On Building a Dream House

M. E. Darian D.V.M.

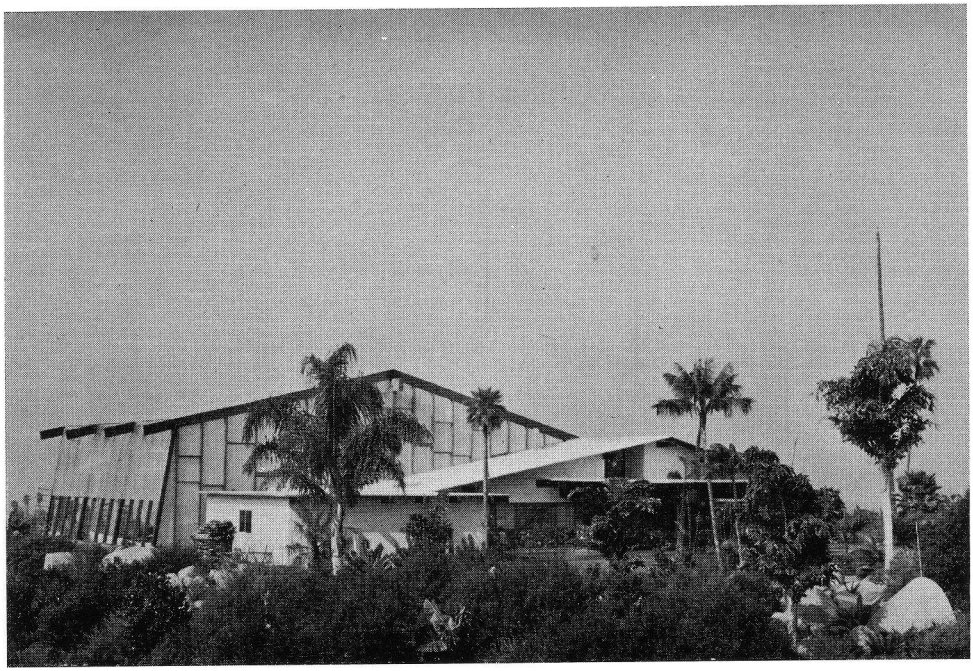
From earliest childhood in Philadelphia, I have enjoyed planting seeds and raising plants. Thus when it came time to select the place where I'd eventually build my dream house, the type of soil, elevation, and proximity to the sea for frost protection were all factors in selecting Vista, a small city in the foothills of northern San Diego County, California. The price of land was also favorable compared to that in Santa Barbara or La Jolla, two other sites considered.

Vista is at 33° N. Latitude, comparable to the location of Charleston, South Carolina on the East Coast. The average rainfall is 12 to 13 inches per year and occurs from December to May, our coldest months. The average yearly temperature is 62° F., about 10° too cold for coconuts. I was fortunate to be able to purchase a 3.02-acre hilltop at 600 feet elevation with fine sandy soil over a solid granite base and near my Veterinary Hospital about seven miles from the Pacific Ocean. The water drainage is excellent and there are many microclimates. The usual winter low is 38° F. which has occurred only three times in three years, but in 1969 the all time low of 32° F. nearly killed *Howeia* because the weather had been unusually mild. Relative humidity ranges from a low of 15 per cent during Santana or desert winds to a high of 65 per cent though 35 to 45 per cent is usual.

The house was constructed to take full advantage of the views which on clear days extend 70 miles to sea and 65 miles inland. Three planter holes in the house provide views of the sky through skylights. The shape of the house is an attempt to reconstruct the eight feet of hill levelled off during grading. Gardens face the North (cool with shade) and the South (hotter and drier, getting as much solar heat as possible). On the South, a swimming pool should provide extra humidity and the enclosed area around the pool I refer to as the "jungle"—even the pool decking has seven holes for future palm plantings. The "jungle room" is 18 feet high at the ends or eves and 30 feet high in the center, measuring 48 feet wide and 84 feet long; but the pool, decking, concrete patio areas, plus a large granite outcrop leave little room for the true tropical palms I hope someday to raise there—*Cyrtostachys, Lodoicea, Pigafetta.*

Another planter hole is in the center of a circular driveway which was solid granite. After blasting twice, 156 cubic yards of rock were removed and the hole was backfilled with 70 yards of topsoil, 50 yards of stable litter, and 25 yards of chicken manure which was mixed by a special backhoe with a 20-foot reach. The hole itself was 30 feet across and up to 10 feet deep, and initially the heat from the mixture was so great that it burned our hands when we removed a 28-foot *Howeia* that was burned to death in two days. Now, however, it is a nice planter hole with beautiful plants of *Howeia* and as ground cover strawberries, tomatoes, and watermelon.

The two protected planter areas are designed as part of the house to avoid the "added on" look and they required special design to withstand winds of 90 miles per hour with a safety factor up to 135 miles for a short period. The entire expanse of roof over the house and "jungle" presents a great lift of nearly 10,000 square feet which was properly handled by the engineer.



3. Right side of entry hall destined ultimately to house a *Cyrtostachys*. Alocasias, xanthosomas, *Anthurium*, and bromeliads in front of and on wall. Photo Ken Foster.

When it came to planting palms, I was most motivated by Dent Smith's articles on the necessary preparation of holes and with rock present—many outcrops of solid blue granite penetrate the surface—I decided after first digging a few holes to hire a backhoe at $15.00 per hour. The operator was able to dig six

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1. Front of home built by Dr. Darian; the "jungle room" to the left and rear is covered with clear fiberglass to within seven and a half feet of the ground where replaced by plate glass. Photo Ken Foster.

2. Head-on view of house and "jungle room" (left) with howeias, cycads, *Hedyscepe* at corner of center planter. Photo Ken Foster.

4. Atrium with *Howeia Forsteriana*, Hawaiian tree-ferns, Japanese maple, and *Chrysalidocarpus Cabadae*. Photo Ken Foster.

to eight holes per hour so we dug 30 holes one morning and in one day 48 to 50 holes averaging six feet wide, broad, and deep, though some were only four feet deep and others were eight feet wide and deep. These holes were backfilled with half stable litter (one-half horse manure and one-half pine shavings) and half native soil which in most instances was a fine black humus—true topsoil!

After the first year, I decided that everything must have a pipe to it and be on a sprinkler system, but different plantings required different rates of watering so seven different valves were installed with over 7,000 feet of plastic pipe. Now the citrus are watered once or twice a month, certain palms once a week, others once a day, and in the heat of the summer, when the warmest night tempera-

5. Three planters have skylights above them like this one 14 feet above the *Pinanga*. Photo Ken Foster.

ture stays above 60° F., I water certain palms up to four times a day or equivalent to 500 inches of water a year. This watering procedure has resulted in some phenomenal growth—for example, a *Caryota urens* (a mountain type obtained from David Barry) was set out in 1965 when 20 inches high with two leaves and a stem an inch thick at the base and by late 1968 had reached a height of 22 feet and was 18 inches thick at the base. It grew an astonishing eight feet of trunk in the last year. Most losses are due to my over-eager removal of leaf-bases prematurely, and at one time to gophers though cats now control these most satisfactorily.

One section on the shadiest side of the hill has, in addition to water bubblers to each hole, four overhead sprinklers allowing me to produce "rain" at will. This section is referred to as the tree-fern section—it experiences white hoar-frost five to ten times each winter. Here grow

6. Rock outcrop eight feet high and 12 feet across at side of pool in "jungle room." Photo Ken Foster.

tree-ferns, *Eucalyptus*, redwoods, and *Rhopalostylis* palms.

Although palms are by far the predominant type of plant on the property, in addition to the above, *Spathodea campanulata* (African tulip tree), mangos, *Macadamia*, citrus, and deciduous fruit trees from apples to walnuts are also grown successfully. During the summer, it is usually hot, sunny, and dry, but earlier it is foggy and then the *Rhopalostylis*, *Parajubaea*, and *Ceroxylon* grow best. On the contrary, royal palms don't start growing until July when they look their worst, looking better in December when *Ceroxylon* and the tree-ferns look their worst.

Most of the plantings were set out in 1965 and 1966 but every year new and some very rare palms for this part of the world are set out against good advice and often with subsequent failure. But it's the exceptions that count, and even

7. A *Trachycarpus Martianus* set out by the parking lot of my hospital from a one-gallon can four years earlier reaches almost nine feet in height and carries over 50 leaves. Photo Ken Foster.

if only half my expectations come true, I should have over 100 genera growing inside and outside in the ground on this hill. Unfortunately, compared to more tropical areas, the rate of growth for more tropical plants is ridiculously slow. Almost all the work and planting were done by myself with the help of my close

personal friend Con M. Slack though advice and inspiration were provided by Jim Specht, Dent Smith, Bill Seaborn, and PRINCIPES.

Plants of great value were obtained from David Barry, the Fairchild Tropical Garden, The Palm Society, but most were obtained by writing letters. For every ten letters written I might receive one reply, and from every ten replies one new addition, but it was from such sources that *Lodoicea*, *Neodypsis Lastelliana*, *Parajubaea Torallyi*, and *Pigafetta filaris* seed were obtained. In addition, the contacts made are as interesting and rewarding as the palms so I continue to work for my palm showcase. What success I've had has been due to excellent drainage, judicious watering in cool weather, heavy frequent watering in summer, and protecting newly set-out plants against the burning sun. I hope someday to have further reports on the success of the venture.

PALM BRIEFS

The Case for Sprouted Palm Seeds

Peter B. Dow, a seedsman of Gisborne, New Zealand, offers palm seeds and also several species of sprouted palm seeds. I bought some sprouted seeds of his native palm, *Rhopalostylis sapida*, several years ago. They arrived in fine condition, having been placed with a little damp peat in a plastic bag enclosed in a light carton. They were ready to be planted in three inch pots. There was no apparent set-back to the sprouts. I would guess that only part of the endosperm in the seeds had been consumed at the time. The spread from the tip of the unopened leaf to the tips of the well developed roots was about two and a half inches.

The advantage of sprouted seeds to the buyer is obvious. They side-step the uncertainty of germination and the time involved. The practice of supplying sprouted seeds should become common. This would be especially important with small seeds that lose viability quickly and with seeds of palms that live in the very wet tropics, such as *Oncosperma*. Such seeds have holes from which the cotyledon may emerge that are comparatively large and with only a thin skin over them to protect the embryo from dessication.

The main requirements for the supplier of sprouted seeds would be to protect seed beds from rats, birds, and full sun. After germination and before the endosperm in the seeds is completely consumed, the sprouts should be removed from the seed bed, washed free of soil, and placed in plastic bags with slightly damp peat or sphagnum moss. Most kinds of plastic bags, or baggies, are air-tight when sealed. A series of small holes should be made in the bags to avoid suffocation of the sprouted seeds during the time of shipment.

Sprouting seeds before shipment is not practicable with the kinds that produce cotyledonary stalks which carry the seed plumule and radicle a considerable distance from the seed before beginning the formation of the ascending leaf plumule and the descending roots. These stalks are stiff, brittle, and impossible to confine with the seeds for shipping. Examples of such palms are *Hyphaene* and *Borassus*.

About ten years ago I took a tourist launch trip to Kandahar Island in the

(Continued on page 39)