

Oozing Ailment Threatens Saguaro

By John Pacenti

THE ASSOCIATED PRESS

SAGUARO NATIONAL MONUMENT, Ariz. — The saguaro cactus, the pitchfork-shaped emblem of the Southwest, is suffering from a mysterious ailment.

Some scientists say the stately cacti with the improbable arms are in serious danger, and have pointed to culprits ranging from copper-smelting pollution to depletion of the ozone layer.

Others are less alarmed by the brown decay known as bacterial necrosis and feel the population decline has simpler explanations, like freezing or cutting of trees that shelter young saguaros.

The tug-of-war between researchers has left more questions than answers about humans' effect on the desert environment. It also has shown that in many respects the sentinel of the desert is a mystery.

"We don't understand much about the saguaro," says Meg Weesner, research chief at this national park outside Tucson. "People are just now looking into its root structure and how its habitat affects its growth rate."

The saguaro (pronounced SAWAH-ro) grows only in the Sonoran desert in Arizona, northern Mexico and a sliver of southeastern California.

The cactus, which has a normal lifespan of 175 years and can grow to a height of 50 feet and a weight of 5 tons, is afflicted by bacterial necrosis throughout its range.

Disease fears get their biggest

boost from one stand of cacti in the park. A pair of prints in the park's handbook shows the decimation: A 1942 photo presents a landscape studded with thriving saguaros; in 1984, a photo from the same viewpoint shows a skeleton forest of dead cacti.

It was learned in October that the monument's prize possession, a 300-year-old, 52-foot-tall saguaro known as "Old Granddaddy" has been stricken with bacterial necrosis.

"No one knows what it is," said Kate Lajtha, a Boston University ecologist. "The cuticle just turns brown. Its outside waxy layer just depletes."

"It's this oozing cactus, this brown, black, slimy fluid," said Joe McAuliffe, director of research with the Desert Botanical Garden in Phoenix. "It's a not a pretty sight when you see a saguaro go."

Despite its size, the plant is more fragile than its folklore.

A 2-year-old plant may be only one-quarter of an inch in diameter, and a 9-year-old plant on average is about six inches in height. It takes 75 years to grow its first arm.

The saguaro as a youngster needs a sheltering "nurse plant" to grow under, then as an adult continues to be susceptible to freezes and overheating.

Humans are also a danger.

A healthy specimen of the cactus can fetch thousands of dollars on the black market. A ring of cactus thieves was indicted in 1989 for poaching on public lands.

Thousands of saguaros were sacrificed to make way for expansion

of Lake Pleasant north of Phoenix, a manmade reservoir for water storage and boaters. Housing and resort developers sometimes try to move or build around saguaros — and sometimes they don't.

"Ultimately, saguaros are in the way of progress," said McAuliffe.

Scientists have been worrying about saguaros' health since shortly after the monument was established in 1933. Concern accelerated in the late 1980s when researchers studying the effects of air pollution on parks landed in the monument.

Some suggested pollution, either from cars or from copper smelting that began in the early days of Anglo settlement in Arizona, was contributing to the browning of the cacti.

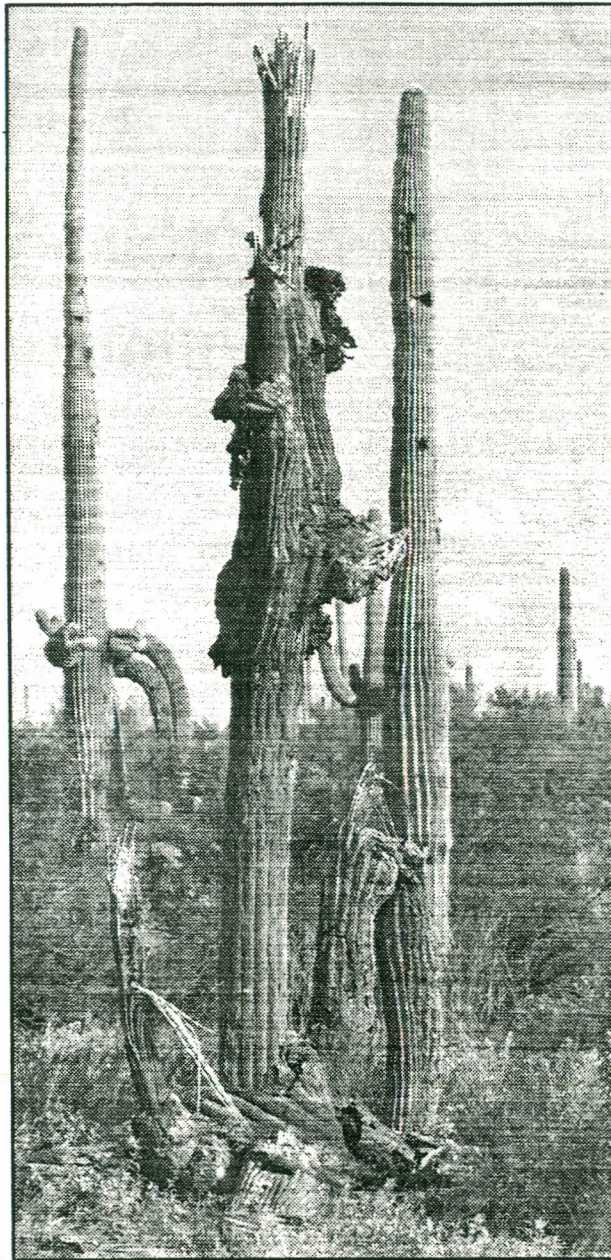
One well-known study was conducted by Lance Evans, a professor

at Manhattan College in New York City. He suggested in 1991 the depletion of the ozone layer, and a corresponding increase in levels of harmful ultraviolet rays, were killing the saguaro.

He noted browning is most common on the south sides of saguaros.

During a recent trip to Argentina to study the columnar cactus believed to be the saguaro's closest relative, Evans found supporting evidence: The Argentine cacti also are turning brown but on the north side — the side closest to the sun in the Southern Hemisphere.

"It has something to do with sunlight," Evans said. "I think it still is a very good hypothesis and the information that we've had from cacti in South America has only strengthened our idea."



Healthy saguaros stand near a dead comrade in the Saguaro National Monument near Tucson.

THE ASSOCIATED PRESS