

BEETLES – COLEOPTERA

1- Cigarette beetle

Common name(s): Cigarette beetle

Scientific name, *Lasioderma serricorne*,



Order: Coleoptera,

Family: Anobiidae.

Pest type: primary pest, secondary pest

Distribution: Worldwide.

Description and ID characters: Small reddish-brown, stout, and rounded beetle, about 2-3mm in length, with an oval outline. Best identifying features: Head and thorax bent downwards almost perpendicular to the body, head is not visible when viewed from the top. Elytra are almost smooth, or with very faint grooves. The body is clothed with fine, short hairs. Antennae are short and of uniform thickness throughout their length. Larvae are small plump, creamy-white, legless grubs with a small yellowish-brown head, and covered with yellowish-brown silky hairs.

Cigarette beetles are very often confused with the drugstore beetle, which belongs to the same family and often attacks similar stored products.

Pest status: Important pest of stored tobacco and various other dried herbs and spices, as well as many other stored products such as dried fruits and nuts, cereals, oilcake, flour, bone meal, dried flowers, etc.

Damage/injury: Tobacco is the preferred food for cigarette beetles, giving them their common name. All harvested, dried and processed forms of tobacco are attacked, which include raw dry bales, refined cigarettes, cigars, and chewing tobacco. [Adult beetles and grubs bore through the leaves leaving holes and ultimately reducing the tobacco to a fine powder. They also attack and destroy many other stored products similarly.](#)

Life history: Eggs are laid loosely on the stored product, and the hatching grubs and adults feed on the material. Pupation also takes place among the food products. Mature larvae create a small cocoon with particles of the substrate and their saliva and pupate within it. Life cycle duration is highly dependent on temperatures, and takes 3-4 weeks at temperatures above 30 C; longer during cooler months. 5-6 generations are possible in a year.

2- Drugstore beetle, bread beetle, biscuit beetle

Scientific name, classification: *Stegobium paniceum*,



Order: Coleoptera,

Family: Anobiidae.

Pest type: primary pest, secondary pest

Distribution: Worldwide.

Description and ID characters: Small reddish-brown, elongated beetle, about 3–4 mm in length, with an elongated-oval outline. Best identifying features: Head and thorax bent downwards almost perpendicular to the body, head is not visible when viewed from the top. Elytra have distinct and deep lengthwise grooves. The body is clothed with fine, short hairs. Antennae are short and end in a 3-segmented club. Larvae are small, plump, creamy-white, legless grubs covered with short, silky hairs. Drugstore beetles are very often confused with the cigarette beetle, which belongs to the same family and often attacks similar stored products. However, cigarette beetles have elytra that are almost smooth or with very faint grooves; their antennae are of uniform thickness throughout the length, and their larvae are covered with long, yellowish-brown silky hairs. If viewed together, drugstore beetles may be slightly larger and more elongated, while cigarette beetles may be shorter and rounded.

Pest status: Important pest of various dried herbs and medicinal plants, as well as various other dried herbs and spices, tobacco, dried fruits and nuts, cereals, book bindings, leather, etc.

Damage/injury: These beetles have a preference for dried herbs and other medicinal plants and are common in prescription drug preparations, giving them their common name. However, they attack a wider range of stored products than cigarette beetles and are even known to bore through aluminum, tin, and lead sheets. They also infest bird or rodent nests near homes and buildings. Adult beetles and grubs bore through the stored product leaving small holes and ultimately reducing it to a fine powder. Adult beetles often chew small shot holes in the packaging of stored products to emerge, causing some of the powdery remains within to spill out.

Life history: Eggs are laid loosely on the stored product, and the hatching grubs and adults feed on the material until it is exhausted. Pupation also takes place among the food products. Mature larvae create a small cocoon with particles of the substrate and their saliva and pupate within it. Life cycle duration is highly dependent on temperatures, and takes 3-4 weeks at temperatures above 30°C; longer during cooler months. 5-6 generations are possible in a year.

3-Khapra beetle, cabinet beetle

Scientific name, classification: *Trogoderma granarium*



, Order: Coleoptera,

Family: Dermestidae.

Pest type: primary pest, secondary pest

Distribution: Worldwide.

Description and ID characters: Small dark brown, stout, rounded oval-shaped beetle, about 2-3mm in length. the body is covered with short, dense hair. Indistinct reddish-brown or lighter-brown patterns may be present on the elytra. The head may be very slightly visible when viewed from the top, it is bent downwards and is almost fully covered by the pronotum. Antennae are short and end in a 3- or 5-segmented club, with a yellowish-white, distinctly segmented body covered with short, stiff hairs. The hairs towards the tail end are longer. The larvae turn golden or reddish-brown as they mature.

Pest status: Important pest of stored products. One of the world's most destructive and invasive stored product pests, on the quarantine list in many

countries including the U.S. Any suspected occurrences should be reported to the state regulatory agencies.

Damage/injury: Khapra beetles attack a large number of stored products of plant and animal origin, but prefer grain and cereal products such as whole grains, flour, noodles, and similar items. The larvae are more damaging than the adults. In stored grains, they are known to feed partially on one grain before starting on the next one, and thus a single beetle can damage a large quantity of the grain. Adult beetles readily chew through plastic and paper packaging to reach food sources. Heavy infestations can cause stored products to heat up leading to mold growth, and reduction in flavor and quality of food items.

Life history: Adult beetles rarely fly and feed very little during their short lifespan of about 14-30 days. Eggs are laid loosely in the food source and the hatching larvae immediately begin to feed. They pass through several molts before turning into adults. Development is highly influenced by environmental conditions, and the larvae can remain dormant for many years under unfavorable conditions. They can crawl into tiny spaces, which also protect them from insecticides or other treatments aimed at stored product pests. Khapra beetles prefer low humidity (less than 2%) and are poorly adapted to high humidity. This increases the risk of their spread in the hot and dry conditions in the arid southwest. Therefore, it is very important to recognize the pest and take appropriate quarantine measures if they are noticed. Introduction and spread are almost always by human activities because adults rarely fly.

4-Common name: Flour beetles

Scientific name, classification: *Tribolium* spp.,

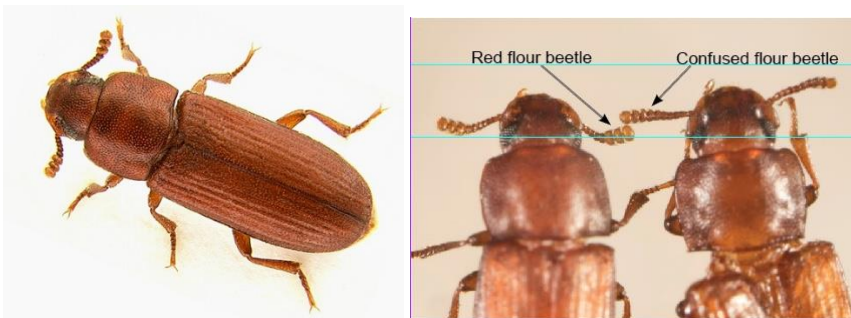
Order: Coleoptera,

Family: Tenebrionidae.

Confused flour beetle *T. confusum*



Red flour beetle *T. castaneum* are the most commonly occurring species.



Pest type: , secondary pest

Distribution: Worldwide.

Description and ID characters: Small, slender, flattened and elongated, reddish brown beetles, about 1/8 inch in length. Best identifying features: Both species are

flattened, elongated reddish-brown bodies; head and thorax have minute punctures, elytra have lengthwise ridges and punctures between the ridges. The thorax is more or less rectangular, and the margins lack teeth. Confused flour beetles have antennae that gradually enlarge towards the tip and end in a 4-segmented club. The thorax is slightly broader towards the head than towards the abdomen, but the edges are almost straight. Red flour beetles have antennae that abruptly enlarge at the tip to form a 3- segmented knob. The thorax has rounded edges and is slightly wider in the middle.

Pest status: Important pest of a wide range of stored grains and their products such as cereals and flour.

Damage/injury: Do not usually damage whole grains, but found more in broken bits and flour, or grain previously infested by other pests. The damage is less due to feeding, but more due to contamination of the stored product with large numbers of various life stages, dead bodies, cast skins, and fecal pellets. They also produce pungent substances during their activities that can seriously affect the quality of grain and result in reduced marketability and consumption by humans and livestock. Heavy infestations also cause heat buildup in storage containers, resulting in secondary mold growth.

Life history: Eggs are laid loosely on the stored product, and the hatching grubs and adults feed on the material until it is exhausted. Pupation also takes place among the food product and pupae are not enclosed in cocoons. Life cycle duration is highly dependent on temperatures, and takes 6 weeks at temperatures above 30°C; longer during cooler months. Up to 10 generations are possible in a year. Adults are very active and long-lived, mostly surviving up to 1 year or more.

6-Yellow mealworm(daxel nia)

Scientific name, classification: *Tenebrio molitor*,(daxela tanha)



Order: Coleoptera,

Family: Tenebrionidae.

Distribution: Worldwide.

Description and ID characters: Some of the largest stored product insects. Adults are shiny dark brown or black beetles, about 12-18 mm long. They usually emerge in early summer and fly to lights. Best identifying features: The thorax in adults is covered with fine punctures and the elytra have longitudinal grooves. Larvae are slender, pale yellow at first, and turning dark yellow, with each segment bordered yellowish brown.

Pest status: Occasional pests of stored grains and other stored products.

Damage/injury: Mealworms feed externally on stored grains and do not bore into them or cause webbings. Therefore, they are not considered serious pests, but they can cause damage and contaminate the stored products with their feces and cast skins. However, a severe infestation can destroy large quantities of stored products especially when unnoticed for a long time.

Life history: Adults emerge in late spring or early summer. Eggs are laid and glued to the food source. Larvae feed continuously through the summer and into the fall and overwinter as larvae. They pupate in spring and emerge as adults in about 2 weeks. Due to overwintering in the larval stage, only 1 generation usually occurs in a year.

6-Spider beetles

Scientific name, classification: *Ptinus* spp., *Mezium* spp., *Gibbium* spp.,

Order: Coleoptera,

Family: Anobiidae,

subfamily Ptininae (sometimes as family Ptinidae).

The smooth spider beetle *Gibbium aequinoctiale*,



American spider beetle *Mezium americanum*



whitemarked spider beetle *Ptinus fur*,



Distribution: Worldwide.

Description and ID characters: Small, globular brown or black beetles, some with patterns, about 2-5mm in length. Best identifying features: Spider-like appearance due to relatively large, globular pear-shaped abdomens and long legs. Elytra fully covers the abdomen. The head is pointed downwards and is hidden when viewed from the top. Smooth spider beetles are slightly over 2mm in length, with shiny dark reddish-brown, abdomen and long, light-brown legs and antennae. American spider beetles are about 2mm inch in length. The head and thorax are dull yellow and hairy, the thorax is almost cylindrical with blunt projections on either side, and the elytra are glossy dark reddish brown or black. Antennae and legs are long and slender, and pale yellow or light brown

Pest status: Scavenger and occasional pest of a wide range of stored products, predominantly cereal products.

Damage/injury: Spider beetles are general scavengers and feed on a wide variety of food items. Occasional infestation of wooden structures near food sources is reported, in wall voids and drop ceilings. Larvae cause a typical "scarring" of the wood in buildings in the formation of pupal cells before pupation. They do not bite or sting humans or pets, or spread diseases.

Life history: Eggs are laid in stored products, on the outside of packaging, or in debris found in cracks and crevices of storage structures. Larvae feed on the available food sources and bore into nearby wood or cardboard structures to pupate. Some species overwinter in the larval stage and pupate in the following spring, while some are active year-round. 2-3 overlapping generations are possible in a year.