

## "TALES FROM THE CRYPTOS"

By David Williams

Cryptobiotic soil crusts are a complex relationship of cyanobacteria, green algae, lichen, fungi, and mosses that form a living cover on many ground surfaces. They grow in most semi-arid and arid ecosystems on this planet, from hot deserts to Polar Regions. These extremely fragile living crusts are the topsoil of the desert. Although most people think of the crusts as dark and crunchy, they can be reddish or brown and smooth and are nearly invisible when they first develop.

Crusts perform several functions critical to productive desert environments. They drastically reduce wind and water erosion, increase soil infiltration, aid in nutrient availability (particularly nitrogen) for vascular plants, and enhance seeding establishment. Without these crusts, many native flowers, shrubs, and trees will not thrive in the desert, and this region would quickly become loose sand.





Unfortunately, due to extreme fragility, most crust functions are severely restricted when the crust is trampled. This problem is further exacerbated because it takes 50 to 250 years for small area to recover from being crushed. Large areas may take longer. Once the crust is disturbed, other people follow the tracks, areas start to erode, gullies begin to form, barren sand dunes take over the region, and a productive ecosystem is destroyed.

Cryptobiotic crusts are everywhere; therefore, you will damage them if you venture off the trail. If you must walk or ride off marked trails, hop from rock to rock or stick to slickrock and washes. If you are in a group, do not spread out; walk in each other's footprints. Be creative and think of it as a game to "Tiptoe around the crypto."

