

## Report

### Collection of *Moodna bisinuella* (Lepidoptera: Pyralidae) from Field Corn in Mississippi

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Accepted: 7-1-2009

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**Abstract** Observation of *Moodna bisinuella* Hampson in Mississippi was based on specimens collected near Greenville (Washington Co.), Mississippi during August 2008. Larvae were collected from ears of field corn, *Zea mays* L., reared to adults, and identified by using characters observed from the dissection of the male genitalia. Little information is available to describe larval ecology, injury to field corn, available control measures, or distribution across Mississippi.

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## Summary

*Moodna bisinuella* Hampson (Lepidoptera: Pyralidae) is native to Central America, and it was first documented in the United States by Neunzig (1985). That report described the larva of this species and discovered that a population was introduced into North Carolina from Mexico on gamma grass (*Tripsacum* sp.). Although this insect population was eradicated from North Carolina, Neunzig (1990) reported that individuals were found in Texas. Further studies (Neunzig 1990) provided illustrations of the imago and male genitalia for identification. More recently this species has been reported in south Texas (Liu et al. 2006), Louisiana (Tindall et al. 2005) and Georgia (Buntin 2008). Although there is not an approved common name for this species, the larva has been referred to as the “chocolate milkworm.”

During 2008, samples of larvae from an unidentified lepidopteran species were collected on ears of field corn, *Zea mays* L., hybrid, Mycogen 2T777 (not containing *Bacillus thuringiensis* transgenic traits), near Greenville, Washington Co., Mississippi. Plants were at the R3 growth stage (milk stage, 18–22 d after silking) and 72 d from the date of planting (Ritchie et al. 1993). Larvae were caged in the laboratory, offered field corn ear pieces (seed kernels and cob) and allowed to completed development until adult eclosion. Subsequent dissections of the male genitalia revealed that this species was *M. bisinuella*.

The genus *Moodna* includes two common and native species in Mississippi, *M. pallidostrinella* and *M. ostrinella*. Both species feed in the fruit and on seeds of several plant families, including *Poaceae* (Neunzig 1990). *Moodna ostrinella* cannot be differentiated from *M. bisinuella* by superficial characters of wing pattern. Thus, it is possible that other records of *M. bisinuella* may exist in Mississippi arthropod collections. A large series of specimens identified as *M. ostrinella* are maintained in the Mississippi Entomological Museum and the male genitalia of many of these specimens have not been dissected and examined for species confirmation.

Personal observations suggest that *M. bisinuella* larvae feed on developing kernels of corn and create frass trails between the rows of kernels. In many instances, feeding actually occurs at the juncture of the seed and the cob, with a preference for feeding on the endosperm. Larvae exhibit timid behavior and rapidly disappear between rows of kernels when they are disturbed. Multiple larvae can occur on an individual ear. Pupae can be found on the husks surrounding the grain. Similar characteristics also have been observed by Leonard (2008).



**Figure 1.** (A) Larva and (B) pupa of *Moodna bisinuella*. Photos by Dr. B. Rogers Leonard, LSU AgCenter, Winnsboro, LA. Used by permission.

No coordinated surveys have been conducted to determine the significance of this potential pest of field corn in Mississippi. The level of damage caused by larvae to field corn has not been quantified, and control measures have not been identified. Further research is needed to determine the distribution of this species in Mississippi and to understand the economic importance of this insect to field corn.

## References

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