

Pest Profile



Photo credit: Jim Kalisch, University of Nebraska

Common Name: Lesser grain borer

Scientific Name: *Rhyzopertha dominica*

Order and Family: Coleoptera: Bostrichidae

Size and Appearance:

These small beetles are cylindrically shaped. The head is bent downward and not visible from directly above. Adults are strong fliers and are attracted to light.

	Length (mm)	Appearance
Egg	0.5 – 0.6 mm	Eggs are laid in grain. They can be in clusters up to 30 on the grain, or singly in the insect frass. They are oval shaped. Eggs are whitish in color when laid but will turn pinkish over time.
Larva/Nymph	Up to 3.2 mm	The first instar is elongate and active. It is usually smaller than 1 mm. Later instars are grublike and largely immobile. They are white with a dark head. Lesser grain borers generally have 4 instars.
Adult	2 – 3 mm	Adults are cylindrically shaped. Their color is reddish-brown to dark brown and somewhat shiny. Antennae are clubbed with 3 segments enlarged to one side.
Pupa (if applicable)	Up to 3.9 mm	Generally, pupation occurs inside the kernel. Pupae do not feed or move, but they are capable of some limited wriggling.

Type of feeder (Chewing, sucking, etc.):

The larvae and adults have chewing mouthparts.

Host/s:

The lesser grain borer is known to feed on corn, wheat, barley, rice, and sorghum. It will also infest flour, tobacco, nuts, beans, dried fruits, spices, and even feed on books. This beetle is also frequently found in forest habitats and will fly back and forth between agricultural and non-agricultural areas.

Description of Damage:

Lesser grain borers are a key pest of stored grain. They are considered internal feeders, that is, their larvae develop inside the kernels of whole grains or seeds. The early larva will bore into the grain, often entering through areas damaged by the adult. It continues to feed and grow. Pupation then occurs inside the kernel. The presence of lesser grain borers is indicated by exit holes in damaged grain and can also be detected through observing small (about 1 mm), irregularly shaped holes in the kernel. Like the larvae, adults feed on and damage stored products. They can penetrate some packaging as well.

References:

- Edde, P. A. (2012). A review of the biology and control of *Rhyzopertha dominica* (F.) the lesser grain borer. *Journal of Stored Products Research*, 48, 1–18. <https://doi.org/10.1016/j.jspr.2011.08.007>
- Mallis, A. (2011). *Handbook of pest control* (10th ed.). Mallis Handbook LLC.
- Smith, E. H., & Whitman, R. C. (1996). *NPMA field guide to structural pests*. NPMA.
- Triplehorn, C. A., & Johnson, N. F. (2005). *Borror and DeLong's introduction to the study of insects* (7th ed.). Brooks/Cole.