

Squatters

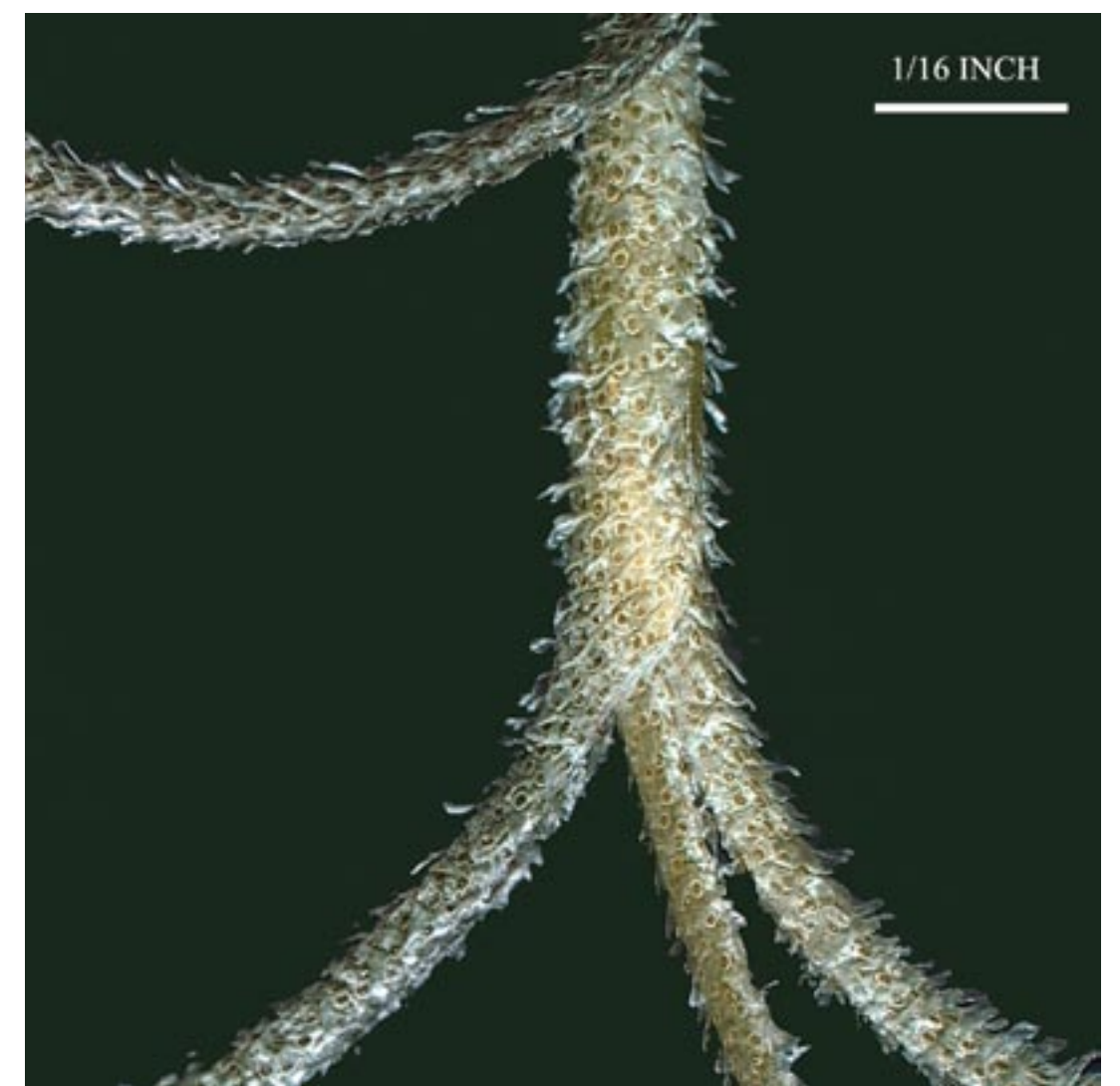


Epiphytes are nonparasitic plants that have adapted to grow upon or attach to other living plants without ever having roots in the soil. Positioned in the trees and on cliffs, they escape predation from ground-dwelling animals and receive more light than plants on the forest floor.



Spanish moss hangs on oak, photograph by J.S. Peterson

Spanish moss, *Tillandsia usneoides*, is not a moss at all, but rather a relative of the pineapple plant. Epidermal leaf scales absorb water directly from the atmosphere, a necessary adaptation since Spanish moss is rootless. Nutrients are obtained from mineral-rich water dripping onto it from the trees that above.



Spanish moss leaves with scale



Orchid roots clinging to tree bark

Epiphytic orchids are adapted to clinging to the bark of trees. Their specialized roots are covered with spongy tissue called velamen that has an amazing adhering capacity. In addition, the roots absorb water and nutrients from rain and runoff from the canopy above.



Two types of fronds of staghorn fern

Staghorn ferns, *Platycerium* species, hang from cliffs and trees, anchored by a fine root system that works its way into cracks and crevices in bark. The fern develops two types of fronds (leaves). Cup-shaped fronds curve upward, catching organic debris, which then decays into a rich growing medium. The antler-like fronds capture sunlight and with time may produce reproductive spores.