

# Guzzlers

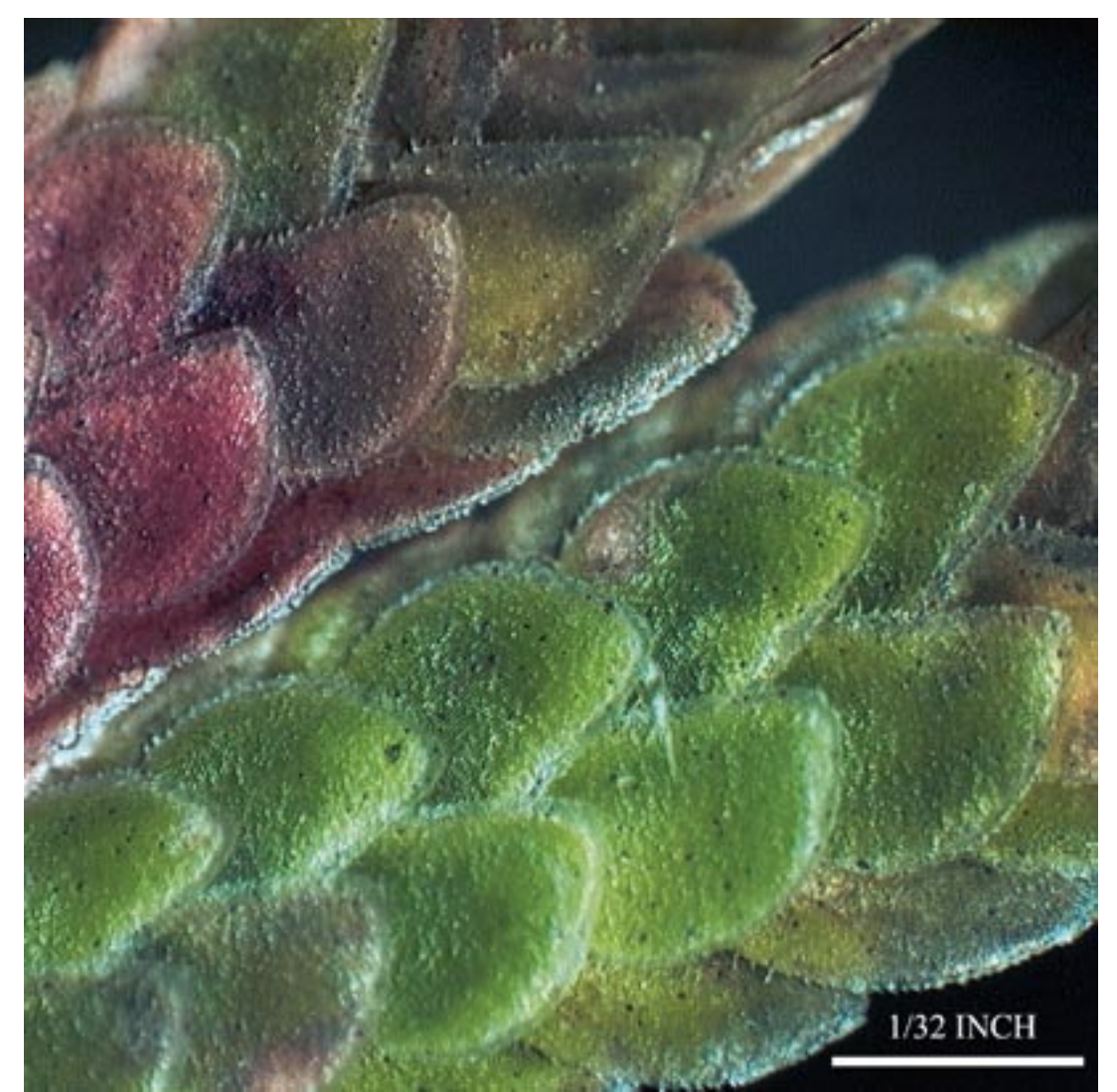


**Drought-tolerant plants** have adaptations enabling them to live in dry environments. Such adaptations are essential since plants are composed mostly of water. One adaptation is to store water in enlarged organs. Another is to prevent water loss from the leaves or stems. Some plants cease growth or drop their leaves during dry periods.



Resurrection plant after rain

**Resurrection plant**, *Selaginella lepidophylla*, evolved long before flowering plants. During drought it becomes dry, turns brown, and rolls inward to survive. It can remain dormant for decades, looking dead. After a rain, however, it absorbs water, restores chlorophyll to its leaves, and grows rapidly.



Close-up of leaves of resurrection plant



Tuberous root of elephant's foot

*Dioscorea elephantipes*, a South African yam known as **elephant's foot**, is one of many plants that have a large water storage organ. The leafy, green vine grows out of the yam during the rainy season. Upon drought, the stems die back and the leaves drop off, leaving the corky, brown, tuberous root that conserves food and water for the next growing cycle.



Spiny stem of *Echinocactus grandis*

The basic shape of many cacti is cylindrical or spherical. This gives them a large internal volume where they store water, and reduces the surface area through which they lose water. The absence of leaves and the presence of a waxy surface also enhance water conservation. *Echinocactus grandis*, a **barrel cactus**, is typical of most cacti. The ribbed stem permits an accordion-like expansion when water is available.