

Figs Are Stranglers Among Trees

WASHINGTON - Among trees, they have a reputation as "the stranglers."

They not only strangle other trees, but will engulf almost anything that is stationary, from sidewalks and buildings to abandoned washing machines, says botantist Francis E. Putz, who has studied strangler fig trees in Venezuela, Costa Rica, and Florida. Some varieties have swallowed up some of the remains of ancient architectural wonders. from Angkor in Kampuchea (Cambodia) to Tikal in Guatemala.

Strangler figs are backward trees. Putz says. They start life in the tops of other trees and grow down, along their trunks. When they take root in the ground, they

A palm tree is almost engulfed by a strangler fig on a Venezuelan savanna. The fig tree begins life at the top of the palm, grows down along its trunk, and then back up. Fig seeds are deposited by birds or bats in the crevices of palm trees. Palms can survive. Many other trees die of strangulation.

grow backup, until they finally look and act more like normal trees.

Leading Two Lives

These remarkable trees lead two lives - in the treetops as desertlike plants, and rooted in the ground, with the characteristics of tropical rain-forest trees. They change not only their habitat but part of their anatomy to survive.

"They are really peculiar plants," says Putz.

Strangler figs are related to East Indian banyans and grow in tropical and subtropical regions. Flowering all the time, they are a constant source of survival food for some tropical forest animals.

These trees kill other trees not by choking or squeezing them, but by preventing their trunks from enlarging. Many trees, among them some of the stranglers' favorite hosts, must add vital girth as they grow. The stranglers send down a tangle of twisted roots along the trunk, crisscrossing and fusing them so that some older stranglers appear as if they had developed a solid trunk. The other tree inside eventually dies, leaving a healthy, free-standing fig - with a hollow trunk.

Trees like the palm, another popular host whose trunk does not expand as it grows, can survive life with a strangler, Putz says.

Strangler figs sprout from seeds deposited in the crotches and crevices of large branches by birds, bats, monkeys, and other animals that perch in treetops.

The advantages of starting out at the top, Putz expalins, are an abundance of sunlight, lack of intense competition encountered by young plants on the ground, and the unlikelihood of being broken or buried by falling branches.

An assistant professor of botany at the University of Florida, Putz must spend a great deal of his field-research time up a tree. An experienced tree climber, he says, "I hang there quite comfortably. The wind's blowing. The bugs don't bother you up there. It's really pleasant. Sometimes I've spent half a day up there.'

But the top of a palm, Putz reports, is "a wild place. There are all sorts of insects, scorpions, centipedes... also mice and boas. I reach in with trepidation."

Treetop Soil Richer

Putz found that "soil" in the treetop - created from the nests and feces of animals that roost there - is two to five times richer in nutrients than the soil on the ground. He concludes that strangler figs that begin life up in a palm send roots down to the ground primarily because of an

increased need for water, rather than for nutritive material. During life in the air, strangler figs develop thick leaves that store water, with fewer pores to reduce evaporation.

"They are more succulent. They contain 10 to 20 percent more water, an adaptation to watershortage conditions that is characteristic of desertlike plants," Putz says.

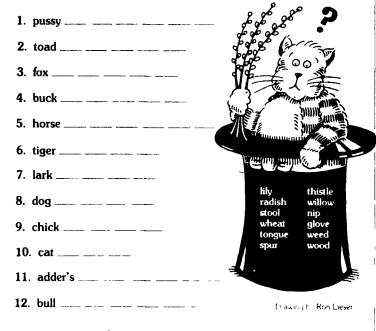
Once rooted in the ground, the strangler fig "changes its leaf anatomy. Pores are more abundant, for example," he explains. "It is quite a different plant, more like a tropical rain-forest tree."

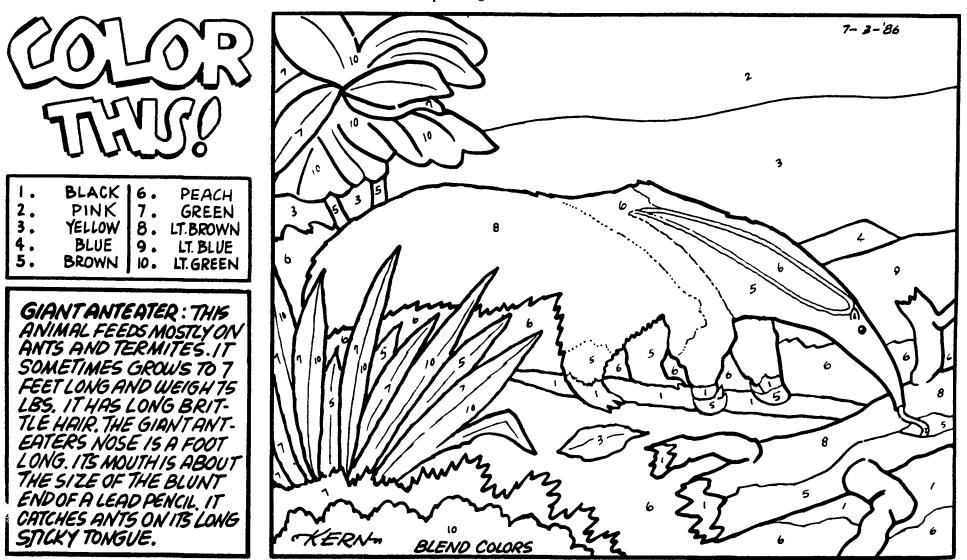
Given the advantages of life as a strangler fig, Putz says he wonders "why every tree in the forest is not in the process of being strangled."

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Would you like to be a magician? Then match the names of the animals in the list below with the words in the list on the hat When you're done you will have changed animals into plants!





5.	BROWN		LT. GREEN