



A fifth grade class using the Arboretum as an outdoor classroom. Photo by James Weidlein.

The Outdoor Classroom Program at the Boyce Thompson Southwestern Arboretum. Visitors smile at the sight of fifty youngsters in the Arboretum, headed by a tour-guide, exclaiming in wonder at the largest Boojum Trees in the United States. They learn where the plants grow naturally, that they are not cacti, and various facts about their adaptations, before moving on. As the walk proceeds, occasional voices rise in discovery. "Look at that lizard!" "I see a red bird in that tree!" "That cactus has HAIR!" The group makes an unscheduled stop to view a rock squirrel in a tree of *Cercidium microphyllum*, harvesting seeds. The tour-guide explains, then asks questions, as the squirrel, mindless of the excited on-lookers, continues to stuff its cheek-pouches with hulled palo verde seeds.

Over 3,000 elementary and secondary students each year enjoy such experiences as they participate in the Outdoor Classroom Program at the Arboretum. Teachers must call in advance to schedule each visit with the Arboretum Educational Coordinator. For the busy spring season, several months' notice is needed. This advance planning is necessary to equalize visitor impact on the Arboretum and to provide students with a quality educational experience during their visit. Teachers arrange at this time for the sort of tour they would like—length, any particular subject matter they wish treated, units the students are working on, and any other special needs. They can arrange to receive free plants for classroom use and to borrow slide sets about the Arboretum to show to the students before coming. They are sent packets of information to help prepare both students and accompanying adults for the trip.

When they arrive at the Arboretum, students are organized into orderly groups and given an introductory talk. Then, on a typical tour, they are taken through the two public green-

houses and around the main trail. Tour guides are either staff members or trained volunteers. Different teaching techniques are used. Aside from merely telling what is seen, guides use questions to make the students find the answers themselves. Insofar as possible, "hands-on" experiences are devised. Students are invited to pick and smell a eucalyptus leaf; to touch a leaf of *Ehretia anacua* and guess its common name ("Sandpaper Tree"); to feel and smell a piece of *Aloe vera* leaf; to stroke a horned lizard's back; to sniff a *Sophora secundiflora* blossom and liken it to the smell of a favorite treat. Tours usually last about an hour and a half, and generally end in the picnic area, where appetites heightened by clean air and exercise are rewarded. It is very satisfying to meet students who have gone on one tour who are back to visit the Arboretum with their families, acting in turn as the tour-guide themselves.

The Arboretum itself provides unexcelled opportunities to teach and interpret, and in truth serves as a giant outdoor classroom. Although desert plants are the unifying feature, many aspects of natural history are present at the Arboretum to be touched upon: rocks, soil, plant-animal interrelations, animal behavior, climate, cloud types, aquatic life, and on and on. Even other disciplines such as geography, chemistry and history enter in as well. But there is something else, too, that pervades each experience here and gives it a special quality—the physical setting and natural beauty of the Arboretum itself. The students are not only actively taught, but they are encouraged to be aware of other things: the passing beauty of a bird song, the music of water over rounded boulders, the majestic presence of a craggy mountain, the peculiar stillness of a protected natural area in comparison with an urban setting. Hopefully, the seeds planted in the young will bear a fruitful and generous harvest at maturation.—Carol D. Crosswhite.