http://www.desertmuseum.org/invaders/invaders_cactusmoth.htm

Argentine Cactus moth (*Cactoblastis cactorum*)

The adult cactus moth is not distinctive; there are thousands of species of small brown moths. The egg sticks and larvae, however, are easy to recognize. Photo: Susan Ellis, USDA APHIS PPQ www.forestryimages.org

Prickly pear pad hollowed out by larvae of the Argentine cactus moth. Photo: Les Tanner, Northwest Weeds, www.forestryimages.org

What is it?

The Argentine Cactus Moth (aka *Cactoblastis* cactus moth) is a small (22-35 mm) grayish-brown moth. The larvae are 25-30 mm in length and bright orangish-red with large dark spots that form cross bands. In Florida there can be three generations in a year. The eggs are laid in a series of up to 140 that creates a chain, looking like a stick or spine on the surface of the prickly pear pad (cladode). Upon hatching the larvae burrow into the pad and begin feeding gregariously on the tissues. This feeding consumes the cladode completely and the larvae move to other ones before pupation.

The distinctive "egg stick". Photo: Susan Ellis, USDA APHIS PPQ www.forestryimages.org

Larvae inside a prickly pear pad. Photo: Susan Ellis, USDA APHIS PPQ www.forestryimages.org

Why is it a Threat?

As a natural feeder on prickly pears (*Opuntia* species) the caterpillars of this moth are capable of destroying plants and populations of these plants. Prickly pear cacti are popular in residential and commercial landscapes throughout the southwest US and Mexico . Additionally there is widespread and valuable commercial and traditional use of the plants in Mexico . *Opuntia* production of food for

humans and livestock are the major uses. It is estimated between 2% of the value and production from agriculture in Mexico is from *Opuntia.*

Top left: A field of prickly pears (*Opuntia ficus-indica*) being grown for nopales (edible pads) or tunas (edible fruits) near Hermosillo, Sonora. Top right and bottom left: Tunas for sale in Hermosillo market. Bottom right: Tunas prepared to eat. Photos: T.R. Van Devender

Widespread invasion by this moth could lead to extensive destruction of natural *Opuntia* populations that serve as food for wildlife such as deer, javelina, rodents, and coyotes. Birds use prickly pears as nesting sites.

Distribution

The moth is native in the South American countries of Argentina , Brazil , Paraguay and Uruguay .

It was introduced into Australia in 1926 as a control for the invasive spread of prickly pears that had been introduced as animal fodder. Introduction has occurred in African, Asian and island countries since then.

The arrival in Florida may have natural dispersion from the West Indies or on imported plants.

Habitat

If *Cactoblastis* can survive in the Sonoran Desert, prickly pears may become rare, in contrast to this dense population near Tucson, Arizona. Photo: Mark Dimmitt

Suitable habitat in the U.S. has not been determined. It can live on many species of prickly pears, but it is not known whether it can tolerate the arid climate of the Southwest.

The paired images above show the destructive potential of *Cactoblastis*. *Opuntia stricta* (coastal prickly pear, native to southeastern North America and Cuba) and other species were introduced to Australia in the early 1800s. They escaped cultivation and by 1925 *O. stricta* had infested 62 million acres (25,000,000 hectares) so densely that neither people nor other large animals could travel through it. Left: Semiarid forest in Queensland at the time of introduction of *Cactoblastis* to this site in 1928. Right: The same area 17 months later; 90% of the cacti are dead. In Australia the prickly pear was the invasive exotic pest, and *Cactoblastis* effectively solved the problem in a short time in the warmer parts of the continent. *Cactoblastis* could also devastate native populations of prickly pears in areas where the insect has no natural controls. Photos: Homer Shantz; courtesy University of Arizona Herbarium.

History

The moth is native to several South American countries. It was discovered in the Florida Keys in 1989 and has now spread north to South Carolina and east into Alabama

What can be Done

Monitoring *Opuntia* in nurseries and home landscapes in the path of expansion of the range of *Cactoblastis* for evidence of infestation will be critical for early detection.

Research into control methods is being conducted, looking at chemical, biological and sterile insect techniques (SIT).

Control by available insecticides may be appropriate in nursery and small landscape settings, but not in widespread landscapes or agriculture.

Specific Biological Control agents (predators) have not been identified and study in the home range of the moth is continuing.

Sterile Insect Techniques is a process of releasing sterile males into a population, they breed with fertile females resulting in sterile eggs, thus fewer offspring.

Studies with this technique will take place in 2005.

The oozing wounds on this prickly pear pad are symptomatic of several species of cactus borers, not necessarily *Cactoblastis*. Photo: USDA

This saguaro seedling is infested by the native blue cactus borer (*Cactobrosis fernaldialis*). The larva of this moth is bluish in color and do not feed in colonial groups. This native rarely causes lethal damage to larger cacti. Photo: Mark Dimmitt

Links

National Invasive Species Council " invasive species of the month" for March 2005

University of Florida Featured Creatures: the cactus moth

European and Mediterranean Plant Protection Organization (EPPO)

History of prickly pear invasion and control in Australia

References

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