

Pacific Pests, Pathogens and Weeds - Online edition

Rice striped stem borer (412)

Summary

- Restricted. South, East and Southeast Asia, North America (Hawaii), Europe, Oceania. In Australia, Papua New Guinea.
- Severe on rice, sorghum, maize, but also on sugarcane, millet, and wild grasses.
- Larvae tunnel through internodes of stem to the growing point, killing it; stems pull out easily ('deadhearts'). Panicles fail to emergence, or panicles emerge with white unfilled grain ('whiteheads').
- Eggs (scale-like) up to 60 in several rows, yellow, laid on leaves. Larvae, yellowish, with five longitudinal purple to brown stripes, brown heads, 25 mm long. Disperse on silk threads. Adult forewings yellowish-brown, dark flecks and marginal black dots; hindwings whitish. Spread on the wing. Nocturnal.
- Natural enemies: many egg and larval parasitoids and predators.
- Biosecurity: introduction possible on produce contaminated with infested stems of host plants.
- Cultural control: plough land well (IMPORTANT to bury larvae/pupae of previous crop); plant at higher density than normal; rotate two crops rice then fallow, or plant maize, soybean or peanut; synchronise plantings with neighbours; submerge eggs by raising water occasionally; weed; apply split applications N; harvest at ground level to remove larvae; plough in stubble, unharvested plants and weeds; use resistant (short, high tillering, early maturing) varieties.
- Chemical control: use abamectin, or tebufenozide to disrupt moulting. Avoid broad-spectrum insecticides to preserve natural enemies.

Common Name

Striped rice stem borer; it is also known as the Asiatic rice borer.

Scientific Name

Chilo suppressalis. A moth in the Crambidae.



Photo 1. Adult Asiatic stem borer, *Chilo suppressalis*.



Photo 2. Adult Asiatic stem borer, *Chilo suppressalis*.



Photo 3. Eggs of the Asiatic stem borer, *Chilo suppressalis*, laid in rows.



Photo 4. Damage ('deadheart') to rice stem by *Chilo auricilius* (damage to *Chilo suppressalis* is similar).



Photo 5. 'Whitehead' - a symptom caused by stem borers: the base of the panicle is damaged preventing it from emerging or, if already emerged, the grain is unfilled and white.

AUTHOR Grahame Jackson

Information (and Photo 4) from Rice Knowledge Bank, IIRRI. (<http://www.knowledgebank.iri.org/training/fact-sheets/pest-management/insects/item/stem-borer>); and CABI (2019) *Chilo suppressalis* (striped rice stem borer). Crop Protection Compendium. (<https://www.cabi.org/cp/datasheet/12855>); and Pathak MD, Khan ZR (1994) Insect Pests of Rice. IRR/ICIPE. (http://books.iri.org/9712200280_content.pdf); and from *Chilo suppressalis*. Wikipedia. (https://en.wikipedia.org/wiki/Chilo_suppressalis). Photo 1 Asiatic rice borer (*Chilo suppressalis*) Todd Gilligan, Screening Aids, USDA APHIS PPQ, Bugwood.org. Photos 2,3&4 Asiatic rice borer (*Chilo suppressalis*) International Rice Research Institute, Bugwood.org.

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