

George Edmond Lindsay

1916 – 2002

A Celebration of his Life and Times



ESPINAS Y FLORES

The Newsletter of the San Diego Cactus & Succulent Society Inc.
Affiliated with the Cactus & Succulent Society of America



Volume 37 Number 9

Saturday September 14th 2002

Leisure Bus Trip

Depart

Sanborn Park, Organ Pavilion 8:00 AM

North County: La Costa Park and Ride 8:45 AM

Presidents Message

August 10th brought another fun meeting of our Society. Seventy members signed in as well as six guests and at least two new members. I had a particularly great time as two of the three talks involved my favorites - Agaves and Ferocactus. Lithops are fun also but rarely hurt you! Thanks to Dick Kessler and Tom DeMerritt for your enlightening plant of the month articles and talks. Kelly Griffin did a great job "filling in" with his agave program - his beautiful slides and informative talk left me feeling like I knew a lot more about these variable and amazing plants. Agaves are also the most important succulents in cultivation throughout the world, having been used by man for thousands of years in the making of fiber and rope as well as intoxicating beverages!

Everybody seemed to welcome back the **BENEFIT DRAWING**. Special thanks to Lee Badger for procuring plants and Kay Quijada for all her help in selling tickets. Thanks also to all who donated items, including Joe Quijada, Carol Jean Wolcott, Joyce Buckner, Jeff Harris, and Leroy Phelps. If I missed

you, I apologize - know that your donations are very much appreciated.

If you were at the meeting you heard that we sold out the bus trip to LOTUSLAND. I did start a waiting list of people who did not sign up fast enough

- IF YOU ARE SIGNED UP AND CAN NOT GO FOR SOME REASON LET ME KNOW ASAP

so we can offer your seat to another member. This is going to be lots of fun - we will bring lots of drinks, sandwiches, chips, ect. And be stopping for a picnic before our 1:30 reservations at Lotusland. See you on September 14

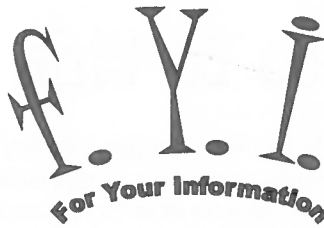
- ON THE ROAD AGAIN!

As usual, I welcome your questions and comments

Pam Badger
pambadge@earthlink.net



Cover Photo: This spectacular portrait of George painted by Diffenderfer in 1981 hangs in the Trustees' Room at the California Academy of Sciences.



- ◆ **California Native Plant Society fall sale:** Saturday, October 13, 2001 Casa del Prado patio (across from west entrance of Natural History Museum) Begins at 9:15 a.m. for members and 10:00 a.m. for nonmembers You can join CNPS at the plant sale and get in at 9:15 am. I just wanted everyone to know that our next meeting also coincides with the California Native Plant Society fall sale. This has become one of the most publicized events and we'd be remiss not to prepare for this by letting all of our vendors know that there is a huge spill over from there sale to our own. Last year we literally sold about 95% of what plants were brought in and would have sold many times more had the stock been on hand. I myself may utilize the opportunity to thin some of the duplicates etc.... We really need to come early if you want to sell as there are people waiting at 8:00 am for this sale...Tom
- ◆ **5th Annual Insect Fair at Quail Botanical Gardens:** September 28th & 29th from 10:00 am to 4:00 pm, info. Call (760) 436-3036
- ◆ **Succulent Wreath Class at Quail Botanical Gardens:** Tuesday, October 8th. The workshop by Portia Hartoff will be offering two wreath sizes; 14", \$55.00 members/ \$60.00 non-members and 18", \$85.00 members/ \$90.00 non-members. This fee includes all materials. Please bring your own pruners and a sack lunch, pre-registration/ payment is required. Info./ registration; (760) 436-3036
- ◆ **Annual Fall Plant Sale at Quail Botanical Gardens:** October 19th and 20th, 11:00 am to 4:00 pm. Admission to the sale and gardens is reduced to \$3.00 for these two days. This is the most diverse plant sale in San Diego County. Info. (760) 436-3036

August 2002 Brag Table Winners

**Judged by Tom DeMerritt
Recorded by Pam Badger**

Succulents:

1st Euphorbia poisonii
2nd Pachypodium ambongensis
2nd Adenium obesum
3rd Yucca inflorescence
3rd Aloe pearsonii

Kelly Griffin
Kelly Griffin
Rudy Lime
Eric Gronborg
Phyllis Flechsig

Cacti:

1st Echinopsis 'Schick' hybrid
2nd Copiapoa sp.
3rd Copiapoa cinera
3rd Mammillaria sheldonii

Phyllis Flichsig
Don Patterson
Kelly Griffin
Andrew Wilson

Thanks to everyone who brings in their interesting plants to share!

Preface to this Edition

From early on in his life, George Lindsay's ties to San Diego have been strong. Living at his parent's lemon ranch in Lakeside while attending San Diego State University he was able to realize his dream of exploring the Baja California Peninsula and Mainland Mexico due in part to our close proximity to the border. Leaving briefly to oversee the construction of the Desert Botanical Garden in Phoenix Arizona, he would later return to become Director of the San Diego Natural History Museum. Through his personal relationships with prominent San Diegians including John Lindberg, Ken Bechtel, Joseph Wood Krutch, J. W. Sefton, Mary and Dallas Clark and others the museum would be endowed and transformed into the fine educational and research institution it is today. In retirement he would visit often and never lost his passion for exploring. Indeed we have lost a bright light in our community, one that will be forever missed.

The Editor wishes to thank the Publishers of "*The Genus Ferocactus*" for their assistance in the preparation of and permission to re-print this biography.

Finding The Perfect Pot

by Stephen Cooley - Bakersfield C&SS - The Cactus Patch

I personally have never had a problem finding the perfect pot. I have lots of them. They're all sitting empty in the backyard. I've even had to build storage shelves to hold them all. My problem has always been in the filling of the pots. I have tried my best to stage my plants correctly but I'm never really satisfied with the results. Recently, while going through my pots and trying (in vain) to imagine which plant I could stage in each, I found that one had already been filled. It seems my enthusiasm has spread and infected a pair of doves.



These Doves (in an obvious attempt to show me up) have chosen a blue bonsai pot in which they have placed two flawlessly grown white eggs. These eggs are perfectly set off by a top dressing of dry grass along with two clay pots set off to the side just for ornament. It is a striking display, one that has captured the attention of myself and my family.

And the enthusiasm is still spreading -- it seems that the cats have become interested as well.

George E. Lindsay

Explorer and Plantsman

Larry W. Mitich

Department of Botany
University of California
Davis CA 95616

George Edmund Lindsay was born at Pomona, California, 17 August 1916. He was the youngest of three children, following a sister, Elizabeth Anne, and a brother, Lester Burke.

His parents, Charles William Lindsay and Alice Horton Foster Lindsay, also native Californians, were orchardists, and George was raised in the country on citrus orchards. He lived in Pomona until he was 6 years old, and there attended kindergarten. When he was 7, his parents moved to Corning, California, to raise and process olives, and he attended the first through third grades at Corning Grammar School. The family returned to Pomona when George was 10, and he graduated from Pomona High School in 1934.

His college education, interrupted by many adventures, was sporadic and prolonged. He joined friends at Chaffey Junior College in Ontario, California, for his freshman year in college, 1935-1936, then lived with his parents on their Lemon Crest Ranch at Lakeside while spending his sophomore and junior years at San Diego State College, 1936-1938. He did not return to school until after World War II, when he completed his senior year at Stanford University in

1949-1950. In 1955 he received his Ph.D. degree from Stanford under Ira L. Wiggins. The title of his doctoral dissertation was The Taxonomy and Ecology of the Genus *Ferocactus*.



George at age 3 with his dog Flui at the Lindsay family home in Pomona, California

George was interested in desert plants before he was 10 years old. He remembers planting a pad of "Burbank spineless cactus" when his mother explained that it would put out roots and grow; another time he saw a neighbor with a flower stalk of *Yucca whipplei* in a bucket of water, and was told it was illegal to collect them. But it

was legal to remove the flower stalks of dead plants; he made these into pincushions for his aunts by sawing the stalks into sections and gilding them.

Opuntias, probably *O. littoralis* var. *vaseyi*, grew in a dry arroyo behind an uncle's orange orchard, and George was entranced with their yellow-orange flowers. His mother suggested the flowers could be preserved by dipping them in melted paraffin wax, which he tried with some temporary success; in the process he learned about glochids.

George cannot explain his early fascination with cacti and succulents. He remembers reading about barrel cacti, which he had never seen, in an article in *Touring Topics*, the magazine of the Automobile Club of southern California, and he recalls his first sight of Joshua trees in the Mojave Desert.

One afternoon when he was in the seventh grade, he happened to walk by a Pomona garden filled with hundreds of cacti and succulents. Mrs. Morton Emerson, a white-haired lady who was tending the plants, noticed George's interest and invited him in. She had just received a shipment of little cacti from A. R. Davis of Marathon Texas, and gave him a few of the duplicated species. His latent interest was aroused and six decades later it is yet to be satisfied.

When he and his family visited the village of Palm Springs, he saw his first barrel cacti and the glistening *Opuntia bigelovi*, the soft-looking teddy bear cactus. He touched one which became impaled on his fingers. When he tried to shake it off, it flipped to the

back of his hand. His father removed the joint with pliers, and he took it home to plant! On the same trip, he stepped barefooted on an ocotillo branch which punctured his foot, but again he took the offending piece home and planted it. His tenth grade botany teacher recommended him to the San Bernardino County forester, who issued George a permit to collect two specimens of each cactus species from public property at least 100 yards from the road. Riverside County did the same.



**George's first cactus garden
Pomona, California (1932)**

Through Mrs. Emerson he met a group of Pomona Valley Cactus and Succulent Club members, who held meetings, pot-luck suppers, and frequent field trips to the desert. The Mojave Desert was a favorite destination, particularly the Ord Copper Mine in the Ord Mountains south of Daggett, reached by driving up roadless sand washes. The mine was closed, but its hospitable and lonely old caretaker let the club members use the bunkhouse and collect beautiful blue and green azurite and malachite from the mine dumps to decorate their cactus gar-

dens. Grizzly bear cacti (*Opuntia erinacea* var. *ursina*) were beautiful, and there were beaver tail cacti (*O. basilaris*), diamond chollas (*O. ramosissima*), hedgehog cacti (*Echinocereus engelmannii* and *E. triglochidiatus* var. *mojavensis*), and many-headed barrel cacti (*Echinocactus polycephalus*). More difficult to find were small fishhook cacti (*Mammillaria tetrancistrata*). There were many desert tortoises then.

In the 1930's, drivers licenses were issued to 14-year-olds, making it possible for George to make many exploring and collecting trips as a young teenager. Once he journeyed to Arizona with his father's truck to get a saguaro. A collecting permit allowed him to remove a nice specimen. On a weekend trip to Ajo, Arizona with a permit from the manager of the New Cornelia Mine, he collected organ pipe cacti (then *Lemnaireocereus thurberi*), barrel cacti (*Ferocactus wislizenii* and *F. covellei*), and other plants from the corporation's property. Returning from that trip, he stopped at John Hilton's trading post at Thermal, California. He traded an organ pipe cactus seedling for a large blue geode Hilton had collected near the Colorado River, and another lifelong friendship started. Hilton's later paintings of smoke trees hang in George's living room, and Hilton's huge collection of meteorites is now at the California Academy of Sciences.

George's parents purchased a lemon orchard at Lakeside, San Diego County, and moved there while he was in high school. He remained in Pomona to finish high school with his class friends. An early visit to Point Loma in San Diego, with the son of the commanding officer of the

military reservation, resulted in the unexpected discovery of plants new to him: *Bergerocactus emoryi*, *Ferocactus viridescens*, *Agave shawii*, *Mammillaria dioica*, *Euphorbia misera*, *Opuntia prolifera*, *O. serpentina*, *O. oricola*, *Dudleya* spp., and chaparral growing in a natural botanical garden overlooking the sea.



In 1934 George graduated from Pomona High School at age 17

In 1931 there were several cactus nurseries in San Diego Helen McCabe's Cactus Gardens on Imperial Avenue, Neff K. Bakkers Knickerbocker Nursery, Charles Cass Nursery in Pacific Beach, and some nurseries in Encinitas. Those were exciting days for a teenage cactophile.

Helen McCabe and Neff Bakkers were rivals and competitors. Mrs. McCabe was quite deaf and had a wooden leg. She raised cocker spaniels as well as cacti, and used the dung of the former to fertilize the beds of the latter. Her nursery was not a pleasant place to be on hot days. And when hobbyists went from the McCabe Cactus Gardens to the

nearby Knickerbocker Nursery they were conditioned to shouting to be understood. The irreverent and indomitable Neff Bakkers would say, I am not deaf and you better pick that sliver out of your finger.

George's cactus garden in Pomona continued to grow. Every September the Los Angeles County Fair was held in Pomona, and horticultural exhibits included desert gardens. Sometime during high school (probably in 1932 or 1933) George decided to enter the desert garden competition and won first place, with a \$25 prize! But getting the blue ribbon was a bittersweet achievement be-

ship survived but they never discussed the show.

He made his first trip to Baja California in 1932 with George McLain, whose lumberyard in Glendora, California, was planted largely to cacti. They drove as far south as the Maneadero below Ensenada, and saw *Machaerocereus gummosus*, *Myrtillocactus cochal*, and *Echinocereus maritimus*.

In summer of 1934, Theodore Hutchison, then secretary of the Cactus and Succulent Society and his mother Louisa, introduced George Lindsay and George Aschenbrener to



In July 1938, George (left) and Robert S. Hoard made an overland trip through the length of the Baja California peninsula.

cause all the competitors were his friends, and Mrs. Emerson, who usually received the highest award, was hurt. George felt bad about Mrs. Emerson's disappointment. Their friend-

the beautiful deserts of north central Baja California. Ted had accompanied Howard Gates on an earlier expedition, so he served as their guide. They stayed at Don Carlos Verdugo's

ranch at the palm-filled arroyo oasis of Catavina, and drove as far south as Laguna Seca Chapala. On the return up the coast, Louisa purchased roasting ears of corn at El Rosario, and they stopped to cook them on the beach at Socorro. There she observed a miniature mammillaria completely covered with flowers. Twenty-two years later, in November 1954, Helia Bravo and Mr. and Mrs. Charles Mieg found the plants in flower and fruit at Socorro, as well as at Punta Baja near El Rosario. In December 1960, George described and named the plant *Mammillaria louisae* in honor of Louisa Hutchison.

In February and March 1935, George, armed with a USDA plant importation permit, made a solo trip to Baja California, driving to Punta Prieta. From there he went by muleback to Mission San Borjas, where he found the long-lost *Cochemia setispina*, and to Punta Blanca on the Pacific Coast, where he collected a new *Cochemia* which he named *C. maritima* two years later. That lonely trip, 53 years ago when George was 18, was one of his greatest experiences.

Howard E. Gates, the pioneer collector and nurseryman, had started exploring Baja California in 1928, and continued through 1951. Howard's first nursery in Anaheim, and the later, larger one near Corona, were actually botanical gardens of Baja California plants. In 1934-1935, Howard made a botanical garden for the World's Fair in Balboa Park, San Diego. While Gates and Lindsay never made a trip together, Howard was a generous friend and teacher who whetted George's interest in the peninsula's flora.

From 3 to 24 August 1936, George drove to El Arco, in mid Baja California, with college classmates Arthur Bridge, Robert Davis, and William Davenport, Bridge's 13-year-old friend. They were caught by a "chubasco" (a violent thunder-squall), and the normally dry roads to the south became impassable with water and mud. That turned out to be a blessing, because they drove eastward across the peninsula to Bahia de los Angeles, seeing enroute a magnificent bighorn sheep up close and a gold rush in progress at the bay. Mexican prospectors were placer mining the dry arroyos, and patient burrows powered primitive mills grinding hard rock gold ore from the mines. Seri Indian turtle fishermen took the boys by dugout canoe to Angel de la Guarda Island. Since there was no breeze, they could not sail and it was very hot. But they saw numerous sharks, turtles, orcas, dolphins, and finback whales. The crossing took 30 hours, however the return a few days later, with a brisk breeze, was one-fifth as long.

On Angel de la Guarda, they found *Ferocactus johnstonianus*, and a flowering mammillaria that Dr. Robert Craig named *M. angelensis* in 1945. In the summer of 1937, Arthur Bridge and George again drove to El Arco. Lindsay does not recall finding any unusual plants, but they collected *Lophocereus schottii* var. *monstrosus* forma *obesus* along the road between El Arco and Calmalli. Years later George collected forma *mieckleyanus* at Rancho Union, a few miles further east.

From 22 June to 11 August 1938, George drove the full length of the peninsula after shipping his Model

A Ford panel truck from Ensenada to Cape San Lucas by sea. His companion was Robert S. Hoard, an instructor at Pomona College, who collected reptiles. They visited Cedros Island while the ship unloaded supplies there, and later took a mail boat to Magdalena Island. On Cedros they collected *Cochemiea pondii* and *Ferocactus chrysacanthus*, and on Magdalena they found *Cochemiea halei* and *Echinocereus barthelowanus*. On the long drive back to San Diego they collected many cacti for the first time, having permits issued by the forestry departments of the state of Baja California Norte and the territory of Baja California Sur.

In late August and September of 1938, George made a plant collecting trip through central Mexico as far as Oaxaca, which in those days could be reached only by narrow-gauge railroad train from Tehuacan, Puebla. In Mexico City, Salvador Guerrero, General Secretary of the Forestry Department, received George and issued him a collecting permit for all of Mexico.

George frequently visited Guirocoba ranch in southern Sonora, which William Taylor Marshall, Robert T. Craig, Howard Scott Gentry, John Hilton, and others had used as a base for plant exploration. The arid thorn forest wilderness surrounding Guirocoba at the junction of Sonora, Sinaloa, and Chihuahua was of great biological and historical interest; scientists and historians from many countries visited there. The beautiful hacienda extended as far as the eye could see.

In March 1939, George and Dr. Robert T. Craig prepared for a

pack trip from Guirocoba into the Sierra Tarahumara and the Barranca de Cobre, Chihuahua. Before they left, Scott Haselton, editor of the *Cactus and Succulent Journal* visited George in San Diego to discuss a new botanical garden proposed for Papago Park in Phoenix. Mrs. Gertrude D. Webster, president of the Arizona Cactus and Native Flora Society the sponsoring organization, had enlisted Scott's help in her search for a director, and he recommended George. But George, 22 years old and not graduated from college, had never worked for an employer, was unprepared in many ways, and was not interested in applying for the job. Scott asked George to stop by Phoenix on his way to Sonora, in order to meet Mrs. Webster. He remembers driving up the gravel driveway to her large New Mexican style winter home on Camelback Mountain, to be met by her Filipino butler and ushered into her grand,

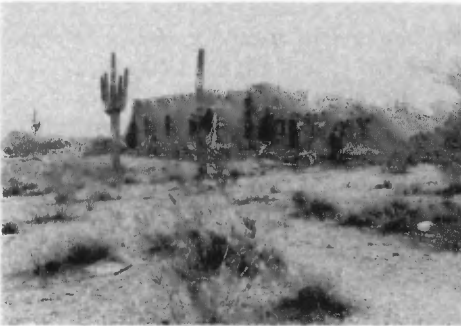


George's first employer was Mrs. Gertrude D. Webster, President of the Arizona Cactus & Native Flora Society, here breaking ground for the Desert Botanical Garden administration building, May 1939

antique-filled living room.

Gracious Mrs. Webster described her dream of the Desert Botanical Garden. After lunch her chauffeur drove them to the garden site, with its red buttes, saguaros, Palo Verde trees, and other native plants. Later that afternoon Mrs. Webster saw him off as he continued his journey to Guirocoba. She was amused by his Model A Ford coupe, which was piled high with camping equipment and supplies for the pack trip.

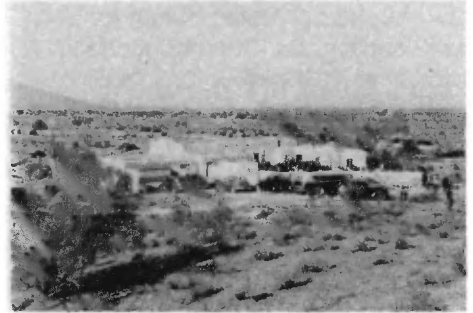
At Guirocoba, preparations were completed. The animals were shod, a young steer had been converted into carne seca, toasted corn and brown sugar were ground and combined into pinole (a staple concentrated food), and shoes and clothing were purchased for their guides, two men and two boys. George picked up Dr. Craig at the train station in Navajoa, and they were off on a fine, productive venture.



The adobe administration building was completed in the fall of 1939

When George returned home to Lemon Crest Ranch 6 weeks later, he found urgent letters, telegrams, and telephone messages from Mrs. Webster concerning the directorship

of the Desert Botanical Garden. He accepted the position on 1 May 1939. It was a marvelous experience working with outstanding philanthropists, who were trustees of the new garden, and with architects, contractors, gardeners, and young Hispanic and black men from the National Youth Administration.



The dedication of the Desert Botanical Garden, 22 January 1940

Fred Gibson, Director of the Boyce Thompson Arboretum; Forest Shreve, Director of the Desert Laboratory of the Carnegie Institution of Washington in Tucson; and Robert Peebles, who with Thomas Kearney wrote *Arizona Flora*, became George's friends and advisors. The socially prominent trustees of the garden introduced him to an interesting new life style. William Hertrich of the Huntington Botanical Gardens and nurserymen Howard Gates, Gilbert Tegelberg, Harry Johnson, and many others provided truck loads of rare plants. During his one year in Phoenix the Administration Building (now called Webster Auditorium) was built, gardens were laid out, and a dedication was held 21 January 1940.

In August 1939, George made a collecting trip through Baja California Norte to get a large truckload of

Pachycereus pringlei, *Fouquieria columnaris*, and other peninsula plants for the garden; they are now magnificent specimens.

His job at the Desert Botanical Garden completed on 1 June 1940, George returned to Lemon Crest Ranch. Neff Bakkers became a good friend, and George was at her nursery photographing plants for Bakkers' catalog on Sunday morning 7 December 1941, when the radio program was interrupted with startling news Pearl Harbor had been bombed.



During WWII, George served as a combat cinematographer with the 4th Combat Camera Unit of the 9th Army Air Force. This picture was taken Christmas day, 1944 at Melun, France

During World War II, George was a combat cinematographer with the Army Air Force. He went through basic training at Jefferson Barracks Missouri; Ladislaus Cutak, cactus specialist at the Missouri Botanical Garden and author for many years of the *CSSA Journal* column *Spine Chats*, made him welcome. In 1943 his overseas staging area was again Jefferson Barracks, and he renewed

friendship with the Cutak family.



George was surprised and pleased to find cacti for sale in Paris, Spring 1945

In England, collector George Turner, to whom Lindsay had sent cacti before the war, first showed him the cactus collections at Kew Gardens. The Turners were brave people. Their only child, a son, was an invalid as a result of his military evacuation at Dunkirk. The Turners' home, garage, and two fine automobiles were obliterated in a bombing raid. Their conservatory took a direct hit and Turner was unable to find a single spine remaining from his fine cactus collection.

Later, on the continent, George was surprised to find cacti for sale in Paris, and was amazed by the number of succulent collections in window gardens. Finally in 1945 the war was over, and George was home for Christmas, intending to be a lemon orchardist for the rest of his life.

In February 1947, Herbert Bool and George returned to Sonora, chartered a small boat at Guaymas and visited San Pedro and San Pedro Nolasco Island. On the headlands of San Pedro Bay, Bool found a miniature *Mammillaria* which Lindsay later named *Mammillaria boolii*. On San

Pedro Nolasco Island they collected an *Echinocereus* which George named *E. websterianus*, and a *Mammillaria* which he called *M. multidigitata*.

George had an opportunity to make his first of many long cruises in the Gulf of California with Bill and Lynne Wilson on their yacht They

sailed north from Guaymas to Tiburon Island and on and around Angel de la Guarda Island to Bahia de los Angeles, then south to Cerralvo Island and across the Gulf to Mazatlan. The Sea of Cortez was almost deserted then. They passed only one vessel during their weeks of exploration. Every island was a new adventure, and most of them had cacti



**George as Scientific Director of the Sefton - Stanford
Gulf of California Expedition 1952**



On the March 23rd 1964 television series "Science in Action", George (right) lectured on cactus

which George had never seen before.

In April 1948, Reid Moran and George chartered a small ketch and with its owners, Louis and Marcho Cavanagh, as a crew, visited Todos Santos, Guadalupe, San Benitos, Cedros, Natividad, San Roque, San eronimo, and San Martin islands. Moran made extensive general collections on that cruise, and later returned to Guadalupe Island many times. Moran also rode a mule the length of Baja California, spent years exploring the peninsula and its adjacent islands and is the authority on its flora as well as the genus *Dudleya* in the Crassulaceae.

After his return from military service in WWII George was a trustee of the San Diego Natural History Museum. The museum's board included professional and business men and scientists from the Scripps Institution of Oceanography and San Diego State University. His association with the museum and Scripps Institution was so interesting he finally changed his avocation, scientific pursuits, to his vocation. He sold Lemon Crest Ranch in 1949 and went to Stanford Univer-

sity to work under Ira L. Wiggins and to complete at last his undergraduate work in 1951; he received his Ph.D. in 1955. Field work for his thesis on the taxonomy and ecology of the genus *Ferocactus* was extensive and prolonged.

The Cactus and Succulent Society of America awarded George a Fellowship in July 1949 for his botanical explorations, descriptions of new taxa, and his many publications. He served on the CSSA Board of Directors during 1949-1950 when Robert Craig was the society's president. George has given programs at CSSA conventions.

From 6 July to 15 August 1951, George collected the length of Baja California and then went to central and southern Mexico. Dr. Helia Bravo Hollis and her students, including young Hernando Sanchez-Mejorada, took him to classic cactus areas.



George admiring an ancient specimen of *Ferocactus diguetii* on Isla Catalina in 1965

In spring of 1952, George's friend J. W. Sefton sponsored the Sefton-Stanford Gulf of California Expedition; George was Scientific Director. The fine research ship of the Sefton Foundation, sailed from San Diego 26 March 1952, was out 61 days, and traveled over 5,000 miles. They cruised down the west coast of Baja California and north in the Gulf of California to the northern end of Angel de la Guarda Island. They made collecting stops on 26 islands, 23 of them in the Gulf. Reid Moran, then at Bailey Hortorium, Cornell University, was botanist, Professor William C. Steere of Stanford was bryologist, and seven Stanford graduate students were the scientific investigators in entomology, herpetology, and ichthyology. It was a productive trip.

While a graduate student at Stanford, George continued field work in central and southern Mexico, with the cooperation of Dr. Bravo, Hernando Sanchez-Mejorada, Dudley Gold, Dr. Jorge Meyran, and Dr. Faustino Miranda, of the Instituto de Biologia. Professor Wiggins and George collected in western and central Mexico and with Faustino Miranda visited Thomas MacDougal in Tehuantepec. George worked with Professors Steere and Wiggins in Arizona and northern and Baja California on the *Ferocactus lecontei* complex.

There were many field trips, not all to the desert for cacti. For two summers, George served as an administrative assistant and botanical collector for the Arctic Research Laboratory of the Office of Naval Research at Point Barrow, Alaska, which was under the directorship of Dr. Wiggins.

Lindsay's Stanford work was concluded in 1956, and he became Director of the San Diego Natural History Museum in 1957, after taking a



With a marine Iguana on the Galapagos Islands, July 1970

cruise to the Revillagigedo Islands with Walter and Katie Maertins aboard their schooner Evening Star. Reid Moran was invited to be Curator of Botany, a position held previously by Ethel Bailey Higgins. Reid continued his very active field work in Baja California and mainland Mexico, and assembled a large living plant collection which was housed on the roof of the museum. Under his direction the museum's herbarium became the most important repository for Baja California plants.

With National Science Foundation support, George established the Vermilion Sea Field Station at Bahia de Los Angeles, which was given further support by the Belvedere Scientific Fund of San Francisco. Transportation was provided mainly by Francisco Munoz and his Baja Flying Service. The Station was used by nu-

merous scientists and was visited by cactus specialists from many places.

On 1 October 1963, George left San Diego to become Director of the California Academy of Sciences in San Francisco; he was succeeded in San Diego by Dr. E. Yale Dawson. In January 1964, the Academy, the University of California, and the National Science Foundation sponsored an international expedition to the Galapagos Islands. Yale Dawson and George collected cacti; this was his last serious cactus collecting trip. On trips since then, he has observed, photographed, and otherwise enjoyed his surroundings.

The 14th of July 1972, was a red letter day for George. He married Geraldine (Gerry) Kendrick Morris of San Francisco, a widow with five chil-



The wedding reception at the Academy, July 1972. Geraldine (Gerry), her son Charles and George

dren. He now has 10 grandchildren.

In 1981, Sven-Olof Lindblad,

George, and Gerry Lindsay visited South West Africa (Namibia) and saw



The California Academy of Sciences dedicated its new herbarium facility on 15 May 1975. George (right), Director of the Academy showed the facility to Peter Raven, Director of the Missouri Botanical Garden.

Welwitschia mirabilis and *Lithops* spp. in habitat. In August and September 1986, George spent several weeks with Myron Kimnach of Huntington Botanical Gardens and Dr. and Mrs. Frank Almeda (he is Curator of Botany at the Academy) looking at the wonderful succulent flora of South



On a trip to Namibia in 1981, George and Gerry saw *Welwitschia mirabilis* in habitat.

West Africa and South Africa.

A prolific author, George has written over 120 articles and co-authored many others during the 51 years between 1936 and 1987. He also wrote annual reports for the San Diego National History Museum from 1957 to 1963 and for the California Academy of Sciences from 1963 to 1982. His publications cover diverse subjects descriptions of new taxa, travelogues, biographies, expeditions, ecology, geography, whales, and bristlecone pines. Most of his papers were published in the *Cactus and Succulent Journal*, *Desert Plant Life* (ceased publication in 1952), and *Pacific Discovery*.



Dr. Lindsay at his job in 1980 as Director of the California Academy of Sciences.

George described 18 taxa, all cacti, between 1937 and 1967. With one exception, all were published in the *Cactus and Succulent Journal*. Many noted botanists Craig, Moran, Wiggins, Bravo, Walther, and Meyran named seven taxa, chiefly succulents, in Lindsay's honor. A scorpion and a blind snake

also have been named for him!



George still enjoys exploring and is still fascinated by cacti, especially huge specimens like this of *Pachycereus pringlei* on Isla Catalina, Gulf of California, March 1986.

George worked under Professor Ira Wiggins and received most of his botanical training at Stanford University's Dudley Herbarium. There has long been a close association between the California Academy of Sciences and Stanford University: David Starr Jordan, Stanford's first president, was also president of the Academy. During George's tenure as Director of the Academy, research collection facilities were built to house the large natural history collection of the University which, while enormously important, was too expensive for the University to maintain. On 15 May 1975, Dudley Herbarium was combined with the California Academy of Sciences Herbarium in a beautiful new Botany Department. The Academy's herbarium now houses more than 1.5 million plant specimens, including many cacti. This is where George has his retirement office.

George retired in the spring of 1982. Mrs. Lindsay died in December 1983. While his active collecting days are long past, he enjoys occasional visits with friends like Dave Grigsby. George still admires beautiful plants and enjoys reading the Cactus and Succulent Journal from cover to cover, a habit of half a century. He spoke at the celebration of the 50th anniversary of the incorporation of the Arizona Cactus and Native Flora Society in January 1987, and found friends from those exciting days 50 years ago.

May 1996 Update

George E. Lindsay
Tiburon, California

The editors [of "The Genus Ferocactus" 1996] decided to include the 1987 biographical sketch by Dr. Larry Mitich and requested that I bring it current with the following epilogue. I don't deserve this complimentary treatment, but I am nonetheless flattered.

Picking up from where Larry left off, I retired in 1982, and my wife Gerry died in 1983. She is enormously missed. I have continued to travel. Most years I returned to Baja California aboard ships of Special Expeditions, owned by Sven-Olof Lindblad, and once again I drove the length of the peninsula by road. And on Sven's ship the Polaris I crossed the Atlantic three times, went to coastal Europe and to Spitsbergen,

sailed the Baltic to St. Petersburg, and made a seven weeks cruise to West Africa and Brazil and up and down the Amazon and the Orinoco in Venezuela. Another time we crossed the isthmus of Panama to the Pacific and up the coast to Costa Rica and Mexico. Another year saw us off to Honduras, Belize, and Yucatan. On the chartered sailing vessel Sea Cloud we sailed from Easter Island to Tahiti. On other years we flew to Australia and New Guinea, to China, and to Rajasthan in India. The ship Iliria took me to Indonesia and again to the Mediterranean.

For some time I was a trustee of the L. S. B. Leakey Foundation, which supports paleontological research and studies of the origins of human behavior. Gerry and I had known Mary Leakey in Kenya and Tanzania and she and her sons Richard and Phillip had all lectured at the Academy. Subsequently, we showed Mary the Grand Canyon and the Southwest, Yosemite, and Baja California on her annual visits. I was president of the Leakey foundation until 1988, when I resigned because of medical problems. I remain an honorary trustee.

Following surgeries for knee replacements with prosthesis joints I required assistance and a student, Marcos Ballesteros, accompanied me on trips to Baja California and Mexico and to Europe and Africa. A stroke and further complications made his assistance invaluable since then.

The fiftieth anniversary of the founding of the Desert Botanical Garden in Phoenix brought great satisfaction in seeing the dreams of its founders realized. And in April 1992,

it was the scene of the meetings of the International Organization of Succulent Plant Studies which attracted botanists from around the world. Gertrude Webster's memory was honored. I received a sculpture, Cactus D'Or, from the Principality of Monaco. I appreciate it, although other Americans are far more deserving of this award.

On May 31, 1996, Dr. Michael Hager announced the Inauguration of the Biodiversity Research Center of the Californias and the Mary and Dallas Clark endowed Chair of Botany at the San Diego Natural History Museum. Dr. Jon Rebman was appointed Curator. Dr. Rebman has done much field work in Baja California, studying particularly the puzzling phylogenetics of the cylindropuntias. He proposes to continue his research on the cacti and Baja California flora at the museum. Dr. Reid Moran's lifetime of studies and his accumulated herbarium collections at the museum will be utilized. This is all gratifying.



George with admirers at his 80th Birthday Celebration in August 1996. On the back of the photo, George writes; - Marco took this snapshot - Beauties and an old beast or I can still dream, can't I.

This is my eightieth year. I appreciate the luck and good fortune I have enjoyed. I worked for three institutions, the Desert Botanical Gardens, the San Diego Natural History Museum, and the California Academy of Sciences, under the direction of outstanding trustees who always were my friends. My professional colleagues have been stimulating and interesting and capable. Working with them has been a pleasure.



George with *Echinocereus lindsayii*

Interest in cacti has been my avocation since I was a boy. My permissive parents did not assign me to psychiatric therapy; on the contrary they tolerated and encouraged my interest in cacti and deserts and natural history. That, in turn, led to a full and gratifying life. I appreciate my blessings.

George Lindsey

Table 1. Taxa described by George Lindsay

| Taxon | Year | Publication |
|--|------|---|
| <i>Cochemiea maritima</i> | 1937 | Cactus and Succulent Journal 8:143-144 |
| <i>Opuntia rosarica</i> | 1942 | CSJ 14:56-57 |
| <i>Mammillaria craigii</i> | 1942 | CSJ 14:107-109 |
| <i>Ferocactus alamosanus</i> var. <i>platygonus</i> | 1942 | CSJ 14:139-143 |
| <i>Mammillaria radiaissima</i> | 1945 | in R. T. Craig, <i>Mammillaria Handbook</i> , pp. 292-293 |
| <i>Mammillaria multigitata</i> | 1947 | CSJ 19: 151-154 |
| <i>Echinocereus websterianus</i> | 1947 | CSJ 19:151-154 |
| <i>Mammillaria boolii</i> | 1953 | CSJ 25:48-49 |
| <i>Ferocactus schwarzii</i> | 1955 | CSJ 27:70-71 |
| <i>Ferocactus gatesii</i> | 1955 | CSJ 27: 150-151 |
| <i>Ferocactus wislizeni</i> var. <i>tiburonensis</i> | 1955 | CSJ 27: 163-175 |
| <i>Ferocactus diguetii</i> var. <i>carmenensis</i> | 1955 | CSJ 27: 163-175 |
| <i>Mammillaria louisae</i> | 1960 | CSJ 32: 169 |
| <i>Lophocereus schottii</i> v. <i>mieckleyanus</i> | 1963 | CSJ 35: 184 |
| <i>Lophocereus schottii</i> var. <i>tenuis</i> | 1963 | CSJ 35:187 |
| <i>Ferocactus viridescens</i> var. <i>littoralis</i> | 1964 | CSJ 36:8-10 |
| <i>Mammillaria tegelbergiana</i> | 1966 | CSJ 38:196-197 |
| <i>Mammillaria estehanensis</i> | 1967 | CSJ 39:31-32 |

Table 2. Taxa named for George Lindsay

| Taxon | Year | Publication |
|--|------|--------------------------------------|
| <i>Mammillaria lindsayi</i> Craig | 1940 | Cactus and Succulent Journal 12: 182 |
| <i>Lavatera lindsayi</i> Moran | 1951 | Madrono I 1: 158 |
| <i>Cuscuta lindsayi</i> Wiggins | 1959 | Contrib. Dudley Herb. 5: 133 |
| <i>Myrtillocactus lindsayi</i> Moran | 1962 | CSJ 34:186 |
| <i>Ferocactus lindsayi</i> H. Bravo | 1966 | Cact. y Sucul. Mex. 11 :9 |
| <i>Echeveria lindsayana</i> E. Walther | 1972 | Walther, <i>Echeveria</i> , p. 90 |
| <i>Echinocereus lindsayi</i> Meyran | 1975 | Cact. y Sucul. Mex. 20:79 |

Vaejovis lindsayi Gertsch and Soleglad = *Uroctonus lindsayi* Williams, a scorpion from Sierra Laguna, Baja California.

Leptotyphlops humilis lindsayi Murphy, Lindsay's Blind Snake or Lindsay's Blind Worm Snake, from Isla Carmen, Gulf of California, 4 April 1962.



Member Carl Dykema has an **urgent** plea for help
Any member who might be able to help **is** urged to contact him

Anybody out there have a couple acres or more of agriculture-zoned land for sale or lease?

San Diego's zoning dept has ordered me (**Carl Dykema**) to stop using my one acre property and my neighbor's 3/4 acre backyard as a nursery to grow succulents for my plant store, Exotic Gardens.(1218 University) Two large shade structures and hundreds of tons of Aloes, Euphorbias, cacti, and succulents are to be moved by Sept. 30, according to the order, and the properties returned to their original (weed-covered) condition. The reason - agricultural use is not permitted in a residential zone. The area is quite rural, with horses, orchards, and lots of open space.

The neighbors I talked to thought the plants looked good, and no one objected. Rather, a code enforcement officer noticed the plants while inspecting some illegal grading on a near-by property in which several dump truck loads of concrete rubble were buried. I have a low-budget, mostly one man operation and I lack the resources to relocate by the deadline.

I would like to hear from wholesale buyers, potential business partners, realtors, or owners of low-frost ag-zoned land for sale or lease. If you can help, please call 619-497-0818.

Editor's Note:

Carl is in District 4 which is Councilman **George Stevens**. Anyone can write or call to either of the 2 representatives listed below.

Denise Lara

E-mail: dlara@sandiego.gov

(619) 236-6646

Communities: North/South Encanto, Valencia Park, & Emerald

Bruce Williams - Director of Community Relations

E-mail: bw@sandiego.gov

Responsible for city-wide community outreach and constituent services

Can Water Drops Burn Your Plants?

By Sue Haffner - Fresno C & S

Can water drops left on your plants in direct sunlight burn the plants? You sometimes hear people say this, or even read it in books. The water supposedly acts as a magnifying glass, focusing sunlight into a damaging ray that will burn plant tissue. A well-meaning comment awhile back on an online discussion list led to a heated debate on the subject, and inspired this interesting contribution from Mark Dimmit, nurseryman and Adenium hybridizer: "It is a MYTH that watering in the day can burn plants". To demonstrate this, an experiment was recently performed in Phoenix, Arizona (by the Ag Extension Office, I think) on an afternoon when the temperature was in excess of 110 F. A variety of plants were watered overhead; not one was burned. Most of us who live in the desert already know this from experience. When I find a plant that is dry, I water it immediately regardless of time

of day. Some people here spray their more heat-sensitive plants in midday to cool them off. I've done it, but I can't say I notice any improvement in the plants (it makes me feel better!)

However, there are other reasons for not watering during the heat of the day. One is that the hot soil dries out

much faster; more water is lost to evaporation and roots have less time to absorb water before the soil dries. Watering during the evening cools by evaporation and increases the day-night temperature differential which is important to

CAM plants. Don't know if it's enough to help, though. On the other hand, watering at night in humid weather encourages disease. It's important that the plants dry off in a couple of hours so fungus spores can't sprout and invade."



Upcoming Events

July 26-28 PACIFIC NORTHWEST CONFERENCE hosted by Cascade C&SS. Upper Gwinn Conference Center, Seattle Pacific University, Seattle. Speakers are James D. Mauseth speaking on how cacti survive in desert: Mac Clarke on his adventures in the Chiricahua Mountains and his visit with the late Charlie Glass in Mexico; Peter Gammarano on Socotra and Madagascar, Mary Wilkins Elert on succulents of Africa; Arthon Elert on Euphorbias; and Harlan Reed, a Hopi Indian, speaking on the utilization of native plants by his home on the Third Mesa of Arizona. There will also be a plant auction and related items, field trips, plant and book sales. Saturday night banquet for \$30 (choice of salmon, chicken or beef) is optional. Registration is \$80 per person for the whole weekend, with lesser fees for less time there. Room rates in Emerson Hall are \$40 per night, or \$75 per night for a couple. Meals extra at reasonable cost. Checks (no charge cards) covering all costs (registration and meals required) must be sent by 19 July to Cornelia Remy, 13406 S E Fairwood Blvd, Renton WA 98058.

August 15-18 The 5th International Convention of the British C&SS at Loughborough University, Leicestershire (about 100 miles north of London). Note the venue for this event is different from that originally announced. Theme - "Conservation in Cultivation." Speakers - Pierre Braun and Klaus Gilmer from Germany; Mark Dimmitt and Steven Hammer from USA; Carlos Ostolaza from Peru; and Graham Williamson from South Africa. The speakers are among the leaders in the field of practical study and exploration for cacti and succulents. Info: David Kirkbright E-mail: Kirkbright@bcandss.fsnet.co.uk

August 24-25 17th Annual Intercity Cactus and Succulent Show and Sale Los Angeles County Arboretum, 301 N Baldwin Ave., Arcadia CA 9am to 5pm. Information at <http://www.lacss.com/2002/> or from Tom Glavich at TGlavich@aol.com or Gene Oster at 818-998-9306 This annual show is thought to be the largest cactus show in the world!

August 31 Huntington Symposium, Huntington Botanical Gardens, 1151 Oxford Rd., San Marino CA. Info: 626-405-2160 or 2277

September 1 CSSA Board Meeting, Huntington Botanical Gardens, 1151 Oxford Rd., San Marino CA.

September 7-8 C&SS of California Show and Sale Lakeside Park Garden Center, 666 Bellevue Ave., Oakland CA Info from Julie Rose 925-833-0453 or e-mail her at: bfr@ix.netcom.com **MOVED TO OCT 19-20**

September 8 Michigan C&SS Plant Sale Info: Kerry Krivoshein 248-524-0227 or ksk@daimlerchrysler.com

September 9 San Diego Horticultural Society 6:30 PM, Satellite Wagering Facility, Del Mar Fairgrounds. "Succulent Color Splendor", a slide program by Michael Buckner. For more info. (858) 756-2579 or www.sdhortsoc.org

September 14-15 Kansas City C&SS Annual Show and Sale at Blue Ridge Mall

September 14-15 Houston C&SS Annual Show and Sale Houston Arboretum and Nature Center, 4501 Woodway. 10am to 5pm. More details? Call Hank Andresen, Show Chairman, 281-992-5677

September 22 Long Beach Club Annual Auction at Dominguez Adobe, 18127 S Alameda St, Compton (Dominguez Hills) CA

October 12 Texas Association of Cactus & Succulent Societies' Fall Seminar hosted by North Texas C&SS, Dallas TX Contact Bob Barth at 512-327-1173 for more details or Michael Rupe at 512-440-7817 or e-mail him at epur@att.net

October 12-13 Central Florida C&SS Sale and Show in conjunction with the USF Botanical Gardens/Plant Clubs. Contact - Mitch Kessler 813-264-5614 or e-mail him at kessler@kesconsult.com, or Vicki Hunter at: bezaleelitsog@aol.com - note identify for inquiries re: CFC&SS in subject line.

October 12-13 Orange County C&SS Show and Sale Fullerton Arboretum CA

October 12-13 C&SS of Tulsa Fall Sale, Tulsa Garden Center, Tulsa OK

San Diego Cactus & Succulent Society Inc.
P.O. Box 33181
San Diego CA 92163-3181



Espinas y Flores

Editor: Paul Steward
(858) 486-0535
manuscripts and mail to:
12620 Tustin Street
Poway CA 92064-6037
psteward@pacbell.net
eyf2000@aol.com

San Diego Cactus & Succulent Society Executive Board Members

President: Pam Badger (619) 589-1223
Vice President: Jeff Harris (619) 294-5708
Secretary: Laura DeMerritt (858) 270-5544
Treasurer: George Plaisted (619) 583-9551
Ex Officio: Tom DeMerritt (858) 270-5544

Directors

Lee Badger (619) 589-1223
Phil Favell (760) 471-8944
Mark Fryer (619) 299-3429
Joe Kraatz (760) 758-7042
Spencer Maze (858) 454-1870
Terry Parr (619) 460-9111
Herb Stern (619) 223-9134

Standing Committees & Sub Committees

Conservation: Joey Betzler & Kelly Griffin
Education & Exhibits
Brag Table: Shirley Berry & Kay Quijada
Plants of the Month:
Lee Badger & Jeff Harris
Summer Show: Tom Knapik, Joey Betzler &
Kay Quijada
Winter Show: Ed DeLollis
History: Terry Parr
Liaison
Balboa Park Desert Garden: Susan Hopkins
CSSA Affiliate Rep: Kelly Griffin
Quail Botanical Gardens: Phyllis Flechsig
San Diego Botanical Garden Foundation:
George Plaisted
San Diego Floral Association:
Elizabeth Glover
San Diego Wild Animal Park Baja California
Garden & Succulent Collections:
Chris Miller
Library: Tom Birt & Phil Bunch

Membership: Collette Parr
Mailing: Pam Badger & Jeff Harris
Plant & Seed Exchange
Plants: Michelle Heckathorn & Sara Schell
Seeds: Kally Griffin
Plant Sales & Supplies
Annual Sales: Tom Birt
Auction & Holiday Plants:
Lee Badger & Tom DeMerritt
Benefit Table: Lee Badger
Monthly Plant Sales:
Jeff Harris & Joe Kraatz
Monthly Supply Sales:
George & Jerry Plaisted
Publicity: Tom DeMerritt & Stan Yalof
Programs: Kelly Griffin
Reception: Ethyl Standish
Regalement
Monthly: Lee Badger, Rudy Lime &
Stefy Mangold
Picnic: Laura & Tom DeMerritt