



## Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

<https://apps.lucidcentral.org/ppp/>

### Rice white borer (408)



Photo 1. '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.



Photo 2. Larva white rice borer, *Scirpophaga nivella*.



Photo 3. Adult white rice borer (female), *Scirpophaga nivella*.



Photo 4. Adult white rice borer (male), *Scirpophaga nivella*.



Photo 5. Adult white rice borer, *Scirpophaga nivella* (side view).



Photo 6. Damage ('deadheart') to rice stem by *Chilo auricilius* (damage by *Scirpophaga nivella* is similar).

### Summary

- Restricted. South and Southeast Asia, Oceania. In Australia, Fiji, New Caledonia, Papua New Guinea.
- Minor pest. Mostly rice, but also sedges. Damage worse if infestation after panicle initiation and flowering.
- Larvae bore into rolled leaves, and then through internodes to the growing point, killing it; stems pull out easily ('deadhearts'). Panicles fail to emerge, or emerge with unfilled grain ('whiteheads').
- Eggs on underside of leaf; brownish-yellow larvae, becoming whiter, with reddish line along back. Adults white (males with four dark spots on each forewing). Strong flyers. Nocturnal.
- Natural enemies: many egg and larval parasitoids and predators.
- Cultural control: handpick in nursery; plough land well (burying larvae/pupae of previous crop); plant at higher density than

normal; rotate, e.g., legumes; 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: unlikely to be needed. Use abamectin. Avoid broad-spectrum insecticides to preserve natural enemies.

## Common Name

White rice borer; also known as the paddy stem borer.

## Scientific Name

*Scirpophaga nivella*; however, there are other *Scirpophaga* species and there has been confusion between them; e.g., *Scirpophaga excerptalis* is a pest of sugarcane, *Scirpophaga incertulas*, yellow stem borer, occurs on rice as does *Scirpophaga innotata*, white rice stem borer. Some authors consider *Scirpophaga nivella* to be the sugarcane top borer, and a miner pest of rice. Additionally, in the introduction to *Scirpophaga nivella*, PaDIL states: "This species is the same moth as the Australian species, *Scirpophaga chrysorrhoea*..." These moths belong in the Crambidae.

---

AUTHOR Grahame Jackson

Information (and Photo 1) Rice Knowledge Bank. IRRI. (<http://www.knowledgebank.irri.org/training/fact-sheets/pest-management/insects/item/stem-borer>); and CABI *Scirpophaga nivella* (2019) Crop Protection Compendium. ([www.cabi.org/cpc](http://www.cabi.org/cpc)); and Khan ZR *et al.* (1991) World bibliography of rice stem borers 1794-1990. IRRI/ICIPE; and White rice borer (and Photos 2-4) Anderson S, Tran-Nguyen L (2012) White Rice Borer (*Scirpophaga nivella*). (Source: N. Sillam DAFF Biosecurity.) PaDIL - (<http://www.padil.gov.au>); and from Pathak MD, Khan ZR (1994) Insect Pests of Rice. IRRI/ICIPE. Photo 5 CBG Photography Group, Centre for Biodiversity Genomics. ([http://v3.boldsystems.org/index.php/Taxbrowser\\_Taxonpage?taxid=271138](http://v3.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxid=271138)). Photo 6 Anderson S, Tran-Nguyen L (2012) Gold-fringed Rice Borer (*Chilo auricilius*). PaDIL - (<http://www.padil.gov.au>)

Produced with support from the Australian Centre for International Agricultural Research under project HORT/2016/185: *Responding to emerging pest and disease threats to horticulture in the Pacific islands*, implemented by the University of Queensland and the Secretariat of the Pacific Community.

---

This mini fact sheet is a part of the app *Pacific Pests, Pathogens & Weeds*

The mobile application is available from the Google Play Store and Apple iTunes.

