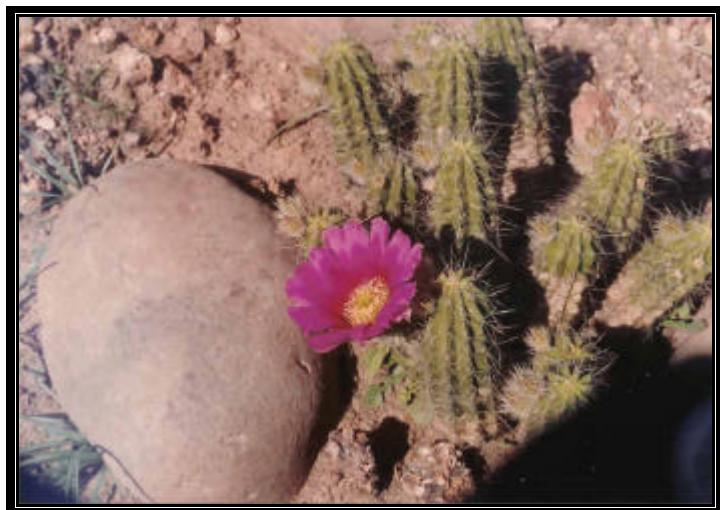


## 10. ROCKERY VI



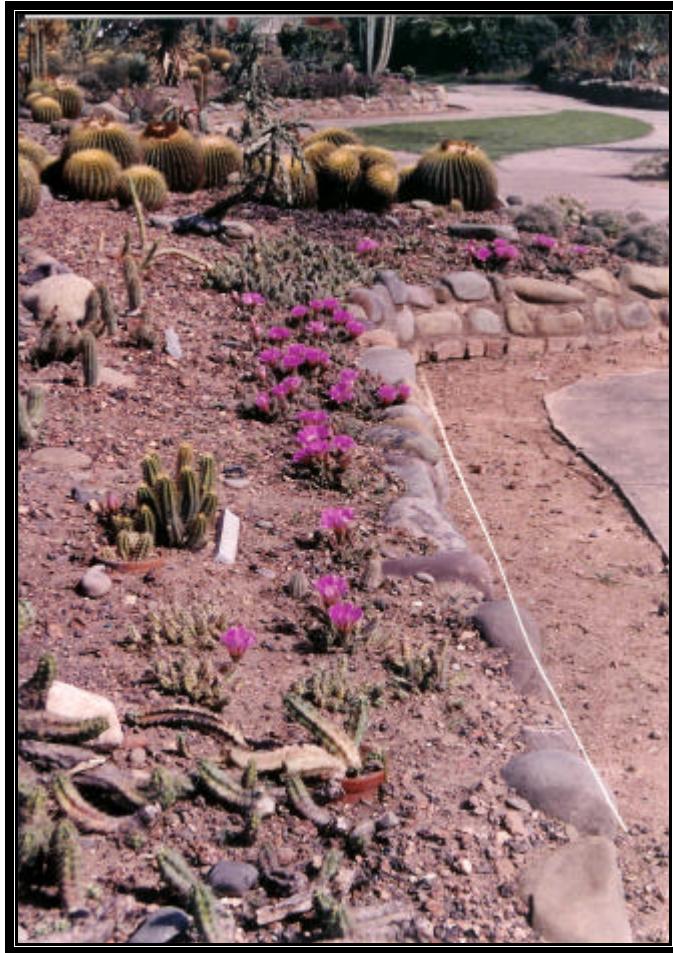
Rockery VI runs in the East-West direction, and is more or less triangular, its broad base being opposite the *Mammillaria* collection on Rockery III. This broad based area has several interesting plants. At the corner is the largest offsetting plant of *Echinocactus grusonii*. It has five large heads and is nearly 1.5 meters in diameter and height. This garden has over seven hundred and fifty large *Echinocactus grusonii* grown from seed sent as a free gift by DAVE GRIGSBY of Grigsby Nurseries California in 1986. A brass plate below this large specimen acknowledges this magnanimous contribution by this great Cactus grower. This landmark is

very popular with visitors who like to be photographed with this large *Echinocactus grusonii*.



In front of this *Echinocactus grusonii* are several groups of *Mammillaria geminispina* and *Mammillaria haagiana*, and a group of small plants of *Mammillaria compressa*. Next to this is a collection of *Astrophytums*. Several plants of *Astrophytum myrostigma* form a small group. Unfortunately these handsome unarmed white plants attracts petty plant thieves who do not allow its unhindered growth. Our vigilant staff has on several occasions spotted and recovered these plants from the handbags of ladies. Three large plants of *Astrophytum myrostigma* var. *columnare* are next to this collection. Two small groups of very large *Astrophytum senilis* var. *aurea* and *Astrophytum capricorne* var. *niveum* are the next ones. These twenty to thirty year old plants are really majestic. Unfortunately they are

prone to white ant attack. A bed of several large *Astrophytum ornatum* plants growing next is very attractive. *Astrophytum ornatum* has proved to be a very good landscaping plant, as they show robust growth and are not vulnerable to termite attacks and petty thieves do not like their sharp spines. In its natural habitat, HIDALGO VALLEY in Mexico, I have seen hillsides covered with thousands of these plants of different sizes. Some of them were over one meter high and about fifteen to twenty cm thick. Some plants of this species in this garden are already nearing half a meter in height. They flower profusely during summer.



In spite of heavy seed setting, hardly any seedlings grow in the beds. We have noticed that large ants take away the seeds as soon as the mature seed pods open. In Hidalgo Valley, México, *Gymnocalycium horriplum* grows along this species. A slightly raised bed next to the *Astrophytum ornatum* plantation has several small groups of *Gymnocalycium horriplum*. These groups are covered with large number of beautiful violet flower around the middle of March. Two group of *Melocactus maxonii* grow next. These

plants are showing robust growth and harsh winters and dry hot summer spells have not hampered the growth. These plants are about seven years old and have no cephaliums so far.



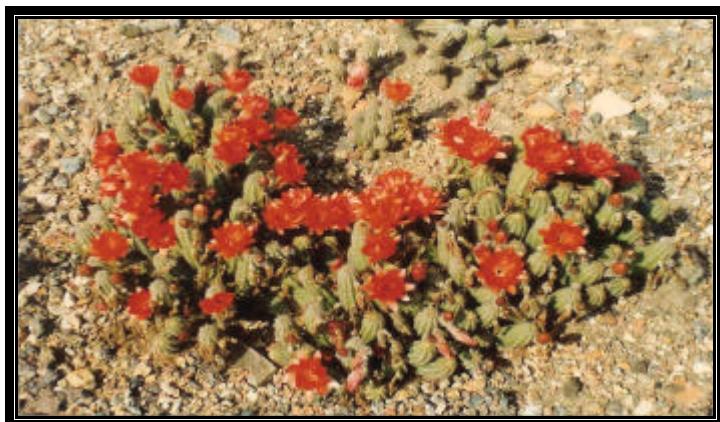
Two interesting cactus species are located just beyond this area at the back. There is large plant of *Buiningia purpurea* about thirty five cm high with a six cm long cephalium on the side, extending to the top. This much sought-after plant does not remain very attractive outdoors as the thick spines become dirty due to collection of dust. A grouping *Neolloydia grandiflora* along with two smaller plants of the same species grows next. The larger plant flowers every summer and when in bloom is a great attraction. A large bed of groups of *Mammillaria nivosa* lies next to it. The healthy growth with rich golden spines is very attractive. Near the corner are plantations of *Mammillaria columbiana* and *Mammillaria haageana*. At

the corner of this side are several large groups of *Mammillaria compressa* and *Mammillaria magnimama*.



In the background on this side in the beginning are four small *Pachypodium lamerei* plants with two *Adenia venenata* further back. There are groups of *Ferocactus herrerae* and *Ferocactus hamatacanthus* as well. A large *Myrtillocactus geometrizans* with multiple branching from a small tree shaped plant about two meters high. We are using cuttings of this species as stock for grafting as it is winter hardy.

Two plants of *Azureocereus hertlingianus* are also here. This species forms majestic specimen with fifteen to twenty cm thick trunk and growing up to three to four meters height. These two plants are quite young and only half a meter in height. *Aloe arborescens*, several small *Agaves*, a plant of *Cylindropuntia imbricata*, and a very tall *Yucca argentii* are in the background. Three plants of *Euphorbia milii* hybrids are also in the background. Their bright coloured large flowers are very attractive.



*Chaemlohura*

The South-West face of this Rockery VI has an extensive plantation of Genus *Echinocerei* in front. Most of the plants form low growing groups which do not appear very attractive when not in flowers. The majority of *Echinocerei* are large flowered cacti, with vividly bright coloured flowers lasting two to three days. Mass plantation of these cacti when in bloom are a great attraction during the summer months. Some species flower twice or thrice during summer.



The front two to three meter area on this face has a large number of hardy *Echinocereus* species. The entire length of this face has thirty to sixty cm wide plantation of low trailing *Echinocerei* belonging to *Echinocereus pentalophus* and its form *Echinocereus procumbens*. They are three to five ribbed plants and with profuse branching habit form a dense bed along the length of this face. The flowers of this species are about ten to twelve cm broad bright pinkish magenta in upper half with yellowish white throat. This species flowers two or three times during the summer and rainy season. The main collection is set further inside in groups according to classification of this Genus by N. P. TAYLOR.

SECTION - I *Morangaya* is represented here by a single species, *Echinocereus pensilis*. It has thin, about three to four cm diameter cereoid stems, with eight to ten rounded ribs, with thin six to ten spines from areoles. The plant grows up to a meter in length, with two to three branches. It is a

very shy bloomer with funnel form flowers about six cm long four to five cm in diameter, orange red in colour. Outdoors it tends to loose terminal parts of its branches during very hot dry spells.

SECTION - II *Erecti* is represented by *Echinocereus brandegeei*, and it has established firmly outdoors. In nature it forms large groups of cylindrical stems about five to six cm diameter and up to a meter in length. Plants on this rockery had a chequered fortune as it tends to die during heavy rainy spells. They have started forming small groups. This species has not flowered so far. Flowers are described as funnel shaped about seven cm broad, pale, purplish-lavender to pale-pink in colour.



*Echinocereus engelmannii* is an extremely variable species and in nature forms large compact groups of up to fifty to sixty erect stems. Being

a desert species, we had some trouble in establishing this species and its varieties outdoors. We have overcome this hurdle by making the soil extremely porous and first growing the plants on low stock of *Ritterocereus pruinosis*. Three robustly growing plants of this species on graft form a small group. The plants form thick stems about five to six cm diameters and about forty cm tall, and are covered with two to four cm long spines. They come into flower at end of March. Flowers are about nine cm in diameter and deep purplish in colour. Several varieties of *Echinocereus engelmannii* have been described. We have established three varieties outdoors and are being grown in this area. *Echinocereus engelmannii* var. *acicularis* grows onto an attractive plant covered with numerous curved spines. *Echinocereus engelmannii* var. *nicholii* with its stout yellow spines, forms attractive yellow plants. This species has not flowered so far. The three varieties described here form five to six cm thick, and thirty to forty cm tall plants and have not started forming groups so far. Two more varieties of *Echinocereus engelmannii* are grown indoors. As this *Echinocereus* does not develop good spines indoor, it is planned to bring them out for three to four month in the summer.

A small plant of *Echinocereus maritimus* var. *hancockii* has also been planted. *Echinocereus fendleri* and its varieties *Echinocereus fendleri* var.

*fasciculatus*, *Echinocereus fendleri* var. *boyce-thompsonii*, *Echinocereus fendleri* var. *ledingii* are spread over a large area. Of these *Echinocereus fendleri* var. *ledingii* forms very attractive groups with yellow spines. Three small plants of *Echinocereus pectinatus* var. *pectinatus*, *Echinocereus pectinatus* var. *dasyacanthus* and *Echinocereus pectinatus* var. *neomexicanus* have also been planted outdoor. Under the glass these plants do not show good growth and are very much prone to red spider attack. It is hoped that they will have better growth under full sun.

SECTION - III     *Triglochidiatus* has a good presence on this plantation. *Echinocereus scheeri* var. *gentryi* has a large group. Spineless, about three cm thick stems, deep green in colour, form good groups outdoors. When on low grafts this species flowers profusely and its funnel form blooms, salmon pink in colour and about five cm in diameter are very attractive. *Echinocereus scheeri* var. *scheeri* has three small groups. *Echinocereus scheeri* var. *kohersianus*, one of the discoveries of ALFRED LAU has two groups. Stems are about three cm in diameter, fifteen to twenty cm long and thickly covered with fine yellow white spines. This species has not flowered so far indoors and has been brought outdoors only recently.

*Echinocereus polyacanthus* is represented by a single plant. The flowers of this species are large, about seven to eight cm across and brilliant orange or deep red in colour. Unfortunately this plant has not flowered so far. *Echinocereus triglochidiatus* and its varieties are well represented. *Echinocereus triglochidiatus* var. *goniacanthus* covers a large area with its thick trailing branches. It flowers profusely with relatively smaller three to four cm diameter orange flowers. Plants of *Echinocereus triglochidiatus* var. *triglochidiatus*, *Echinocereus triglochidiatus* var. *melanacanthus*, *Echinocereus triglochidiatus* var. *paucispinus* are also here. Three plants of *Echinocereus triglochidiatus* var. *inermis* are also present. This species forms interesting spineless plants.

SECTION – IV     *Echinocereus* has very good presence. The extensive border plantation of *Echinocereus pentalophus* and *Echinocereus procumbens* has already been described above. There is one plant of *Echinocereus pentalophus* var. *leonensis*. In this variety the stems are more or less erect and up to 2.5 to 3 cm thick. The plants of *Echinocereus pentalophus* and its varieties start flowering in third week of March and will keep on flowering off and on till the beginning of rainy season. *Echinocereus enneacanthus* is a large flowering species with flowers up to eight cm in diameter and deep magenta to crimson in colour. In nature it

forms clumps of up to two hundred branches, with stout curving spines. We have only one plant of this beautiful specie. *Echinocereus berlandiere* is represented by a single plant with about eleven branches each four cm thick, mostly prostate.

*Echinocereus papillosus var. papillosus* forms small groups of trailing branches about five cm diameters and are brownish green in colours. It is an extremely floriferous variety especially when grafted on a sturdy stock. The flowers are large eight to twelve cm diameter. In our plants they are bright magenta in colours. In literature the flowers are described as bright yellow with orange or purple throat.

*Echinocereus cinerascens* and *Echinocereus stramineus* are profusely grouping plants. We have small grouping plants of these two species. The flowers more or less resemble those of *Echinocereus pentalophus*. *Echinocereus viereckii* is represented by *Echinocereus viereckii var. morriclli*. This is an interesting spineless species with three to five cm thick brownish or blackish green upright branches. It is a branching species and we have groups with twenty to thirty branches. Flowers are short funnel form and about seven to eight cm in diameter, magenta in colour.

*Echinocereus nivosus* is an attractive species with white spines. The stems are about twelve cm high and four cm in diameter, with twelve low ribs covered with very slender white spines about nine mm. long. They offset from the base forming small mounds. The plants in our glass house do not offset freely and are extremely prone to red spider attacks. For good growth they need plenty of light and airy position. For better growth now we have planted them on this rockery and will watch their growth. Flowers are not so prominent. They are only five cm across deep pink in colour. They have not flowered in our collection.

*Echinocereus delaetii* is another attractive species with long white spine. In nature they form small clumps of up to fifty stems with stems up to thirty cm long and four to eight cm in diameter, thickly covered with white or brownish white brush like spines which may be up to ten cm long. We are growing its variety *Echinocereus delaetii* var. *freudenbergi* which has whitish yellow spines. This plant has not flowered. It has now been planted outdoors for better growth.

*Echinocereus longisetus* is a very attractive plant with bristle like white spines which forms clumps with cylindrical erect stems up to thirty cm long and two and half cm in diameter. The stems with ten to fifteen ribs are covered with white bristle like spines. Flowers are rather small up to five

cm in diameter pinkish purple in colour. Our plants have not flowered so far. We are growing *Echinocereus longisetus* var. *longisetus* and ALFRED LAU's discovery LAU 1101 *Echinocereus longisetus* var. *rayonensis*. While the plants of *Echinocereus longisetus* var. *longisetus* are more robust in growth with overall yellowish colour due to their areoles, the *Echinocereus longisetus* var. *rayonensis* has thinner stems about 2.5 to 3.5 in diameter and spines are longer and overall appearance is white. For good compact growth they need full sun. Plants of this lovely species were given to several growers but unfortunately everyone has lost them. We have our problems under glass and now we are trying to grow them outdoors. In my personal collection four plants are being grown in very sunny position and have started offsetting and the growth is more compact.

*Echinocereus chloranthus* var. *russanthus* has ten to twenty cm long five to seven cm diameter solitary stems covered with short reddish spines. These plants shrink a lot during dormancy and are difficult to maintain in good health. The flowers are small; numerous in clusters, short funnel form up to three cm long greenish yellow in colour. We are growing *Echinocereus chloranthus* var. *chloranthus* as well. These plants have now been planted outdoors. *Echinocereus viridiflorus* and its variety *Echinocereus viridiflorus* var. *davisii* is another difficult to grow species

with small yellowish green flowers like *Echinocereus chloranthus*. We are growing *Echinocereus viridiflorus* var. *davisii* on graft under glass. On graft it is a profusely flowering plant.

SECTION - V *Reichenbachii* is very well represented. *Echinocereus spinigemma*, an ALFRED LAU discovery, has several plants on this rockery grown from seeds sent by him. There is one group with fifteen heads. Stout branches seven to eight cm diameter and thirty to forty cm long have rich yellow colour due to colour of areoles and thick layer of yellow spines. This species flowers every year in summer. Flowers are large near the apex and about six cm in diameter and pinkish lilac in colour. *Echinocereus subinermus* var. *subinermus* plants cover a sizeable area. These plants were propagated from seed grown plants by grafting on strong stock. The plants, some of them offsetting, are fifteen to thirty cm high, and ten to fifteen cm in diameter. They are practically spineless and are bluish-green becoming purplish-red during winter. They flower profusely during summer. The flowers are about ten cm in diameter and are yellow to yellowish- brown in colour. Next to this is a group of large number of plants of *Echinocereus stoloniferis* var. *tayopensis*. They were propagated under polythene in a porous bed. There was profuse offsetting from stolons. The plants are ovoid ten to fifteen cm high, eight to ten cm in diameter, ten to

fifteen ribs covered with ten to twelve radial spines about fifteen mm long and three to four central spines about two to three cm long, brownish in colour covers the plants. Flowers are five to eight cm diameter and yellow turning pinkish on second day.



*Echinocereus webstrianus* is another attractive species with stems forty to fifty cm high five to eight cm in diameter covered with short yellow spines becoming brownish when old, offsetting from the base. In nature it forms groups of up-to fifty stems. The plants on this rockery have started offsetting some with four to five stems. This species forms good pot plants. Use larger pot and grow in a sunny position. For robust growth fertilise it three to four times during growing season. The plants in our collection have not flowered so far.



*Echinocereus rigidissimus* v. *rubispinus*

There are several plants of *Echinocereus rigidissimus*, but their growth has not been good under glass. Moreover in the glass house they are prone to red spider attack. For better growth these plants have now been bedded here. There are three plants of *Echinocereus rigidissimus* var. *rubispinus*. Their ruby red colour in new growth area makes them attractive plants. The plants flower when they are twenty to thirty cm tall and need a very sunny position. There are a couple of plants of *Echinocereus chiosensis* var. *fobeanus*. The plants are solitary about twenty cm long and three and a half cm in diameter covered with pinkish-grey small spines. The flowers are large about ten cm diameter light pinkish-magenta and last two to three days. There are several plants of *Echinocereus reichenbachii*,

*Echinocereus reichenbachii* var. *perbellus* and *Echinocereus reichenbachii* var. *bailei*. Their growth had been stunted due to red spider attack indoors. Now they are picking up new growth and should form good plants outdoors.

SECTION – VI *Wilcoxia* plants are being grown indoors. They do not tolerate extreme heat and frost outdoors. *Echinocereus leucantha*, *Echinocereus poselgeri* and *Echinocereus schmolli* are in our indoor collection.

SECTION - VII *Pulchellus*. Several small plants of *Echinocereus pamanesiorum*, *Echinocereus pulchellus* and its varieties, and *Echinocereus knippelianus* and its two varieties are being grown under glass.

A group of *Echinocereus parkeri*, which quite evidently does not come under this section, is at the end of *Echinocereus* plantation. Several other species or their varieties are being grown from seed in the propagation area under glass.

The North-Western face of Rockery VI has plantations of *Notocacti*, *Melocacti*, *Lobivias*, *Gymnocalyciums* and *Echinopsis*. There are small group representing these genera. At the Northern corner of this rockery near the large *Echinocactus grusonii* is a plant of *Agave goldiana*. This is an

interesting medium sized species of Agave. It shows good leaf printing on upper surface of the leaves and the terminal spine of the leaf is red.

Our *Notocactus* plantation has several species—these are *Notocactus crassigibbus*, *Notocactus grassneri*, *Notocactus herteri*, *Notocactus horstii*, *Notocactus magnificus*, *Notocactus leninghausii*, *Notocactus mammulosis*, *Notocactus megapotamicus*, *Notocactus muelr-moellerii*, *Notocactus ottonis*, *Notocactus roseoluteus* *Notocactus rutilans*, *Notocactus schlosserii*, *Notocactus scopula*, *Notocactus hesteri*, *Notocactus warisii* and *Notocactus wardemannianus*.

The most prominent groups are *Notocactus magnificus*, *Notocactus warisii*, *Notocactus schlosserii*, and *Notocactus leninghausii*. While *Notocactus leninghausii* group had been established on this and two other rockeries for years, the planting of other species outdoors is only a year old. Of the others, *Notocactus schlosserii* is a promising outdoor plant. Its chestnut brown spines with reddish top makes it very attractive outdoors. Most smaller growing *Notocacti* tend to shrink during winter and very hot dry months. It has been noted that if they are watered at regular intervals in summer and on warmer days in winter then the outdoor shrinkage and losses can be prevented. Behind the *Notocactus* species please note two *Ferocactus pottsii* plants. This is a very attractive *Ferocactus*. These plants

are only thirty to thirty five cm in height. There is a much bigger specimen plant of this species on Rockery X near the large octagonal glass house. The *Melocactus* plantation has four species. *Melocactus intortis*, *Melocactus bahiensis* and two other unidentified species. Three *Melocactus intortis* plants have large cephalium. This species tends to shrink badly during winter and the recovery in summer after shrinkage is never complete. Except the plants with cephalium, the others show robust growth and no shrinkage. Some of these plants are likely to have a cephalium in another year or so.

Several species of *Lobivias* have been planted outdoors. Some of these are hybrids. There are plants of *Lobivia silvestri*, *Lobivia huascha*, *Lobivia aurea*, *Lobivia* "larries hybrid" and several others. Most of the others are hybrids. *Lobivia hybrids* are attractive flowering plants. *Lobivia huascha* had been established outdoors for several years. The others had been brought out this year as they had red spider infestation indoors. We have been using two species of *Lobivia* hybrids for floral effects on other rockeries for several years. These are bright coloured profusely flowering hybrids which have *Lobivia silvestri* as one of the parents. Grafted on thirty to sixty cm high stout stock of *Ritterocereus pruinosis* they form football

size offsetting heads in a couple of years and are full of flowers when in bloom. They flower three to four times during the summer.

*Gymnocalycium* plantation is relatively small. Several species of the low grouping *Echinopsis*, are at the end of the rockery. Also note the groups of *Ferocactus glaucescens* and *Ferocactus latispinus* in the background. There are two small groups of *Opuntia depressa* as well. This *Opuntia* with large golden yellow flowers blooms quite profusely. During winter the pads shrink and become pink in colour.

The path along the southern face of Rockery VI runs westwards. Along the southern side of this path is a series of small rockeries VI a, VI b, VI c and VI d, ending at the higher point view rockery VII a.

## **ROCKERY VIa**

This rockery has been developed by MR. S. S. SAHI of Chandigarh. Over the past seven to eight years MR SAHI has been an active helper in procuring several cacti and succulents for this garden. His best contribution has been the supply of *Euphorbia milii* hybrids developed by growers in Bangkok and adjacent countries. He is now helping us to procure different clones of *Adenium* being developed abroad. This VIa is a small rockery

having a mixed population of cacti and succulents. There are three large *Pachypodium lamieri* and one smaller *Pachypodium ambogensis* plants. Two large *Agave victoria-reginae* are also prominent contribution. *Agave parryi* and *Agave toumeyana* are also present. There are two large plants of *Euphorbia leuconeura*. Two *Ferocactus herrerae* plants are having robust growth. There are several *Echinocactus grusonii* of different sizes. Two small plants of *Cephalocereus palmeri* are in the background. Several *Mammillaria* plants of three or four species are there. Of course this rockery will be incomplete without the three plants of *Adenium obesum*: MR. SAHI is very much an *Adenium obesum* addict, and has collected several ones. Three plants of *Euphorbia milii* hybrids on this rockery are in flower practically throughout winter, adding colour to this small landscape.

## ROCKERY VIIb



An equally small rockery, it has a group of fifteen *Pachypodium lamieri* plants. When the *Pachypodiums* are in flowers this group presents a very attractive sight. This group has been planted with the hope of better seed setting of *Pachypodium lamieri*. At the end of flowering season we generally note fair seed setting but their maturity depends upon the severity of winter. Most of these premature seed pods die during severe winter. One plant of *Pachypodium rosulatum* is also present in front. Unfortunately this does not set seed. Three or four *Adenium obesum* plants also grow at the rear. They provide floral display during the summer.

## **ROCKERY VIc**

This rockery is slightly bigger and has been developed by MS. RAJNI CHUGH of Chandigarh. MS. CHUGH is a highly dedicated plant lover and has developed a beautiful succulent garden in her residence. She has very healthy cacti and succulents at her garden and these have been planted in an attractive manner. This small rockery has a very large number of species and efforts have been made to have maximum floral display during the summer. This has been achieved by large grafted groups of *Boliviocereus sampatiensis*, *Borzicactus aureispinus* and groups of *Akersia grandiflora* x *Borzicactus aureispinus* plants. Four hybrid *mili* plants in the mid zone add to the colour display throughout the year. A large *Rebutia senilis* grafted group and grafted plants of *Lobivia* hybrids add to the floral display. Two large plants of *Agave victoria-reginae* are in the front. These specimen size plants have not flowered so far. Two plants of *Agave fernando-regis* are also on this rockery. This species resembles *Agave victoria-reginae* but differs in that it has narrower elongated leaves and the plants of this species on this rockery have given offsets by means of long stolons. There is one large *Agave americana* fa. variegata at one end of this rockery. One large *Nolina recurvata* is at the Western end of this rockery. A group of *Aloe*

*arborescens* grows near it. There are several species of cacti as well on this rockery. Starting from the Eastern end there are *Echinocactus grusonii*, several plants, of different sizes spread over this rockery. A group of large *Astrophytum ornatum* plants, a couple of *Notocactus leninghausii*, several groups of *Mammillaria geminispina*, and a couple of *Melocacti* more or less cover the front. The rear slope of this feature has a large group of dichotomously branching *Mammillaria diffusa*, several larger groups of *Mammillaria magnimama* and *Mammillaria benecke*, and a big group of *Coryphantha elephantidens* plants. A lone *Echinocereus scheeri* var. *gentry*, more or less completes the tally. In the middle of this rockery are *Ritterocereus pruinosis*, and some *Cleistocactii* plants.

## ROCKERY VIId

This is a recent addition. The main objective of this feature is to grow a group of *Pachycereus* plants. There are six plants of *Pachycereus pringlei* of different sizes. Most of these plants had damaged tops and in the past have been used for propagation purposes. Clean offsets were removed and rooted. Only two plants now have undamaged tips and are about half a meter tall. Clean offsets from the others will be used to complete this group planting. There are two plants of *Pachycereus pectenaboriginum* each about

175 cm high. One of these has started offsetting from the base. Five large *Adenium obesum* plants are also on this rockery. They cover up the damaged *Pachycereus pringlei* plants and also provide plenty of flowers in summer. There is one group of *Akersia grandiflora* x *Borzicactus aureispinus* to provide plenty of floral display. Taking advantage of the shade provided by *Adenium obesum* leaves, a trial has been made to naturalize several species of Indian *Carallumas* as well with partial success.