

Moisture is key to pincushion, too

Moisture controls to a great extent the growth of all desert plants. Since cactus plants have no leaves, the pores (or stomata) are necessary for the exchange of carbon dioxide and oxygen; which are found in the outer layer of the green bark.

When there is moisture in the air, the stomata opens, allowing passage of carbon dioxide into the cactus to manufacture its food. But as the air becomes very dry, and there is no rainfall, the stomata closes. Little or no carbon dioxide can enter the plant, little or no food is produced and little or no growth will take place.

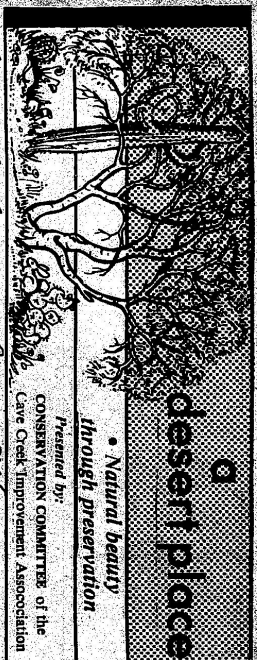
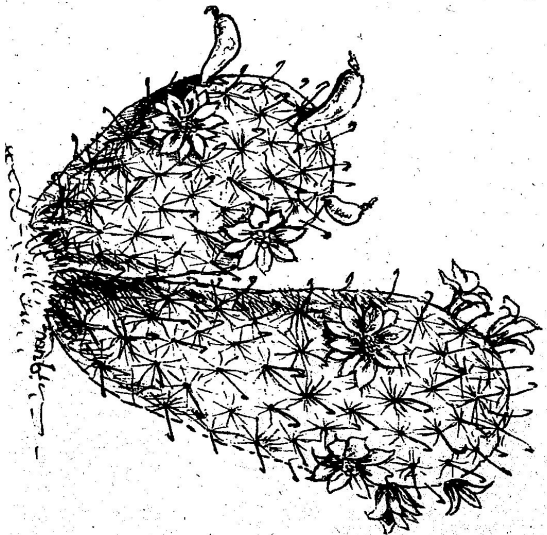
Cacti have many roots reaching out in all directions to absorb all available moisture. This mois-

ture is changed chemically into a mucilaginous substance and stored in the plant's body. This type of substance does not evaporate as readily as the thin sugar solution produced by most plants.

The cactus plant is one of nature's crowning achievements in adaptation to its environment.

Cacti have developed a peculiar, but necessary, organ — the areole. It is usually round or oval, and is made up of two buds. The lower bud develops spines and the upper bud produces flowers and fruit.

In cacti, like the cholla, branches may be produced. This little structure takes care of protection and reproduction.



desert place

• Natural beauty through preservation

Presented by:
CONSERVATION COMMITTEE of the
Cave Creek Improvement Association

See Mt. View - June 84

Mammillaria cacti are all small plants with solitary or small groups of stems (except for one species). Some are very tiny, less than an inch tall; and the tallest is up to 10 inches.

They are not ribbed as many cacti, but the buds are borne in nipple-like tubercles arranged in spiral rows around the plant.

The spines that grow from the lower bud are of two kinds: the projecting central spine, or spines are straight or hooked. The other spines are smaller, always straight, and usually lie flat against the plant — to protect it from predators and provide shade.

The color and number of spines is important in distinguishing different species.

The flowers of this genus are borne by the upper bud; bloom in the daytime and last several days. Though small, these pink to purple flowers are quite attractive.

Some pincushion cacti bear their flowers in a circle around the plant, an inch or more below the summit of the plant. Others are clustered on the apex.

The fruits are smooth, spineless, juicy and edible. They are usually club-shaped, an inch or less in length, and often bright red.

The only common cactus of

this genus growing in the Desert Foothills is *Mammillaria microcarpa*. The genus name *Mammillaria* refers to the nipple-like tubercles that are a distinguishing characteristic of this genus. *Microcarpa* means small seeds.

This species does grow to 10 inches tall and 3 inches in diameter. It is identified by one (occasionally two or three) hooked central spines, 1/2- to 3/4-inch long, either dark-brown or purple in color. The radial spines, 15-30 in number, are white. They spread out flat around the areole.

The flowers are pink, and the petals edged with white. This plant blooms not only in the spring but at six-week intervals, until fall.

The fruits are 1/2- to 1-inch long, bright red; and are enjoyed by desert animals and birds.

Several interesting species of this genus occur in Southeastern Arizona. Several more are adapted to the higher altitude and cooler climate of the northern part of the state.

