glow tinting their pure whiteness, give of their nectar to the bees. It is a splendid honey flower, for the bees may strengthen and prepare themselves with its aid during the otherwise lean winter months, and be in good shape to build up big honey stores when the rush of wild flower season comes upon them suddenly in the spring.

The Mountain Quail in the Sierras and the smaller California Quail in the coast foothills all love the Manzanita red berries and enjoy many gay picnicking parties in fruiting time. I find it difficult to decide when the chaparral presents the happier appearance, with the busy bees in blossom time or with the greedily feasting birds in berry season.

In the language of flowers, the family name—*Heath*—stands for "solitude," though it seems that this relative has not its place in the dictionary of that language. It may be left to the choice of the individual whether these delicately tinted, nectar-laden, waxen urns, so refreshing in the wilderness of tangled chaparral, in the "between seasons" of flowers, enlivened with the businesslike hum of harvesting bees, might not stand for joy, or hope, or happiness. Nor is the Manzanita *solitary* in its cheerful fruiting season, bidding welcome to bird visitors and to various small furry friends.

The Manzanita's lovely flowers have been described as "like little classic vases set in alabaster."

Snow Plant (*Sarcodes sanguinea*)

*"The woods were made for the hunters of dreams,*
*The brooks for the fishers of song;*
*To the hunters who hunt for the gunless game*
*The streams and the woods belong.*
*There are thoughts that moan from the soul of a pine,*
*And thoughts in the flower bell curled;*
*And the thoughts that are blown with the scent of the fern*
*Are as new and as old as the world."*

—Sam Walter Foss.

## The Snow Plant

## (*Sarcodes sanguinea* Torrey)

The Snow Plant is almost wholly confined to the high altitudes of the Sierra Nevada Mountains in California. It is sometimes found in the mountains of southern Oregon and a portion of Nevada, and has been discovered as far south as San Pedro Martir in Lower California. This weird and extremely interesting plant has gained world renown; tourists actually come from all over the world to seek for it growing in its native surroundings.

In the Yosemite Valley, where it was more frequently found, it was discovered that visitors, with that morbid curiosity characterizing people whose interest in flowers is but momentary, were pulling it up by the roots or breaking it the better to examine it, and as the plant was being exterminated, a heavy fine was imposed for gathering the flower. It is now considered a misdemeanor to pluck a Snow Plant in the Yosemite National Park. A fine of twenty-five dollars or imprisonment may be imposed for such an offense.

It seems a pity that this flower, which has long puzzled scientists and so greatly interested travelers and writers, could not be better protected in California, its native habitat, and that the law enacted guarding its presence in the Yosemite National Park might not be extended throughout the State. Interest in the Snow Plant would be increased, inasmuch as we value its presence within our borders.

The Snow Plant is a member of the famous Heath Family, which claims many of our finest flowers, including the Azalea, Rhododendron, Huckleberry, Manzanita, and Madrone; it was long thought to be a parasite, but is akin in habit to the Fungi, and most evidently it has made some strange compact with bacteria growths for their mutual help, for its blood-red tissues lack all trace of that green coloring matter supplied by the magician Chlorophyll for transmuting or combining the elements necessary for the food of plants which earn their own living; its very long root is not connected with that of any other plant. Whether the scientifically inclined call it parasite, fungus, saprophyte, or aught else, matters but little to the average citizen, who is interested from quite a different viewpoint. Botanists will go on to the end of time splitting hairs over differentiations in plant life. A "Snow Plant" it will be called until the end of time. The people have so decreed. Its botanical name, *Sarcodes sanguinea,* if generally understood, would not add to its attractiveness; it means "Bloody Flesh." It is perhaps as well that we do not always grasp the meaning of these high-sounding Greek and Latin words.

So much has been written about this strange flower and so diverse are the opinions of botanists and writers regarding it, that it has seemed best to quote from a few of our well-known California writers of authority. I have been greatly interested and at times

a bit amused by their various statements. Said that "grand old man" of the Yosemite, Galen Clark, who was for many years the guardian of this national wonderland, and who, after ninety years of age, wrote three small books on the Yosemite, its Indians and its legendary lore. (I quote from one of these volumes): "This blood-red and brilliantly attractive plant is met with in a few localities in the Yosemite. Its stout, succulent stems, covered with wax-like, bell-shaped flowers, and delicate, semi-transparent, slender leaves that intertwine among the bells, all being blood red, make it the most conspicuous and beautiful flower in the Sierras. The name it bears might give the impression that it grew in the Sierra snows; but this is not the case. Sometimes, however, a snow storm may come in the spring after it is up in full bloom. It is thought by some botanists to be a parasitic plant. This has been well proved to be untrue."

Enos A. Mills, author of a book on "Our National Parks," had this to say of our strange California bloom: "The Snow Plant is a curiosity and attracts by its brilliancy of color. The plant and bloom are blood-red, but this herb is as cold as an icicle. It is not a parasite, but is isolated and appears to hold itself aloof from all the world. When caught by late snows, it makes a startling figure, but it does not grow up through the snows."

John Muir, great naturalist, says: "To tourists the most attractive of all the flowers of the forest is the Snow Plant, *Sarcodes sanguinea;* it is a bright red, fleshy, succulent pillar that pushes up through the dead needles in the pine and fir woods like a gigantic asparagus shoot. In a week or so it grows to a height of six to twelve inches. Then the long, fringed bracts spread and curl aside, allowing the twenty or thirty five-lobed, bell-shaped flowers to open and look straight out from the fleshy axils. It is said to grow up through the snow; on the contrary, it always waits until the ground is warm, though with other early flowers it is occasionally buried or half buried for a day or two by spring storms. The entire plant —flowers, bracts, stems, scales, and roots—is red. But notwithstanding its glowing colors and beautiful flowers, it is singularly unsympathetic and cold. Everybody admires it as a wonderful curiosity, but nobody loves it. Without fragrance, rooted in decaying vegetable matter, it stands beneath the pines and firs lonely, silent, and about as rigid as a graveyard monument."

Edwin Markham, poet, says: "On higher levels of the mountains the Snow Plant pushes up like a sturdy mushroom through the carpet of pine needles; there, among the soft browns of the earth and the deep green of the shadows, this uncouth shape sucks its bright scarlet from the ground along the edges of the receding snows. In shape and consistency it looks as if some ingenious Yankee had whittled it out of the heart of a watermelon."

Mary Elizabeth Parson writes most charmingly of finding her first Snow Plant: "I came unexpectedly upon this scarlet miracle, standing in the rich, black mould in a sheltered nook in the wood. A single ray of strong sunlight shone upon it, leaving the wood around it dark, so that it stood out like a single statue in a *tableau*

*vivant.* There was something so personal, so glowing, and so lifelike about it, that I almost fancied I could see the warm life blood pulsing and quivering through it. . . . I carried my prize home, where it retained its beauty for a number of days. I afterwards found many of them. They gradually follow the receding snows up the heights, so that late in the season one must climb for them."

Margaret Armstrong, Western writer, describes the plant's strange coloring as follows: "The plants are shaded with red all over, from flesh color to rose, carmine, and blood-red, and are translucent in texture, so that when a shaft of sunlight strikes them they glow with wonderful brilliance, almost as if lighted from within."

Charles Francis Saunders, well-known naturalist, of Pasadena, says that it is a "favorite posie with the mountaineers in the Sierra Nevada Mountains," and that he has frequently seen it "planted in lard pails ornamenting the porches of their cabins."

Dr. Harvey Monroe Hall, in his "Yosemite Flora," states that the Snow Plant may be found in the transition zone of the Sierra Nevada Mountains from Southern California northward to Oregon, making its appearance soon after the snow has melted and later until autumn. Dr. LeRoy Abrams, in his "Flora of Los Angeles and Vicinity," says that the Snow Plant is frequently found in the coniferous forests in the San Antonio and San Bernardino Mountains above the seven thousand foot altitudes.

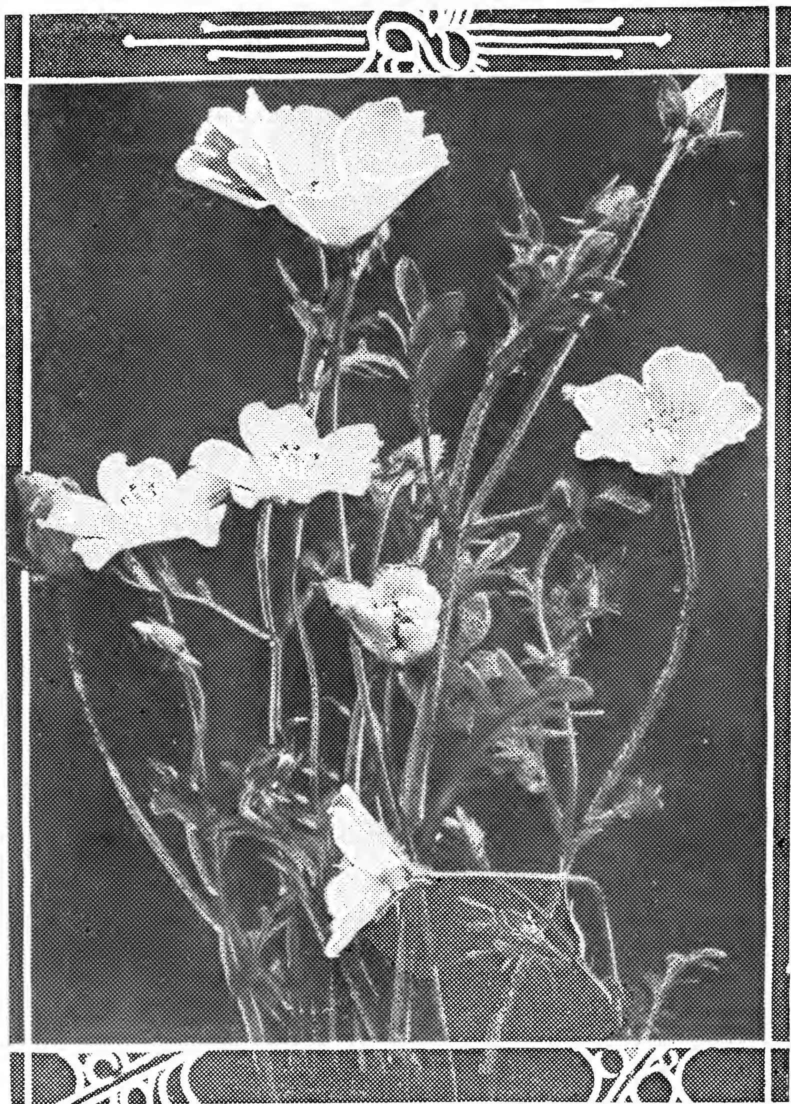
A legend tells us that one of a band of Brown Robed Friars first sent out by Spain to conquer the red men of California, after marching weary miles over the Sierras, saw suddenly a crimson glow through the snow. On nearer view it proved to be this blood-red blossom. He gazed in silent awe, saying: "It is the flower of the Saviour's precious blood, a sign that our labors will not be in vain," for here—

*"Far from Calvary's awful summit,*
*Where His life was sacrificed,*
*Figured on the lone Sierras,*
*Shines the precious blood of Christ."*

I have never been so fortunate as to find the flower growing in its native haunts, but have had specimens sent me for the State Exhibit, and in spite of its great attraction to those who were privileged to see it, I regretted always that it had been taken away from its home in the wood, where it constituted a part of that mysterious charm supplied by beautiful growing things, but rarely seen, and but little understood.

One cannot but wonder about the true life history of this plant —the real purpose of its existence—something more than merely being beautiful to look upon, I am sure, although that interesting fact, of itself, is sufficient excuse for its being.

Its only accredited economic value is that it furnished a toothache medicine for the Indian. After all, it was the aborigines who best understood nature's secrets, and with their passing she is closing the pages of a volume more interesting than that which is written.



BABY BLUE EYES (Nemophila)

# Baby Blue Eyes
## (*Nemophila insignis* Dougl.)
### By Bertha M. Rice

Baby Blue Eyes, *Nemophila insignis* Dougl., is the daintiest and fairest of wildings; it is happily named, for its ethereal loveliness makes as straight an appeal to our heart and reminds of naught so much as that blue which is like the blue of a baby's eye. "Harbinger of Spring" was the poetic title bestowed upon it by David Douglas, the great Scotch botanist and explorer, nearly a century ago.

California, at that time, was an unexplored wilderness; but the fame of her wonderful wild gardens had been circulated abroad. Among the exploring expeditions that had visited this coast were a number of scientists, and many herbarium specimens had been preserved, while seeds of the wild plants had been sent back to European countries and planted in botanical gardens. A number of these flowers were so beautiful and unusual in appearance that in 1824 the Royal Horticultural Society of London sent David Douglas, a young Scotch gardener and a well-known botanist, famous for his love for flowers, as well as for his great knowledge of plant life, to this coast for the purpose of collecting specimens and seeds of its marvelous flowers and trees, not only for the advancement of science, but for the enrichment of European gardens. He sailed around the Horn, stopping first at Vancouver, and then came on down to Washington and Oregon. He studied extensively the coniferous forests of the coast, and although a number of scientists had preceded him and had recorded more or less information regarding its remarkable plant life, it is conceded that David Douglas gave to the public its first accurate knowledge of our world-famous trees and of many of our most beautiful flowers. It was David Douglas who, during an exciting experience with the Indians, first discovered the Sugar Pine (*Pinus lambertiana* Dougl.). But there are several trees, including the Douglas Spruce or Fir, and numerous field flowers that bear the name of this brave and devoted scientist.

David Douglas returned to England in a year or so, but came back to California, in 1831, to make an exhaustive study of our wild flowers. He landed at San Francisco and went immediately to Monterey. It was then autumn, which is not California's favorable season of bloom. The Mexicans and Indians were somewhat unfriendly to strangers at the time and they looked upon the young botanist with suspicion. He persisted in his undertaking, however, and soon discovered many rare plant species, entirely new to science. Douglas passed through some exciting adventures and overcame innumerable difficulties while botanizing in the wilderness. But when spring arrived with all her floral splendors, we find this hard-working Scotchman still pursuing his investigations, and enthusing over an entirely new specimen—a bonny blue blossom, whose shy

loveliness delighted this plant enthusiast. The first flower he took in hand that spring day, he tells us, was the "beautiful wild gooseberry (*Ribes speciosum*), a flower not surpassed in beauty by the finest Fuchsia." However, this bloom had previously been described by another. The second blossom he gathers on that interesting occasion is entirely new, and in writing to a friend he speaks of it as "a humble but lovely plant, the harbinger of California spring." Just why the botanist should have designated this flower as "harbinger of California spring" has seemed to puzzle some people. Many outdoor enthusiasts who commune with our wild flowers in their native haunts will tell you how absolutely unreliable a floral calendar can be. They may ask with the poet, "When is spring in California?" Our native flowers, Nemophila as well as others, have a habit of blooming in season or out of season. I have found the Baby Blue Eyes blooming in February, and at the same time gave greetings to any number of other friendly little faces such as Milk Maids, Red Maids, Wake Robins, and a host of pretty, shy dwellers of the woods and fields; while Manzanita, Flowering Currant and other blossoms had held high carnival with the bees and butterflies long before their arrival. California springs are not as other springtides and cannot be reckoned by the calendar. It is unfair to the rest of the beauties who are doing their best to lead the procession of vernal handmaidens to the spring to give precedence to one who is occasionally tardy in opening her pretty blue eyes; but her little ladyship was a great favorite with Douglas, and we are not surprised that he sought to honor so exquisite a darling.

Most people are unaware of the fact that Baby Blue Eyes, so illy appreciated on her native heath, is now one of the most cherished annuals in European gardens. Indeed, foreign catalogues are said to speak of it as "the most precious of annuals"; for David Douglas carefully gathered its seeds along with those of many other interesting species and sent them back to the Royal Horticultural Gardens, and while a few were kept merely as botanical curiosities, at least one hundred and thirty varieties of California annuals were continually grown and the seeds were distributed to all parts of the world. It is rather thrilling to think that California's wild flowers long since transformed the gardens of Europe, which contained but few annuals before their introduction. *Ribes speciosum* (our wild fuchsia-flowered gooseberry) and *Nemophila insignis* Dougl. (Baby Blue Eyes) are considered the most popular.

Baby Blue Eyes is a low-growing, herbaceous little plant that is, or was, quite generally distributed about the State. In the days gone by, when these bonny blossoms were as free as the air they breathed, the Nemophilas, in places, literally sheathed the earth for miles with that color which seemed but a reflection of heaven's own azure, or together with their closest friends and companions, the pretty Creamcups, they wove dainty carpets of softest creams and heavenly blues, converting hills and plains into dreams of fairyland, which have given way to cultivated fields, cities and towns or well-cropped pasture lands.

In Europe the Nemophila is frequently called the "California Bluebell," but it is not in the least bell-shaped, unless one is considering its half-opened buds. It is somewhat saucer-shaped; a clear, bright blue in color, with a white center, delicately veined with blue; its blossoms vary in size and color and are from a half inch to an inch or more across. The finest specimens I have ever seen were growing in the Bay Region. It is a member of the *Phacelia* division of the Water-leaf Family. *Nemophila* means "Lover of the Grove"; but, quite to the contrary, the plant formerly covered vast open spaces, and occasional fields of them may still be found. Dr. Abrams, in his "Flora of Los Angeles and Vicinity," says that this species is quite frequent on sandy or dry plains and foothills throughout that range. These flowers are extremely sensitive in nature and seem to shrink from the near approach of unthinking people, but respond wonderfully to congenial influences. *Insignis* means plainly marked, and their delicate blue veins trace straight to honey cells for their lovers, the bees, who hover over the blossoms in ecstasy. They are rich in nectar. The family name, *Water-leaf,* is misleading; the leaves of the members of this family were formerly supposed to have water cavities. This is incorrect and is only one of the innumerable and regrettable errors that somehow have crept into the naming of certain plant families and species. The Spanish Californians, after their own quaint fashion, call these pretty blossoms "Mariana," after the Virgin Mother.

There are a number of species of Nemophila and some botanists have divided them into innumerable sub-species, which but serve to confuse and mislead the non-botanical; but the Baby Blue Eyes is an easily distinguished variety; when once seen, it is not forgotten.

The most commonly distributed Nemophila, frequently found in the valleys of the Coast Ranges and Sierras, and quite common in the Bay Regions, along roadsides and in ravines, is one so pale an azure as to be almost white; it is often called, simply, Baby Eyes because finely dotted with tiny, pale blue or sometimes faint purple specks. This variety really does prefer the borders of moist woodlands and underbrush, thereby perhaps meriting the name "Nemophila"—Lover of the Grove. It varies in color from almost white to pale blue.

The purple-spotted Nemopila, *N. maculata* Benth., is commonly found in the Yosemite and in moderate altitudes of the Sierra Nevada Range. It is popular with visitors and is easily recognized by its saucer-shaped blooms, an inch or more in diameter, and its striking colors—white, dotted with purple, with a deep purple blotch at the tip of each lobe of the corolla. The *concolor* variety occasionally found in the same locality lacks this showy purple blotch on the petals.

The Climbing Nemophila, *N. aurita* Lindl., is found in shady places in the Coast Ranges and Sierra Nevada foothills, but is far more common in the south, where it is said to have once been very popular, for some reason, with the Spanish señoritas, who were wont to wear its blossoms on gala occasions. This Nemophila somewhat resembles nightshade and is rather coarse in appearance. The

back of the leaves and stems are covered with little hooked bristles, which enable it to climb over other plants, and the low shrubbery and underbrush is sometimes thickly covered with its dull purple and white blossoms.

It is safe to say that the frail little flower, *Nemophila insignis* Dougl., or Baby Blue Eyes, as all love to call it, is a favorite flower with all, and particularly with children. No sweeter blossom ever graced our land. Yet in common with many of her beautiful sister flowers, who have become candidates for extermination, she now seeks hiding places and more remote localities for her colonies. Year by year they creep farther and farther away from the centers of population in their eagerness to escape the destructive hand of man and to continue the propagation of their species.

In future days when the sweet little blossoms have been almost wholly eradicated from California landscapes, our children's children, undoubtedly, will purchase seeds of the cultivated varieties, from the florists, many of whom now get them from Europe. They will grow them with great pride in their gardens. Perhaps some one will remember and say of this flower: "Long ago, the fields for miles around were blue, blue as the sky, with its blossoms."

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*"You never miss the singer till the sweet-voiced bird has flown.*
*You never miss the color of the flower till it's gone."*

## Blow Balls

Seed Globe
of
California
Dandelion

*" . . . dandelion this,*
*A college youth that flashes for a day,*
*All gold, anon, he doffs his gaudy suit,*
*Touched by the magic hand of some grave bishop,*
*And all at once becomes a reverent divine—how sleek.*

* * * * *

*"But let me tell you in the pompous globe*
*Which rounds the dandelion head is couched*
*Divinity most rare."* —HURTIS.

# The Yellow Dandelion

## *Compositae*

### By Bertha M. Rice

"If you are going to write about flowers," said a young friend, looking over my shoulder, "don't waste your time on common weeds. Who do you suppose will read about a dandelion and who is there that cares about such a common pest?"

And straightway I changed my text and erased the more commonplace statements I had made regarding this blossom—like a miniature sun—this lovely though lowly flower.

"Very well," I said. "Come into the library, and I will show you lines of beauty and rich gems of thought penned by some of the world's greatest thinkers and inspired writers."

Here is what John Burroughs, the eminent naturalist, had to say of this common dandelion:

"After its first blossoming comes the second and finer and more spiritual inflorescence, when its stalk, dropping its more earthly and carnal flower, shoots upward and is presently crowned by a globe of most delicate and ethereal texture. It is like the poet's dream, which succeeds his rank and golden youth. This globe is a fleet of a hundred airy balloons; each one bears a seed which is destined to drop far from the parent source."

James Hurtis, an English poet, expresses similar thought in his "Village Curate":

Henry Ward Beecher speaks of dandelions as "golden kisses all over the cheeks of the meadow," and Thoreau calls them the gold which he has on deposit in country banks, the interest on which is to be health and enjoyment. James Russell Lowell wrote no finer poem than his appreciative tribute to the yellow dandelion:

*"Dear common flower that groweth beside the way,*
*Fringing the dusty road with harmless gold,*
*First pledge of blithesome May,*
*Which children pluck, and, full of pride, uphold,*
*High-hearted buccaneers, o'erjoyed that they*
*An El Dorado in the grass have found,*
*Which not the rich earth's ample round*
*May match in wealth, thou art more dear to me*
*Than all the prouder summer blooms may be.*

* * * * *

*"'Tis the spring's largess, which she scatters now,*
*To rich and poor alike, with lavish hand,*
*Tho' most hearts never understand*
*To take it at God's value, but pass by*
*The offered wealth with unrewarded eye."*

Dandelions are not only an exceedingly characteristic and pleasant feature of the landscape, but are continually used to embellish prose and poetry as instanced by Bret Harte in a "Blue Grass Pene-

lope." The following lines will recall to mind many similar visions of loveliness on California shores: "One afternoon she thought the long, sad waste before her window had caught some tint of gayer color from the sunset; a week later she found a blazing landscape of poppies, broken here and there by blue lagoons of lupines, by pools of daisies, by banks of dog roses, by broad, outlying shores of dandelions." Alfalfa fields in the Sierra regions are sometimes yellow with its blossoms early in the spring, before the first cuttings.

An Algonquin tale, a legend of considerable beauty, tells us that Shawwondasse, the South Wind, sighing under a Magnolia tree, one day spied a slender maiden with golden tresses; but the South Wind was languid with the scent of Magnolia blossoms, and he neglected calling to the golden-haired divinity; until, one day, he woke to find no longer the slender girl, with the crown of golden glory, but a faded gray creature, the ghost of his dreaming. Then knew he that his brother, the North Wind, with his chill breath, had blighted her. As he gazed, stricken with sorrow, the white hair fell from the maiden's head and she was gone. Other maidens with golden glory came and went, but Shawwondasse sighed ever for the slender girl with the yellow hair as he had first seen her.

This same soft, silvery globe of dandelion down has furnished the children from time immemorial with the "Blow Balls" so closely associated with the days of childhood.

*Dandelion with globe of down,*
*The school boy's clock in every town,*
*Which the truant puffs amain*
*To conjure lost hours again.*

Who is there among us that has not at some time in our lives blown the feathery seeds from these blooms to see whether mother wanted us. If a single downy plume was left on the stalk, we could play a little longer; and if we wanted very much to play a little longer, I fear we did not blow very hard. In the language of flowers the dandelion is the "rustic oracle," while its seed globe means "Depart." In the long ago these blow-balls were often consulted by young people as oracles. A lover would gather one and, carefully plucking its light feathers, would whisper sweet messages as he blew them toward the place where his sweetheart was waiting; while the maiden, wishing to know that her lover was thinking of her, puffed thrice at the soft down, and if there was then a single feather left, she knew that she was not forgotten.

These gossamer seed globes are also used as a barometer to predict fine or stormy weather. If the down blows off the dandelion when there is no wind, it is a sign of rain. Among the country people of Switzerland the flower is known as the shepherd's clock, for in that country it is said to open at five o'clock in the morning and close at eight in the evening, and the shepherds often use it to guess at the time of day. There are many superstitions regarding the flower and to dream of them is supposed to denote misfortune or treachery on the part of some loved one. In many ways these blossoms are popular with children. In spite of their acrid taste,

little girls love to separate their long, slender stems with their sharp little teeth and with their lips roll them into tantalizing curls. Or the hollow stems are cut into beads and made into chains and bracelets by the children. Small lads sometimes make miniature trombones of the stems, the pitch of the tiny instruments being varied according to the length of the trombone.

Even after the little seed children have all left the parent stalk, its stem is still conspicuous and has given rise to at least two of its popular names. In the Middle Ages the dandelion was known as "Monk's Head" or "Priest's Crown." Father Tabb says: "With locks of gold today; tomorrow silver-gray; then blossom-bald." It was this "blossom-bald" that was supposed to resemble a monk's shaven head. The "blossom-bald" head is an interesting feature of the plant. It is the little house in which all of the slender golden fairies have lived; for the dandelion is not a flower; it is a whole community. The dandelion mother often owns fully two hundred of these minute yellow blossoms which form the composite flower; and carefully she has reared and guarded her children. Like the mother hen she lovingly gathers them under the protection of her wing in rainy or inclement weather, closing them tightly in the little flower house, and only when the weather is fair do they share their precious pollen and wealth of nectar with innumerable members of the insect world. When these flower children have lived their brief day of happiness, the kind mother again encloses them safe in her sheltering heart, where they mature their seeds, only to reappear in ethereal beauty, provided with delicate silver wings all ready to fly away into the wide, wild world to establish colonies of their own. The parent dandelion, with all her children flown away, has somewhat the appearance of a delicate parchment with a tiny mark at the center of each figure where the seed was attached. I can only liken it to a patient mother whose life work is finished, but whose every wrinkle is a line of beauty.

Another name and an unpoetical one frequently used for these flowers in the Middle Ages was "swine's snout," due to the flower's singular habit of closing its blossoms during unfavorable weather and also when maturing its seeds. The name dandelion came from "dent-de-lion," meaning lion's tooth. The jagged leaves are supposed to somewhat resemble a lion's tooth. While others claim that its roots gave rise to the name. Professor De Gubernatis connects the name with the sun (Helios) and adds that a lion was the animal symbol of the sun and that all plants named after him are essentially plants of the sun. The dandelion bears similar names in nearly all countries. In England the blossoms were called "dazzles" and "dashels" or "dashel flowers." This "gamin of the fields," as it is sometimes called, is a native of Greece, but has emigrated to all parts of the civilized world.

The dandelion need never be put on the protected list of California flowers, or of any other place for that matter. It is quite capable of taking care of itself. It is wholly impossible to eradicate this determined globe trotter, so many and ingenious are its devices for perpetuating its species. Volumes could be written about the

wise little plant, and its virtues are many in spite of the fact that it is considered such a pest in the East and is the despair of town people, whose lawns it will persist in occupying.

Professor Baily, of Cornell University, said that dandelions in his lawn were a great trouble to him until he learned to love them and then the sight of them gave him keenest pleasure. Mrs. Anna B. Comstock, of Cornell, in her handbook of Nature Study, gives a valuable illustration of this plant's tenacious hold on life. She says: "One spring when all the vegetables in my garden were callow weaklings, I found there, in their midst, a dandelion rosette, with ten great leaves spreading out and completely shading a circle ten inches in diameter; I said, 'Look here, Madame, this is my garden!' and I pulled up the squatter. But I could not help paying admiring tribute to the tap-root, which lacked only an inch of being a foot in length. It was smooth, whitish, fleshy and, when cut, bled a milky juice showing that it was full of food; and it was as strong from the end-pull as a whip-cord; it also had a bunch of rather fine rootlets about an inch below the surface of the soil and an occasional rootlet farther down; and then I said, 'Madame, I beg your pardon; I think this was your garden and not mine.' "

The Eastern variety is not so common on this Coast, except that it is very fond of damp lawns; and it always seems to find a way to get ahead of us. Strangely enough, on lawns, it blossoms on stems so short that the lawn mower often cannot cut it. But if "given an inch" it "takes an ell," or indeed, if banished from the lawn, the whole roadside. When blooming in the meadows or high grasses, this brave plant, with uncanny foresight, will grow until it often towers above its neighbors. Specimens have been found nearly three feet high; their bright yellow blossoms, richly laden with sweets, were bound to attract winged visitors, which assist in pollenization and illustrate the interdependence between vegetable and insect life.

Stock will not eat dandelions; that is one of the clever ways this intelligent plant has of preventing itself from becoming exterminated. It has gathered the acrid juices from the ground, which are distasteful to cattle. Unless its exceedingly long and strong tap-roots are cut deeply, the plant keeps sending up new and more vigorous growths, and its round mass of feathery down is quickly scattered by the winds and other carriers to the four parts of the earth. Its seeds are wellnigh indestructible.

More than one hundred thousand pounds of dried dandelion roots (Taraxacum) are imported annually from Europe for medicinal purposes notwithstanding its abundance in this country; to make gathering pay, cheap labor must be employed. As a remedy, it has been used for consumption, for fever, for liver troubles and as a drink to improve the complexion. Indians had a high regard for its medicinal qualities. They also devoured great quantities of the plants for food. The Iroquois Indians would search for days for them and it is stated that the amount one Indian would consume both in the raw state and cooked, is almost beyond belief. It is a common sight in this country to see foreigners gathering dande-

lions; Italians in particular like its raggedy leaves, which they cook for greens. This was a favorite dish with early settlers and is commonly used in some places today. It is said that if the leaves are blanched when young and tender, they make a fine salad served with French dressing. The French-Canadians prepare a "bitter salad" from its roots. In Germany, dandelion roots are roasted by the peasants and ground for coffee. We are told that it makes an excellent substitute for coffee. In the island of Minorca, when the people were suffering from famine caused by locusts, the inhabitants were enabled to eke out an existence on dandelion roots and greens. When we are inclined to question the right of this pestiferous plant to exist in a world decorated with man-made lawns and gardens, cultivated grain fields and short-sighted individuals, it is well to remember that Mother Nature has large families to provide for and innumerable tiny mouths to feed. Without considering the dandelion as a remedial agency or its food values to nations and peoples in times of famine and stress, it is interesting to note that ninety-three different insects gather sustenance from its blossoms. After its gay colors have faded, birds devour its seeds and weave its down into their soft little nests. California has a dandelion of its own, of another genus. The fluffy seed globes of the Western species are most exquisite and are a conspicuous feature of autumn roadsides, lending a touch of ethereal beauty to the landscape as they hover over the dry grasses of waste places. If these seed globes are gathered early, just before expanding, they will remain ornamental for a long time. The Spanish-Californians were especially fond of them.

The Western dandelion (*Troximon grandiflorum* Gray) is closely related to the Eastern dandelion. It has handsome yellow flower heads with deeply cut, lance-shaped leaves, and is a perennial herb with a strong, deep tap-root. It is sometimes two feet or more high and is common on plains and hillsides from Southern California to Washington during the spring and summer months. *Troximon,* unlike its close relative *Taraxacum* and from which it can hardly be distinguished by amateurs, is indigenous to the New World, and is found principally west of the Mississippi River. There are more than a dozen species and varieties found on the Pacific Coast. Some of these have orange-colored flowers, while others are of a purplish color.

The desert dandelion, *Malocothrix fenderli,* is a pretty little plant growing only a few inches tall, with a dainty rosette of pale, blue-green leaves and light yellow blossoms. It is closely related to the common dandelion, but more frequently found in the desert regions of Arizona.

With all your faults, we love you still, yellow Dandelions, and the world would be a lonelier place without your friendly, familiar faces smiling at us from the wayside. You are at once the most despised and the best loved of blossoms. You will always be the companion and comforter of little children and you play a noble part in the life about you, doing your best to lighten the lone places where other blooms are not.

**Iris** ***(Iridaceae)***

*Oh flower-de-luce, bloom on, and let the river*
*Linger to kiss thy feet!*
*Oh flower of song, bloom on, and make forever*
*The world more fair and sweet!*

LONGFELLOW, "Flower-de-Luce."

## Iris *(Iridaceae)*

**By Roland Rice**

The nine or more species of Iris we have in California bring a message of the return of fair seasons in the rainbow tints of their blooms. There is the pale light of dawn, touched with purple and cream, in the Douglas Iris (*Iris douglasiana*) to be found during May and June in the Coast Range mountains; and in the deep blue of the small Ground Iris (*Iris macrosiphon*) are reflected the azure skies of winter and spring, on the green carpeted hills of San Mateo County and northward along the coast. There is a lighter blue, for the later seasons, when the Western Blue Flag (*Iris missouriensis*) spills a flood of color over the fields of the Sierras and becomes almost white at the desert rim of Mono County. Lavender and yellow are the Hartweg Iris (*Iris hartwegii*) in the shade of the coniferous forests on the middle heights of the Sierras in early summer; and from Point Isabel to Monterey, there are the light violet petals and white sepals touched with spots of orange and veined with lilac of the Bog Iris (*I. longipetala*). They are brave flowers, these Iris, which form stout clumps in the wet, wind-swept marshes of our coast, or struggle with dry slopes and the gloom of forests; so that they have become toughened under their smooth texture, and their slender leaves have strong fibers as proof of their hardiness.

The Iris Family is a large one of over five hundred members and about fifty groups, of which more than one hundred and seventy species are in the Iris group. The rest are known in our gardens as Gladioli, Ixia, Trigidia, Crocus, and in our fields the *Sisyrinchium,* which is our only other genus in California and contains about four members known as Blue Eyed Grass and Golden Eyed Grass. The Blue Flag is characteristic of the Eastern States; in Europe the yellow varieties are found, but in California they are most variable in colors.

The Iris has held a prominent place in history and legend from olden times. In ancient Babylon and Assyria it was known as the symbol of royalty. The Egyptians used the flower in their architecture. On the brow of the Sphinx, and the scepters of their rulers, it was the symbol of eloquence and power. The Greeks gave the Iris the name of the "Goddess of the Rainbow," because they were arrayed in her colors, and were used to indicate a good message; for the goddess "Iris," as Juno's messenger, held her position by bearing only pleasant tidings. If the translation of the Hebrew word "Supnh" is correct, it was among the Flags, beside the river Nile, that Moses was laid, where his sister could watch him.

As a religious symbol, the Iris is sacred to the Virgin Mary; and Charles VI. of France reduced the number of fleur-de-lis, used in emblazoning the French coat-of-arms, to three, supposedly in recognition of the Holy Trinity. The flowers were chosen as the floral emblem of King Luis VII., the gallant crusader, and were called by his soldiers the "Flowers of Luis," which, later, it is

thought, was contracted to "Fleur De Luce," and again to its present form, "Fleur-de-lis." It was incorporated in the coat-of-arms of France and used to decorate the crown. Many bloody battles were fought when Edward III. claimed France for the English crown and added the flowers to England's coat-of-arms. It was only in 1801 that they disappeared from the English shield. Shakespeare makes mention of the plants, in "Henry VI.," when a messenger enters and exclaims:

*"Awake, awake, English nobility!*
*Let not sloth dim your honors new begot;*
*Cropped are the flower-de-luces in your arms;*
*Of England's coat one-half is cut away."*

The roots of these plants were esteemed during the Middle Ages for their supposed medicinal qualities and were used in the preparation of about forty different remedies, guaranteed to cure ailments ranging from sore throat to broken bones and the disorders of teething babies. A perfumed oil was obtained from some varieties, and in Italy and Japan they make perfumes and face powders that are much valued at the present time. Orris-root is obtained from the Florentine Iris of Italy. Nothing seemed to escape the Indian of California when he depended upon nature for a livelihood, and it is not surprising that he found the stout fibers in our Iris leaf and drew them out to fashion ropes, nets and snares.

The Iris has been called the "poet's flower" and has had a large place in the literature of the past. But they have not always found favor with writers, for Thoreau, that great lover of flowers, for some strange reason disliked them, and said: "They are too showy and gaudy, like some women's bonnets." In strong contrast are the following rich lines from an unknown poet:

*"The iris grown between my place and the neighbors*
*Is just burnishing in its deepest color and glory;*
*I wish that some one would come and see it*
*Before it withers away, and returns to the dust."*

Mary Austin, in her "Land of Little Rain," found the Iris tinting the fields with a fine touch of color, but in that region it was "a sketchy flower," a thing of little beauty in the individual blossoms. But along the coast and in more favored regions the flowers are quite stately enough to merit the lines of Holmes:

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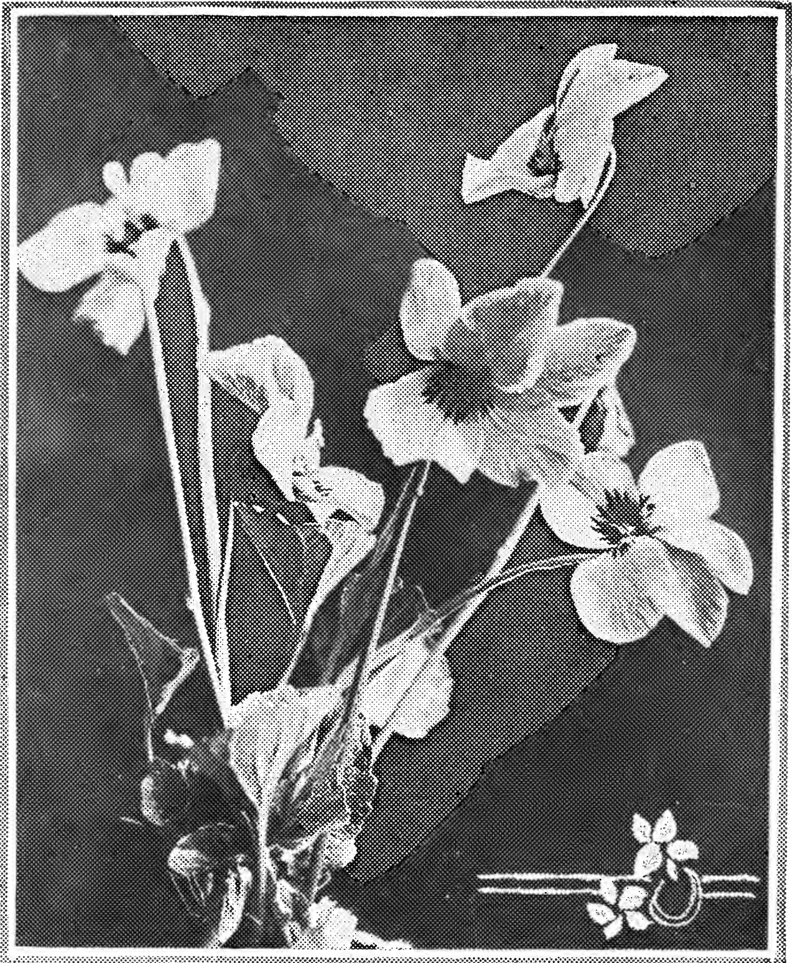
*"It blooms in May and June.*
*O'er her tall blades,*
*The crested fleur-de-lis,*
*Like blue-eyed Pallas,*
*Towers erect and free."*



**Johnny-Jump-Up (*Viola pedunculata*)**

*"Some plants, in gardens only found,*
*Are raised with pains and care;*
*God scatters violets all around,*
*They blossom everywhere."*
—G. J. Clarke.

## Violets *(Violaceae)*
## Johnny-Jump-Up and Others
**By Roland Rice**

Of the myriads of wonderful wild flower things which carpet the fields and woods of California in the springtime, there is one family whose members are always recognized by their surpassing loveliness and dainty ways; their beauty always makes one pause; we have but one genus of this plant, *Viola,* which is an old Latin word, first used by Virgil.

According to Greek legends, the violet was first created by Jupiter, and it was later dedicated to Venus, being much appreciated by the ancient Greeks and Romans. The violet was called "Io" by the Greeks and was as cherished a device of the Ionic Athenians as are the Fleur-de-lis of France and the Rose of England.

In the Middle Ages, the flowers were given by ladies to their knights as symbols of faithfulness, and later, the first Napoleon and his followers adopted it as their secret emblem. Napoleon was styled "Pierre La Violette," and the flowers worn by a Frenchman denoted faithfulness of the wearer to the fallen chieftain's cause.

Because violet is the name of a lavender or purple shade, many people think that this is the predominating color of the flowers; but this is not the case. In California, there are quite as many yellow varieties, as well as those having varied colors. Indeed, all violets are said to have once been white; one variety, some legends say, became purple because the forlorn and sorrowing Venus in seeking Adonis was wounded by an impious thorn which pierced her foot. The violets, with reverence and sympathy, bowed their pallid heads and caught the drops of divine blood. Shakespeare gives another version, as told by Oberon, King of the Fairies, to Puck, wherein he relates that Cupid loosed a love-shaft at a vestal virgin:

*"Yet marked I where the bolt of Cupid fell;*
*It fell upon a little western flower—*
*Before, milk-white; now purple with love's wound—*
*And maidens call it 'Love-in-Idleness.'"*

It was Shakespeare alone who could create the exquisite passage to be found in "Twelfth Night," where, while listening to the plaintive music, the Duke desires:

*"That strain again; it had a dying fall;*
*Oh, it came o'er my ear like the sweet south*
*That breathes upon a bank of violets,*
*Stealing and giving odor."*

Shakespeare, as the chief of poets, has immortalized the flower in many ways and mostly as a symbol of modesty and maidenhood. He puts Ophelia in her grave with the words: "Lay her i' the earth, and from her fair and unpolluted flesh, may violets spring."

Almost every poet has indulged his fancy with the pretty flowers. Keats often wrote of "violet beds nestling in sylvan bowers." Shelley, Sir Walter Scott, Goethe, Herrick, Tennyson,

and a host of others, from the times of Homer and Virgil to the present day, have sung their praises of these blooms. Of the violets to be found in California, the one known as "Mountain Heart's Ease" has been celebrated in a poem by Bret Harte.

There are many varieties of violets, native to California, and they may be found blooming almost all over the State in spring and summer, but are rapidly disappearing, in some localities, which is a fact that we regret, and we might say with John Fletcher in the "Queen of Corinth":

*"Violets plucked, the sweetest rain*
*Makes not fresh nor grow again."*

Some of our California violets are especially lovely and many of them are rare. There are seventeen or more species, blooming through a wide range of colors. The beautiful "Dog Tooth Violet" (*Erythronium*) is not a member of the genus, but belongs to the Lily Family. There is a Dog Violet, *Viola canina,* growing in the Coast Range and in the Sierras, which is a violet color turning to a reddish purple. Many of the rest, like "Johnny-Jump-Up," have yellow as the prevailing color. A few are conspicuous with white, purple or violet markings.

While yellow is the predominating shade for California violets, it is not surprising, for this is the land whose golden wealth is supposed to have nurtured the Golden Poppy; and so, too, it seems that little "Johnny-Jump-Up" and his companions have made free with these riches for their fine colors.

"Johnny-Jump-Up" (*Viola pedunculata*) is a fairy-winged, brownish-yellow flower, which is found throughout the Coast Range and its valleys. No flower is more loved by the children. Some people may think it more proper to call this little blossom a pansy; but the word "pansy," which is from the French word "pensee," only makes a distinction, in a popular sense, of these larger flowered and less fragrant violets. So it is not surprising that these large, golden violets, with the upper petal, which has the dark brown color on the back, and the lower petals, with hairy lines of a purplish color at the base, inside, are often called the Yellow Pansy. The stems of this flower are from three to six inches tall; the blossom bends over at the spur, and the doubled petal gives one the impression that a host of little fairies robed in purest gold, with soft brown wings, have assembled on the grass tips of some sylvan glade to hear the message of a buzzing bumble-bee or to dance in the clear sunshine with the gentle winds. They are seen but to be loved, and though they be called Violets, Pansies, Johnny-Jump-Up, or by the Spanish children's name of "Gallitos" (which means "Little Roosters"), we may unite with the sentiments of James Whitcomb Riley, who sang:

*"Pansies! Pansies! How I love you, Pansies!*
*Jaunty faced, laughing lipped and dewey eyed with glee;*
*Would my song might blossom out in little five-leafed stanzas*
*As delicate in fancies*
*As your beauty is to me."*

In the language of flowers, the Yellow Violet stands for "rural happiness"; the Blue Violet means "faithfulness," and the Pansy means "thoughts." Perhaps one might say of the "Johnny-Jump-Up" that it fulfills its part for the *rural happiness* which it brings in its haunts on the open fields, and is *faithful* in returning with the seasons, when it may still give *thoughts* for the poet who is to be found in all of us. It seems to have been the special purpose of violets to delight the poets, for many volumes could be compiled of the writings concerning them. Aside from the Rose, perhaps no flower has been more written about.

I have found the little Redwood Violet growing in the depths of those mighty forest areas, where the filtered beams of sunlight give a warm glow to the great columnar trunks of the monarchial trees, whose vast height is lost in their purple shadows and their crowns of hazy green. There is a majesty and grandeur in their dim cathedral aisles which makes one reverent; and finding these little yellow violets growing about the forest floor, one wonders if they, too, have come down through the centuries with the giant trees. Their flowers are pale yellow and the sparsely leafed plants multiply vegetatively by their filiform root stocks. The larger flowers of these plants, while they secrete honey, are often sterile, for violets are not obliged to depend upon insects for pollenization. They have little buds, sometimes hidden under the foliage, which are without petals, and abundantly fertile, and do not open until the seeds are ready to be ejected.

Among the rare species of violets to be found in California are Hall's Violet, of Humboldt County, which is yellow and deep violet in color, and whose leaves are three-parted; and *Viola cuneata,* of Humboldt County, which is deep purple and white. And then there is the small White Violet (*Viola blanda*), which is white, delicately veined with purple, and occasionally found in the wet places of the Sierras; and Shelton's Violet (*Viola sheltonii*), which is yellow, veined with purple, and found but rarely in the middle ranges of the Sierras. Among other California violets may be mentioned Beckwith's Violet or the "Mountain Heart's Ease," which is similar to Shelton's in coloring, but with leaves much dissected; it is often found growing among the sagebrush in open places of the central and eastern Sierras. Nuttall's Violet (*Viola nutallii*) is a large, yellow, brown and purple violet found in Northern California, from Humboldt to Modoc County; and in the eastern Sierras one sometimes finds *Viola cucullata.* In color it is a deep, clear lavender to purple. Then there is that moisture-loving variety, *Viola glabella,* bright yellow and purple veined, growing in wet places in woods of the Coast Range and Sierras. The Cut Leaf Violet, *Violet douglasi,* is widely distributed on the open hillsides of Coast Range and Sierras. Its leaves are much dissected, and the flowers are large, orange-yellow and brownish-purple in color. It was named for that noted botanist and collector of nearly a century ago, and for whom many of our finest flowers and trees are named. This variety is now cultivated in English gardens; while the Blue English Violet has escaped from California gardens and covers many waste places

about San Francisco and Oakland. This blue violet is the one from which perfume is manufactured. It came originally from Asia, but was improved in Europe.

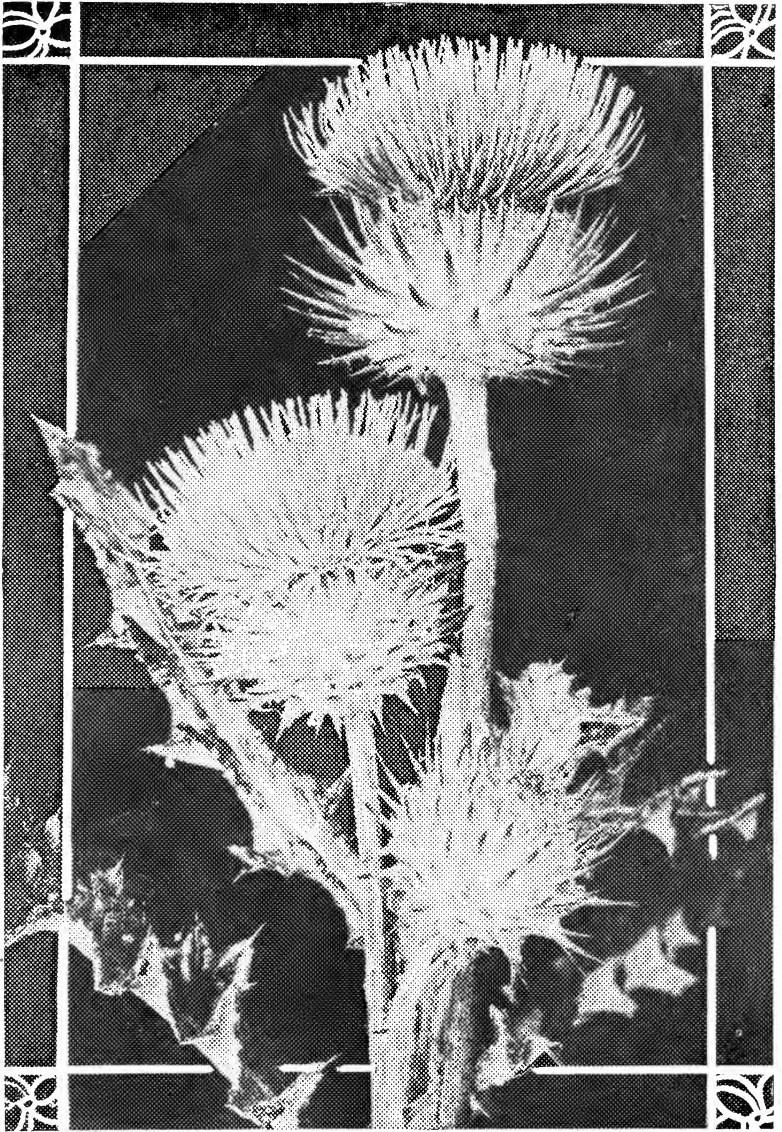
The Pine Violet, *Viola lobata,* is common in the coast mountains north of San Francisco. Its yellow and purple blossoms furnish a joy of the out-of-doors when found carpeting the shaded woods.

The Western Heart's Ease is to be found in the Redwood district and in the shady woods of the Coast Range. It has two upper white petals, violet purple on the outside; the other petals are white, and the lateral with a deep purple spot at the base, which probably gave it the specific name in science, *V. ocellata,* which means "spotted with little eyes." It certainly merits its more popular name, "Heart's Ease," for the comforting presence of these shy exquisites thickly sown amid the ferny carpets of the wooded hills lend a joy to the out-of-doors such as more showy but less loved blossoms are unable to give.

Herrick called violets "Maids of Honor to the Spring," and they seem to find a place to proclaim her presence everywhere, for they grow in the small crevices of the towering cliffs on the high Sierras and over the open fields near the coast and in the depths of the shady woods. Some may be found growing in open spaces among the sagebrush of the drier and more arid regions, in moist places and in dry spots.

Lord Byron sang:

*"The morning star of all the flowers,*
*The pledge of daylight's lengthen'd hours,*
*And 'mid the roses, ne'er forget*
*The virgin, virgin violet."*



THE WESTERN THISTLE

## Thistles

**By Roland Rice**

*"Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the fields."*
GENESIS iii-18.

It seems to be in the Bible that the first mention of Thistles is to be found, and they are mentioned as a part of the primal curse. But perhaps few other flowers are loved as the Scotch love their Thistle, and few other blooms have so many legends concerning them. The Thistles are, however, interesting not alone for their legends, but for their variety and habits, while some are of unusual beauty. There are many types of these plants and most of them belong to the largest of the plant groups, the *Compositae,* with names such as Carduus, Centaurea, Cnicus, etc. The name "Thistle," however, is sometimes applied to plants belonging to other genera because of their spiny leaves and stems. We have the "Thistle-sage," "Thistle-poppy," and others.

There are at least nineteen native Thistles in this State, not counting the globe-trotting varieties which have come here from Europe and Asia. They may be found blooming in a wonderful array of colors. Most of them secrete a very sweet honey nectar and are favorites with bees and butterflies. The California Thistle, *Carduus californicus,* is a branching plant, from two to six feet tall, and has many dark, bluish-green leaves, and flowers nearly three inches across, creamy-white, or purplish at times, in color. It is common in the Sierras, including the Yosemite. The Western Thistle, *Carduus occidentalis,* is frequent in the Bay Region and quite well distributed all over the State. It is about three feet tall, with large, spiny leaves. The flower is about two inches long, about as thick, the base tipped with brown spines and the top with tubular, red or wine-colored blooms. Some of the native Thistles are very decorative in appearance and should find a place in our gardens.

To indicate that there are still interesting plants to be found that have not yet been described, we might cite the instance of a new Thistle recently discovered in the Berkeley Hills, by Miss Walker, of the University of California Herbarium. The colors of Thistles vary according to the conditions of their locality. It is unfortunate that some of these plants have become such a nuisance in our fields. But the trouble makers are mostly aliens, I believe, and should not be considered as our native wildings.

The so-called Russian Thistle, *Salsola tragus,* which is related to the Saltwort, and called a thistle because of its spiny leaves and stems, has found its way here and is very troublesome in our fields; so that we may almost believe the Russian peasant tale which tells us that the devil often sowed thistle seeds among the good seeds of the grain fields, thereby causing much hardship to the farmers.

Certain varieties of Thistles, long cultivated in the gardens of Mediterranean regions, have emigrated to this country and now occupy vacant lots in our cities to the exclusion of all other vegetation. They spread rapidly and are considered among our worst weeds. One of these is the Milk Thistle, *Silybum marianum,* which was introduced to San Francisco, about 1853, from southern Europe, where it was cultivated for its roots, which were used like Salsify or "vegetable oysters," and the leaves for salads or pot herbs. It is this plant which has a pretty legend concerning it. On the journey to Egypt, we are told, when the holy family were fleeing from Herod, the Virgin Mary stopped to nurse the Infant. Growing all around were thistles with large green leaves and purple blossoms (the one called *Silybum marianum* after the Virgin). Some drops of milk fell on the leaves, spotting them white. For this honor, all of the plants of this thistle afterwards appeared with white-blotched leaves.

Others there are, of these weedy pests, which are of interest because of the history connected with their names. Such an one, known as the "Napa Thistle," *C. melitensis,* with spiny yellow flowers, is abundant everywhere in the State. The Spanish people called this thistle "Tocalote." It is sometimes called the "Star Thistle," although there are two others which are also popularly known by that name. These belong to the genus *Centaurea,* being named for one of the centaurs of Grecian mythology who was said to have used it for healing purposes. The specific name *melitensis* might naturally be thought to allude to its militant appearance and treatment of those unfortunate enough to handle it. It is well able to protect itself. However, this is not the case, for the name means "Maltese." The popular name, "Star Thistle," has also been handed down from the dark days of the Middle Ages, when it was likened to a popular weapon known as a "Morning Star," which was a war club of sharp spikes set in a metal ball, mounted on a long handle and well calculated to make one "see stars."

Some legends go back to the days of the Picts in order to trace the origin of the adoption of the Thistle by the Scots as a national emblem; but it is about the middle of the fifteenth century that it was first used as a symbol and placed on the banner of Scotland. The principal legend places the time of its adoption about the year 1263. Since that time, "Ye maunt med'le wi me!" is a favorite saying with the Scotch when they see their national flower. When the Danes were at war with the Scots, an army of Norsemen landed on the shores of Scotland. Finding that the Scots were encamped at a little distance, they resolved to surprise them. Stealthily advancing upon their enemies' camp during the night, they nearly effected their purpose, and victory seemed already within their grasp, when one of the barefooted soldiers stepped upon a thistle. He was unable to suppress a cry of pain. This aroused the Scots, who, worn with fatigue, were asleep. They flew to arms and routed their enemy. In gratitude to the plant that guarded their sleeping camp, it was chosen to be the emblem of Scotland. This thistle may sometimes be found beside the road in California, it is said, where per-

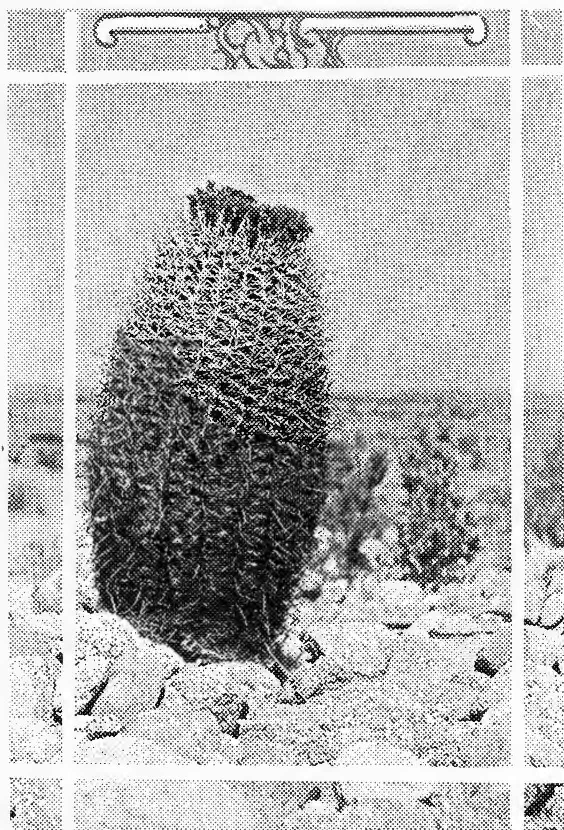
chance it may have escaped from the care of some Scotch gardener.

For the protection it has given the hare, one plant has been given the name of "Hare's Palace." Gerarde, the old herbalist of the days of Queen Elizabeth, tells us that "if the hare come under it he is sure no beast can touch him." "Hare's Lettuce" is another folk-name, because, according to the ancients, "when hares are overcome with heat, they eat of an herb called Hare's Lettuce or Sow Thistle; . . . there is no disease in this beast, the cure whereof it does not seek in this herb." This thistle is known as *Sonchus* in the language of science, and is to be found in about three varieties flowering at all seasons of the year and scattered all over the State. The flowers are yellow, the heads swollen at the base "like a two-handled jug."

The Thistles have an attendant known as the "Thistle Butterfly." It has a long tongue capable of reaching into the deep tubular little flowers on the flower-head, and is the favored insect upon which the plants depend for pollenization. There is a thistle-bird (the Green-backed Goldfinch), which seems to have a happy lot if one may judge by its song. It feeds on the thistle seeds and makes a lining for its nest with the fluffy down which is attached to the seeds.

There is an old saying that first loves float from the memory like thistle-down in a breeze. And to be as "light as thistle-down" is a common saying and shows how these plants send their seeds, like the dandelion, floating with their fluffy balloon upon the vagrant winds; and the shining fleets of its seeds may be seen cruising over fields and towns, across rivers—and everywhere—as winged hopes. When the seeds germinate, they send up a little rosette of leaves the first season, and the next year the stems spring up and the blooms mature seeds, then the plant dies, being a biennial.

In the language of flowers, the common thistle stands for Austerity, the Fuller's Thistle means Misanthropy, and the Scotch Thistle is for Retaliation. In dreams it is considered a good omen to dream of being surrounded by thistles. But agriculturists still consider them as a part of the primal curse.



**Barrel Cactus**

## Cactus *(Cactaceae)*

**By Roland Rice**

There are about thirty-seven species of the four tribes or genera of the Cactus Family to be found in California, and they are mostly confined to the desert areas of the southeastern part of the State. This plant family, which has about a thousand members, is native to North and South America, with the exception of a few African species of Rhipsalis. While they are generally considered to be desert plants, there are many kinds which grow in the moist tropics and a few, such as the Rhipsalis, grow on trees like mistletoe, and some kinds may be found as far north as Canada.

The Cactus is one of the youngest and latest developments in plant types and it is a splendid example of the way Mother Nature enables her children to meet the requirements of different localities. The stems are thickened into various shapes and contain the green coloring matter, chlorophyll, in little cells under the skin; for they are mostly leafless plants. They are armed with every conceivable kind of big and little spines or thorns to protect themselves from animals, and the skin is thickened and has but few pores to prevent the evaporation of moisture which the plant hoards within itself.

In California the Cactus flourishes in common with the rest of the Mexican element of plant types, growing in what is known as the Sonoran life zone. This Sonoran zone comes up from the Mexican deserts in two belts. The upper Sonoran zone comprises our chaparral belt of the foothill regions and the lower zone composes the desert regions of the south and extends up through the low plains of the San Joaquin and Sacramento Valleys.

It is in the short season of spring on the desert that the odd forms of Cacti suddenly bear flowers of surprising beauty in varying shades of white, pink, red, yellow, and sometimes tinged with green. One plant, *Opuntia ramosissima,* which is seldom seen, has a small brown flower, which is an unusual color for flora. Some of these flowers open only during the day, others at night. They have various arrangements with insects for cross pollenization, for some depend upon night-flying moths, while others lure the honey bees or are content with the attention of flies.

There are many plants of the desert region which are popularly known as Cactus, but have no relation to that family. The requirements of the region have given them somewhat similar habits of thickened, leaf-like stems protected with many sharp thorns. Among these, the Agaves, akin to the Century Plants of our gardens, may be found in three varieties on the desert. They are members of the Amaryllis Family and are related to the lilies, as also are the Yuccas and strange Joshua Trees.

The curious forms of Cacti give to the Land of Little Rain an appearance which is peculiarly fascinating. Their gorgeous color display of large and showy blooms is enhanced perhaps by the lack of foliage. This sudden flash of ephemeral beauty is but a promise to the desert people of the rich harvest to come with the abundance

of its ripened fruit. The Cactus has a character wholly different from its exterior appearance, and the Indians performed ancient ceremonies to honor the Good Spirit of certain kinds at the season of their harvest. The fruit of these plants was always a staple food with the Indians and is much used at the present time by Mexican peons. The fruits called Tunas are the ones most used, and are usually pulpy and quite sweet, but contain many small, hard seeds, which were also used by Indians, being ground into a meal and cooked as a mush.

The Cacti not only supplied food to the desert people, but were famous as a water supply in those arid regions; and at least three varieties (*Echinocactus cylindracus,* etc.) are known as bisnagas or vegetable water barrels. These barrel-like plants have a pulpy interior, which, when macerated, yields a quart or more of refreshing, acid-like liquor, which has saved the lives of many wanderers in that lonely land. The half wild horses of the desert regions knew this secret and would kick these fiercely barbed melons to pieces to obtain the pulpy mass of the interior, which was both food and drink to them. This species (although it is not the most important of the genera by any means) plays many parts in the life of the desert. It formed the favorite cooking utensil of desert Indians, who hollowed out the large, cylindrical plants, in which they cooked with the aid of hot stones and water, if it could be obtained, or with the cactus liquid, the various cacti seeds which they had ground into a meal and which was often a staple article of diet with them. The pulp of this cactus, which resembles green watermelon, now furnishes the basis of the famous cactus candy, a favorite confection of the southland. In bloom, the Barrel Cactus (*Echinocactus*) is crowned with a circlet of pretty greenish yellow (or sometimes reddish green), cup-shaped flowers, which have found for them a common name of "Turk's Head" or "Turban Cactus."

There are still remnants of the ancient cactus hedges which were planted around the old missions by the Franciscan Friars for protection from the hostile Indians. Perhaps the good Friars learned this excellent usage from certain small denizens of the desert, who gather the fallen prickly joints of some of the Opuntia species to form a barricade around their burrows to discourage snakes, wildcats, coyotes and other enemies.

The jointed Cactus (*Opuntia*) is the largest group of the plant family to be found in the State and numbers about twenty species growing from the sea coast inland through the southland and northward along the eastern Sierras into Oregon. There are two kinds, most commonly distinguished as the Nopal or Tuna, which has flattened, leaf-like joints, and the Cholla (pronounced *choy'a*), which has cylindrical joints, and fruit which is seldom used, because of the unpleasant taste. The next in number are the globe-shaped and vertically ribbed Indian Melons (*Echinocactus*), which have about seven species from the coast to the interior. The name *Echino* is Latin and is derived from the Greek, meaning a prickly thing like a hedgehog or sea urchin. The word *Cactus* is also from the Greek

*Kactos,* meaning a prickly plant. The word *Echino* is sometimes combined with *Cereus* to designate a species closely related to the *Cereus* type of cacti. There are about six species of *Cereus* to be found in the same range as the others. The name is Latin for "Candlestick" from the resemblance of one of the members to the columnar form of a wax candle. Some of the *Cereus* forms were highly prized for their fruit, and all bear handsome flowers, which might be expected, as they are closely related to the widely known and esteemed Night Blooming Cereus. The small Bird's-nest Cacti (*Mamillaria*) are limited to about four species of small oval or cylindrical, spine-bearing plants, which are recognized by their appearance, which gives them their scientific name and also a common one. *Mamillaria* is well translated by the English "Nipple Cactus," because of the protruding little nipples which cluster on the plant.

The many kinds of cacti are interesting aside from their beautiful flowers and economic uses, because of the abundance of bird life which they sustain. They are the refuge of many birds and small animals from that evil spirit, the coyote, and other foes. They furnish food and are the water reservoirs of the desert, so we may excuse these good plants for their forbidding appearance and learn to know them as they truly are,—one of Nature's most instructive and useful flowering plants.

A Cactus is figured as a part of the Mexican coat-of-arms and has an important place in the legend of the founding of the capital, Mexico City, by the ancient Aztecs, who were told by their soothsayer to seek for a place where an eagle, a snake and a cactus were to be found, and there they established themselves.

Western Azalea (*Rhododendron occidentale*)

## The Western Azalea, *Rhododendron occidentale* Gray

**By Roland Rice**

The Western Azalea grows along stream borders and the edges of meadows and woodlands in many sections of the Coast Range and in the Sierras. Unlike its more colorful relative, the Rhododendron or Rose Bay, it is delightfully fragrant; the spices and perfumes of the Orient and Arabia can never be as sweet to a Californian. Its perfume lingers in one's memory forever as a pleasing "nepenthe" of vacation days, reminiscent of pleasant places, mossy boulders, the calm pools and foaming riffles of trout-haunted streams, and these fragrant shrubs, with their glorious buff and white blossoms massed amid the rich green foliage. The banks of towering trees and wooded hills form a wonderful background for these beautiful flowers.

The Azalea-blossomed banks of the upper San Lorenzo River, with its trout, is one of the best remembered pictures of my childhood. Although I visited those regions but infrequently, the cool glory of their fragrant, flowery banks is indelibly impressed upon my memory. Mountain lovers always cherish such visions of loveliness, and John Muir, in his book "My First Summer in the Sierras," records his delight in these bushes. "The Western Azalea, *R. occidentale,*" he writes, "is very showy and fragrant and everybody must like it, not only for itself, but for the shady alders and willows, ferny meadows and living water associated with it." These lovely flowers are a common sight in the Yosemite during the summer months. Visitors to that great playground of the Sierras will find Azalea thickets offering incense from the abundant blooms like a dream of the tropics.

A botanist who frequents Mt. Tamalpais has stated that Azaleas may be found in bloom on some favored slope of that region during any month of the year. Such cases are an exception. In the Bay Regions the pale-flowered Azaleas are found in the shady depths of the cañons; while on sunny slopes, a pink-flowered variety may be seen. Their blossoms are somewhat funnel-shaped and are two or three inches long, with one of the spreading lobes having a blotch or stripe of color, which is variously described as buff, yellow, salmon, apricot, or sulphur-colored, and occasionally pink. The colors vary slightly according to locality. The loosely branching shrubs are from two to twelve feet tall; the leaves are a smooth, rich green, about four inches long, with sharply pointed tips, and cluster on the ends of the twigs with the splendid flowers, whose profusion of bloom frequently all but screens the foliage. When the light frosts of autumn touch the deciduous leaves, a later glory is added to the Azalea thickets, by their tints of flaming scarlet and crimson. But this "glory of the mountains" has its detractors, and in common with its close relative, the handsome Rhododendron, the Azalea comes under the ban of the bee keepers. Cattle will not eat the shrub, but sheepmen have learned to fear its poison. John Muir wrote that sheepmen had a different name for these bushes;

they called them "sheep-poison" and wondered "what the Creator was thinking of when he made them," and John Muir adds, "so desperately does sheep business blind and degrade, though supposed to have a refining influence." Poisonous characteristics are all too common with Azalea or Rhododendrons; its relative, *R. chrysanthum,* of Siberia, contains one of the most active narcotics known.

In some parts of the State, and more particularly in Oregon, the flowers are erroneously called honeysuckle; but they are not related to that plant. The flowers are loved by bees and they depend largely upon these insects for fertilization. Modern scientists are prone to scout the centuries-old belief (which lingers even today), that disastrous effects are apt to follow the eating of honey gathered by bees from these flowers. Certainly we have not heard of such fatalities in California, but they are not popular with bee men.

The lovely Azalea, which seems to be a water-loving plant in our State, was so named by the Greeks, because it was supposed to prefer dry ground, and the name translated indicates dryness. However, its specific name *occidentale* means western, and our Western Azalea haunts the moist regions and stream banks of our mountains.

The Azalea is classed as a Rhododendron with most botanists, and so California has two Rhododendrons, *Rhododendron occidentale,* which is our Western Azalea, and *Rhododendron californica,* the Rose Bay. Some botanists place the Azalea in a separate genus because its leaves are deciduous, while *Rhododendron,* or Rose Bay, are evergreen; but in spite of the noticeable difference in the plant and its blossoms, the botanic distinctions are difficult to establish.

These handsome and ornamental shrubs suffer greatly from rough handling, and motorists and campers have greatly retarded their growth and attractive appearance in many localities. Only a few members of the Heath Family, to which these plants belong, have any important economic values, but they are among the most interesting and delightful of growing things to Nature lovers. In the language of flowers, the Azalea represents *Temperance.*

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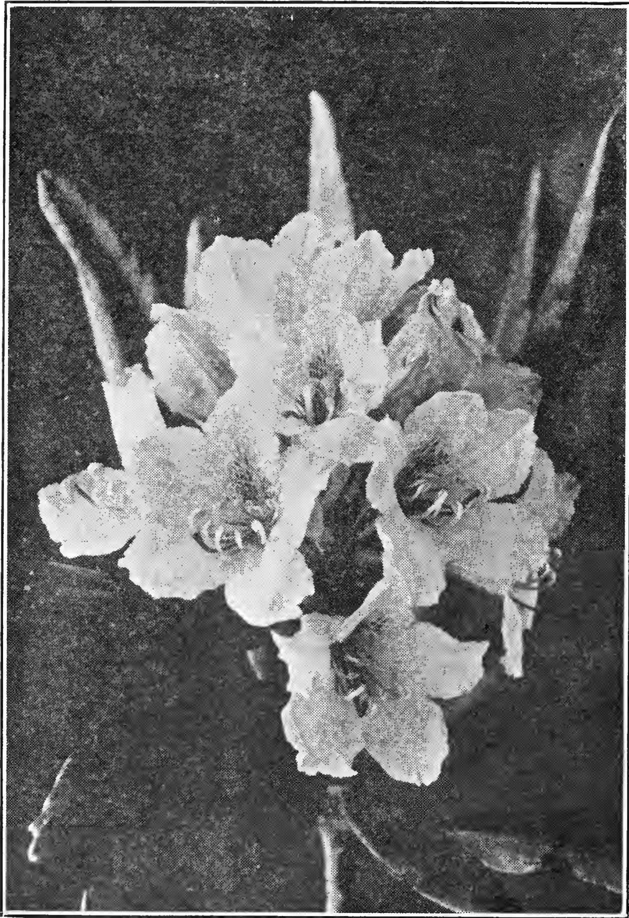
*"The old woods—how I have loved it! The sweetest memories of life are entwined back there among the grasses and the grapevines and oaks and beeches. Its beauty and silence and the wild life in it were the unsolved mystery of boyhood, and its deeper study in later years has been a very great delight and inspiration. I think I gain, by familiarity with its life, something of its vitality, at least in spirit. The long vistas of the great trees, the sunshine mottling the leaves and filling the open spaces beneath with beautiful light, the immeasurable canopy and the shade, the birds singing their loves and their joys, the squirrels frisking among the acorns, and the atmosphere of age which pervades it, all have filled my mind with never-to-be-forgotten impressions of the beauty and loveliness of the old woods, and a memory abides that is a perpetual dream."*—HUSTON.



Rose Bay (*Rhododendron californicum*)

## Rhododendron or Rose Bay *(R. californicum)*

**By Roland Rice**

The Rhododendron or Rose Bay is a native of the Redwood belt and is found in the Coast Mountains from Santa Cruz County northward into Oregon and Washington, where it has been honored as the State flower. It seems to prefer the rugged mountainsides, where its shrubs, from ten to fifteen feet high, often form dense thickets of magnificent colorful bloom. The evergreen leaves are from three to ten inches long, and are a smooth, rich green, but not shiny. These decorative leaves spread out around the base of the flower clusters in such a way as to set them off to advantage. The flowers are over two inches across and are usually set in clusters of five or six. The beautifully shaded pink petals are speckled on the upper side, with green or gold-brown spots and strange arrowhead markings. The blossoms are lacking in perfume, but the leaves are pleasantly fragrant. The sight of these glowing masses of gorgeous bloom is worth going far to see. John Muir, in his famous essay, "Bee Pastures," says: "To the northward, in Humboldt and adjacent counties, whole hillsides are covered with Rhododendrons, making a glorious melody of bee-bloom in the spring; and the Western Azalea, hardly less flowery, grows in massy thickets from three to eight feet high around the edges of groves and woods as far south as San Luis Obispo."

A belief that Rhododendrons furnished bees with a poisonous nectar for their honey seems not to have been taken into consideration by Muir. Such a tradition has been handed down from the days in ancient history, when Xenophon wrote of the retreat of the ten thousand, saying: "The camp soon looked like a battlefield covered with the slain, where the men fell stupefied from the effects of wild honey gathered by bees from Rhododendrons." The common evergreen shrub of Europe, *Rhododendron ponticum,* is said to have been the plant, but there is a difference of opinions; some believe that *Azalea ponticum* was the source of the trouble, for similar effects from honey poison occurred in places where the true Rhododendron did not grow. Perhaps the ancients were speaking of a different plant. The name *Rhododendron,* meaning rose-tree, was used in classic times to designate the oleander.

Most botanists place the Rhododendron and Azalea in the same genus. There are several members of this interesting group in North America. It is quite a large family and many of its members are found in Asia and in tropical countries, where, as in Java, they are confined to the highlands. Some are epiphytic in character, growing on trees like mistletoe; these grow in the tropic islands of the East Indies. Several varieties are found in the hilly regions of China, Japan, and the Malay Peninsula. The largest is a good-sized tree growing on the lower slopes of the lofty Himalayas in India. It is used for lumber.

The California Rose Bay is highly prized in Europe. It has been hybridized with the Himalayan and other species, and a variety

of gorgeous colors have been produced. It seems strange that the flower has not been more extensively cultivated in our own land, for it is a very handsome and decorative shrub.

When it is "Rhododendron time" in Golden Gate Park, San Francisco, it is said that John McLaren, the superintendent of this world-famous park, feels uneasy, and has policemen guard the flowers day and night, past experience having taught the necessity of this precaution. These celebrated gardens are the pride of San Francisco and the great delight of all who visit the city by the Golden Gate. Many rare hybrids of great beauty, as well as our exquisite native Rhododendrons, are found growing side by side under the watchful care of the park's wizard—a widely known and justly famed Scotch gentleman.

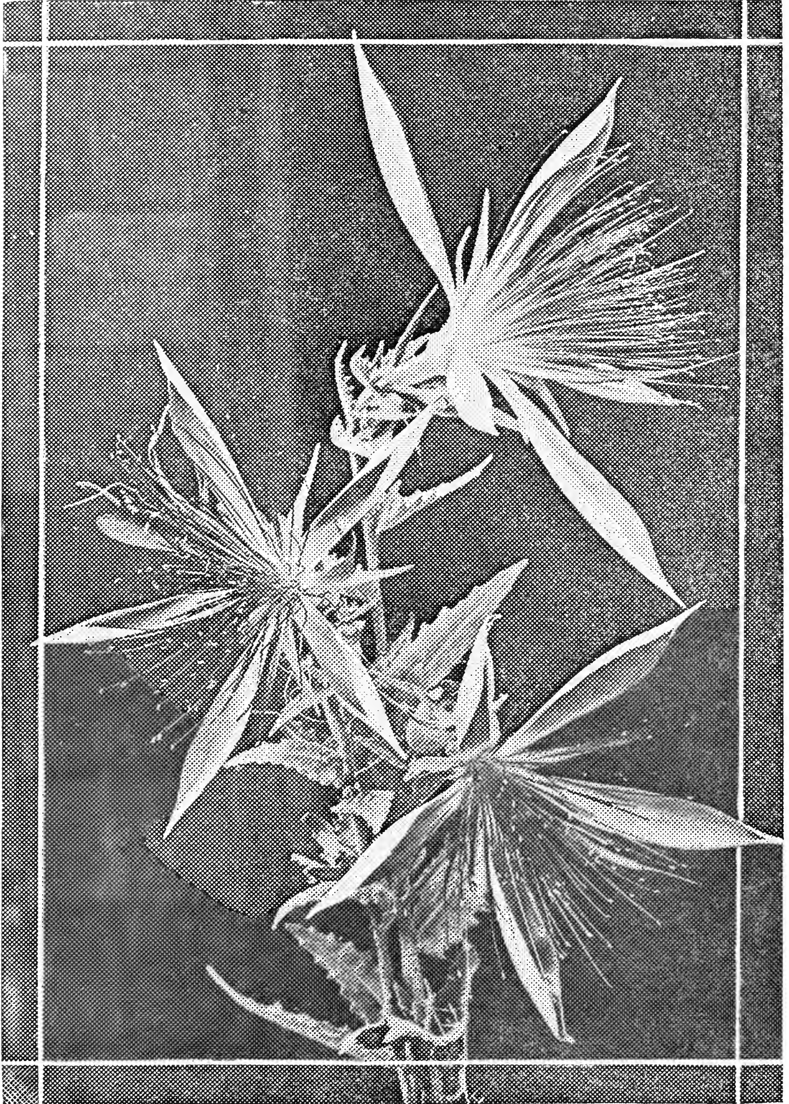
Our Rose Bay, the *Rhododendron californicum,* seems to be irresistible to those who see it in bloom for the first time; and in some sections, notably about Mt. Tamalpais, the exquisite flowers of this shrub have been nearly exterminated by those who evidently think that to loot and plunder nature's gardens is a proper thing to do, forgetting that other people have the same right to enjoy the beauties of the out-of-doors.

Emerson, the "Sage of Concord," wrote one of his finest poems about a close relative of our Rhododendron, the "Rhodora," of Massachusetts, and his lines might as easily be applied to our flower:

> *"Rhodora! if the sages ask thee why*
> *This charm is wasted on the earth and sky,*
> *Tell them, dear, if eyes were made for seeing,*
> *Then beauty is its own excuse for being."*

The Rhodora is called "Emerson's Flower."

Rhododendrons first attracted wide attention in America at the Centennial Exposition in Philadelphia, where fine exhibits were made. It is difficult for some people to believe that our beautiful bloom is really a native wilding. It is more like the triumph of hot-house cultivation. *Rhododendron,* in the ancient language of flowers, meant *danger—beware.*



The Blazing Star (Mentzelia Lævicaulis)

*"Therefore all seasons shall be sweet to thee."*—COLERIDGE.

# Blazing Star, *Mentzelia laevicaulis* (Loasa Family)

**By Bertha M. Rice**

After "Wild-Flower Time," those fragrant, colorful days of the springtime have departed, and are replaced by the warm brown tones of summer, our California fields and hillsides assume a drearier aspect to those unfamiliar with these seasonal changes. The Eastern and Middle Western people are apt to associate the good old summertime with flower-starred meadows, watered by happy streams, where pond lilies dream and blue-flags challenge; where cattle stand knee deep in waving grasses or contentedly chew cuds amid bordering fragrant woodlands.

The disappointed Easterner looks with disapproval upon our straw-colored fields and sun-scorched hills, devoid of that summertime color and rain-washed freshness characteristic of his territory. But Californians love it. The exuberance of colorful charm and infinite variety has been theirs in abundance during that season which transformed the whole of California into a rich and flowery wilderness. Then the desert "blossomed as the rose"; then colors ran riot everywhere, from the seas of blossoming orchards to the outlying districts, massed with wild flowers in such profusion that, familiar as they are to dwellers by this sea coast, yet so dazzle and bewilder the stranger as to make him wellnigh incredulous, at times, as to whether these gardens are really of Nature's planting. It is not that one ever tires of this dreamful, splendid beauty; but as long dwellers in the land, Californians have learned to know and love the rich and varied charms of her seasonal changes. It is not always springtime; mellow tones hint of harvest days to come, and likewise veil much loveliness and happy surprises of cañons and woodlands. Wee-flowering, dainty things spring up by dusty roadsides, spray through tall, dry grasses, and crop out unexpectedly from the large waste places.

It is in summer, when most flowers have disappeared, that the Blazing Star, *Mentzelia laevicaulis,* suddenly blooms with a brilliancy and beauty that is amazing when first seen. Its appearance justifies its name. The blooms are star-shaped, of a pale, clear yellow, with multitudes of long, soft-colored stamens, radiating from the center like beams of starlight, and producing a strangely beautiful effect. These plants haunt dry stream beds and sandy borders, and have a gray appearance before blooming, blending well with their surroundings. They are rather tall, branching plants, with pale, shining, brittle stems; and it is astonishing to discover, some day, magnificent flowers crowning their lifeless-looking branches. The blossoms are from three to five inches across, and their loveliness is one of Nature's compensations for our long, dry summers.

There are at least eight species of Mentzelia in California; some are smaller and inconspicuous, but all have the same general appearance. They belong to the small and rather aristocratic Loasa

Family. The Mentzelias were named for Dr. C. Mentzel, a German botanist of the seventeenth century. The specific name of *M. laevicaulis* means smooth-stemmed. It is a biennial plant and blooms only during daylight hours, blossoming earlier in the southland, where it is of quite frequent occurrence in dry washes and the interior valleys and cañons of that section. Farther north, it may be found blooming in dry, gravelly stream-beds, throughout the Coast Ranges and Sierra Nevada foothills, from July until September. Its golden blossoms are open all day, but close at eventide.

*Mentzelia lindleyi,* the Evening Star, is a slender annual, quite similar and possibly handsomer in appearance, but is one of the vespertine flowers, so called because they bloom at vesper time. From sunset until sunrise, night-flying moths may flit from its delicately silken, golden blooms. Its sharply tipped petals are a more golden yellow than those of *M. laevicaulis,* and are stained with vermilion at their base. They have a more limited range, but are found in May and June in the inner Coast Ranges of the Bay Region.

The Spanish-Californians called the plant "buena mujer" (good woman), because its leaves are barbed with little hooked bristles which cling tightly to one. The name of "stick-leaf" is sometimes used by Americans. Rough or stinging hairs are characteristic features of the Loasa Family, of which we have three genera in California. The family name, *Loasa,* is apparently from a native name for a South American species. But the Mentzelias are all Western flowers. We have two other genera listed as having one species each, *Eucnide urens* and *Petalonyx thurberi,* natives of the southeastern desert and its borders.

For some reason, Blazing Stars are not as plentiful now as in the past, and from many localities there are complaints from nature lovers that they cannot find these blossoms.

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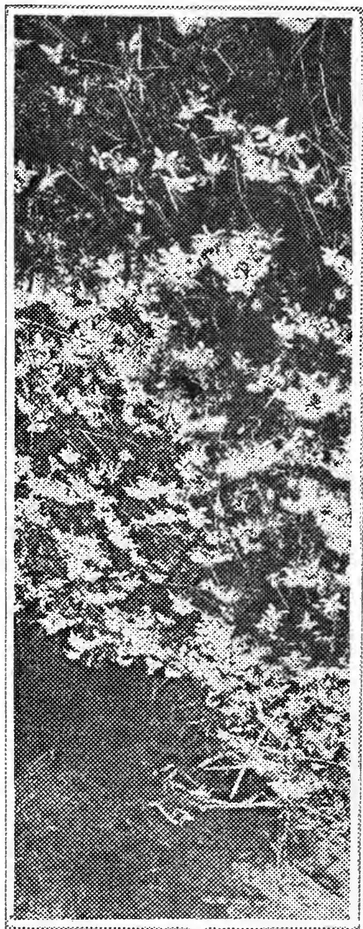
*"To the attentive eye, each moment of the year has its own beauty, and in the same field, it beholds, every hour, a picture which was never seen before, and which shall never be seen again."*—Emerson.

# The Clematis *(Ranunculaceae)*

**By Bertha M. Rice**

Gracefully, gayly, the wild Clematis climbs and drapes and embowers its lovely way among the wild gardens of the Coast Range and Sierra Nevada foothills, swinging its gladsome sprays in careless abandon from the low branches of trees or tall shrubbery where it has persistently entwined itself. Its fleecy clusters of rich, creamy or ecru-tinted flowers add a blithesome note to the landscape. I have seen its velvety blossoms massed in such splendid profusion over embankments or underbrush as to completely camouflage the more humble growing things which had enabled it to shoulder its way up to the sunlight; for this vine is not, in the proper sense of the word, a twining vine; climbing far more correctly defines its nature, which it does in a curious fashion, by means of its leaf stalks. The stems put forth no tendrils; the leaf petioles do all the work. They coil around twigs, branches, and whatever else offers a hold for their resistless energy.



CLEMATIS

Darwin, who studied the movements of plants, was especially interested in Clematis, because of its sensitive nature. He made many experiments with the vine. The young shoots of the Clematis leafstalks follow the course of the sun. Darwin recorded that one such shoot revolved, describing a broad oval, in five hours and thirty minutes, and another one in six hours and twelve minutes. The leaves will fold over if rubbed on the under side and then straighten out again in a few hours if there is nothing to hold onto. A common name for the plant, in Kent, England, was "crocodiles."

All plants have their own peculiar ways of doing their life work, and aside from their æsthetic qualities are deeply interesting to the true plant lover for these reasons. Plants do not always adapt themselves with a good grace to their surroundings, but endeavor by every means in their power to better their conditions in life; and so

the Clematis, in persistent fashion, climbs, and reaches, and finds its place in the sun, where, rejoicing in its success, it spreads forth in the happy sunlight its many-flowered panicles of creamy loveliness, to greet and cheer each passer-by.

The vine is almost a constant ornament to the woodland; unlike other plants of its blossoming season, it is most showy in the autumn months, when its seeds are plumed with their long silken sails ready to go adventuring. These long-tailed carpels become a beautiful silvery white as autumn advances, and clothe the vines with masses of feathery plumes, that are conspicuous at a long distance—against a wooded background. The curious seed vessels often remain on the bushes for a long time. One almost rejoices to know that some day they will sail away through the fragrant air; for there is an appealing quality about this vine's persistent seeking for sunlit regions which causes one to fancy it to be possessed of a soul that yearns to sever itself from its earthly moorings—

*"and then exhale*
*A little fragrant soul on the soft gale,*
*To float—ah! whither?"*

The Clematis has many common names, the more popular one being Virgin's Bower, given to it by Gerarde, of the sixteenth century. It is generally supposed that the name was given in honor of the Virgin Mother; but more probably the famous old herbalist was alluding to Queen Elizabeth. He wrote of it as "fitting to be a bower for maidens," and again as "worthy to be so called by reason of the goodly shadow which the branches make with their thick bushing and climbing, as also for the beauty of their flowers, and the pleasant scent and savour of the same." The Virgin's Bower of England is closely related to our Clematis, and our plant is more frequently called by this name. In some parts of England, Clematis is called "tambaca" and "smoking-cane," while in Germany the plant is assigned to the evil one and is called "devil's thread." "Old Man's Beard" is a name commonly applied to the vine at seed time. "Traveler's Joy," another Old World name, is frequently applied to our California species, and one does not wonder, for in some localities it billows and clambers over rocks, bushes and trees until whole hillsides are illuminated with its glory.

Clematis is from the ancient Greek *Klema,* the name of a twig. The Clematis belongs to the *Ranunculaceae* or Buttercup Family, sometimes called the Crowfoot Family. There is much ancient literature pertaining to the vine. From an early calendar of English flowers this bit of verse has been found:

*"When Mary left us here belowe,*
*The Virgin's Bower was full in blowe."*

The family name is taken from the Latin word *Ranunculus,* meaning a little frog, as some species are aquatic, growing where frogs are found. The *Ranunculaceae* is a large family and its members are scattered all over the world; but not commonly so in tropical regions. So varied in appearance are its members that it would be difficult for the amateur to believe that they were related or even nearly related species. All are herbs but the Clematis, which is a

shrubby vine with weak, woody stems. Among its relatives are the lovely little Anemones or wind flowers, growing in mountains among the Redwoods; and the Meadow Rues, graceful and delicate herbs, also growing in mountains, with leaves resembling Maiden Hair Fern; the Mouse Tail, frequent in alkaline soils of the great interior valley, and elsewhere; many varieties of buttercups, common everywhere; the showy Columbines and Larkspurs, familiar to all; the Wild Peony, the Monk's Hood, the Bane Berry, the Marsh Marigold, Bug Bane, and others.

Like numerous other members of its family, the acrid juice of the stems of Clematis have no favor with stock. This is one of nature's methods of protecting certain delicate plants from animals by making them unpalatable. This same juice found favor with the Spanish-Californians, who used it to make a wash for dressing wounds, such as barbed-wire cuts on animals. They called *Clematis ligusticifolia* by name of Yerba de Chivato. This seems to be in contradiction of the belief of the plant's virtues in Europe, where the name "Beggar's Vine" was applied to it, because mendicants used it to rub into cuts and sores to irritate and keep them practically incurable in order that they might impose upon the charitably inclined.

There are a hundred or more varieties of Clematis scattered over the northern hemisphere. California has at least four of these species. The *ligusticifolia* is the most widely distributed, and in some parts of the State it has a local name of "pepper-vine," where its leaves and stems are chewed as a remedy for sore throat.

The more showy variety of Clematis, but somewhat less commonly distributed, is *C. lasiantha,* not easily distinguished by the amateur from the preceding variety, for both vines have much beauty both in flower and in seed. A local name for *C. lasiantha,* in some localities, is Pipe Stem. The *C. pauciflora,* freouently called the rope vine, seems to be peculiar to Southern California, where it climbs trees and clambers over the scenery in true Clematis fashion. In an annotated list of the wild flowers of California, prepared by Dr. P. B. Kennedy, of the University of California, in connection with our third annual State wild flower exhibit, held at the Fairmont Hotel in San Francisco in 1917, four varieties of Clematis are listed, but the distribution of the remaining variety, *C. verticillaris,* is not given. The first three varieties, I am pleasantly acquainted with, but have no information at present regarding the fourth named variety.

Indian women were partial to the trailing Clematis vines and twined its flowers in their black hair and wreathed it about them as they chanted weird songs in their wild dances. In the ancient language of flowers, Clematis means mental beauty.

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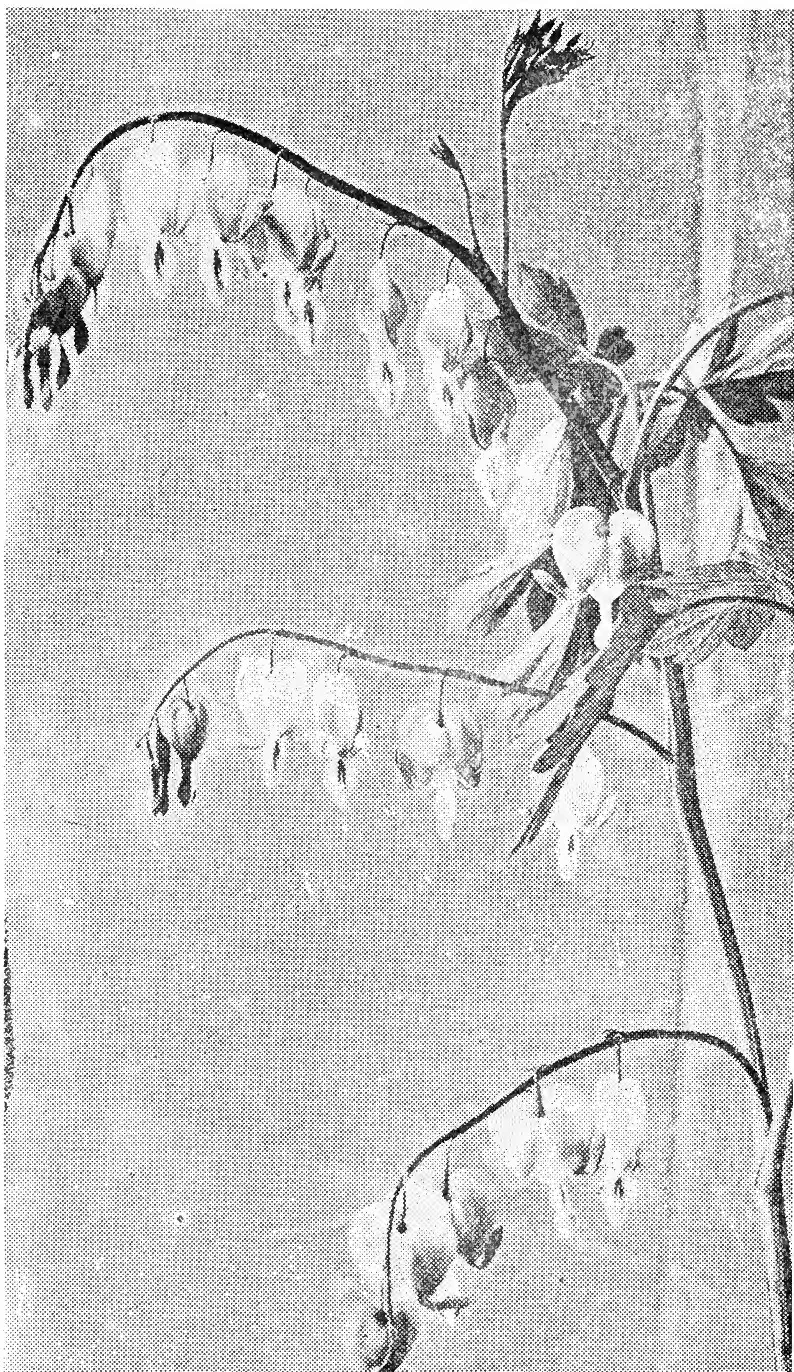
*"In all places, then, and in all seasons,*
*Flowers expand their light and soul-like wings;*
*Teaching us, by most persuasive reasons,*
*How akin they are to human things."* —LONGFELLOW.



Bleeding Heart (*Dicentra formosa*)

## Bleeding Heart (*Dicentra formosa*)

### By Roland Rice

The shy Bleeding Heart, *Dicentra formosa,* seems to seek the seclusion of the cool, cloistered woods, where from the rich, moist soil it lifts its slender little branches with many pendant rose-colored, heart-shaped blooms. The pale green leaves are cut and lobed and add much to the delicate beauty and graceful appearance of the plant, which is about two feet high. There is no legend from the olden times concerning these flowers, because they have not been known to man for long. But perhaps they would have given Omar Khayyam another illustration for his fancy concerning flowers, had he known them. It was he who sang:

*"I sometimes think that never blows so red*
*The rose as where some buried Caesar bled."*

Indeed, when finding these flowers, one feels that there must be tales concerning them; for the blooms are most striking in appearance and appropriately named for their heart shape. The simple English translation of the Greek and Latin names are quite descriptive of the blossoms, but the popular fancy easily takes Bleeding Heart as the best name for them. The Greek word *Dicentra* means double-spurred, and a Latin name, *Bicuculla,* which is preferred by some botanists, means *double-hooded.* The word *formosa* means beautifully formed. The flowers are about three-quarters of an inch long, in pendant rows upon the little branches, and sometimes make quite a beautiful effect by their numbers. They grow in Marin County and northward from the Bay Region, and are to be found in the Sierra Nevadas during April-June.

There are several other members of the Fumitory Family to be found growing in various parts of the State. Some botanists have classed these beautiful flowering plants with the Poppy Family because of the similarity of the plan of the flowers, although they have not the least similarity in outward appearance. The name *Fumitory* seems to be taken from the characteristics of other species which are said to have a smoky odor, whence their name—*Capnoides* in Greek, meaning "smoke-like," which is usually applied to the types having but one spur on the flower. It is a small family, though widely distributed over North America and Asia. The Bleeding Heart of our gardens was imported from the island of Sakhalin near Japan, and was brought to this country early in the last century. Our native Bleeding Heart, *Dicentra formosa,* is much smaller than its imported relative, but is quite as beautiful.

Another interesting member of the Bleeding Heart Family is the Golden Ear Drops, *Dicentra chrysantha,* which grows on the high, dry ridges of the inner Coast Ranges and in the southern part of the State. It is not common, and is one of the few plants which wait until the hot, dry season is at its height, when it may be found blooming in late July. I have found this kind growing amid the chaparral of my hills as tall as six feet, with pale green, fern-like foliage, smooth stems, rather coarse, and bearing softly shaded yel-

low flowers having a heavy narcotic odor like poppies. Its heart-shaped blossoms are inverted, not drooping, but erect; and the spurs on either side make an easy landing place for the bees, for they are honey flowers and take this particular season for blooming when they are more certain of the attention of honey bees searching for nectar.

*Dicentra ochroleuca* Engelm. is much like the Golden Ear Drops in habits and has a touch of purple on the tips of the inner petals, and as its specific name, *ochroleuca,* indicates, it is yellowish-white in color.

The Steer's Head, *D. uniflora* Kell., is an Alpine flower of the Sierra Nevada Mountains, and may be found lifting its one little flesh-colored flower beside the receding snows during the summer. It is a tiny plant but a few inches high and the flower about half an inch long. It is sometimes called "squirrel's corn," which is the common name of a relative to this plant growing in the Eastern States. These flowers, like the Bleeding Heart, are apt to be variable in appearance and may sometimes have a white or purple coloring.

## Wild Flowers

*"I know that I can never be*
*So happy as when I wandered free*
*With the wild flowers for my company,*
*That elfin dancer of the wood,*
*The larkspur in her scarlet hood,*
*Her sister in a bonnet blue,*
*The baby-eyes of heavenly hue,*
*The jewel-flower, the four o'clocks,*
*The lupines in their purple smocks,*
*The poppies in their golden frocks,*
*The woodland star in polar white,*
*The sun-cup with her chalice bright,*
*Aye! even the weeds that deck a clod*
*Breathe tender loving thoughts of God!"*

—Edith Ellery Patton.

Matilija Poppy (Romneya Coulteri)

## The Matilija Poppy (*Romneya Coulteri*)

By Bertha M. Rice

The most regally handsome poppy in the world is the giant white poppy, the stately Matilija, *Romneya coulteri,* which is native to the southern part of the State. This blossom is a famous one in European gardens, where it was early transplanted. In its native habitat it may be found occasionally from Santa Barbara southward into Lower California. It is acknowledged by those who have studied the flower to be a plant of very catholic tastes; for while it evidently prefers stream borders and steep, almost inaccessible cañon sides, it is also found growing on open hillsides, in dry stream beds, or even in the fertile valleys. It is not a common plant, but is probably more plentiful in the Ojai Valley, Ventura County, and in the extreme southern part of the State.

While journeying over the Santa Fe lines en route to San Diego, about three years ago, I had my first glimpse of these towering white poppies luxuriating in their native surroundings. It was early morning and we passed a field of these beautiful golden-hearted blossoms shaking out their great diaphanous petals to the morning breezes. It was a glorious sight and I have never forgotten it. I do not remember the locality, but it was several hours before our train reached Los Angeles. While in San Diego, with my friend, Miss Kate Sessions, the widely known and well-beloved botanist, I examined more closely some exceedingly fine specimens of the Romneya. It is a smooth, stout, perennial-rooted plant, somewhat bushy in nature, and grows anywhere from two to ten or twelve feet high, according to the nature of its habitat. It has handsome gray-green foliage and its wonderful, fragrant blossoms are from three to as many as nine inches in diameter. Its crêpe-like petals are a pure glistening white and the greenish-white pistil is surrounded by hundreds of closely packed, bright yellow stamens, forming a huge golden center, which sets off proportionately well the enormous blossoms. In Lower California, the plant is prized by the Indians for remedial purposes.

The first scientist to discover this giant poppy was Dr. Thomas Coulter, who after several years of exploration in Mexico came to Monterey, California, in November, 1861. He was the first botanist to cross the desert to the Colorado River. He remained in California about three years and collected a thousand or more specimens. The magnificent white poppy he dedicated to his friend T. Romney Robinson, a noted Irish astronomer of Armagh Observatory. Thus we have the genus *Romneya* and the species *coulteri,* named for its discoverer. Apropos, at this time, while speaking of Dr. Coulter's poppy, an incident may be related which I am sure will be enjoyed by all who are interested in historical matters pertaining to our far-famed wild flowers. It concerns Dr. Coulter and that indefatigable Scotch explorer, David Douglas, who was in California at the time collecting seeds for the Royal Horticultural Gardens of England. The two scientists met in Monterey. Of this meeting, David Doug-

las wrote to a friend: "I assure you from the bottom of my heart, Dr. Hooker, that it is a *terrible* pleasure to meet a really good man, one with whom I can talk on plants." It was a happy accident that brought together these two enthusiastic souls, on similar missions bent, in this far wilderness of the Pacific Coast, surrounded as they must have been by an unfriendly people.

The Matilija acquired its Indian name from the cañon of the Matilija River in Ventura County, where it is said to have been quite abundant at one time; but since the terrible floods of 1914, the blossoms are seldom found in that locality.

There is a pretty tradition attached to this wonderful bloom, which was incorporated by Emory E. Smith in his splendid book, "The Golden Poppy" (now out of print). Mr. Smith told me quite recently that the legend was related to him by an old Mexican Indian, near Santa Barbara, about twenty-seven years ago, and that, being a newcomer to the Golden West, it had interested him particularly at the time because these plants seemed to favor the most difficult cañon fastnesses of that region. According to tradition, this great, snowy flower with its heart of gold had won from the Spanish Californians the name of the "Love Flower," owing to its unusual popularity with the Spanish señoritas. The gallants of those days were wont to visit the steep cliffs in the early spring, where they might find the earliest "Love Flower" of the year. When two suitors sought the same maiden's hand, and she was unable to decide, it was the one who brought to her the first "Love Flower" who was accepted. There are, of course, tales of treacherous deeds, when contestants met on overhanging cliffs in the lonely mountains, and it is even whispered that one spring a "Love Flower" bloomed a blood-red, marking the spot where a worthy lover had battled valiantly against great odds, but lost the flower and his life. That was in the long ago, before the "Gringo" came.

When the State flower was adopted by the California Legislature, in 1903, the Matilija Poppy was favored by quite a few people; but the Golden Poppy was chosen because it was more widely distributed over the State and its color more symbolical, while the giant white poppy (which belongs to the same family) was restricted to a few cañons and localities in the southland.

*R. coulteri* was long supposed to be the only species of *Romneya,* but Miss Alice Eastwood discovered and described another variety, *R. trichocalyx* Eastwood. The two plants are very similar in appearance, but a difference between them is clearly recognized by experts and the latter is considered somewhat handsomer, being the true Matilija, which once commonly inhabited the cañon of that name.

One often sees Matilija Poppies growing under cultivation, and it is somewhat surprising to learn that many people in California are not aware of the fact that these truly magnificent blossoms belong to our California wildings.

## Shooting Stars. Dodocatheon
## *(Primulaceae)*

**By Roland Rice**

The Shooting Star or Dodocatheon seems to have more popular names than most of the other wild plants; it is a great favorite with children. The blossoms are unusual in appearance and catch the imaginative fancy; for when Linnæus gave them the name *Dodocatheon* he did so because he fancied the group of flowers to be an assemblage of divinities and called them "Twelve Gods," as the Greek word is translated. (The Primrose Family is supposed to be under the care of the deities.) But children seem to have no room for the long Greek name in their vocabulary and so have invented rather pert little names to suit themselves (and incidentally to suit the flowers). The most common of these are Shooting Stars, Mad Violets, Mosquito Bills, Sailors' Capes, Rooster Heads, and Prairie Pointers. The flower has also been called American Cowslip, Wild Cyclamen, Cupid's Quiver, and various other names.

The plant is related to the cultivated Cyclamen of our gardens, which it somewhat resembles in appearance.

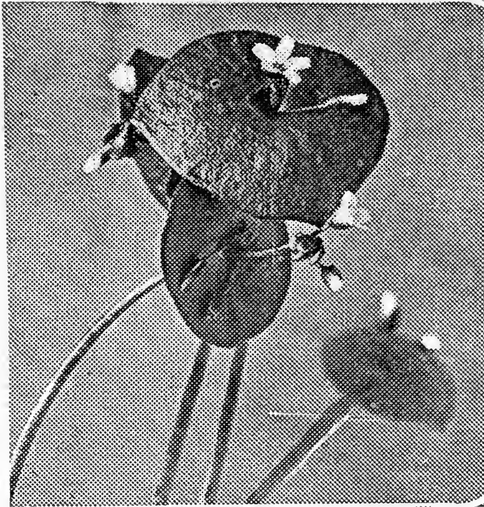
The plants are from a few inches to a foot and a half tall; the leaves are in a tuft at the base, and the four or five smooth stems are crowned with umbels of from five to fifteen flowers. The petals are usually white, flushed with pink, and a band of yellow sets off the tapering point of violet or purple colored stamens and pistils.

One can easily catch the meaning of the name "Mad Violets," for the flower is somewhat like a violet that has laid its petals back in anger. The name of "Rooster Heads" came with a sporting game of little boys, who hooked the flower heads together and then pulled to see which came off, with as much zest as though they were having a rooster fight. A rather unlovely name by which the plant was known to old settlers was that of "Sow's Bread." This may be due to the fact that swine were fond of digging and eating the tender roots. (The ancients called the common Cyclamen "Sow's Head.")

Shooting Star seems a pretty and poetic name for these interesting little blossoms, although Wild Cyclamen is much in favor as a popular title. They are among the earliest wild flowers to be found in the Coast Range and valleys. The *Dodocatheon hendersoni* is the one most common in the Bay Region. It blooms from the middle of February until late in May. Later in the summer season the wet meadows of the high Sierras are colored with masses of another and larger species, *Dodocatheon jeffreyi,* which is much admired by visitors to the Yosemite.

The Dodocatheons are widely distributed in many varieties over the North American continent and Asia. There are many species named in California, but botanists have found it hard to systematize them because there seem to be no clean-cut differences between varying forms.

This flower is among the few wild blooms recorded as having appealed more particularly to the æsthetic taste of the Indian women, whose artistic natures were revealed in their wonderful basketry and other rare handicraft. The utilitarian side of plant life, such as those yielding food, fiber, medicines, soap and other economic values, naturally were prized by the wild people, as they furnished them with most of the comforts of their nomad lives. The roots and leaves of the Dodocatheon were roasted in ashes by the Indian tribes of Mendocino County and considered a great delicacy. Medicinal properties, also, I believe, were attributed to the plant. But the blossoms are said to have been exceedingly popular with the squaws and were frequently used by them for self-adornment, especially at their dances. In the language of flowers, Cyclamen means diffidence.



*"And, oh, my heart has understood*
*The spider's fragile line of lace,*
*The common weed, the woody place!"*
—Gale.

## Miner's Lettuce (Purslane Family)

**By Bertha M. Rice**

One of the plants which the miners in the days of "Forty-nine" learned to regard with favor is the one now known as "Miner's Lettuce" (*Montia perfoliata*). It was known as Squaw's Cabbage or Indian's Lettuce to those hardy pioneers, who were tempted to try it as a substitute for the more familiar cultivated vegetables which were not to be had in the wilderness. It was noticed that the Indians were exceedingly fond of these succulent plants, which they used both green as salads and boiled like greens or spinach. The wild people had one quaint way of seasoning these plants as related by Stephen Powers. They gathered the tender stems and leaves in quantities and placed them on the red-ant hills; the ants swarmed over the plants, and when the Indian was satisfied that these insects had sufficiently seasoned his salad with the vinegar flavor of the formic acid, he shook them off.

Miner's Lettuce is an annual plant from six to twelve inches high. There are probably a dozen varieties and one very minute form. It is variable in appearance and is widely distributed throughout the State. It is a member of the Purslane Family, closely related to the Red Maids (one of the popular spring flowers) and the Pussy Paws (a common plant in the Yosemite Valley and elsewhere in the Sierras at high and low elevations), and is also related to the Spring Beauty, several varieties of which are to be found in

different sections of the State, such as the *Claytonia lanceolata,* in the Alpine regions of the Sierra Nevada Mountains, which somewhat resembles and is closely related to the popular Eastern Spring Beauty (*Claytonia virginica*) and *Claytonia umbellata,* which grows in the desert mountains of Northeastern California; also the large-flowered *Claytonia nubigena,* to be found on Mount Diablo and in Marin County.

The several species of Montia, Claytonia, and several other flowers are so variously treated by the different authors that it has caused much confusion in the literature concerning them. But they are all members of the Purslane Family or *Portulacaceae,* of which the common "Pusley," *Portulaca oleracea,* is the type. This weed, common in gardens, was first introduced from Europe. One member of the family, commonly known as "Bitter-root," *Lewisia rediviva,* is the State flower of Montana (and after which the Bitter Root Mountains were named). Their large, handsome, rose-colored flowers, often two inches across, are frequently found in the eastern Sierras and only occasionally on the high peaks of our Coast Ranges. It grows in sterile, rocky soil and has very scanty leafage, but its stout roots were formerly relished by Indians for food. In California this plant is more commonly called by its scientific name, "Lewisia," which was bestowed in honor of Captain M. Lewis, of the Lewis and Clark Expedition, and was first collected and described on their memorable trip across the continent in 1803-06.

A striking and attractive feature of our interesting little plant, the Miner's Lettuce, is furnished by the two-stemmed leaves, which unite directly under the blossoms, forming a perfect saucer in shape; in fact, I have known children to call them the "saucer flowers." These leaves and the stems are richly tinted with bronzed-green and reddish hues. The little flowers are ordinarily white, but sometimes have a pinkish-yellow cast, especially in dry, exposed places, but the species is more plentifully distributed in orchards and vineyards, where they are companions of the "Red Maids," which make a brief, colorful dance in the early springtime and which are members of the same family. It is a matter of surprise to some people to see how persistently these tender, succulent little plants will continue to appear in cultivated places where they were apparently eradicated. The Miner's Lettuce may be found blooming from February until July, not only in the orchards and vineyards, but along the roadways in the lower valleys and in the open woods of the mountains.

These plants have long been cultivated in many foreign countries, including Cuba, for salads and pot herbs, under the name of Winter Purslane.

Early settlers are wont to look most kindly upon this plant, not so much because of its olden time economic value to them, perhaps, as because of its friendly ways, its familiar face like something one has always known; and indeed it has most companionable characteristics as well as dainty, pretty blossoms.

Gum Plant (*Grindelia*)

# Gum Plant—Grindelia *(Compositae)*

**By Roland Rice**

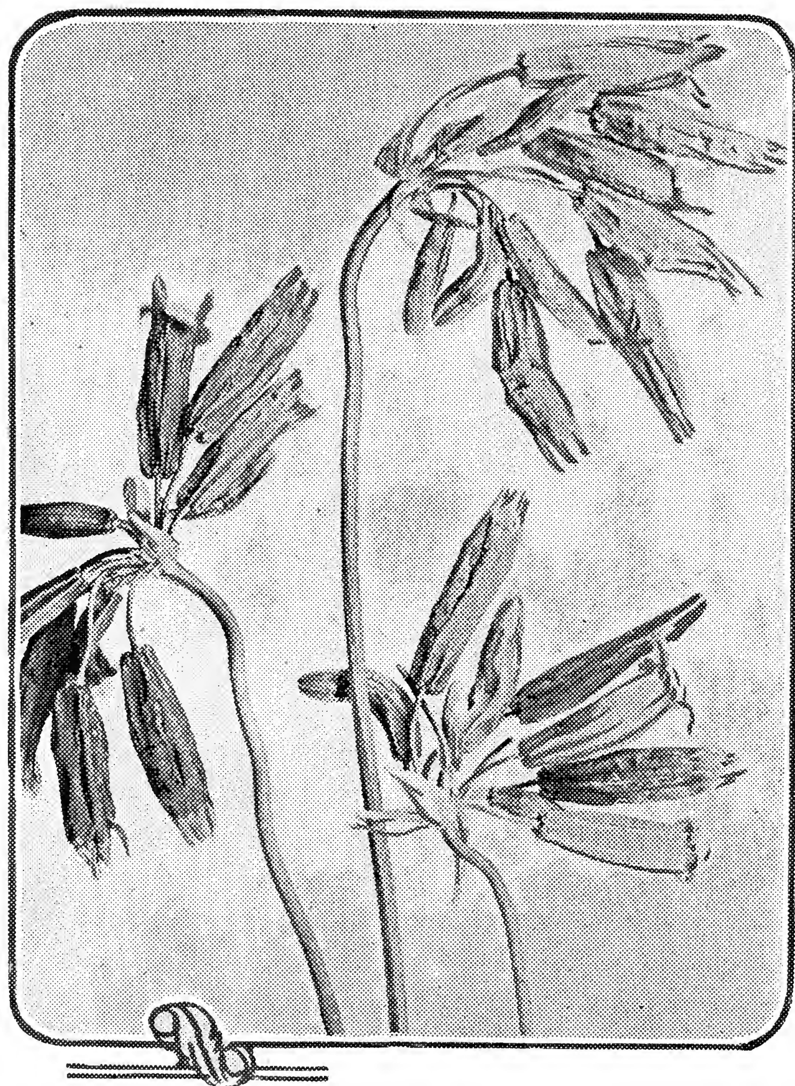
As we pass the humble Gum-Plant, beside the road, we are apt to pay but little attention to its dust-covered flowers. But when we have truly made the acquaintance of this useful wilding, we know it to be a very interesting member of the plant world; and were the flowers not, as a usual thing, covered with dust, they would be quite as pretty as daisies.

There are several varieties of Grindelia to be found in the State, but some of the species are rather difficult of determination. Grindelia is the true name of the Gum-Plant. The name is in honor of H. Grindel, a Russian botanist who taught at Riga and Dorpat nearly a century ago. Grindelias belong to the large plant family of the *Compositae,* of which the sunflower is the representative type, and which has more than 12,000 members scattered throughout the world. The Grindelia has been called the August Flower; it blooms usually in the late summer season, although I have found its blossoms in March.

The flowers are yellow, with conspicuous rays about an inch and a half across, and are mostly solitary or in few-flowered clusters at the end of the leafy branches on the somewhat shrubby plants, which are as a rule from two to four feet tall. The common Gum-Plant, *G. robusta Nutt.,* is to be found along the coast as well as in the Coast Range and valleys. The salt marshes are sometimes gay during the summer months with the vivid, yellow *G. cuneifolia,* which is to be found along the coast and in the interior Bay Region. The desert Gum-Plant, *G. camporum,* is found in the San Joaquin Valley and south; while the red-stemmed Gum-Plant, *G. rubricaulis,* prefers the high, dry ridges and hillsides of the Coast Range. The rest are mostly weedy or inconspicuous desert plants, easily recognized by the flower buds exuding that peculiar sticky white gum which found them the name of "Resin-Weeds" from the early settlers.

These Gum-Plants were an important part of the Indians' medicine and are well known in the white man's drug store today. The dried flower heads and leaves of Grindelia are gathered annually in great quantities and tons of them are shipped East, where they are manufactured into the medicine usually known as Grindelia, used for asthma, bronchitis, and other troubles, which is the same purpose the Indians used it for, and the gum dissolved in alcohol is used as a cure for Rhus poisoning (Poison Oak) and other skin troubles.

Many valuable medicines derived from humble growing things are a heritage from the despised aborigine.



Floral Fire-Cracker (*Brevoortia idamayi*)

# Floral Fire-Crackers (Lily Family)

**By Bertha M. Rice**

One of the oddest and most attractive blooms to be found is the Fire-Cracker flower, a member of the lily family. It has had an interesting career at the hands of the botanists, partly because of the pretty sentiment which has clung to it for more than half a century of years. It was first discovered to the botanical world by Dr. Alfonso Wood, in 1867, who believed the plant to be of a new genus. The unusual little blossom was pointed out to him by a stage driver in the mountains of Trinity County, who explained to the man of science that his small daughter was so fond of the flower that they had always called them "Ida May's Fire-Crackers." Dr. Wood was pleased at finding such an interesting new specimen, and he bestowed the name of *Brevoortia ida-maia* upon the plant, partly in honor of the little girl and also because it was first gathered on the "ides" (May 15th). He dedicated the plant to his friend J. Carson Brevoort, of Brooklyn, New York, naturalist and patron of science. Later botanists placed the plant in the genus *Brodiaea,* changing its name to *"Brodiaea coccinea* Gray," and this prosaic title bids fair to all but erase a fine bit of sentiment which might brighten scientific discussions of our beautiful native plants.

The flowers hang in clusters of from six to a dozen or more, on dainty, grass-like stems, from plants ranging from one to three feet high. They grow on open wooded hillsides and in rocky cañons, blooming from May until July. Their habitats range from Mendocino County northward into Oregon; they are confined to the Pacific Coast, and are more plentiful in Mendocino and Humboldt Counties. Floral Fire-Crackers are not common, and because of their great attraction they have been practically exterminated in certain localities where they formerly bloomed. The plant presents an unusually quaint appearance, so strangely like small Chinese fire-crackers are their blooms. The effect is increased by their drooping, pendant position upon the delicate, leafless stems. They are bright red in color, tubular in shape, about an inch or more long, tipped with pale green, and with bits of yellow stamens protruding from the end.

The plant is frequently found growing in gardens in Southern California. It adapts itself well to cultivation, but loses much, to our fancy, from its wild mountain surroundings, where it furnishes ever a joyful surprise to those fortunate enough to chance upon it.

I was once surprised while riding on the Mount Tamalpais and Muir Woods Railway in Marin County, when glancing up at some jagged rocks directly over my head, where a gay bunch of floral firecrackers waved in triumph, tantalizingly removed from covetous hands. They are said to have been quite frequently found in Marin County, in the long ago; but if so they have wandered away from the Tamaplais regions, or were sacrificed by those whose love for flowers reckoned not of others. Several botanists familiar with that locality tell me that they have never found this flower on Tamalpais.

**Wild Ginger (*Asarum caudatum*)**

The specific names of two of our three species of Wild Ginger, *A. hartwegii* Wats. and *A. lemmonii* Wats., were conferred in honor of two eminent scientists; the former, an early explorer to the coast, and the latter, J. G. Lemmon, of Oakland. Of the other species, *A. caudatum* Lindl., the specific name *caudatum* pertains to the tail-like appendages of its blossoms. It was first described by Lindley.

## Wild Ginger *(Aristolochiaceae)*

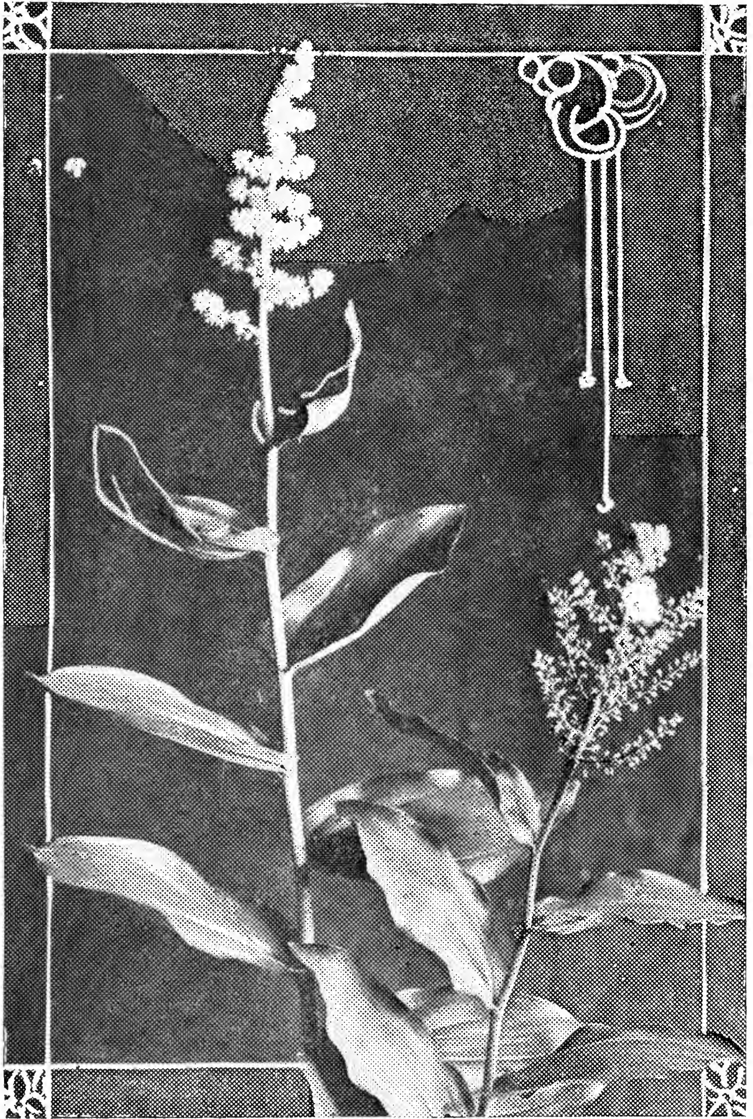
**By Roland Rice**

Growing under the dim light of the mighty Redwood trees and in the cool places of the forests of the Coast Range and Sierras, the Wild Ginger creeps out of the ground in the late spring and early summer to unfurl its strange blooms. It seems as though Nature had tried to camouflage these flowers by making them look like big spiders lurking under the large, beautiful, heart-shaped leaves. The leaves are a rich, dark green and have a mottled appearance.

Both the leaves and the creeping root stocks are fragrant and spice-like when crushed in the hands, and so the plants may be recognized when the flowers are gone. They are stemless plants, and the beautiful leaves grow from the root stock. The flower buds spring from the axils of the leaves. The name Wild Ginger was given to the plants because of their spice-like taste and fragrance; it is not related, however, to the ginger of commerce. The latter is a perennial reed-like plant from three to four feet high and has been cultivated in India and China since the beginning of history. Our plants, *Asarum caudatum,* etc., are members of the *Aristolochiaceae* or Birthroot family. The word *Asarum* is of obscure and doubtful origin, but the family name, *Aristolochia,* is Latin, and means a plant useful in childbirth. The many plants of this family group are scattered throughout the world and some were formerly used medicinally. Our plants seem to have no medicinal qualities, but it has been suggested that a sachet powder could be made from the creeping rootstocks. Fortunately this has not been done commercially, and we hope that the quaint little plant with its beautiful leaves and strange, spider-like blooms will always delight those fortunate in finding it in the seclusion of the forest depths, where it plays its humble part in the life of Nature and its ways.

There are three species of *Asarum,* or Wild Ginger, to be found in California. *A. caudatum* Lindl. grows in the coast Redwood district from Monterey northward. *A. hartwegii* Wats. is found in the Sierra Nevada Mountains and throughout the yellow pine belt at four to seven thousand foot elevations. *A. lemmonii* Wats. is a rare species found growing near the fallen logs of the giants in the Merced Grove of the Big Trees. The flowers of the last are smaller and the leaves have a lighter coloring than the others. The flowers of the three species are pale chocolate or purplish-brown in color, and are quite a novelty.

Children have found the delightfully quaint phrase, "Little Brown Jugs," appropriate for naming these blossoms. The calyx lobes of the blooms have three tail-like appendages, which may be from one to two and a half inches long; so the children's thimble-like "Jugs" would have three handles.



**The False Solomon's Seal (*Smilacina Amplexicaulis*)**

*(The true Solomon's Seal does not grow in California. The two plants are related and in Eastern States are frequently found growing side by side and almost giving the impression of having sprung from the same root. The blossoms of the true Solomon's Seal are small, greenish-white, bell-shaped flowers, nodding in pairs along the stem under the leaves. Its berries when ripened are blue black; while those of its handsomer cousin, the False Solomon's Seal, are red.)*

## False Solomon's Seal *(Smilacina amplexicaulis)*

**By Roland Rice**

The False Solomon's Seal grows best in the cool woods of the mountain slopes, where its fine green leaves and plumed flower head are often found. The tiny flowers have a most elusive, pleasant perfume, and the graceful green leaves, set alternately on the zigzaggy stem, are very decorative and beautiful. The flowers are cream white in color and form a fitting termination to the leafy stalk, which is usually about two feet tall.

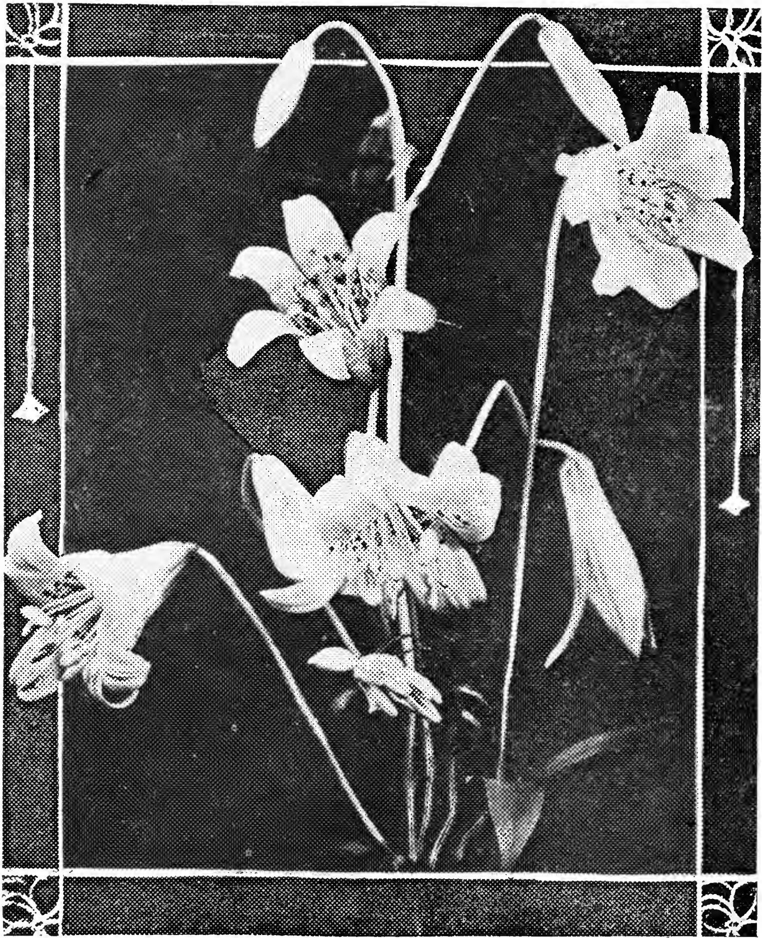
There are three varieties of Smilacina to be found in the State. They grow in very rich soil, sometimes so thick they hide the ground from view. The Star Flowered Solomon's Seal (*Smilacina sessilifolia*) has few flowers, but larger, star-shaped, cream white, on the angled stem, and is found in the shady woods of the Coast Range mountains. The False Solomon's Seal (*Smilacina amplexicaulis*) is found in the same range and also in the Sierra Nevada Mountains. One that is found only in the vicinity of the Truckee River is *Smilacina stellata.* The False Solomon's Seal is the most common of these plants. They belong to the Lily family, and bloom in the early spring from March until late in May or June.

The reason why these plants are called False Solomon's Seal is not quite plain. It is said that the true Solomon's Seal has a mark upon its roots like the imprint of a seal upon wax, and that this mark is lacking upon the other plants.

We may suspect that Gerard, Parkinson and other old herbalists were responsible for the plant's name, for they passed it down with some quaint notes as to its virtues. It seems that they claimed the wisdom of Solomon, who, it is said, wrote a flora which embraced all the plants from Cedars to Hyssop, dealing probably with the healing virtues of the plants. Gerard, of the sixteenth century, says of the Solomon's Seal:

"The roots are excellent good for to seale or close up green wounds, being stamped and laid thereon; wherefore it is called Sigillum Solomonis, of the singular vertue that it hath in sealing or healing up wounds, broken bones, and such like. The root of Solomon's Seale, stamped while it is fresh, and greene and applied, taketh away in one night, or two at the most, any bruise, blacke or blew spots gotten by falls or woman's willfulness in stumbling upon their hasty husband's fists. That which might be written of this herbe as touching the knitting of bones, and that truly, woulde seeme unto some incredible; but common experience teacheth that in the worlde there is not to be found another herbe comparable to it for the purposes aforesaid."

We do not know whether our "False Solomon's Seal" has any of the virtues of the humorous old herbalist's excellent "herbe." But it seems wrong to call our charming plant "false." For this graceful flower in the spring is quite beautiful enough to deserve a name of its own. In the fall of the year, perhaps, we may find a few of their pretty berries which the birds and the chipmunks have not as yet taken.



**The Little Alpine or Small Leopard Lily**

*"To gild refined gold, to paint the lily,*
*To throw a perfume on the violet,*
*To smooth the ice, or add another hue*
*Unto the rainbow, or with taper-light*
*To seek the beauteous eye of heaven to garnish*
*Is wasteful and ridiculous excess."*

—SHAKESPEARE.

*"The time when lilies blow
And clouds are highest in the air."*

# The Little Alpine or Small Leopard Lily *(L. parvum)*

**By Roland Rice**

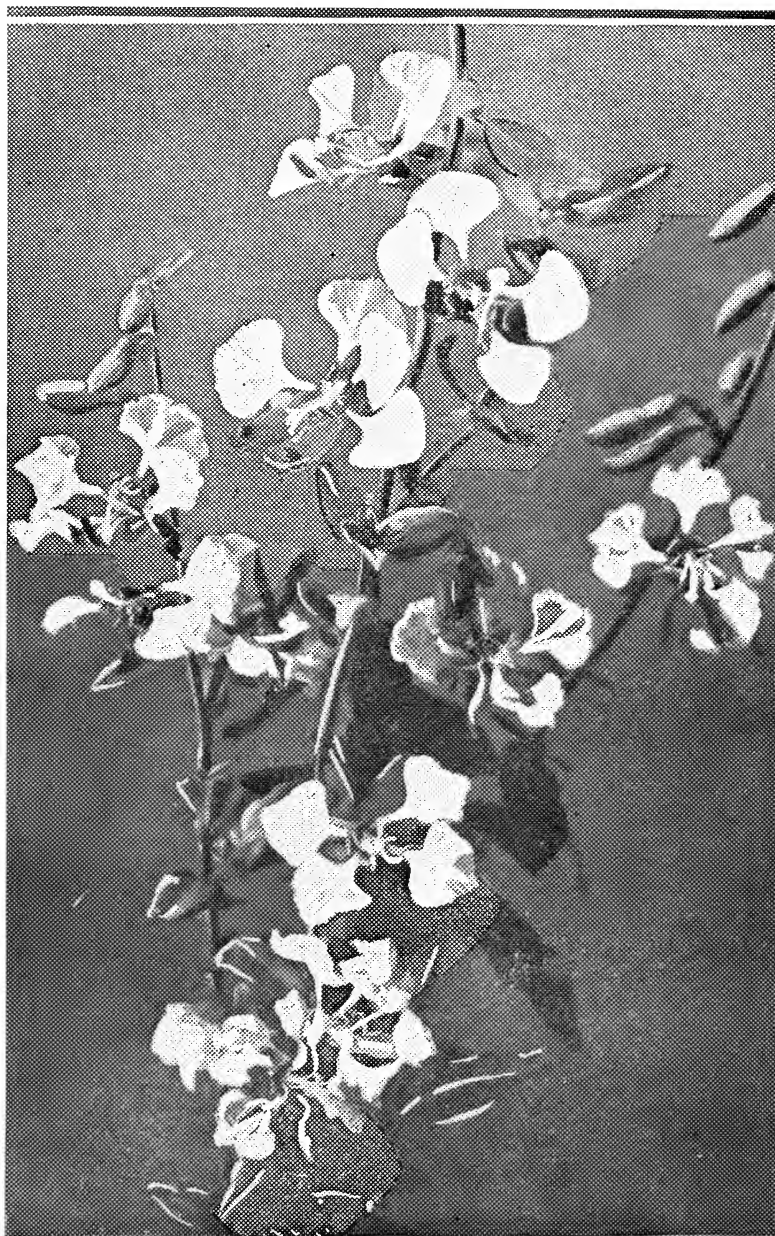
The little Alpine or small Leopard Lily, *L. parvum,* grows in the wild, free places of higher altitudes, in springy places and along the edges of swamps or stream banks. It is far more fragile appearing than its showy relative, *L. pardalinum,* the larger Leopard Lily, but seems abundantly able to take care of itself and seeks less sheltered places for its haunts. These plants vary somewhat in appearance in different localities, but are frequently found in profusion at altitudes ranging from six or seven thousand to as high as eleven thousand feet; they grow from a foot and a half to eight or nine feet tall, and bear from half a dozen to thirty or forty small, brilliant lily bells. The flowers are usually about an inch and a quarter long, funnel-shaped, or recurved only at the tips of the petals. They are bright orange-yellow in color, spotted with purple. The slender, beautiful plant rocks and sways with gentle dignity in the mountain breezes. During their blossoming season, these brilliant lilies constitute a real glory of the Alpine regions.

The Leopard Lily is always associated with quiet places in the hills; perhaps beside some rushing stream where one rests upon a bank for a moment from the quest of trout in the foaming riffles.

The tall, graceful plant often exceeds six feet in height, and is crowned with many blooms, which are three or four inches across. The sight of a colony of several hundred of these colorful blossoms towering above the green ferns and grass on the moist bank of stream or spring is enchanting. The petals are usually recurved from the base, and are pale orange-yellow on the outside and a deep orange color within, spotted with maroon and tipped with scarlet. The long anthers hanging down are purplish or brown, surrounding the bright green pistil. The leaves, six or seven inches long, are in whorls on the long green stalks.

The Leopard Lily is widely distributed along the Coast Range Mountains near the seas, and in the Sierra Nevada Mountains below the three thousand foot elevations. It grows in the rich, wet earth of shaded places in the cañons. Over thirty blossoms and buds have been counted on a single stalk, and often twelve or more are in bloom at one time. But six or seven flowers are the usual number. The bulbous roots are scaly and often are matted together.

The Humboldt Lily (*Lilium humboldtii*) is often mistaken for the Leopard Lily, and both are sometimes called Tiger Lilies, which is wrong, as the "Tiger Lily" is a native of China and is often cultivated in our gardens. Leopard Lily seems more appropriate for *Lilium pardalinum,* as the spots are so clearly marked on it. The Humboldt Lily is a larger flower, and has a more golden coloring without the reddish tints. It grows on the dry hillsides. Both flowers bloom in the summer, usually in July.



***Clarkia elegans***

# Clarkia
## (Evening Primrose Family)

By Bertha M. Rice

A piquant and graceful little flower is the Clarkia, a friendly wayside flower of the spring and summer months. No other native bloom can claim so strange a combination of varying shades of red, pink and purple colors; in some instances these bright hues predominate even in the foliage and seed vessels, consequently, as one writer humorously expresses it, "suggests a blushing disposition."

*Clarkia elegans* Dougl. is the most widely distributed of the five or six varieties to be found in California. It sometimes forms glowing masses of color in the lower foothill regions of both the Sierra and Coast Range Mountains, from Mendocino County southward. Its brilliant hues are almost sure to attract the attention of the passer-by. When the foliage is red, as it frequently is, the effect is almost startling. Sometimes the flowers have rather a ragged appearance as they creep nearer the dusty roadsides; but when found in more favorable surroundings, they have an individual beauty and a quaint sort of dignity which suits their name, *C. elegans* (Elegant Clarkia).

*Clarkia elegans* is a member of that most interesting plant family which has given scientists many striking examples of morphological differences to support their mutation theory of plants. It belongs to the Evening Primrose Family, and in keeping with that family's traditions may be found growing through a wide range of variations in size and appearance. It grows from a few inches to five or six feet tall, according to soil, moisture, exposure, etc. Its flowers may be either large or small and the stems smooth or hairy. These flowers are easily recognized by their slender, long-clawed petals and their purple, pink and reddish hues.

The Clarkias were named in honor of Captain Clark of the famous Lewis and Clark Expedition, which made the first exploration trip across the continent to the Pacific in 1803-06. Captain Clark gathered a wonderful collection of plants on this trip, which he took back with him and presented to the American Philosophical Society, of Philadelphia, of which he was a member. An attractive little flower, said to have been a great favorite with this celebrated explorer, was named in his honor—*Clarkia pulchella*—and is known to the children of the Northwest as "Pink Fairies." The scientific name *pulchella* is pleasingly descriptive when translated; it means "Little Beauty." This particular variety, I am sorry to say, is not found growing in California except under cultivation. It grows in Washington and Oregon and wanders eastward almost to the Rocky Mountains. Another variety, and a very charming one, is commonly called "Beautiful Clarkia" (*C. concinna* Greene). In appearance, it is somewhat like the famous *Clarkia pulchella,* and is even more gay in color. It has rose-pink petals and a reddish-pink calyx. Its alluring "Airy Fairy Lillian" type of beauty shows off

to the best advantage along shaded, tree-lined banks and amid ferns and brakes, whose companionship it seems greatly to appreciate. The little flower is especially captivating amid such delicate greenery. *Clarkia concinna* Greene is not abundant, but quite widely distributed in the middle altitudes of the Coast Range Mountains. This plant is described by some botanists as *Eucharidium concinnum* Gray (*concinnum* means beautiful), supposed to be closely related to the Clarkia; but the majority of the botanists assign it to the genus Clarkia.

A rare variety, somewhat localized in distribution, found on the Mt. Diablo Range, and reported from a few other localities, is *Clarkia breweri* Greene or *E. breweri* Gray, for some botanists consider this species also entitled to generic distinction and designate it *Eucharidium breweri* Gray, closely related to the Clarkia. This variety has fan-shaped petals, the loveliest imaginable pink in color; its filaments and style are colored like the petals, but the anthers are brick-red and the stigmas white. It usually grows but a few inches high and its presence is often indicated by its sweet fragrance akin to that of the old-fashioned honeysuckle which grew in our grandmothers' gardens. Its name, "Breweri," was given in honor of William H. Brewer, botanist of the California Geological Survey.

The species designated by botanists as *Clarkia rhomboidea* is not especially abundant, but is widely distributed in the Yosemite and the lower foothill regions of both the Sierra and Coast Range Mountains. This plant is not so conspicuous, but is delicate in appearance, with slender, smooth, branching stems, from one to three feet tall; it has smooth leaves, mostly alternate, nodding buds, and a few pretty little flowers about three-quarters of an inch across.

Clarkias are frequently found in cultivation in the Northwest and in Californian gardens, as well as in European countries, where they are especially popular.

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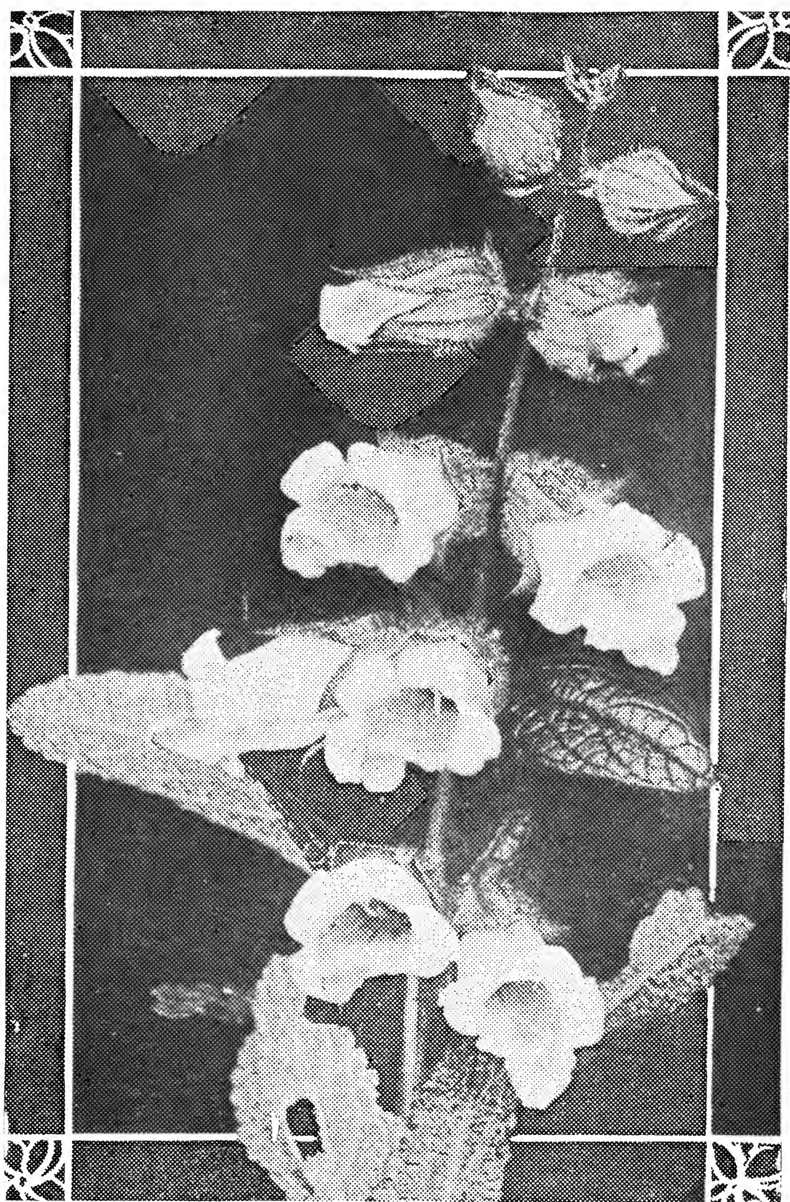
What I wish to bring out particularly does not concern the enrichment of botanical and zoological knowledge, greatly important as I regard this, but rather the enlarging and liberalizing influences which Nature has on the public mind generally.—Dr. William E. Ritter.



The Pitcher Sage—Wood Balm

## The Pitcher Sage. Wood Balm
## *Sphacele calycina* (Mint Family)

**By Bertha M. Rice**

There is a quaint little flower on my summer hills which interests me greatly. When other blooms are failing, the wild honeybees, ever in search of nectar for their winter stores, its fragrant blossoms bid them halt to feast a-plenty. It looks something like the Monkey flower, but is purplish-white in color.

Pitcher Sage it is called, because the flowers resemble in miniature a white porcelain pitcher, and the name Sage is suggested by its fragrance. The leaves are wrinkled and rough like the Garden Sage. It certainly looks and smells like Sage, but the botanist says we are wrong, and then adds that this plant is the only one of its kind on the North American continent. The rest of this particular *genus* live down in South America. It belongs to the Mint Family, however, and is related to the Sage. We have many of the Mint tribe in this State, but only this member of the *genus* to which the Pitcher Sage belongs; and it is found only in the foothill regions of Central and Southern California. It varies slightly in appearance in different parts of the State, but only experts can detect a difference. It grows on the dry hillsides among the chaparral in the late spring and summer months, and is one of our most desirable plants, for it furnishes the honey bee with nectar.

The wild flowers of the chaparral furnish most of the honey for commerce, as well as supplying the wild bees with needful nectar. The black and white sage plants, however, furnish most of the sage honey, which is so well known. But it is good to know the Pitcher Sage, for its spicy fragrance adds pleasure to the out-of-doors, and it is not lacking in attractive qualities.

I have found its purplish-white flowers quite late in summer on dry hillsides; it was a beautiful sight to see the wild bees feasting busily, laying up their winter stores and strengthening themselves for the lean months. These flowers at times seem to be about the only honey-flowers in bloom amid the chaparral, and we know that Mother Nature has taken this way of arranging for her children. During the "rush season," the bees have so many flowers that they might easily overlook the scattered Pitcher Sage plants. Later, when they are in need of replenishing their supplies, particularly if they have been robbed, as they once were, by grizzly bears, and now by man, who takes their honey for commerce, these nectar-laden flowers must seem to be a very "oasis in the desert."

I have seen the humming-birds sipping the nectar of these flowers also, and they seemed greatly to appreciate the sweetly laden "pitchers" so advantageously arranged for them. Nature is a kind and thoughtful mother, spreading delectable wayside feasts for her wandering children, where man sees only belated blossoms and sun-scorched hills.

The scientific name of this blossom is quite descriptive. *Sphacele* is from the Greek, meaning "sage," as the plants have sage-like

foliage and smell, though its blossoms are different; *calycina* means "cup-like." The shrub grows from five to six or seven feet high. The loose calyx in which the "pitcher" sits is an interesting feature of the plant. It is basin-shaped, and after the blooms have faded they become inflated and look much like hazel nuts on the bushes; are pale green and purple-veined in color, and quite conspicuous.

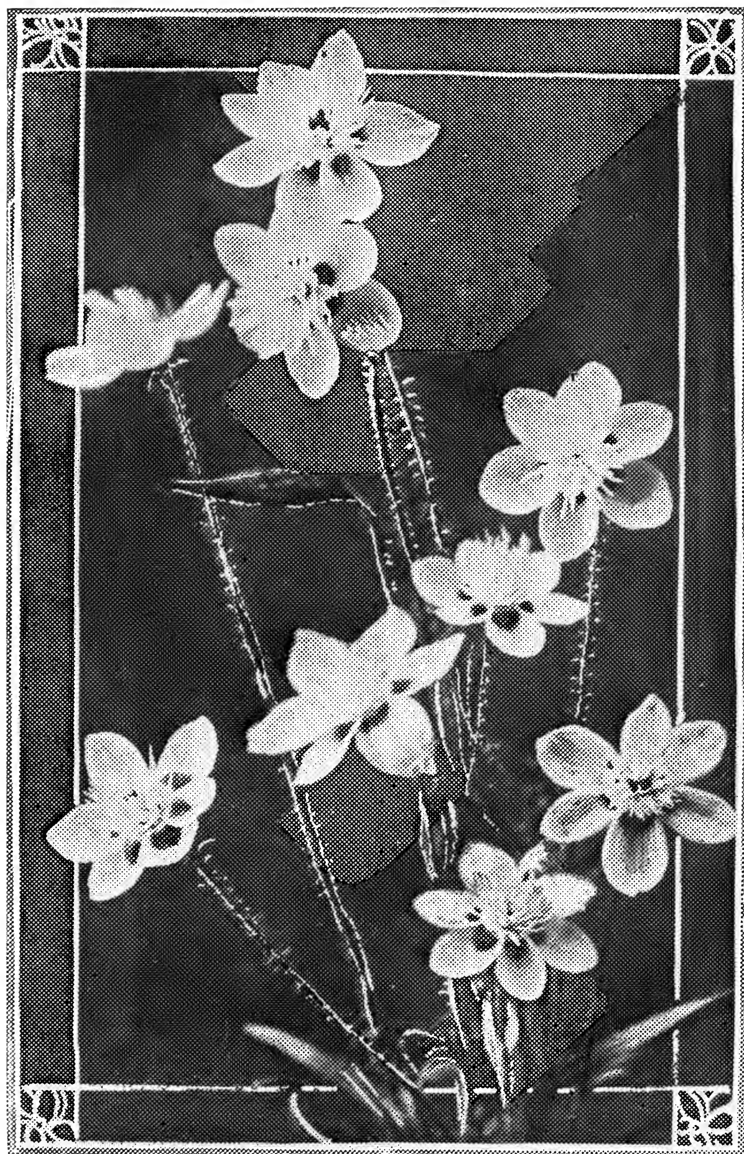
Its family name *Mint* is one of the sweetest of all plant names. It brings to mind scents of the woodland, favorite walks, and happy surprises of the season—the bird songs, and all the pleasures of the out-of-doors. The Mint family is a very large one and contains many of our most interesting and valuable plants: The Tule Mint, the Peppermint, Spearmint, Pennyroyal, Catnip, Self-Heal, the various Sages, and Horehound, Blue-Curls, and the quaint and famous little plant, Yerba Buena (*Micromeria chamissonis*), which grows in the woods near the coast, from Humboldt County to Southern California. Yerba Buena is Spanish for Good Herb, and from which they made a tea, which was used as a beverage, as a febrifuge, and as a remedy for colic. It was first used by the Indians for such purposes. When San Francisco was a little Spanish hamlet, it was known as Yerba Buena, because of the prevalence of this aromatic, creeping herb in that locality.

Mint is from the Greek word *Menthe,* the name of a nymph fabled to have been changed into a Mint. The woods are full of fairy-like beings, and it is pleasant to make their acquaintance. I like the name applied to *Sphacele calycina* by the mountaineers. They call it "Wood Balm."

*How doth the little busy bee*
*Improve each shining hour,*
*And gather honey all the day*
*From every opening flower.*

*How skilfully she builds her cell!*
*How neat she spreads the wax!*
*And labors hard to store it well*
*With the sweet food she makes.*

—Isaac Watts.



Creamcups (***Platystemon californicus***)

*"For 'tis my faith that every flower enjoys the air it breathes."*

# Creamcups

## *(Platystemon californicus)*

### By Roland Rice

The Creamcups are a part of the trembling tints and star-scattered jewels of wild flowerdom on the green hills and plains in the spring, when, after the late winter rains, myriads of annual flowering plants spring out of the soil. It is due to the absence of sod-forming grasses that these annual flowers are able to take such a large part of the land at the favored season when they can best mature their seeds before the drought of summer overcomes them.

Creamcups are cousins to the poppies and companions of the Baby Blue Eyes. They are delicate little flowers about an inch across, with hairy stems from a plant about six to fourteen inches high. The drooping buds are covered with dainty bright green caps like the poppies, which are doffed when it is time for them to bloom. Then the blossom lifts its laughing face to the sun. They are sun-loving plants, and seem to grow best in the south-central part of the State, where their flowers are largest and at their best.

Their name, *Platystemon californicus,* is given them because of the flattened filaments to the stamens. There is another flower, *Platystigma californicum,* which is similar in appearance, but has flattened stigmas instead. This is called the "False Creamcup." Both flowers are sometimes stained with bright yellow on the tips of their petals and sometimes at their base. The centers are a delicate cream color.

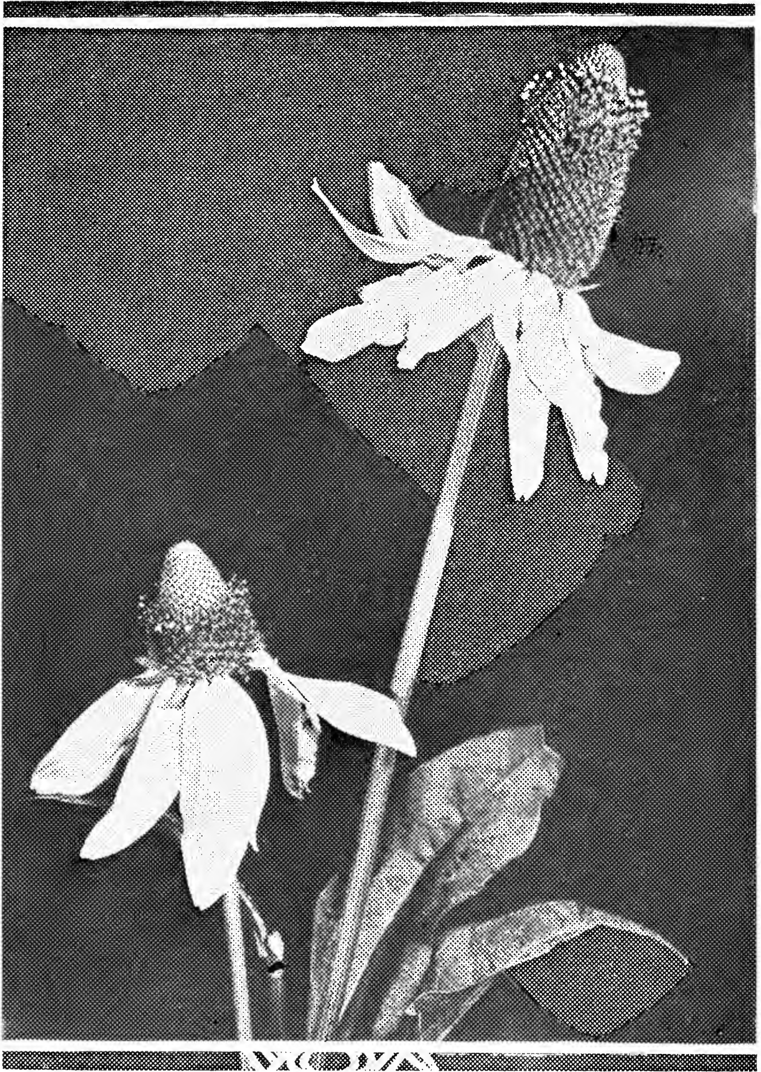
The Creamcups are among the beautiful wildings which changed the gardens of Europe, where there were but few annuals before David Douglas and those other intrepid explorers introduced our California flowers to the Old World.

It is well to remember that these pretty flowers were a part of those wondrous fields which Edwin Markham described years ago in his exquisite verse:

*"Miles beyond miles of every sovereign hue*
*And trembling tint the looms of Arras knew—*
*A flowery pomp as of the dying day,*
*A splendor where a god might take his way."*

The time was when these blooms took possession of whole fields and covered the land for miles. But they are passing away from their former haunts. The cultivation of the fields and the hand of the flower vendor have driven them far from the cities. Now they are more frequently found in some secluded spot or a sprinkling of them beside the trail or road.

We may rejoice if we see a few of these exquisite, fair Creamcups beside the way. It is a pleasure to know them. They are quite generally distributed throughout the State, growing in sandy soils, along roadsides, in fields, or in the foothill regions; but they are seldom seen above the three thousand foot altitude and are usually in company with the Baby Blue Eyes.



Cone Flower (*Rudbeckia californica*)

# The Cone Flower *(Rudbeckia californica* Gray) Composite Family

**By Bertha M. Rice**

The Cone Flower (*Rudbeckia californica*) is a peculiarly distinctive member of the Composite family of plants, and is a type which is native only to North America.

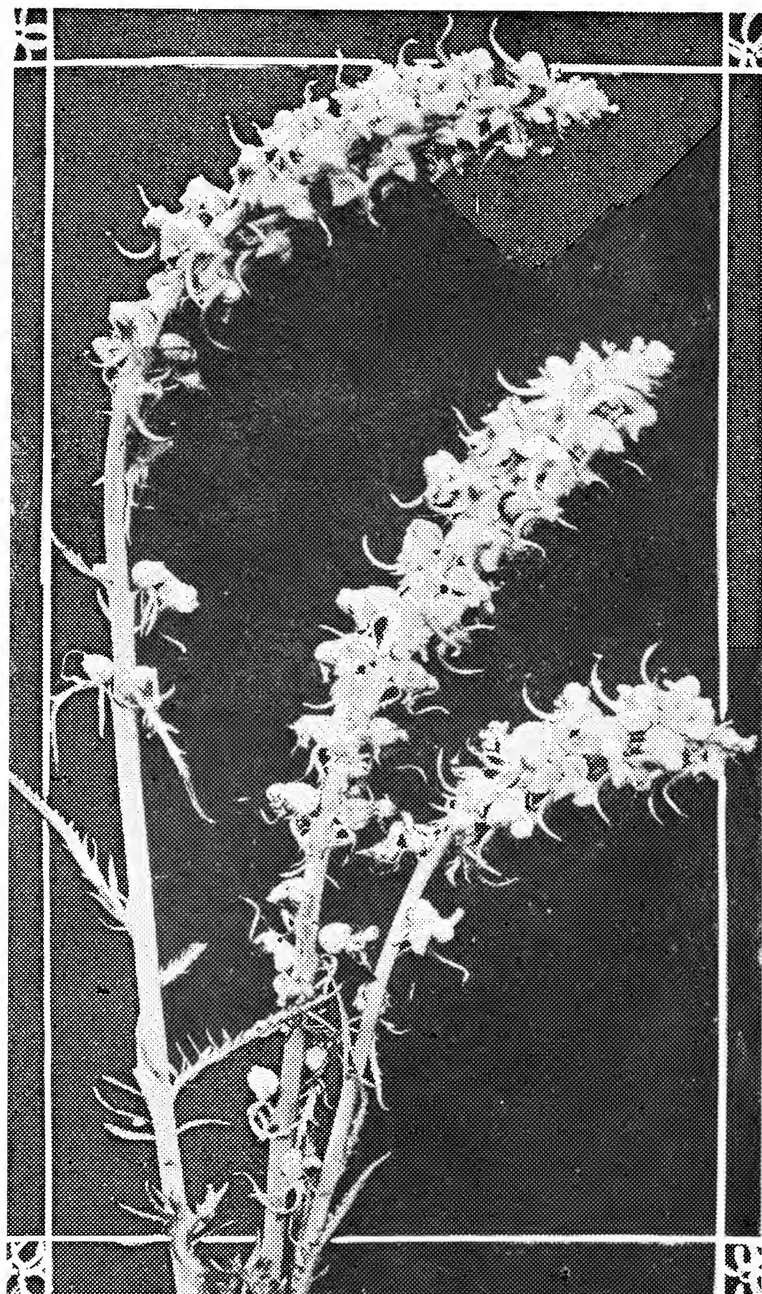
Its habitats are the wet meadows of the Sierra Nevada Mountains, where in summer time its unique solitary flower head nods gracefully upon the long-stemmed plant, which is usually from two to four feet high. The long, pure yellow rays droop prettily around the purplish-brown disk, which lengthens into a cone, with age, until it frequently becomes from an inch to two inches or more long. It is this cylindrical disk or cone that won for these blossoms their common name, Cone Flower, although school children, with that pertinacity so often characteristic of youth, have found another and an amusingly descriptive name for them—that of "Hay Stacks."

There is an exceedingly odd species of this plant, *R. occidentalis* Nutt, having a similar tall cone, but its plain solitary disk stands aloof. The handsome yellow rays are lacking. This variety is found in the mountains of Northern California and in Oregon and eastward to the Rocky Mountains.

The Rudbeckias are named for two Swedish scientists, Claud Rudbeck and his son, pioneers in the science of botany, who preceded Linnæus, in the University of Upsala.

Several species of Rudbeckia have long been cultivated in European gardens, and some varieties have a wanderlust which must be pleasing to many people who have a fondness for these quaint blossoms. The most popular of these is the one known as "Black Eyed Susan" (*Rudbeckia hirta*), which grows in tufts with several flowers in bloom at the same time. They are yellow-rayed and the small disk becomes conical as the seeds mature, but its cone does not exceed three-fourths of an inch in height. There is no after-bloom of pappus, as in *Rudbeckia californica.* The Black Eyed Susans are lovers of hot, sunny fields. This variety is a native of the Mississippi Valley, but has migrated both eastward and westward, with the commerce of baled hay, presumably. It is now found quite frequently in this State, and is becoming abundant in the Yosemite Valley, where it is very showy during the months of August and September. There is more than a suspicion that some person has purposely introduced these Black Eyed Susans into our national park, along with other interesting plants, which do not naturally belong in that district. Although undoubtedly furnishing a pleasant surprise to many, particularly tourists, to find the friendly flower faces in our Yosemite, it is sometimes confusing to Western botanists to have their ideas regarding the natural distribution of certain species of plants so strangely upset.

In the language of flowers, Rudbeckia stands for Justice.



Elephant Heads (*Pedicularis groenlandica*)

# Elephant Heads, *Pediclaris groenlandica* (Lousewort) *Scrofulariaceae* (Figwort Family)

By Roland Rice

The Elephant Heads are among the strange and exquisite posies that star the meadows bordering the Alpine heights of the Sierra Nevada Mountains. Their warm pink color and delicate fragrance first attract the attention, and an examination of the flower spikes furnish a delightful surprise. An elephant's large, flapping ears at the sides of the forehead, the long, slender, curved trunk, and a suggestion of tusks are to be seen in miniature, in each of the tiny blossoms.

The plant is about a foot high, with bronze-green, fern-like foliage, clustered at the base of the smooth, purple stems, and topped by these long, densely flowered, pink spikes.

A similar variety, *Pedicularis attolens* Gray, is also called Elephant Heads; but the little beak is more abrupt, and the flower spikes smaller, and densely clothed with white hairs. Both species are frequently found growing together, although the latter is commoner in slightly lower altitudes. Their glowing colors are enhanced by the varying hues of other bright blossoms, which make these upland meadows the fairest of all natural gardens.

The Elephant Heads range from the far northern shores of Hudson Bay and across the continent to our lofty Sierras, where it is but a few miles to orange groves and flowering plants of a warmer clime. There are but a few other species of Pedicularis listed in California. *P. semibarbata* Gray, growing on dry ridges and in the open woods of the Sierras, is widely distributed and forms pretty rosettes of fern-like foliage, with little spikes of rather attractive, yellowish blossoms, slightly tinged with purple, the upper lip being hooded but not continued into a beak. *P. racemosa* is reported from Sierra Valley and northward. *P. densiflora,* the handsome Indian Warrior, is included in this group and is one of the best known and most popular flowers we have. It grows among low, wooded foothills from the central part of the State to Oregon. The Yuki Indian children called this friendly flower the "wai-mok," which means Yellow-Hammer Flower, and so called because these birds extract the sweets from its nectar-laden flower tubes. Perhaps the name Indian Warrior, so popular with white children, was given because they saw in its gay, wine-colored blooms a semblance of the flowing feathers of an Indian's war-bonnet.

An extremely interesting variety of *Pedicularis,* because of its rarity, only known to have been collected from a single locality, near Pescadero, is *P. dudleyi* Elmer. It is an odd little denizen of the Santa Cruz Mountains, hidden away in the depths of the mighty *Sequoia sempervirens,* and resembling somewhat the Indian Warrior, *P. densiflora,* but is smaller and fewer flowered, and pinkish white in color. It was named after the revered and widely known scientist, Dr. W. R. Dudley, of Stanford University, who first dis-

covered it. It was first described to science, in 1906, by Elmer, a graduate student of that university. Its existence is said to be endangered by the proximity of its hiding place to a popular camping ground.

The name *Pedicularis* is Latin for Lousewort. The genera is frequently called Lousewort in science. The ancients, who bestowed the name, believed that sheep became infected with *Pediculis* (tiny lice) by feeding on these plants. Strange to say, sheep will not eat the plants because of their acrid juices. The flowers of this family, many of them, captivate the fancy and illustrate the peculiar habits of their genus by curiously imitating the appearance of animals, and assuming other unique and fantastic forms which popularize them with children. *P. ornithorhyncha,* the quaint little Duck's Bill, grows in Washington and Oregon, and the small blossoms on its pink and purple spikes, which rise from amongst fern-like foliage, bear a striking resemblance to a duck's head and are ever a delight to youngsters. Then there is the "Parrot's Head" and the "Walrus Head," and such strange varieties, to be found in other sections.

The Figwort Family, to which the *Pedicularis* belong, is also known as the *Scrophulariaceae.* During the Middle Ages the acrid juice of certain plants of this family was considered a cure for scrofula; and one species, the Wood Betony, is famous in history, so great an importance did the ancients attach to its wonderful remedial values. A common saying of those days was: "May you have more virtues than Betony." The Romans had another well-known saying: "Sell your coat and buy Betony," which is supposed to allude to its great value as a cure-all. Antonius Musa, physician to the Emperor Augustus, claimed that Betony was an invaluable cure for not less than forty-seven ills. Franzins, in his "History of Plants," speaks of its value to wild animals and he says of the stag: "When he is wounded with a dart, the only cure he hath is to eate some of that herbe called Betony," which he further claimed would not only "stanch the wound," but "withdraw the dart." The Alpine Betony, *Pedicularis centranthera,* grows in dry, rocky soil in high altitudes in Utah, Arizona and New Mexico, but has never been reported in California. In appearance it is characteristic of the Pedicularis group, having bronze-colored, fern-like foliage and short spikes of quaint little flowers. An important medicinal plant of the Figwort Family at the present time is the common Foxglove, *Digitalis purpurea*; it is a European plant, but has escaped from cultivation in California, and is now growing wild in the Santa Cruz Mountains. I have found it growing near Bull Springs, a few miles east of the State Redwood Park on the road to Saratoga. It has been reported from other localities.

The Figwort Family, or *Scrophulariaceae,* is a very large one and contains many of our most popular plants. The handsome Pentstemons are included among the groups and are widely distributed in many varieties; also the popular Monkey Flowers, or *Mimulus,* both red and yellow varieties, are scattered about the State. Snap-dragon, Toad-flax, Moth-mullein, and the Popcorn Flowers (or Johnny Tuck) and other posies, bearing similarly odd

or affectionate nicknames, are among our best known varieties. Very popular are the little Chinese Houses, *Collinsia bicolor* (there are fifteen or more species), quite common throughout California, one variety of which is called Innocence. The name *Collinsia* is commemorative of Zaccheus Collins, a Philadelphia botanist of a century past. The California Bee-plant is afflicted with *Scrophularia californica* Cham. as a scientific appellation (which we admit is a long name for these Pixey-like blossoms of dull green and reddish hue), but as the popular name would indicate, they are famous honey flowers and well distributed in California. Masses of bright red Indian Paint Brushes, *Castilleias,* are to be seen on hillsides and meadowlands in various localities. The popular scientific name, *Castilleia,* commemorates a noted Spanish botanist Castillejo. In form, these flowers strongly resemble their relative, the Indian Warrior; but they are looked upon with suspicion by scientists, as developing vampire ways and being more or less parasitic in nature. The Owl's Clover or Cream Sacs, *Orthocarpus,* which color the landscapes in early spring with their pretty pink and magenta blooms, were known to the Spanish as Escobita, meaning "little broom." There are many varieties of this favorite flower; more commonly, they are pinkish-purple in color, but others are almost white; and a certain yellowish variety was known to Indian children as "Coyote Tails."

Closely related, and in the same group with the Orthocarpus and the Pedicularis, are the singular and interesting *Adenostegias,* of which the little Bird's Beak, *Adenostegia rigida* Benth., is the type; and familiar to school children, who doubtless conferred this name upon the plant because of the odd little beak or tip of its corolla. The tiny, purplish-colored flowers, like birds in their nests, are almost enveloped in the green calyx. The blossoms would hardly be noticed but for the prevalence of the little gray-green bushes throughout our chaparral regions. The plants prefer dry habitats and often mass themselves in such profusion along mountain roadsides as to be a conspicuous feature of the landscape. Indians valued the plant as an emetic. The genus is confined to the West and is characteristic of California and the Great Basin. Of the twenty-one described species, all but five are in California and nine are confined to this State. Five of these varieties were first described by Mrs. Roxana Ferris, director of the famous Dudley Herbarium, at Stanford University. The most interesting of these species is a quaint, grayish little denizen of tule lands, *Adenostegia palmata* Ferris, known as the Ferris Adenostegia, which has been collected but rarely, and was discovered by Mrs. Ferris near College City, Colusa County. It somewhat resembles Owl's Clover, *Orthocarpus,* but has an unusual, grayish color.

One could go on indefinitely discussing interesting members of the Figwort Family. But not the least of these are the odd, fragrant, little rose-red Elephant Heads of our Alpine heights.

## The Washington Lily

*The literature of the ages knew nothing of the Washington Lily of California. Today it ranks among the most beautiful of the world's lilies. No other flower has so many religious associations as the Lily. It stands for purity and majesty. Almost every poet from Homer to Tennyson has sung its praises; none more so than Julia Ward Howe, in her "Battle Hymn of the Republic."*

*"In the beauty of the lilies, Christ was born across the sea,*
*With the glory in His bosom that transfigures you and me;*
*As He died to make men holy, let us die to make men free,*
*While God is marching on."*

## The Washington Lily

**By Bertha M. Rice**

Our beautiful, fragrant mountain lily, *Lilium washingtonianum*, must be, I think, the most beautiful of all our Western lilies. It is said to be the only pure white American lily.

In all this world there could hardly be a sweeter, fairer flower. There is something singularly impressive about the tall, straight plant, with its handsome whorls of polished, wavy-margined, dark green leaves and its smooth, stout, purple stem, crowned with a radiance of glistening white blossoms. The whole attitude of the plant is one of quiet dignity and grace. A feeling of reverence must fill the heart when one is permitted to gaze upon its perfect flowers.

Never shall I forget the sudden joy which took possession of my soul when my first Easter Lilies unfurled their fragrant chalices of light. They furnished the subject, I believe, of almost my only accepted and published poem; and the thoughts of those sweet blossoms have remained with me throughout my whole life, a sacred and fragrant memory. Since then, I have found this white mountain lily even more impressively beautiful. In our heavenly Father's gardens are blossoms infinitely fairer and finer than were ever planted by mortal man. Up there on the rugged mountainside, towering, head-high, in the wilderness, above the tangled protective shrubbery surrounding it, and swinging its fragrant censers in the glad breezes, grows the real jewel of all wild-flowerdom—the fairest, sweetest flower in all the wild gardens of the wide world.

The Washington Lily is never found in the Coast Range. It is rather widely distributed, but not abundant, in the Sierra Nevada Mountains, and has been discovered as far south as the mountains in San Diego County, and through mountainous regions northward to the Columbia River. The plants grow from three to eight feet high and bear from a dozen to thirty or forty waxen, white blossoms from three to four inches long, set off by yellow anthers and a greenish pistil, and are exceedingly fragrant. Very beautiful ones are found in the Yosemite region and near Lake Tahoe. They grow in chaparral thickets and open pine woods up to an altitude of 7,500 feet. Small woodland creatures, such as chipmunks and squirrels will eat its young and tender stalks, while bears and Indians have delighted in its large edible bulbs. The Indians, for all their wild natures, exercised discretion and good sense in gathering the choice bulbs from their wild gardens, taking care to leave stock for the next year's harvest. It is our so-called civilized people of today who are carelessly and thoughtlessly destroying the fine wild life about us. Reports come in from all about the State regarding the destruction and unnecessary waste of our native plants; and I quote from a letter received a few months ago from Dr. Douglas R. Campbell, head of the Botany Department of Stanford University, who says: "I hope something may be done to check the reckless destruction of so many of our choicest wild flowers, such as the Washington Lily. The difficulty is the lack of care in gathering the flowers. If the stalks

were cut, so as to leave most of the leaves below the flower, the bulbs would not be materially damaged, but when the stalks are cut close to the ground—or still worse, pulled up—the bulb is either killed outright or so weakened that it will not recover for several years."

The Washington Lily was christened "The Lady Washington" by the miners of '49, which goes a long way to prove that the gold diggers were not altogether a bad lot, wholly devoid of sentiment and appreciation of the finer things of life. Dr. Kellogg, who first described this beautiful lily to science, preserved to posterity the semblance of its original and patriotic American name by calling it *Lilium washingtonianum.* Of recent years it is called the Washington Lily. The Shasta Lily, which is more plentiful than the Washington, is really a variety of *L. washingtonianum,* but it has a smaller bulb. The Lemon Lily, *L. parryi,* often called Parry's Lily, found in the southern part of the State, has flowers similar in form, but of a clear yellow color, dotted with darker spots. In the Coast Range we have the wonderful Ruby Lily, *Lilium rubescens,* a truly magnificent plant, with whorls of rippling green leaves and gorgeous blossoms of pink and ruby shades, and widely famed as the most deliciously fragrant flower in the world. It is a strange, elusive flower, choosing for its habitats the wildest and most inaccessible mountain fastnesses, and but seldom seen, even by those who live in close proximity to its hiding places. Out-door people, familiar with its fragrance, are ofttimes guided to its presence by the spice-like odor of its blooms. Henry Van Dyke says of this flower:

*"Searching and strange in its sweetness,*
*It steals like a perfume enchanted*
*Under the arch of the forest, and all who*
*Perceive it are haunted,*
*Seeking, and seeking forever, till sight of*
*The lily is granted."*

In different localities the Ruby Lily is called the Chaparral Lily. It is also called the Redwood Lily. Botanists claim that *L. rubescens* and *L. washingtonianum* are closely related. The white Washington Lily, in age, frequently assumes a purplish cast. The Ruby Lily is a taller and handsomer plant, with larger and more fragrant blossoms; but no flower that blooms can compare with the chaste and spiritual charm of the Washington Lily. It seems almost to have borrowed some ethereal quality from the gardens of paradise.

*The aspect of Nature is devout.*

*Like the figure of Jesus, she stands with bended head, and hands folded upon the breast.*

*The happiest man is he who learns from Nature the lesson of worship.*

EMERSON.

# Toyon or Christmas Berry
## (*Heteromeles arbutifolia* Roemer)

By Bertha M. Rice

The beautiful Toyon or Christmas Berry tree is one of the most singularly attractive and characteristic features of California, giving a rich flame of color to our otherwise flowerless roadsides at this season of the year. The cheerful scarlet berries, which contrast so beautifully with their evergreen foliage, are frequently called California Holly and prove almost irresistible to the crowds of hikers and automobilists, who have wellnigh exterminated the bushes in certain localities. This important phase of the subject is taken up in considerable detail in the next chapter.

Toyon comes from the Mexican pronunciation of the Spanish *tollon*. The plant is a member of the Rose Family and is a cousin to the roses, plums, peaches, apples, cherries, almonds, strawberries, blackberries, of cultivation, and to the wild varieties. It is related to the Oso berry, chokecherry, service berry, thimble berry, salmon berry, western mountain ash, mountain mahogany, meadow sweet, bitter-brush, nine-bark, purple avens, ladies' mantle, and the famous chamisel or grease-wood. The Toyon bushes are practically confined to California. They are more common to the chaparral belt of the Coast Ranges and may be found from Southern California to Humboldt County and are occasionally met with in Oregon. They are also found in the Sierras. The bushes grow from five to twenty or more feet high, and when unmolested often become very shapely small trees. In remote districts they sometimes attain a height of twenty-five or more feet. The largest Toyon tree that we have any record of is a magnificent specimen, to the left of the palm driveway at Stanford University. It is quite as large as an oak tree.

Our shrub was introduced into England more than one hundred years ago, where it is called the California May-bush, because it resembles a species of hawthorn called "The May" in England. The two plants are related, belonging to the same family, and so the English name is not so improperly applied as our more common term of "California Holly." These plants are in no way related to the holly trees. There is a resemblance between the berries, but the less attractive foliage in no way resembles the striking, glossy holly leaves of cultivation. Vendors of Toyon berries at Christmas-tide, realizing this deficiency, usually mingle these bright scarlet berries with our beautiful wild cherry leaves and those of the scrub oak, which are exceedingly glossy and handsome in appearance. The oblong, saw-toothed leaves of the Toyon are rigid and leathery and slightly glossy, but do not compare with the brilliant leaves of certain other shrubs. The plant was early called *Photinia arbutifolia* on account of its resemblance to the Chinese *Photinia,* or Hawthorn, which also has red berries. The berries are edible, although they have an acid taste. The Spanish-Californians used them in making a pleasant drink, and in their season they formed a regular part of the diet of Indians, who ate them both roasted and boiled, or dried, and ground into a meal. The band-tailed pigeon and the western robin are exceedingly fond of these berries, as are also the shy hermit thrushes, and other birds.

Late in the season, according to locality, from May until August, these bushes are covered with abundant panicles of small white flowers, not particularly pretty, but fragrant, with a spicy woodsy odor, and are among our most celebrated of honey flowers. During their season of bloom the woods are melodious with the humming of bees, busy at their harvesting. Their late blooms, when so many of the nectar-bearing flowers are gone, are accordingly prized by bee-keepers. The Toyons grow slowly, which makes the destruction of these bushes all the more lamentable. They are handsome in cultivation and make attractive hedges. If a few well-selected, ripened berries are gathered and planted in tin cans, with proper care, in a year or so they may be transplanted to gardens, and very soon one would have plenty of Christmas berries for home decoration and to spare, without robbing the mountain wild birds or marring the scenic beauty of our highways and foothills. The trees usually bear abundant fruit. It is rough handling which endangers the trees, whereas careful pruning or cutting of modest bunches of berries from the delicate Toyons might not be injurious to their growth. Heavy pruning is sometimes recommended by horticulturists, but must be done with intelligence and care. These berries, if left on the trees, furnish valuable food for the flocks of wild birds that frequent California mountains in the winter time when other food is scarce.

# Urgent Need of Protection for Toyon Berries

**By Bertha M. Rice**

California has her fish and game preserves, her State and national parks, and forests, and other valuable safeguards of the wild. But there are no laws to protect our beautiful wild flowering shrubs and interesting native plants, many of which have become candidates for extermination. The population of California is increasing with such rapidity and the cultivation of the land in vast areas is so extensive, that, together with the cutting down of forests and forest fires, the irrigation of deserts, and drainage of marshes, and the numerous grazing herds, they have all but erased the once bewilderingly beautiful gardens of wild blooms. The balance of nature has been sadly disturbed by the rapidity with which the progress of agriculture, the growth of the cities and the "subdivisions" have changed the fair landscapes of the Golden State; and the birds and the bees as well as the flowers have been having rather a hard time of it. However, it is not so much the inevitable for which we grieve as it is for the more thoughtless and wholly unnecessary destruction which now threatens practical extermination of some of the more cherished species of our native plants.

The highways and byways of California, once adorned with multitudinously tinted and fragrant wild blooming things, are being desolated and marred by the throngs of automobilists and out-door enthusiasts, whose appreciation of beauty seems sadly misdirected, to say the least.

The Toyon, or Christmas Berry, sometimes called wild holly, comes in for more than its share of this sort of vandalism. It is no infrequent sight on Sundays and holidays to see hundreds of automobiles and hikers literally loaded down with branches from these beautiful trees. In their haste to gather and be gone, people frequently cut down the trees or twist and hack huge branches from their delicate trunks, thus sadly marring their beauty, if not permanently injuring the growth. From reports gathered in various localities, we learn that the Toyon trees have been almost obliterated in places, and while there seems to be at present a plentiful supply of red berries in the more remote districts, the increased demand for them, and for other wild shrubs, for holiday decorations, threatens in time even these vast reserves. Vendors of wild holly and greenery are having shipped to them daily, and in immense quantities, such material from various parts of the State. If this demand increases, and is not regulated, it will, added to the thoughtless extermination carried on by motorists and other unthinking people, practically exterminate some of California's most attractive features.

The birds will miss the berries and the bees will miss the flowers, and the landscape will lack its flame of color to cheer us, and something beautiful will have gone out of our lives—something we cannot regain unless we safeguard before too late these happier features of our wild life.

It will be remembered by many people that our Wild Flower Conservation League conducted a vigorous and justified campaign last year for the better protection and conservation of the Christmas Berry tree. As a direct result of these efforts, a great deal of splendid sentiment was aroused and in several counties and localities throughout the State the supervisors or local magistrates adopted measures (and enforced them also) prohibiting people from wantonly gathering, destroying or injuring trees. In a number of instances, where such vandalism was particularly lawless and unnecessary, quite severe penalties were imposed; and, indeed, became necessary, if the people of California desire to retain any semblance of the colorful charm these beautiful trees impart to our autumn landscapes and scenic highways. It is encouraging to know that excellent support to this movement has been rendered by leading and influential citizens of the State, including many distinguished scientists and educators, whose sentiments at this time are well worth quoting. They should prove invaluable in strengthening the interest already created in this work, and assist in crystallizing sentiment into action, such as will eventually bring about protective legislation.

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STANFORD UNIVERSITY, DEC. 16, 1919.

I am especially interested in your efforts to protect the *Tollon* or Christmas Berry, which is now being so ruthlessly slaughtered among the mountains and beside our streams. It is a noble plant, one of our most beautiful native trees, but it has little chance to show what it might be if the branches are torn off in the wanton fashion in which I see them carried about every day. Some one ought to be encouraged to cultivate the Christmas Berry for the sake of its ornamental fruits.

Very truly yours,

DAVID STARR JORDAN.

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SANTA ROSA, DEC. 16, 1919.

Our beautiful wild trees, shrubs and flowers should be preserved. It may not be evident to all, yet it is of far more importance than the preservation of the game birds and almost ranks with the preservation of our Yosemites and Big Trees, for when once carelessly destroyed, these beautiful wildings can never be replaced in their wild, refreshing, native beauty.

Twenty-five years ago great stretches of the bay shore were lighted up for months with the brilliant scarlet of the Toyon or "Christmas Berries" (*Heteromeles*) and now the hillsides of Sonoma County are being robbed of all these. Automobile, trailer and truck loads of these and Christmas trees and other wild greenery pass on the State highway at this season, mostly for commercial purposes, and while dwellers in the cities deserve and should have a taste of wild nature, yet the wholesale destruction of the most shapely and graceful trees will be sadly lamented, not only in the ravaged countryside, but by city dwellers, also. It is time to think of saving some of our most beautiful trees, shrubs and flowering plants from extermination.

LUTHER BURBANK.

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KENTFIELD, MARIN COUNTY, MARCH 8, 1920.

I am deeply and personally interested, as you know, in the preservation of the native flora of California. Tamalpais is being denuded of huckleberry, rhododendron and especially of Christmas berries and also fern. Our home place has been practically stripped.

We have long been trying to teach decent country manners to city people, but there is an idea that "forest plunder" is justified. Indeed, there appeared

an editorial in one of the San Francisco papers about two years ago to this effect.

I believe there should be legislation passed making it an offense over and above a trespass to take any wild flowers, Christmas berries, ferns or other decorative vegetation from any property without specific permission of the owner, and furthermore to protect all such things along county roads and State highways. The laws against trespass can never be enforced and special legislation is needed in this particular the same as in game preservation.

The difference between game and these other things is that the game under the old English tradition is the property of the State, whereas the flowers, etcetera, belong to the owners of the land. So in drafting legislation, this should be carefully taken into account. I shall try to see what can be done to prevent such depredation in the Tamalpais region, especially on the grounds of the Public Water District. Rigid attention is paid to preservation in Muir Woods and the mountain railway has usually assisted in preventing the carrying out of such plunder.

The Christmas berry and fern fiends are a pestilence on our home place at the holiday time.

You are starting a splendid movement and should get a lot of assistance through the aid of the Sierra Club, Tamalpais Conservation Club, the Alpine Club and other out-door associations.

Yours truly,

WILLIAM KENT.

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Berkeley, December 3, 1919.

I agree with you that something should speedily be done to save from practical extermination, along our highways and roadsides, some of the highly decorative flowering shrubs and plants that are one of the glories of California scenery. This is especially true of the Christmas Berry or Toyon (*Heteromeles*) and the California wild currant. The number and omnipresence of automobiles on all roads have increased the ensuing devastation twenty-fold within the last ten years and unless legal measures are taken soon the next generation will know only from hearsay the loveliness of wild tangle-brush roadsides of California in spring and autumn.

A good part of the destruction is to be charged to foreigners, who go out with trucks to strip the hillsides for purely commercial purposes at the holiday season. There is no more reason for allowing this class of persons to enrich itself by robbing a community of its commonwealth of beautiful shrubs and plants, than in allowing them to smother the songs of thrushes and meadow larks by slaughtering them for the market. We punish the latter, as an act of injury to the community, and plant robbers for the market should be treated in the same manner.

It has long beee customary in Europe to gauge the level of a country's culture by the foresight with which it has preserved and fostered the natural human instinct for landscape beauty, and tourists, it was afterwards found, speedily and willingly brought their tributes of gold to the fortunate cultivators of a beautiful natural environment. We do not build Parthenons and preserve Yosemite for the lining of our pocketbooks, but because they minister strength, nobility, and refinement to the human spirit. Yet no community should overlook the fact that the enhancement of its landscape beauty adds potentially to its material wealth, and that the diminution of its outdoor art assets entails a corresponding loss in dollars and cents.

Wishing you all possible success, I am,

Sincerely yours,

WILLIAM FREDERIC BADE,
President, Sierra Club.

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December 20, 1919.

Though the Tamalpais Conservation Club has been organized primarily to conserve things animate and inanimate in Marin County, California, and particularly preserve the scenic beauties and fauna of Mt. Tamalpais, its spurs and slopes,—it of course is in sympathy with the wider conservation movement.

It occurs to us that the ends sought by the "California Wildflower Conservation League" deserve the support of all, particularly those individuals who seek recreation in the country. It is for them to rally to the support of an organization such as that which you represent, and endeavor to put an end to the wanton destruction of wild flowers and shrubs, that has been going on the past few months.

Congratulating you for the work accomplished and wishing you greater success, I am,

Very truly yours,
R. F. O'ROURKE,
President Tamalpais Conservation Club.

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SAN FRANCISCO, CALIF., DEC. 20, 1919.

I am very happy to note that excellent publicity is being given to your effort in conserving the wild flowers of California. I feel satisfied that once it is realized that many of our wild flowers and shrubs are threatened with extinction, public opinion will be a great aid in the enactment of necessary laws and regulation and their enforcement. It is unfortunate that much of the destruction that now takes place is committed by persons of ability and means, by persons one naturally feels should take a pride in being found in the vanguard of the conservation movement, that means so much for California and involves nothing but the sacrifice of a bit of selfish enjoyment in the interest of the public welfare. California is a wonderful out-door playground and I sincerely hope that through the efforts of yourself and associates the playground may be kept ever beautiful and not stripped of all its color. To this end, one may profitably devote both time and energy and feel assured that the work is not in vain.

Very truly yours,
W. C. FANKHAUSER,
Vice-President, Tamalpais Conservation Club.

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DECEMBER 5, 1919.

I am very glad indeed to know that your association is interesting itself in the preservation of the Christmas Berry bush (*Heteromeles arbutifolia*). I have noticed the ruthless manner in which the ordinary person is inclined to gather Christmas berries. Large limbs are frequently torn from the bush, which seriously maims it and tends to interfere with its fruiting ability.

The National Forests are administered under the policy that all of their resources can and should be conservatively and wisely put to use. For example, we sell several hundred million feet of stumpage annually to the various lumber companies throughout the State, but our contracts specify that only the mature trees are to be cut, that the logging shall be carefully conducted so as not to injure young growth or trees remaining, and that the brush and refuse resulting from cutting shall be properly disposed of so as not to create a continuous fire menace. We feel that Christmas berries contribute largely to the cheerfulness of homes during the holiday season, and that the gathering of these berries should not be prohibited, but should be wisely regulated as we regulate the cutting of timber on our National Forests. It is suggested that if all owners of land where this shrub is found would co-operate in a campaign of public education, much good could be accomplished along this line. The berries should be gathered by cutting the terminal branches cleanly with a knife, taking care, at the same time, not to mangle the tree by the breaking off of large limbs. We would be exceedingly glad to co-operate with your League in educating the public along this line and I am, today, calling this matter to the attention of our officers on the National Forests.

As you know, our forests are generally situated some distance from the large centers of population where the problem is not as vital a one as it is near such centers where the larger part of this collecting of Christmas berries is going on.

Very sincerely yours,
(Signed) T. D. WOODBURY,
Assistant District Forester.

SAN FRANCISCO, CALIF., NOV. 24, 1919.

DEAR MRS. RICE:

I certainly hope you will meet with complete success in the movement to save the California Holly.

Sincerely yours,
EDGAR T. CUTTER,
Superintendent the Associated Press.

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DECEMBER 10, 1919.

Yours is indeed a very noble work, and one in which the Scouts and we Scout men are interested. Certainly something should be done to protect the Christmas berries. So many folks when picking flowers and berries in the woods are not satisfied to simply pick them, but very often tear down, break and carelessly destroy the trees and shrubbery, with no thought that those following might have desire to enjoy that which they so selfishly are doing away with.

We shall be most happy to co-operate with you in endeavoring to do away with this type of vandalism.

Very sincerely yours,
CHAS. N. MILLER,
Acting National Field Scout Commissioner.

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PASADENA, CALIF., DEC. 10, 1919.

. . . It seems to me a great deal of the destruction of the Toyon may be traceable to the hacking and breaking down of the plants by people who put the branches on sale at holiday times. If this could be stopped and a campaign of education through the schools and elsewhere inaugurated to teach people to gather for their domestic needs by decent cutting off with knife or scissors as they do with flowers in their own gardens, I think it would be a good thing. There is a certain usefulness in bringing wild flowers and berry-bearing branches into the home, if it can be done with suitable regard to the life of the wild plant.

With all good wishes,

Yours faithfully,
CHARLES FRANCIS SAUNDERS.

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STANFORD UNIVERSITY, PALO ALTO, CALIF., JAN. 29, 1920.

Climate and scenery are two of California's important assets. But do Californians appreciate how much of the State's peculiar charm is due to her native plants? Wipe out the noble redwoods, the Sierra forests, and the beautiful oaks of the rolling foothills and valleys, and California would be converted into a bleak waste that would have little attraction for the tourist. Fortunately the principal forests are receiving attention and will be protected; but many of the most attractive wild flowers and shrubs are being ruthlessly destroyed. The Toyon and huckleberry should be preserved, and I heartily approve of your efforts to accomplish that end.

The wholesale gathering of native bulbs and other plants for commercial purposes should be prohibited by law, as is the selling of wild game. Nurserymen, as some are already doing, should be required to grow their native plant material. By so doing they not only would cease destroying plants in their native haunts, but would develop through selection strains adapted to garden conditions.

Very sincerely yours,
L. R. ABRAMS.

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It is a particularly encouraging sign to have the bird lovers join this war against the indiscriminate and ruthless slaughter of berry bushes, which they feel will materially affect the bird population of the Bay Region. The following excellent letters received

over a year ago from such authorities as Dr. Harold C. Bryant, economic ornithologist of the University of California, and director of research education for the Fish and Game Commission of California; and Dr. Joseph Grinnell, director of the Museum of Vertebrate Zoology of the University of California, and one of the most noted authorities on bird life in America; also Dr. Frederick W. D'Evlyn, president of the Audubon Association of the Pacific and head of the National Children's Pets Exhibitions Association of America, will be of value as authoritative statements from reliable sources:

BERKELEY, NOV. 14, 1919.

I am greatly interested in your timely endeavor to conserve the flora of our State. We have heard much of the conservation of forests, water power, and fish and game, but practically nothing about the conservation of other of our natural resources. Certain outstanding resources are signaled out for attention and others are apparently overlooked. Laws protect our national forests; but, as you have wisely pointed out, no laws protect the Toyon berry, huckleberry, or other shrubs, which are fast disappearing because of ruthless destruction; nor has public sentiment been sufficiently aroused to take cognizance of the threatened extermination of these shrubs and some of the medicinal herbs. Surely our State is awakening to the real values which pertain to our natural resources and which emphasize the conservation of them. With such a realization should come the desire to save many areas in their natural state. Needless to say, this would mean the careful protection of every form of life within the area, both plant and animal. Only through this method can we expect to retain the flora and fauna intact. Both from a scientific standpoint and from a sentimental standpoint we must save a breeding stock of native plants and animals.

Here is to the day when an awakened public sentiment will demand a conservation of all natural resources, that we ourselves and future generations also may be benefited.

Very truly yours,

H. C. BRYANT.

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BERKELEY, DEC. 15, 1919.

You have my warmest sympathy in your efforts toward securing protection of native shrubbery against annihilation within the area adjacent to our large centers of population. I feel sure that your line of work is just what is needed, namely, the setting forth of the facts and dangers; with a knowledge of these, I believe that popular sentiment will shortly come to disapprove so strongly of the custom of unchecked despoliation that the problem will solve itself. Here, as with game conservation and songbird protection, it is a matter of *education.*

The question of berry supply for the part of our bird population which depends upon such food is an important one here in the Bay Region, where at best berry-producing shrubs are not very plentiful. I am quite sure that a reduction in the sum total of birds would follow upon the complete eradication of these plants upon which the birds depend at a time of the year when food suitable to them is scarcest.

I think this is a perfectly valid reason in itself for the strict conservation of our native Toyon, elderberry and the like, in the Bay Region.

Very truly yours,

J. GRINNELL.

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SAN FRANCISCO, DEC. 19, 1919.

Few incidents in active service create a more profound realism than the roll call after battle. The silence, the unanswered name. That blankless moment that officially records something that is no more, an entity that has now only the heritage of a memory. In our wild life, and its struggles for its rights to exist, a roll call would oftentimes reveal an equally arresting

silence, an absence indicative of things that are no more, things that once were in full battalion strength. Strange, if we were to amplify the story, we should find that in both battles, man himself had been the most guilty factor, the most sinister enemy of all forces combined.

At this festive season, the behavior of this thoughtless and deadly vertebrate in his "industry and ethics" towards certain types of wild life is so gruesomely active that it becomes a serious menace. The wanton destruction and persistent pilfering of the berry-bearing shrubs is so much in evidence that the woods are in danger of being despoiled of their claims and attractions, while their rightful dependents—the birds—are robbed of their food supplies and vandalized of their home-lots and shelter.

It is simply unpardonable to have truck and autocar loads of these berries and branches stolen from our suburbs and foothills, season after season, until many sections are absolutely destroyed, or so seriously injured that several years of closed protection would be necessary to restore their former productiveness.

The intimate relationshp of these "berry-bearers" in their conservation of bird life as an asset of urgent welfare to our agricultural and allied necessities, is too imperatively associated to be ignored without manifest penalty. It is high time that intelligent legislation be secured and utilized in the conservation and proper farming of these valuable shrubs. The present recklessness is simply the death warrant to a native wild life that has State claims of beauty, utility and service, which we should be loyal enough to respect and intelligent and thrifty enough to utilize.

Respectfully yours,

FREDERICK W. D'EVLYN.

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An impressive editorial on this subject appeared in the San Francisco *Bulletin* in December, 1919, from which I have extracted the following paragraphs:

Her wonderfully bright berries are the pride of the Golden State at this time of the year. We write about them in books, magazine articles, tourist advertisements and letters to friends in all parts of the world. Christmas in California has been the theme of many beautiful poems, and in nearly all of them you will find a glorification of far-famed Toyon berries. But soon, very soon, we may have nothing but the poems left to tell the story of a land once so beautiful at this season. The vandal who rides in an auto is again abroad and taking not merely an armful, but branches and even whole trees; . . . to the artist, a spray of berries is more effective than a branch, while a whole tree is the very poster of vandalism and vulgarity. Happily the Wild Flower Conservation League has the hope of securing suitable legislation at the next session of the State Legislature, and among its provisions there will be the power to arrest, fine and perhaps imprison all persons guilty of wanton destruction of the crowning beauty of our Christmas season. Certainly something should be done to curb those barbarians who destroy trees.

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I want to incorporate in this book an excerpt from a fine editorial appearing in the San Francisco *Call,* last season:

Christmas is coming; . . . we have another reminder in the bright red berries the street florists sell, and the great branches of Madrone and Toyon berries festooning the automobiles that come from the country. The sight of these berries is pleasant. They symbolize Christmas to all of us; . . . but lovers of the country are pained by the sight of these branches of berries, particularly of the Toyon. They see beauty destroyed where it is most charming. Both the commercial florists and the wandering motorist rarely pick these berries carefully and considering the future. They tear them down in great branches, carelessly and ruthlessly, and destroy the tree —when it would be almost as easy to pick them unselfishly and insure beauty for another year. . . . Soon there will be no more berries at all to remind us of Christmas. Even now there are great stretches of hills where once the Toyon grew in abundance and now the berries cannot be found.

"The annual harvest of red berries is on in Tuolumne County," the Sonora *Democrat* says, "but by reason of the ruthless methods of gathering of previous years the crop is small. The methods largely obtaining here have been such that the bush has been almost entirely taken in the harvest, and two or three years are required for it to again become productive."

The following dispatch was sent to the San Francisco *Chronicle* from Livermore, California, December 6th:

> That the Toyon, the famous wild holly of California, is doomed to extermination is the cry sent up by the people of Livermore. Vandals in careless search of clusters of the pretty red berries are destroying the trees and hauling away their spoils in automobiles and trucks. That destruction of these trees is general rather than local is disclosed by a statement from the head of the California Wild Flower Conservation League in a report filed with the trustees.

At a meeting of the Supervisors in San Mateo County last season, Supervisor William H. Brown of San Mateo quoted from a *Bulletin* editorial and suggested that something be done to protect the red berry trees of San Mateo County, which were being torn to pieces by autoists.

The owners of Hillsborough estates announce that the picking of red berries will not be tolerated unless a permit from property owners has first been obtained. The chief of the Hillsborough police was instructed to arrest persons found picking the berries. For several years, Mrs. W. H. Crocker permitted berry picking on the Crocker estate, but instead of breaking or cutting off the small branches containing the berries, the pickers often broke a limb a yard or two long. Hence came the announcement of no more berry picking. Ranchers in the Santa Clara hills have complained of trespassers who broke off and carried away whole bushes upon which the berries grew. Trees are frequently badly damaged or ruined by the breaking or splitting off of the main branches. It is no uncommon sight on Sundays and holidays to meet a continual procession of autoists returning to the city with their machines decorated or piled high with large branches from these bushes.

A Pleasanton, Calif., dispatch to the Oakland *Tribune* of Dec. 20, 1919, stated:

> There is considerable local feeling in connection with the way red berry trees have been stripped this year by Bay City automobile parties and florist shops. It is charged that they are not content with taking what they can use, but must proceed to destroy the tree. Unless some precaution is taken by the community, these berry trees will all be destroyed.

The *Press-Democrat,* of Santa Rosa, stated:

> Thousands of wild holly berry bushes in Marin County and in the vicinity of San Mateo highway have been destroyed by careless seekers of holly berries to decorate their homes. Mt. Tamalpais is practically dnuded and county authorities are now arresting all persons caught picking the berries. The wanton destruction is also working a hardship on the birds, that depend upon these berries for food at this time of the year, it is claimed.

The Mill Valley *Record* took up the fight in earnest and published many strong editorials on the subject. The following paragraphs are quoted from an editorial appearing in that paper on Dec. 20, 1919:

> The campaign for the preservation of the red berry and other natural ornamental shrubs is steadily growing in vigilance and extent. The man-

ager of the Marin municipal water district has directed the putting up of new signs of warning on the trails about Mt. Tamalpais. These signs are to be placed on the trails on all sides of the mountain. . . . Mill Valley is by no means exempt from the difficulty of depredators as yet. It is reported that a dooryard in Blythedale Canyon was entered last Sunday, and in the absence of the owner, a lusty red berry bush was chopped down with an ax. . . . It is the opinion generally expressed that the prevalence of pleasure seekers in automobiles, flying about the country, has given rise to the wholesale destruction of the native shrubs in all the Bay Region. The Sheriff of Contra Costa County is putting deputy officers on the roads for the purpose of saving the shrubs in his territory. Other such officers are being placed down San Mateo way. A protest against this wanton destruction and pleas for the protection of California's shrubs is slowly but steadily, filtering through the press. The Fresno *Republican* recently published a lengthy article on the subject. Contra Costa County papers are taking it up as well as the San Francisco dailies. . . . The leading genius of the movement for the saving of the shrubs and native flowers as well is constantly on the warpath in her quiet though effective way; and the press notices in regard to her cause indicate where she is working. She predicts that it may be necessary to pass new State laws for the protection of the native flora and that the next session of the Legislature is likely to see such a law enacted. Her work is in line with that of the "Save the Redwoods League."

The following is quoted from the Stockton *Record*:

We are all deprecating the ruthless destruction of the Toyon or California holly berry, on our hills; but Dr. Jordan has said something sensible and constructive in suggesting that people should be encouraged to cultivate it. If any one doubts that it can be done successfully in Stockton, he should drive past Mr. John Willy's place at the corner of North San Joaquin and Acacia Streets and notice one growing in the yard. It is a glorious specimen, the bunches of berries really larger and fuller than those grown in a wild state, and there it glows week after week instead of just for a little while at Christmas time. Planting a "red" berry bush in the yard would make a hit with anyone who saw this noble one in the Willy place.

Californians will be glad to save not only their "Mighty Redwoods," celebrated as among the greatest wonders of the world, but other well-beloved features of a scenic and economic value and importance to their Commonwealth.

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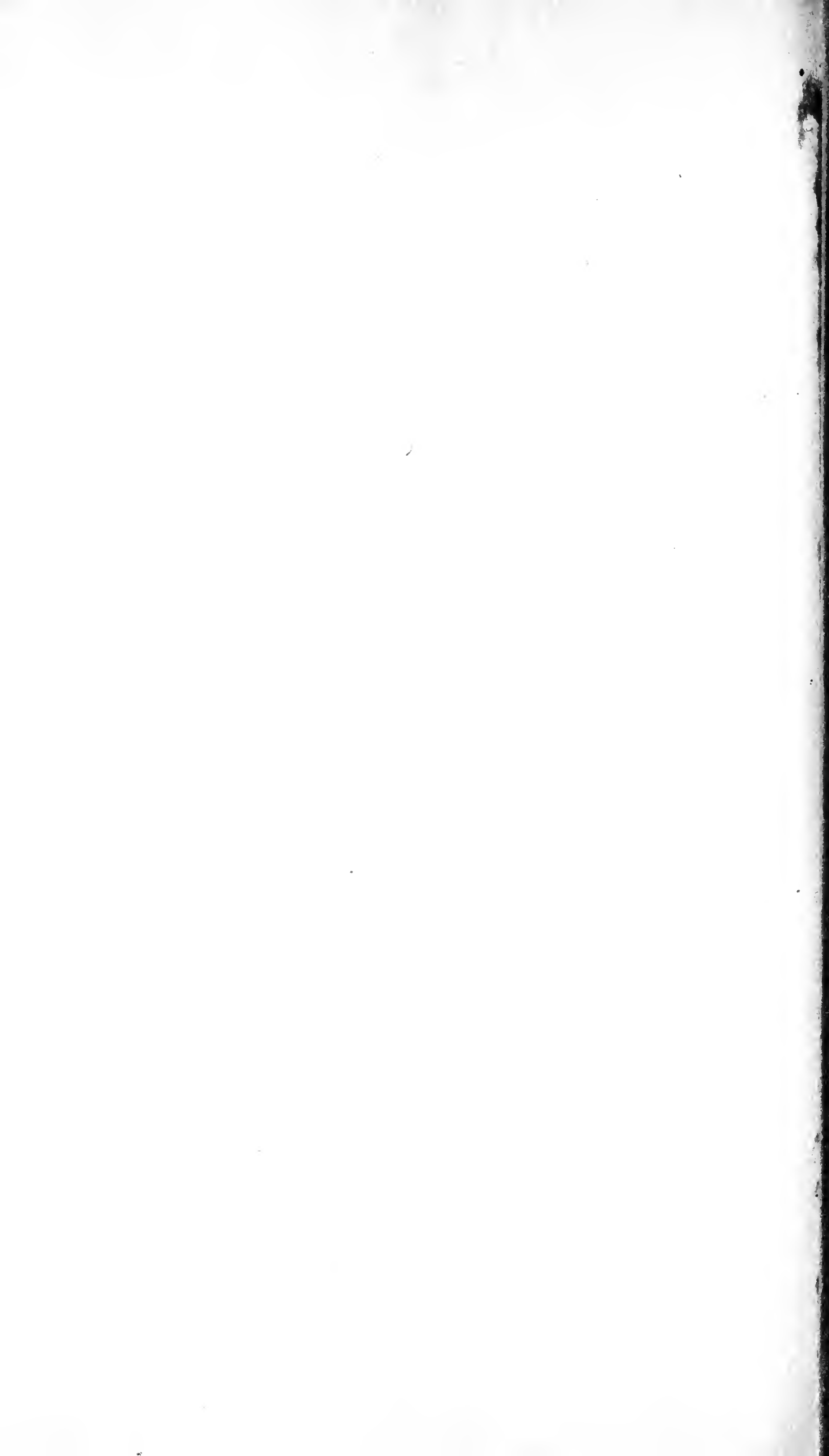
The instances cited herewith are only a few of the numerous editorial comments and protests against the wholesale vandalism which threatens to seriously mar and destroy much of that wildwood beauty which is the natural heritage, and should be a lasting joy and pride, of Californians. We might very well close this article with the pertinent suggestions of Dr. P. B. Kennedy in his "Annotated List of California Wild Flowers," prepared for our Annual State Exhibit; of the Toyon berries he remarks: *"A well-known and beautiful shrub, characteristic of California. Let us be merciful when picking it, and use it, but not abuse it. A well-selected spray will bring us as much cheer as an automobile load, and yet leave some for future generations."*



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