

PEST ALERT

Florida Department of Agriculture and Consumer Services, Division of Plant Industry
Charles H. Bronson, Commissioner of Agriculture

Cotton Seed Bug, *Oxycarenus hyalinipennis* (Costa): A serious pest of cotton that has become established in the Caribbean Basin

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INTRODUCTION: The cotton seed bug, *Oxycarenus hyalinipennis* (Costa), is a serious pest of cotton and other malvaceous plants. It is native to Africa. It has become established in the Caribbean Basin (Baranowski and Slater 2005, Slater and Baranowski 1994). The cotton seed bug has been intercepted on numerous occasions on material from Africa, Asia, Europe, the Middle East, Central America, South America and the Caribbean. An infestation of *O. hyalinipennis* was found in a trailer park in Stock Island, Monroe County, Florida on 23 March 2010 by William A. Thiel, USDA/APHIS/PPQ. A detailed risk analysis, reviewing much of the relevant literature, was written by the Plant Epidemiology and Risk Analysis Laboratory, Center for Plant Health Science and Technology, APHIS/Plant Protection and Quarantine, Raleigh, NC.

DESCRIPTION: As the name suggests, this is a bug with transparent wings. The rest of the body is dark, giving the bug a contrasting black and white appearance. The head is shaped like the head of a rat (Fig. 1). The bugs are 4-5 mm long. Nymphs can be reddish (Sweet 2000). There are about 55 valid described species of *Oxycarenus*, several of which are known pests (Sweet 2000). Thus, it will require microscopic examination to determine the identity of the bugs with confidence.

These bugs are seed feeders (Fig. 2). For practical purposes, if large numbers of small bugs are found feeding on cotton seeds (inside open bolls) or seeds of other malvaceous plants, for example, okra (*Abelmoschus esculentus*) or *Hibiscus* spp., it is a suspect colony, and samples should be sent immediately to DPI Entomology.

BIOLOGY: It is estimated that cotton seed bugs could complete 4-7 generations per year in Florida. The bugs are seed feeders and must have seeds to complete their development. Normally, cotton seed bugs do not damage the seeds until pods or bolls open, but if caterpillars chew holes into cotton bolls or okra pods, the cotton seed bugs are able to enter and feed on developing seeds. Cotton seed bugs may attack other seeds or even fruits, causing significant damage, if malvaceous plants are not available; however, malvaceous seeds probably are required for completing nymphal development. The bugs are gregarious, sometimes occurring in very high, concentrated populations. Hammad *et al.* (1972/3) raised cotton seed bugs in the laboratory in Petri dishes. A cotton seed with fiber was required for oviposition; a peeled cotton seed was required for food; and a piece of saturated cotton was required as a water and humidity source. Under these conditions, mated females laid 15-26 eggs. Generation times varied from 22 - 136 days, depending on conditions.

HOSTS: Seeds of Malvaceae probably required for complete development, but bugs will feed on a wide variety of plants, sometimes causing damage. Goyal (1974) reported heavy injury to sunflower seeds in India. In Israel, the bugs did damage to dates, figs, avocado and persimmon "by contaminating them with a stinking odour" (Nakache and Klein 1992).

ECONOMIC IMPORTANCE: Cotton seed bugs are serious pests of cotton seeds. Sometimes, the bugs are crushed in the ginning process, staining the lint. Greater damage is done to the seeds by reducing quality, germination and oil content (Sweet 2000). Adult cotton seed bugs may feed on fruits and seeds of non-malvaceous plants, causing significant damage. Nakache and Klein (1992) state that the bugs congregate on walls of buildings without feeding; however, these aggregations do emit an unpleasant odor. The article also states that they are attracted to light and harass people at night in lighted areas. Thus, there could be an urban nuisance component to this pest as well as agricultural damage.

NATURAL ENEMIES: Few, if any, effective natural enemies are known. Generalist predators such as reduviids and lizards have been reported (Sweet 2000).

DISTRIBUTION: Africa, Asia, Europe, Middle East, South America, Central America and the Caribbean Basin.

FLORIDA DISTRIBUTION: The known distribution in Florida is limited to Stock Island in the Florida Keys (please see above).

REFERENCES:

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- Nakache, Y. and M. Klein.** 1992. The cotton seed bug, *Oxycarenus* [sic] *hyalinipennis*, attacked various crops in Israel in 1991. Hassadeh 72: 773-775.
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- Sweet, M.H. II.** 2000. Seed and chinch bugs. Pages 143-264 in C.W. Schaefer and A.R. Panizzi, Heteroptera of Economic Importance. CRC, Boca Raton. Pages 197-205.



Figure 1. *Oxycarenus hyalinipennis*, the cotton seed bug.
Photograph courtesy of Michael C. Thomas, DPI



Figure 2. Close up of cotton seed bugs on cotton boll.
Photograph courtesy of Andrew Derksen, DPI-CAPS and Karolynne Griffiths, USDA-PPQ-CAPS.