Pest Alert

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Florida Department of Agriculture and Consumer Services,
Division of Plant Industry

Mexican Rice Borer, *Eoreuma loftini* (Dyar) (Lepidoptera: Crambidae: Crambinae) in Florida

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INTRODUCTION: *Eoreuma loftini* (Dyar), the Mexican rice borer (MRB), is a major pest of sugarcane, rice, and other grass crops in Mexico, Texas and Louisiana. On 23 March 2012, a single male specimen was collected in Goethe State Forest (Levy County), a new state record. It was caught at a mercury vapor light during a general survey and was identified by dissection on 14 July. The flatwoods habitat is not usual for the moth, although suitable host plants occur in the vicinity. The extent of the population is not currently known.

DISTRIBUTION: The moth is native to Mexico and historically in southwestern deserts. In the 20th Century, it spread into the Lower Rio Grande Valley, then southern Texas by 1980, where it displaced the sugarcane borer, *Diatraea saccharalis* (F.), as the dominant pest of sugarcane. The population had spread to southwestern Louisiana in late 2008. The moth is mainly subtropical, but it can tolerate a few days of below-freezing temperature.

IDENTIFICATION: Adult moths are about 1.2 cm (0.5 inch) long and are drab beige with almost no pattern. The forewings have a small black central dot and two faint, blackish longitudinal streaks (Fig. 1). The mouthparts are long, and the forehead is slightly conical, visible only under magnification (Fig. 2). However, many related grass borers share some of these characters, so positive identification requires dissection (Fig. 3).

Eggs are yellowish and sub-globular, and they are laid cryptically in bunches of 5 to 100 in crevices of the plant. Unlike most cane borers, MRB lays eggs on dead shoots or dead leaves near the base of the stem rather than on higher, fresher leaves.

Larvae are whitish and nearly 2.5 cm (1 inch) when full-grown. They have a relatively pale brown head, two pairs of broken pink to purple longitudinal stripes, and they lack a mid-dorsal stripe.

The pupa is brown, nondescript, and can be found in a thin cocoon inside the end of the tunnel near the emergence hole.

SIMILAR SPECIES: *Eoreuma loftini* is most similar to related crambine grass borers. The native *Eoreuma densella* (Zeller) and species of *Haimbachia* and *Xubida* are common non-pests. Similar economically important species include the sugarcane borer (*D. saccharalis*) and the less common rice stalk borer (*Chilo plejadellus* Zincken). Adults of *D. saccharalis* are larger and have a dark, curved line across the wing. *Chilo* species are also larger and have some golden wing scales. Larvae of *Chilo* have pink-purple stripes like MRB, but they have a very dark brown head and sometimes a mid-dorsal stripe. Larvae of *Diatraea* and other grass borers do not have pink-purple stripes. The unrelated grass-feeding armyworms and wainscot moths (*Mythimna* spp. and *Leucania* spp.) are even larger (length 1.5–2.5 cm, 0.6–1.0 in.), have very short mouthparts, and have externally feeding caterpillars with complex patterns of whitish longitudinal stripes.

HOSTS: MRB infests sugarcane, rice, maize, sorghum, lemongrass and many other large grasses. Among possible wild hosts that exist in Florida, Johnsongrass (*Sorghum halepense*), sudangrass (*Sorghum bicolor drummondi*), Vasey's grass (*Paspalum urvillei*), and barnyardgrass (*Echinochloa crus-galli*) have been found to be preferred.

LIFE CYCLE: Total generation time varies from 45 days to three months, and any life stage occurs at any time of the year. Young larvae feed on leaves, then leaf sheaths, before tunneling into the internodes of the stalk. The larvae often tunnel transversely, which increases the frequency of lodging. Tunnels are packed with excreta, unlike sugarcane borers, which eject frass from exit holes. Pupation occurs inside the tunnel.

USEFUL LINKS:

The Louisiana State University AgCenter: http://www.lsuagcenter.com/en/crops_livestock/crops/rice/insects/presentations/6-mexican-rice-borer.htm [accessed 2012 Oct. 27]

LSU AgCenter photo gallery: http://www.lsuagcenter.com/en/crops_livestock/crops/rice/Insects/photos/rice_borer/ [accessed 2012 Oct. 27]

Identification card: http://www.lsuinsects.org/resources/docs/publications/pub3098_Mexican_Rice_Borer_ID_Card_LOW_RES.pdf [accessed 2012 Oct. 27]

Fig. 1. Dissected male of *Eoreuma loftini* (Dyar) from Goethe State Forest. Scale in mm. Photography credit: James Hayden (DPI).

Fig. 2. Frons of *E. loftini* with central conical projection. Photography credit: James Hayden (DPI).

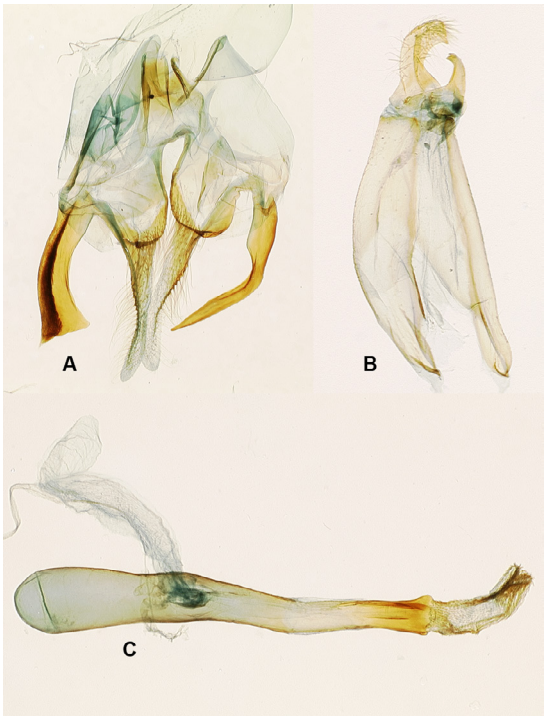

Fig. 3A–C. Male genitalia. A: main part of genitalia, dorsal aspect, with asymmetrical lateral valve processes; B: tegumen, uncus and gnathos, ventrolateral aspect; C: phallus. Photography credit: James Hayden (DPI).