

Mini data sheet on *Cactoblastis cactorum*

Added in 2003 - Deleted in 2006

**Reasons for deletion:**

*Cactoblastis cactorum* has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2006, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List.

*Cactoblastis cactorum* (Lepidoptera: Pyralidae - cactus moth)

Why	<i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae, synonym: <i>Zophodia cactorum</i> ) originates from South America. So far, it has essentially been known for its use in successful biological control of invasive cacti. It was introduced from Argentina into Australia in the 1920s where it drastically reduced introduced <i>Opuntia</i> populations, so that large areas of land could be returned to agriculture. The same efficacy was obtained in Hawaii, India and South Africa. But <i>C. cactorum</i> also spread to other parts of the world, in particular south-western USA, where it became a pest, threatening indigenous and rare species of <i>Opuntia</i> . In Mexico where <i>Opuntia</i> are important plants, used for fruit production, fodder, scale rearing ( <i>Dactylopius coccus</i> ) for dye production, traditional medicine etc., <i>C. cactorum</i> is perceived as a very serious threat and measures are taken to prevent its introduction.
Where	<p><b>North America:</b> USA (Florida (found in 1989), Georgia, Hawaii, South Carolina). In Mexico, there are unconfirmed records in Yucatan, but recent surveys gave negative results.</p> <p><b>Caribbean:</b> Antigua &amp; Barbuda (Antigua), Bahamas, Cayman Islands (Grand Cayman), Cuba, Haiti, Jamaica, Dominican Republic, St Kitts &amp; Nevis, Montserrat, Puerto Rico, Trinidad, US Virgin Islands.</p> <p><b>South America:</b> Argentina, Brazil (southern part), Paraguay, Uruguay.</p> <p><b>Oceania:</b> Australia (New South Wales, Queensland), New Caledonia</p> <p><b>Africa:</b> Mauritius, Saint-Helena (Ascension Island), South Africa, Tanzania. Introduced in Kenya for biological control in 1996 but establishment failed.</p> <p><b>Asia:</b> India, Pakistan (introduced but establishment is uncertain).</p>
On which plants	<i>Opuntia</i> spp., not found on other genera of Cactaceae. In its area of origin, <i>C. cactorum</i> has been recorded feeding on almost all of the many <i>Opuntia</i> species belonging to the platyopuntia group (prickly pears). Following its introduction to other parts of the world, <i>C. cactorum</i> readily attacked other species (including <i>O. ficus-indica</i> ).
Damage	<p>Females lay eggs in linear masses (forming an 'egg-stick' resembling cactus spines). Larvae collectively burrow and enter <i>Opuntia</i> cladodes (or pads) through a single entry hole and feed gregariously inside them. During feeding, frass is pushed out of the cladode and forms a noticeable heap on the ground. Larval feeding can also lead to decay and rotting. High populations can kill the plants. Larvae are initially pinkish-cream coloured with dark red spots on the back of each segment. Later instars become bright orange, and dots expand and coalesce to become a dark band across each segment (mature larvae are approximately 25-30 mm long). Larvae then normally pupate in white cocoons amongst ground debris. Adults (wingspan about 22-35 mm) have greyish-brown forewings and white hindwings with some grey terminally. In Australia, there are two generations per year.</p> <p>Pictures can be viewed on Internet:  <a href="http://www-staff.mcs.uts.edu.au/~don/larvae/pyra/cactor.html">http://www-staff.mcs.uts.edu.au/~don/larvae/pyra/cactor.html</a></p>
Dissemination	Adult can fly. Over long distances, trade of infested <i>Opuntia</i> plants and transport on vehicles (adult moths are attracted by light) can ensure dissemination of the pest. It is suspected that it was introduced into Florida on imported nursery plants from Dominican Republic.

Pathway	<i>Opuntia</i> plants for planting from countries where <i>C. cactorum</i> occurs. It has been intercepted in USA on commercial imports of vegetative material for propagation.
Possible risks	Around the Mediterranean Basin, <i>O. ficus-indica</i> is widely present and used for fruit production or animal feed during dry periods. It is usually not cultivated as a regular commercial crop but planted as fences, windbreaks and round gardens. However, there are significant plantations in Italy, Spain and Israel for fruit production. If <i>Opuntia</i> spp. are regarded as invasive species, <i>C. cactorum</i> is indeed an efficient biocontrol agent, but if <i>Opuntia</i> spp. are considered as important crops or parts of the natural flora (protection against soil erosion, shelter for wildlife in arid regions etc.), <i>C. cactorum</i> may present a serious threat to Mediterranean countries. Data is lacking on establishment potential, but experience has shown that <i>C. cactorum</i> succeeded in most areas where it was introduced. So far, no efficient control methods are available.
Source(s)	<p>Hernandez, L.R.; Emmel, T.C. (1993) <i>Cactoblastis cactorum</i> in Cuba (Lepidoptera: Pyralidae: Phycitinae). Tropical Lepidoptera, 4(1), 45-46 (abst).</p> <p>Johnson, D.M.; Stiling, P.D. (1996) Host specificity of <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae), an exotic <i>Opuntia</i>-feeding moth, in Florida. Environmental Entomology, 25(4), 743-748.</p> <p>Mahr, D.L. (2001) <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae) in North America: a workshop of assessment and planning. Florida Entomologist, 84(4), 465-473.</p> <p>Mayra Perez-Sandi, C. (2001) Addressing the threat of <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae), to <i>Opuntia</i> in Mexico. Florida Entomologist, 84(4), 499-502.</p> <p>Zhang, B.-C. (1994) Index of economically important Lepidoptera. CABI, Wallingford, UK, 599 pp.</p> <p>Zimmermann, H.G.; Moran, V.C.; Hoffmann, J.H. (2001) The renowned cactus moth, <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae): its natural history and threat to native <i>Opuntia</i> floras in Mexico and the United States of America. Florida Entomologist, 84(4), 543-551.</p> <p>INTERNET</p> <p>CSIRO web site - Systematic names: <i>Cactoblastis cactorum</i> (Berg).  <a href="http://www.ento.csiro.au/aicn/system/c_2755.htm">http://www.ento.csiro.au/aicn/system/c_2755.htm</a></p> <p>NAPPO Pest Alert. <i>Cactoblastis cactorum</i> (Berg) 1885. Cactus moth threatens Mexico and the American Southwest. <a href="http://www.pestalert.org">http://www.pestalert.org</a></p> <p>The Nature Conservancy. Wildland Invasive Species Team. Invasives Alert ! <i>Cactoblastis cactorum</i> (Cactus moth). <a href="http://tncweeds.ucdavis.edu/alert/alrtcact.html">http://tncweeds.ucdavis.edu/alert/alrtcact.html</a></p> <p>Tous, J. and L. Ferguson. 1996. Mediterranean fruits. p. 416-430. In: J. Janick (ed.), Progress in new crops. ASHS Press, Arlington, VA. <a href="http://www.hort.purdue.edu/newcrop/proceedings1996/V3-416.html">http://www.hort.purdue.edu/newcrop/proceedings1996/V3-416.html</a></p> <p>University of Florida. Featured Creatures - Cactus moth.  <a href="http://creatures.ifas.ufl.edu/bfly/cactus_moth.htm">http://creatures.ifas.ufl.edu/bfly/cactus_moth.htm</a></p>
EPPO RS 2003/101 Panel review date	- Entry date 2003-07