

Rhizopertha dominica (Fabricius)

(Lesser grain borer)

Fam. Bostrichidae

General information: Primarily insect pest of cereals, all grains, dried fruits, legumes, wood and paper products, spread worldwide in grain warehouses, ship holds and mills, preferably in warmer regions (heat tolerant), able to penetrate wood or plastic materials.

Infested products: Cereal products, especially paddy rice and maize

Related species: *P. truncatus* (Larger grain borer)

Total development: Approx. 60 days at 25 °C and 70 % relative humidity (in the tropics at >30°C only 25 days) mainly in cereal grain

Egg	Larva	Pupa	Adult (beetle)
			
5 to 9 days	22 to 46 days	5 to 8 days	up to 240 days
<ul style="list-style-type: none"> - 0.5 mm - whitish transparent (older eggs slightly pink) - eggs are laid individually or in batches of up to 30 pieces onto the grains - up to 500 eggs per female 	<ul style="list-style-type: none"> - white yellowish, curved (c-shape), scarabaeiform - 0.8 – 3.0 mm long - 3 pairs of legs - after a short time neonate larvae drill into the grains - 3 - 4 larval instars inside the grain kernel 	<ul style="list-style-type: none"> - pupation within the grain - yellowish-white - up to 4.00 mm long 	<ul style="list-style-type: none"> - 2.5 - 3.5 mm long - dark-reddish brown to black, cylindrical shape - pronotum is as wide as the body and covers the head like a hood - rounded top wings - club-shaped antenna end (3 segments) - capable to fly, migration flights

Damage: Feeding scars on the cereal grains, empty pods; irregularly shaped holes, contamination by food remains, insect skins and feces of larvae and beetles (exudates smell sweet-musty), material damage to packaging (foils, cardboard, plastics)

Prevention: Thorough cleaning; insect-proof, dry and cool storage

Early detection: Infested grains may be detected by feces and food remains (flour), insects and distinct odour; sieving (only for adults); pheromone, flight traps

Control: Inert dusts and fumigants with sufficiently long exposure time; use of authorized plant protection products (see database www.bvl.bund.de); use of biological

antagonists (*Lariophagus distinguendus*) and pathogenic fungi (*Beauveria bassiana*); heat treatment (at least 60min and $T > 55\text{ }^{\circ}\text{C}$); freezing the goods (several days)



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Adult beetle with characteristic Pronotum



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Pupa in cereal grain



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Damage