

MARIPOSA

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MARIPOSATHE *CALOCHORTUS* SOCIETY
NEWSLETTER

OCTOBER, 1996

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

FREE SEED OFFER: The rains in California were mixed in distribution this year. In Northern California, the rain was average to abundant, and flowering and seed set was correspondingly good. In Southern California and the Southwest, by contrast, rain was virtually non-existent, and there were few if any flowers or seed. Our seed offering this year reflects these trends, concentrating on northern and Mexican species.

Please send a self-addressed, stamped envelope (overseas send 50 cents or a STAMPED Intl. Postal Certificate) for your seed. Each member may have three species.

From section *Calochortus*

1. *C. albus* from Alameda and Santa Clara Counties, Ca. This is the Coast Range form, not previously offered through TCS. Nodding white globes on medium plants. Shade, moderate water.
2. *C. monophyllus* from Butte Co., Ca., the short, cute, yellow cat's ear. Hardy, shade, abundant water during the growing season. First time offer to members.
3. *C. eurycarpus* from Wallowa Co., Oregon. The so-called "big-pod Mariposa" (I don't know why its called that, since it isn't a Mariposa and doesn't have a particularly big seed capsule!), with large, showy white petals with a median, purplish blotch on medium-tall plants. Sun, moderate water, extremely hardy (will require cold stratification in mild areas: not recommended for California except for dedicated growers; will require extensive refrigeration each year). First time offer to members.

From section *Mariposa*

4. *C. splendens* from San Luis Obispo Co., courtesy of member Rich Hart. Narrow pink goblets on tall plants, showy, prefers light shading at the base, flower in sun, fairly hardy, moderate water. First time to members.
5. *C. venustus* from San Benito Co. This is the well-known "two-dot" form from the Inner Coast Ranges, in one of its showiest stands, with pink on the outer petals and white inners with incredible Mariposa markings. Keep on the dry side as this stand is from a semi-arid, leeward area. Hardy, full sun.
6. *C. aureus*, the Golden Sego from eastern Arizona's Apache Co., courtesy of Prof. Watson. Yellow-gold flowers with a darker band at the base of the inner petals on short plants; very bulbiferous. This seed is not from '96 as the area in which it was collected was extremely dry this year, but is still viable, as it has been kept under refrigeration (I germinated some this spring to test it). This species will also require cold stratification in most parts of California and refrigeration each year; thus it is more suitable for members from temperate climates. Very hardy, full sun, keep very dry: a high desert species (one thorough watering every three weeks is enough). First time to members.

From section *Cyclobothra*

7. *C. barbatus* var. *barbatus*. The all-yellow form from central Mexico. Large, nodding, bell-shaped flowers with hairy inners on moderately tall plants. A summer grower, it requires summer water and

complete drying off in winter. Probably hardy, but I wouldn't push my luck; store in a cool area away from frost if you are colder than USDA zone 9. First time offer to members.

8. *C. purpureus*, variable purple to brownish some with green sepals, also from central Mexico. Large, nodding flowers without hairs on the inner petals; moderately tall with very wide leaves and leaf-axil bulbils. Summer water and winter dry; better stored dry in a cool area in winter in frigid areas, e.g. a basement. First time offer to members.

9. *C. cernuus*, brownish-purple, a smaller version of *C. purpureus* from the *Sierra de Tepoxtlán* of Morelos, but grown in Berkeley. Culture as for *C. purpureus*.

We also have *C. amabilis* and *C. vestae* courtesy of Dr. R. Werra, from Mendocino Co. Both are hardy and want abundant water during the growing season. *C. amabilis*, Diogenes Lantern, wants at least partial shade, while the Goddess Mariposa, *C. vestae*, prefers at least the upper part of the plant in sun.

II. Trips--Our Trip to Mexico

After getting some last-minute chores done, Hugh, Tom Patterson and I left Berkeley for the wilds of Mexico. Tom had flown out the day before from Madison, Wisconsin, where, as a Ph.D. candidate, he had done extensive research for his doctorate, using the DNA of various *Calochorti* species. [Tom has promised us a future article on his studies and findings.--Ed.] He now wanted to take a field trip to study the Mexican species in their native habitats.

By the time we hit Interstate 5 in California's Central Valley, the sunny autumn day had turned fiercely hot. I had suffered a very bad cold the previous two weeks before departing, and the weather wasn't helping my symptoms. Tom was stricken with stomach cramps most of that first day, and Hugh silently worried if it had been ill-advised of him to take our 90,000-mile mini-van on this Mexican trek. All in all, it was hardly an auspicious beginning!

From the Central Valley, we headed towards Los Angeles, then east to Phoenix on Interstate 210. The first night, we camped somewhere between Phoenix and Tucson. We woke up in a small saguaro cactus forest. It was a beautiful, clear morning, although it promised to get warm rather quickly. We loaded up the car and were ready to go, stopping in Tucson for a funnel, in case the nozzles of gas station pumps in Mexico didn't fit our gas tank. We also bought a few hoses, in case our minivan ran into that kind of trouble across the border.

From Tucson, we headed south to the border town of Nogales, in the state of Sonora, Mexico. There, we encountered our first (but hardly our last!) taste of "official" Mexico. We handed in our papers, and had our belongings inspected. As the border patrol officer made his requests, I'd either answer him myself, or let Hugh and Tom know what was being required of us. We had put on our papers that we were going to Puerto Vallarta and Guerrero, since *C. pringlei* and *C. balsensis* both grow in the latter state. We had heard that there was unrest in Guerrero, but thought the recent elections had calmed everything down. Not so, according to the patrol guard. We asked him if it was still dangerous to travel through Guerrero. "Sí, es muy peligroso," he said gravely. It was still very dangerous there, and, if we did decide to travel there, he cautioned us, we should take great care. Hugh asked me to ask him if the cities of Taxco and Chilpancingo were any safer. The border guard's answer was a serious shake of the head, accompanied by a somber "no." We decided to ask closer to the state of Guerrero, to see if the news had changed any.

III. Horticulture

"*Calochortus* Easier to Grow Than You Think!" Part Two [The Installment Last Issue was to be the last. However, Mr. Young has had second thoughts, published below.]

To be honest, after the bad year I have had trying to grow *Calochortus*, the only answer I can give is

they are harder to grow than you think! But like all gardeners, I have a theory why this year was bad...

The early part of the year started well with all what I call the spring blooming *Calochortus* growing well. The four pots of *C. uniflorus* I have for some reason insist on blooming at different times...The fourth should have bloomed for our show at the end of April. It never bloomed at all. Now here comes the theory! During April we had at least two very warm weeks. From here on most of the *Calochortus* decided to die back. I think because the temperature (in my greenhouse) was hovering around 36 to 38 degrees C (or for the older people like me around 100°F), the bulbs decided that summer had arrived and they should be safely below ground. This happened to a lesser degree last year, as we had a warm period in March. Two other growers of *Calochortus* who I spoke to tend to agree with me. If this happens next year, then all the pots will be rapidly removed from frames and greenhouse and stood in the shade until the warm period has ended. Then rapidly put back as at that time of year it's always followed by a cold, wet period. If I won the National Lottery, I could have an air-conditioned greenhouse and frames and would not have to worry about temperature or weather. What a country to try and grow plants in! What was a disappointment was that some of the bulbs I have grown from seed should have bloomed this year...With *C. subalpinus* I...found some were dead while others had increased! I think because of the extremely hot summer one or two of the varieties dried out too much, though I like to have a little moisture round them by watering the plunge occasionally, this did not stop several of the bulbs showing signs of dryness. Must watch this in future if we have summers like this year by watering the plunge more often. The experiment of putting some species in the fridge did not prove anything one way or another. Two species did bloom but *C. tolmiei* which started to grow in the fridge was one that did not. It never did grow well with me. [Continued next issue-ed.]

IV. The Horticultural History of *Calochortus*

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

"Scattered over Northern California is a lavender colored Mariposa known as *Calochortus splendens* I have seen it, among other places, on the east side of the Coast Range in Glenn County, on Mount Diablo, in San Benito Co. south of Hollister and west of Coalinga. It is usually found poking its stalk up through brush and is inclined to be rather tall. It will grow readily in the garden and the soil conditions required are similar to those described in connection with other species...

In San Diego Co, Orange Co. and in Lower California is found a somewhat similar Mariposa, which is, I believe, sometimes classed with *Calochortus splendens*. It is now called *C. davidsonianus* I believe that it is sufficiently different both in habits and appearance to justify classing it as a separate species...It seems equally at home in granite or lava formation, but is always in rocky, well-drained soil. It usually grows in the open and is not necessarily associated with brush as is *C. splendens*. It also grows in quite numerous colonies and not isolated. I have seen more *C. davidsonianus* in a day than I have ever seen of *C. splendens* [ditto-ed.]. *C. splendens* is distinctly lavender in color, while *C. davidsonianus* tends more towards pink, a much deeper color. *C. davidsonianus* is usually shorter stemmed than *C. splendens*.

C. davidsonianus grows readily in my garden but tends to die out. In my experience, less bulbs flower each year until they stop altogether in 5 or 6 years...I have not had enough experience in growing it from seed to justify me in expressing an opinion. I suspect that if one had the right soil the plant would persist. I am sure that my soil has never been rocky enough and has contained too much of our native adobe for it. Neither *C. splendens* nor *C. davidsonianus* is subject to mildew in my garden.

V. Conservation: Report on *Calochortus longebarbatus*

This is the third fairly rare species from Northern California, although it is not confined to California

and is much less rare than *Calochortus persistens* or *C. greenii*. There are more plants of *C. longebarbatus* in Modoc Co., Ca. alone than all the *C. greenii* and *C. persistens* put together. *Calochortus longebarbatus* grows in a north-south line from northeast California north to south-central Washington. There is also an outlying population of a variety, var. *peckii*, in central Oregon. Where the habitat is suitable this is a fairly numerous species. Unfortunately, its habitat is endangered as it consists in desert wetlands and the demand for water in arid areas puts this plant at risk. While the plant is not presently on the verge of extinction, nor as low in numbers as, for example, *C. persistens*, its future may be even more precarious than that of the other two species as water is siphoned off for agricultural, urban and other uses.

I have been able to count the plant with greater thoroughness in northeast California where the species is numerous in some of its stands and scarce in others. The healthy stands are those where grazing is limited, either by regulations or by overly wet conditions. In some stands in Western Modoc Co., by contrast, the wetlands are just barely wet, cattle have stomped the muddy ground and *C. longebarbatus* has suffered and declined. Some stands contain only one or two remaining plants. The situation is similar in Oregon and Washington from what I can gather both by observation and the reports of others. There are healthy stands which have been undisturbed or isolated and others which are very disturbed. In the latter case, the stand is in decline or extinct. This is a particularly water dependent plant, in an otherwise arid range. Thus removal of its water would doom the plant.

VI. Species this Issue: *Calochortus amoenus* Greene

Calochortus amoenus, the Rosy Fairy Lantern, was named by Greene in 1890. The Latin epithet means "lovely" or "charming." The species is also referred to as the Sierra globe tulip.

Range and Habitat: *Calochortus amoenus* occupies a north-south range in the Southern Sierra Nevada, from Madera to Kern Counties. It is in the higher foothills from about 1000' (300m) to as high as 5000' (1650m). I have been unable to determine where its range overlaps that of *C. albus* in the north, or if the two do indeed meet, and if so hybridize, but my researches on this point continue. In any case, *C. amoenus* occupies north and west facing slopes of the Sierra foothills, frequently on the steep walls of river canyons. Thus it is confined to central California. Although it is frequently in shade it is not invariably so; many west-facing stands are practically in full sun. The Southern Sierra receive less rainfall than the wetter North and the vegetation is less lush, so *C. amoenus* cannot count on the shade of oaks and gray pine as much as species further north. It is frequently found with other bulbs, particularly *Triteleia* species, in grassy areas which receive sun for only part of the day. Only rarely is it found on level ground; it seems to prefer, or at least be restricted to, fairly steep slopes. It is common in parts of its range.

Botany: With the exception of the lumpers, W. Jepson, this species has been validated by botanists from the time of its separation in 1890 to the present. Purdy, Abrams, Ownbey, Munz and Ness have all distinguished it from *Calochortus albus*, its nearest relative. Jepson believed that the presence of pinkish strains of *C. albus* in the Coast Ranges was echoed in the Sierras by pinkish-lavender strains of the Sierra form of *C. albus* and considered *C. amoenus* to be a color form of the more northern plant. A glance at living specimen is enough to differentiate them, however. As Purdy has noted, *C. albus* forms an almost closed globe, open only at the bottom. *C. amoenus* has a different structure with the petals only half closed, and "partly open out." That is, the petals only half overlap, forming a small enclosure and the other half of the petal sticks out from the 'globe.' Thus from below the inflorescence looks somewhat like a turbine with tripartite rotors. The species is further distinguished from *C. albus* by its wider nectary, its range and its color. The flower is often two-toned with a pinkish bottom and a lavender top, although in Kern Co. many plants are monochromatically lavender. Like *C. albus* it is separated from the yellow fairy lanterns by less depressed nectaries. It is also shorter than *C. albus*, speaking generally.

Horticulture: This lovely species is fairly easy to grow in the Bay Area. It wants less water than the

Sierra form of *C. albus*, and did not bloom in Berkeley in 1995, an extremely wet year, when the spring rains were practically non-stop. It bounced back in 1996. As the rains in the Southern Sierras are more copious at slightly higher altitudes, the plant does not grow in the grassy lower foothills, but seeks out the higher places, in pursuit of more water. As cold has some proportional relation to altitude, *C. amoenus* seems to require more cold than *C. albus*, which grows at lower elevations. Thus the plant did better in Hayward than in Berkeley, where it can get a little more winter chill. This can be compensated for to some degree by putting the plant on the north side of the house, where the chilliest microclimate is encountered. This would be well advised for Southern California growers, especially those in proximity to the Coast. Elsewhere, the plant will tolerate some sun but should be shaded during the hottest part of the day, especially inland. Fertilizer is o.k.; average water or rain only in wet areas.

*C. amoenus**C. amoenus*-plant*C. amoenus*-in habitat*C. albus*