

Cactoblastis Moth *Cactoblastis cactorum*

biological control of the prickly pear cactus *Opuntia stricta*

The prickly pear, an attractive yellow flowering cactus with a delicious pear shaped fruit, was brought to Australian gardens from South America in the 1830s. It grew quickly and farmers used it to form very effective hedges to fence farmland. Unfortunately it also resisted drought and had no predators, so it spread very quickly. By 1900 the prickly pear covered over 4 million hectares in Queensland and New South Wales and by 1925, the pest had invaded over 24 million hectares. This resulted in the abandonment of a great deal of land by landholders.

In 1920 the Commonwealth Prickly Pear Board was formed to get rid of the cactus pest. Scientists were sent to the USA, Mexico and Argentina to find an insect that ate it in its native environment. They chose a moth called *Cactoblastis cactorum* (originally found in Argentina), and released it in Australia in 1926. 2,000,000 eggs were released near Chinchilla. Within ten years the caterpillars had cleared 11 million hectares of prickly pear.

The species is now common over Queensland and New South Wales, and the prickly pear has been reduced to isolated plants of little economic significance.

Life cycle of the Cactoblastis moth *Cactoblastis cactorum*

The eggs are laid on top of each other like a stack of coins, the first one being anchored to a cactus spine. The stack can contain over 100 eggs, and curves over to make a kind of bent stick with a length of up to 20 mm. When they hatch, the young caterpillars walk down the stick and start burrowing into the cactus segments.

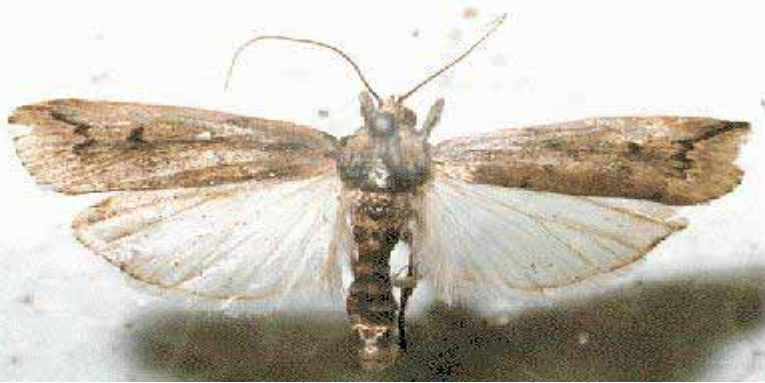
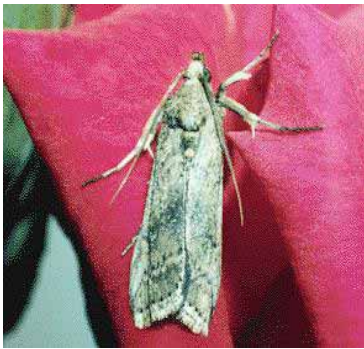
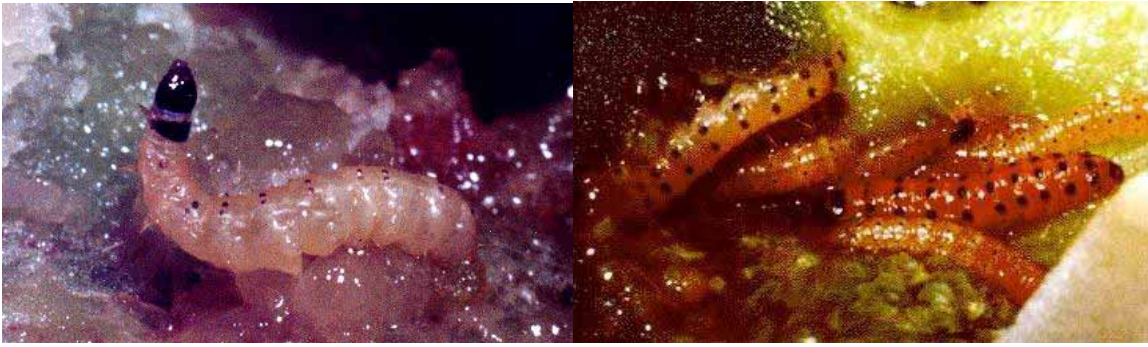


Female laying eggs in 'egg stick'.



Egg pile on a cactus spine

The caterpillars live and feed communally inside the tough, leathery, prickly skin of the host plant, reducing the plant material inside to a gooey green mess. They are initially pinkish-cream coloured, with dark red dots on the back of each segment. Later the caterpillars become orange, with the dots expanding and then fusing to become a dark band across each segment. The caterpillars grow to length of about 15 mm before they normally pupate in white silken cocoons amongst the ground debris.



The whole of the interior of the segment may be eaten leaving the thin outer cuticle. Larval burrowing often results in invasion by bacteria which hasten the death of the cactus. When fully grown the larvae exit the plant and drop to the ground to find pupal sites at the base of the cactus between dead collapsed segments, under stones and logs. Pupal period varies from 21 days in summer to 42 days during the colder times.

The adult moth is fawn with faint dark dots and lines on the wings, and has a long nose. It normally rests with its wings wrapped around its body. The moth has a wingspan of 20 mm.

References: The prickly pear moth, Queensland Department of Lands; *Cactoblastis cactorum*, <http://linus.socs.uts.edu.au>; Cactoblastis moth, <http://powerhousemuseum.com>; Prickly pear identification and their control, Queensland Government Department of Natural Resources and Mines.

