

MARIPOSA

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MARIPOSATHE *CALOCHORTUS*
SOCIETY NEWSLETTER

JULY, 1996

ADVISORS:
C. BACCUS
AND
B. NESS**I. Announcements**

Member Jim Frank has been cruising the internet, and has discovered some virtual floral arrangements. These include the "California Flora Database" which gives information on various species, including California Calochorti. Also, there are various bites on non-California species. Interested members should look under *Calochortus*, or write Jim Frank for more information at P.O. Box 625, Livermore, Ca. 94551-0625.

II. Trips: Pictures by Sunset, Camping by Moonlight, or, 24 Calochorti in 9 days.

[Last installment -ed.]

In the morning, we were roused out of our sleep by a thunder and lightning storm. This phenomenon, rare in San Diego, was brief, torching only one palm tree and then moving out, causing worse problems in the mountains. Most of the day was spent in the hills of central San Diego Co., which are surprisingly similar to those of Northern California.

Calochortus weedii was widespread at a number of sites ranging from chaparral to open woodland. It was the most abundant species on our trip. Yet last year [1993], Hugh had found very few. The large, open, yellow cup has many brown spots and many fine yellow hairs throughout the petal. Some have attractive light brown edging on the petals. This unsurpassable beauty was surpassed later in the day by the golden demitasse cup of *C. concolor*, with its delicate inner brown ring. It was growing among thick scrub and cacti near an overlook of Anza Borrego [State Park] to the east. Near this area *C. dunnii*, a pretty, little white sego was growing very scantily on the edge of thick chaparral. The day's prize for flower spotting from the car went to Karin. She distinguished the single lavender-rose chalice of *C. davidsonianus* from the surrounding clump of purple penstemon in an open meadow. No others were in bloom.

Then we headed north into Riverside Co. while watching the air tankers shuttling their loads to a mountain forest fire east of us. After a special treat of dinner at a real sitdown restaurant [going easy on novices-ed.], we headed up the darkened winding road into the San Bernardino Mts., listening to "Les Miserables." Hugh searched out our motel in Big Bear, depositing us at our usual 11 pm. Hugh insisted on driving all of our long trip and was truly amazing. Never a droopy eyelid as he pressed on, recounting *Calochortus* stories, cultivation tips and spotting plants on both sides of the road [all in a day's work -ed.].

Big Bear Lake in the early morning is quite beautiful surrounded by the conifers. We drove around the lake to see two stands of *Calochortus palmeri*. This small open-faced *Calochortus* is not showy, but is delicately attractive. Later, Hugh spotted a fine colony of *C. invenustus*. These large, pure white to pale lavender Mariposas were a little bit ghostly as they rose alone out of the forest floor covered with conifer needles, without competing vegetation. After a brace of pictures, we drove north out of these mountains not many hours before a forest fire would close the road [not set by us--or at least not by me!- ed.]. On to a truly parched hillside, the site of *C. plummerae* in San Bernardino Co. It wasn't there, just as it wasn't at two other locations we checked the day before.

We decided to skip Death Valley and *Calochortus bruneauensis* due to the heat and because it was a

you didn't
miss much
this year,
nothing
up at Mt.
Diablo/Anza
Wood AAA-
too dry?
little
in Santa
Monica
either.
best
wishes
on a
favorable
outcome
on your
surgery.
Best
Wendy

dry year. We headed home. Like a Turkish rug, our trip had one imperfection to honor the creator of *Calochorti*: we didn't find *C. plummerae*. But that justifies a trip next year!

The long drive home through the monotonous southern Central Valley was brightened by favorite musical tapes. When "Man from La Mancha" was playing, while Hugh was recounting his trips searching out Mexican *Calochorti*, I realized that Don Quixote was with us, driving the van. And we were the Sanchos. But on further reflection, all of us were Don Quixotes. In fact all *Calochortus* lovers are touched with that gentle madness. We hunt, photograph, propagate and preserve these special species. We see the beauty missed by others for a hundred years. Then we pull into the driveway at home and are jolted back into reality. Our glorious 3000 mile quest is over, that is until next time.

III. Horticulture

"*Calochortus*, Easier to Grow than You Think!" [Fourth and Last Installment by Member Norman Young, continued from last issue.]

I usually pot up any time between August to November in slightly moist compost and [the pots] are given their first proper watering in November. If plunged, they should not need watering for some time, possibly not until the spring. If not plunged, water when they start to dry out, unless it's very cold. This is the time when they normally receive water. Late blooming species should be watered in the spring, but keep the compost from becoming completely dry. I have in the past, by mistake, watered them in November, but they still flowered at their normal time. Early blooming is not induced by early watering, or so it seems. When strong growth starts in the spring (or earlier with the mild winters we have now), the compost should be kept moist and never allowed to dry out until all growth has died down. They are then kept dry until repotting in the autumn, but in hot, dry summers, I do water the plunge two or three times. Some species can take a considerable amount of water as in their normal locations they grow on the edge of, or in streams or on flooded flats.

Perhaps to grow, and in particular, flower the more difficult species, we should try to emulate the conditions under which they grow in the wild, one example being *Calochortus striatus* which grows on salt flats with a pH of 9 and above. The one bulb I have left of this species is being grown with lime chippings mixed into the compost. Some species have cold winters, so this year some have been put in the fridge at just above freezing. One species, *C. tolmiei*, had to be removed after a month because it had started to grow--the *Calochortus* Society says that it only needs a damp cold winter and perhaps this proves a point. The others in the fridge are *CC. eurycarpus*, *invenustus*, *kennedyi*, *macrocarpus*, *nuttallii* and *subalpinus*. Strictly speaking, the *C. kennedyi* which should be in the fridge is *C. kennedyi* var. *munzii* which grows on the edge of high altitude deserts up to 2100 m. *C. kennedyi* is one of the more difficult species to grow. A simple rule to follow is that if the species flowers in the spring, pot up in late autumn. If it blooms later in the year, then pot up in early spring. If they have already started to root, it being difficult to keep the bulbs dry, then just top dress them. I have read that bulbs can be kept in paper bags until you need them, but I have never had the nerve to try this.

As far as I know, there are only a few hybrids in the wild and I have not heard of any in captivity, though no doubt someone has attempted to hybridize them and others will in the future, especially if they were to become popular. Unfortunately, the genus cannot be neatly put into pigeon-holes, unlike some other genera. They are split into sections, subdivisions and for all I know, subdivisions of subdivisions! It strikes me that it is a bit of a mess. From time to time somebody will take one out of the section or subdivision and give it a specific rank as a species with banner headlines "another new *Calochortus*." I ignore all this and try to get on with growing one of the most beautiful plants in the world!

IV. The Horticultural History of *Calochorti*

[Eighth Installment of the "Monograph" by Alan Chickering from 1938]

"In the Sierra Nevada from Shasta County south, is found a lovely Mariposa also classed as *Calochortus venustus* [*C. superbus* had not been separated in 1938; this taxon and *C. venustus* are

confused by the author, as *C. venustus* does not occur north of El Dorado Co. in the Sierras i.e. in Shasta Co., but *C. superbis* does. -ed.]. Some call it the El Dorado strain, which name was, I believe, first applied by Mr. Carl Purdy. It usually has no blotch on the tip of the petals but many have it. This flower meets the Coast variety in the Tehachapi Mountains...The El Dorado strain is usually a clear pure white with a beautiful reddish eye at the base of the petal, but it may sometimes be found all pink and there are usually some pink ones with the white. This strain may be found from 1500 feet [ca. 500m] elevation to 5000 or 5500 [feet, ca. 1650-1850m]. It usually grows on rocky slopes and frequently in part shade. Some of the finest specimens I have found growing in low brush. It may be grown readily in the garden in a soil heavily gravelled.

"I think that I should also mention another characteristic of this strain, which was very marked during 1936. In some regions there were almost no flowering stalks whatever. I made a careful inspection of some such regions, even digging down to examine bulbs which had bloomed in 1935 but not in 1936. I found these bulbs all alive. They had sent up leaves which had withered away, but had not been followed by a flowering stalk. I cannot surely explain this feature but believe that it was due to too much continued moisture and dampness during the growing season...I visited these regions again in 1937 and these Mariposas were at their best. I have seen similar instances affecting other Mariposas...

"All of the El Dorado strain grow readily with me...none of them mildew, but all...show a tendency to gradually die out. I have not grown any of these from seed in boxes but they have grown from seed in my garden sparingly.

There is a wonderful bright yellow Mariposa with a black eye at the base of the petal which is sometimes called *C. citrinus* [the N Coast form of *Calochortus luteus* -ed.]....It has...the distinction of being the best of all Mariposas in my garden. It is found in Napa, Sonoma, Lake and Mendocino Counties, and in some places is very plentiful...This flower blooms in May and early June. It may be readily grown from seeds and will bloom quite a percentage in three years and most of the seed in four years. It does so well in my garden, however, that growing seed in boxes is entirely unnecessary. It is a most satisfactory flower to cut and lasts a long time out of water. I class it and *C. venustus* var. *purpurascens* [*C. argillosus* -ed.] as the two best Mariposas for a garden in the [San Fran.] Bay region. I planted a few dozen in one part of my garden fifteen or twenty years ago and have never planted any there since and yet they are thick. They are consistent bloomers, too.

"Another highly satisfactory bloomer is *C. vestae*..This is a large flowered Mariposa which I have found in Sonoma, Lake and Mendocino Counties. In the two former counties it is likely to be at its best around May 30. In the latter it blooms at higher altitudes...even as late as early July. My description of the clay soil in which *C. [argillosus]* grows applies also to this species. It will do well in clay or adobe but particularly well in the grayish colored clay, associated with decomposing gray or bluish gray rocks [prob. "serpentine" is meant -ed.]. This clay cracks when it dries and this flower is usually accompanied by a grayish green bunch grass. It will stand considerable dampness. As in the case of *C. [argillosus]*, I have frequently been able to tell that I would find *C. vestae* in a place by looking at it from a distance. Like *C. [argillosus]*...it propagates by means of little offset bulbs as well as by seed. The ground where this species is growing will be full of little shoots coming from these offsets each spring. The offsets gradually increase in size until they are ready to bloom. The color of this species is white with a dark reddish-brown eye. Some flowers have a lovely pink flush in their petals and occasionally they are entirely pink. Some of them have ragged edges to their petals. This plant is so satisfactory in my garden that I have never had to raise it in boxes from seed. It will take care of itself. I have not set out any new bulbs for years and I have it in plenty." [Cont. next issue].

V. Conservation: Report on *C. persistens*

This is the rarest of all *Calochortus* species, with the possible exception of *C. westoni*. Basically there is only one extended stand of this species on, and to the south of a single ridge in Siskiyou Co. Ca. It is not common even in this area; the plants are spread out and there is considerable space between them. I counted about 300 plants in bloom in 1993, a wet year (many fewer were up in 1994). Allowing for immature plants in a four year cycle to blooming and also for some non-bloomers each

year, there are probably only about 1500 individual plants of this species in all the world. Although it is cultivated at the Native Plant Garden at Tilden Park in Berkeley, it is not widely in cultivation, as its growing conditions are difficult to duplicate. Thus I have not and will not offer this species to members. Fortunately, the plant has been listed by the State of California as rare and endangered and is a candidate species for Federal listing. As it lies on public land, it can more easily be protected.

VI. Species This Issue: *Calochortus spatulatus* Watson

(For the key to the *Purpurei*, see *Mariposa* IV, #2-3, 10/92 and 1/93.)

Calochortus spatulatus was named by Sereno Watson in 1879. The name refers to the petals which are often spatula shaped when flattened and spoon shaped in profile. In Michoacan Mexico it is called "*campanita*" or little bell.

Range and Habitat: This is a fairly widespread species, growing from Chihuahua in the north to Guerrero and possibly Oaxaca in the south, a considerable range. It is mostly in open, subtropical woodlands, either pine-oak or deciduous. Occasionally, plants may be found in full sun but these are in disturbed, agricultural or logged over areas. It can also be found under shrubs and is usually in a lightly shaded situation in the wild. The soil is variegated in such a large range. These are considered "dry" subtropical habitats, although they are far from being deserts. Rain is received in quantity only in the summer months, from May to October, but it is considerable, especially in the south. The lay of the land in the stands we visited in Michoacan, Mexico est. and Guerrero was a gentle slope. The altitude also varies, but is neither alpine nor lowland, averaging about 1700m (5200'). The climate of these subtropical uplands is cool in the winter and hot but not ferocious in the summer.

Botany: Like *Calochortus nigrescens*, which was covered last issue, this is one of the species which combines certain characteristics of Subsection *Barbati* with some from Subsection *Purpurei*. It has the hairy petals of *C. barbatus* and the wide, bulbil-bearing, cauline leaves of *C. purpureus*. Like the other Mexican *Calochorti*, *C. spatulatus* has a fibrous bulb coat, a flat basal leaf and blooms in autumn. Its nodding flowers distinguish it from the Ghiesbreght group, but its other characters make it more difficult to place. Ownbey placed it with the *Barbati*, and even believed it to be the "closest ally" of *C. barbatus*. That distinction, however, belongs to *C. marcellae*, while the wide amplexicaul leaves and extremely bulbiferous habit of *C. spatulatus* are much closer to the *C. purpureus* group. The species is generally further east than *C. purpureus* and *C. hartwegi*, the other fairly widespread species in the latter subsection, although its range overlaps that of *C. purpureus* in many states of central Mexico. It also overlaps that of *C. barbatus* in many states and grows with *C. balsensis*, another intermediate species, in Guerrero. The bulbil production of this species is so great that it produces more bulbils than seed. The flowers are usually dark, but variable in color, even in the same stand. They are frequently purple or purplish-brown on the outside, but can be multicolored, including shades of yellow, brown, green and bicolors. The latter often run in parallel segments along the petals and sepals. The inner petals are generally yellow with yellow hairs on the upper part of the petals. The rounded or oval nectary is depressed, another feature separating it from the rest of the *Purpurei*, and shared with *C. balsensis*. The flowers are medium in size among the Mexican species: larger than the upright bloomers but considerably smaller than *C. balsensis* and *C. hartwegi*, the largest.

This species has been confused with *C. fuscus*, a red, upright blooming plant allied with *C. venustus*. In his *Monograph*, Ownbey called *C. spatulatus* "*C. fuscus*" based on a mistaken reading of an early herbarium sheet. Much later, in a letter to the botanist H. Iltis, he realized his mistake. In the meantime, however, many specimens had been labelled incorrectly due to Ownbey's error, and thus the two very distinct taxa have been confused and mislabeled on herbarium sheets. This confusion is likely to persist well into the future, as the sheets are dispersed at many locations.

Horticulture: Anybody can grow this one. Indeed, it has the potential to become a weed in a too favorable climate, such as southern Florida, or other tropical and subtropical areas with summer rain. The bulbils just litter the ground and despite my careful collecting, I invariably miss a few, and they come up the next year. Fortunately, its summer growing habit works against it becoming a weed in California and other Mediterranean climate regions. Its subtropical origins would, similarly, work

against its dispersal in temperate climates (but cf. *Oxalis pes-caprae* in S. England!). It will tolerate anything, including too much or too little water, but does best in at least part shade. I have not tested it for hardiness, but Paul Christian grows it in Wales, from bulbs obtained from me, although it is in his "subtropical house." It is probably best kept dry in winter, although I've left it out in a rainy year here and it survived. It has a subtly beautiful, if not showy flower. It thrives in our standard UC Davis mix with bulb fertilizer and one inch of water a week.



C. spatulatus--color form



C. spatulatus



C. spatulatus with seed capsule



C. purpureus--color form in habitat



C. purpureus