

## 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.



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



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

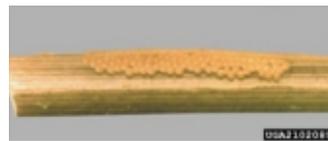


Photo 3. Eggs of the Asiatic stem borer, *Chilo suppressalis*, laid in rows.

### 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 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.

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Information (and Photo 4) from Rice Knowledge Bank, IRRI (<http://www.knowledgebank.irri.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/cpc/datasheet/12855>); and Pathak MD, Khan ZR (1994) Insect Pests of Rice. IRRI/CIPE. ([http://books.irri.org/9712200280\\_content.pdf](http://books.irri.org/9712200280_content.pdf)); and from *Chilo suppressalis*. Wikipedia. ([https://en.wikipedia.org/wiki/Chilo\\_suppressalis](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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