

## SEED BEETLES

FAMILY : Bruchidae

SPECIES : *Acanthoscelides bruchid*, *Calosbruchus spp.*,  
*Caryedon serratus*

## IDENTIFYING CHARACTERS

Seed beetles are short, stout beetles belonging to the beetle Family Bruchidae. The main seed beetles that are stored product pests are the bean weevils, *Acanthoscelides bruchid*, cowpea weevils, *Calosbruchus spp*, and groundnut bruchid, *Caryedon serratus*. The bean weevil and cowpea weevils closely resemble each other. These two small beetles are short ( 1/8", 3 mm), stoutly shaped insects nearly round in shape which have elytra (wing covers) that do not fully cover the abdomen. The pronotum of both beetles tapers (narrows) toward the head.

The bean weevil is coloured yellow green to dark olive with darker mottling patches on the wing covers and some specimens can appear darker, especially dead specimens. Cowpea weevils are brownish in color, and some specimens may appear greenish brown in color.



Bean Weevil

The main difference between the two is the presence of a single dark spot along the outer margins of each wing cover of the cowpea weevil. Bean weevils are further distinguished by the presence of one

large and two small teeth at the uppermost point of the femur on the hind leg. Cowpea weevils have only one such tooth.

The groundnut bruchid is longer and thinner than the bean or cowpea weevils. It is also larger (1/4", 4-7mm). It is colored reddish-brown and has numerous smudgy black spots on the wing covers.

## BIOLOGY AND LIFE CYCLE

### BEAN WEEVILS

The female bean weevil lays its small white eggs on bean pods in the field or on beans in storage. These eggs are easily visible on the outside of the beans and numerous eggs can be found on a single bean. Each female lays up to 60 eggs and the larvae emerge in about 5 to 20 days. The tiny, grub-like larvae bore their way into the bean and eat out a cavity. Several larvae feed on each bean and end up consuming a considerable portion of its insides. Following their last molt after 11 to 42 days of feeding, the larvae pupate near the surface of the bean and then emerge from the bean in 5 to 18 days, leaving numerous holes in the hole. The entire life cycle can take as little as 21 days or as long as 80 days depending on environmental conditions.

Bean weevils are strong fliers and the first indication of infested stored beans is often the presence of flying weevils. The larvae of the bean weevil do all of the damage as the adults do not feed. Bean weevils feign death (play dead) when disturbed and may take up to five minutes to resume movement.

### COWPEA WEEVILS

Cowpea weevils develop best in cowpeas (black-eyed peas), but may develop in a few other types of beans, such as chick-peas and lentil beans. The female cowpea weevil lays its eggs on the outside of the bean. The larvae bore into the bean and several, usually around three. The life cycle is similar to that of bean weevils and huge populations can quickly develop within months under ideal conditions and 90 % humidity.

### GROUNDNUT BRUCHID

The female deposits her eggs on the outside of the seed pod after harvest when drying in the sun or when the groundnuts are in storage.

Upon hatching, the grub-like larvae bore through the shell of the pod and begin feeding on the seeds inside. The larvae leaves the pod after its last molt and pupates inside a thin cocoon on the pod's outer surface. The life cycle from egg to adult is completed in about 40 days under optimum conditions.

## INSPECTION AND MANAGEMENT

Because seed beetles primarily feed on whole beans, peas and groundnuts, the key to control is to inspect the places where these foods are stored and determine which are infested. Spilled beans accumulated in corners, cracks, and on or under shelving can also be a source for reinfestation of newly stored beans. Infested beans are easily identifiable by the numerous round exit holes in the beans and the tiny white eggs on the outside of the beans. Bean weevils are the most likely of these beetles to be found in a home or supermarket with cowpea weevils still a possibility. In homes, check for decorative items that might contain whole beans such as a sectioned shadow box wall display. In restaurants and supermarket delis, beans are sometimes kept in jars on shelves and counters as decoration.

Control of these beetles in a home or supermarket is as simple as finding the infested bean product and then throwing it out. Wrap infested product in another plastic bag before throwing it outside in a trash container. Crack and crevice treatments in the area where the infested beans were stored may be necessary to kill beetles that have crawled out of the infested material to hide in the cracks. When large numbers of bean weevils are flying about after emerging from infested material, a space treatment may be needed. Removing these beetles from shelves, counters and window sills with a vacuum device, however may be an easier solution to adult beetles in many situations.

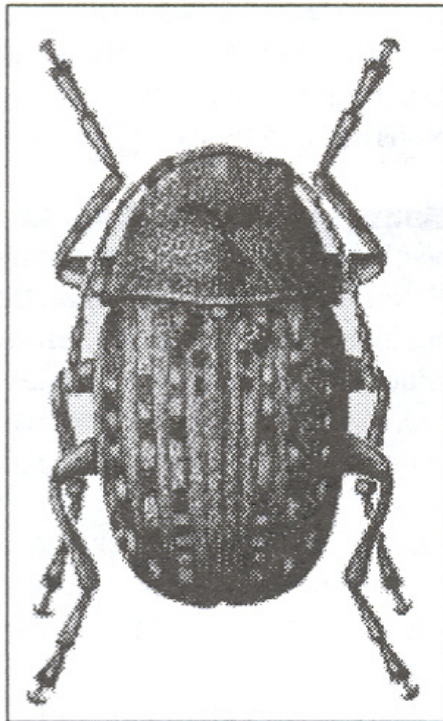
## FUNGUS WEEVILS

FAMILY : Anthribidae

SPECIES : *Aracerus fasciculatus*

### IDENTIFYING CHARACTERS

The principle pest fungus weevil is the coffee bean weevil, *Aracerus fasciculatus*. The coffee bean weevil is a small beetle about 1/8 inch (3mm) long and is dark brown with light brown spots on the wing covers. The legs and antennae are reddish brown and the antennae are extremely long and thin and end in a three-segmented, serrated (saw-like) club.



*Coffee bean weevil, Aracerus fasciculatus.*

## BIOLOGY AND LIFE CYCLE

The eggs are laid on the outside of the bean. The female lays about 50 eggs and the larvae burrow into seed upon hatching. The larvae spends its life within the seed until pupating within the seed. With coffee berries, the larvae first feed on the pulp before burrowing into the seed. The life cycle is completed in 30 to 70 days but may take longer in cooler areas of the world, and 8 to 10 generations per year can occur. The coffee bean weevil also lays its eggs in the soft kernels of corn in the field and then breeds in it after harvest. It causes little damage to stored corn as the kernels become too hard. The coffee bean weevils is a strong flier and is attracted to light. Infestation often first become noticeable when adult weevils appear in windows.

## DAMAGE

The coffee bean weevil can be a serious pest in the tropical and subtropical areas of the world where these crops are grown. It also infest such products as corn, groundnuts spices, dried fruit stuffs, dried roots and various other seeds.

## INSPECTION AND MANAGEMENT

Infestations can be found in coffee beans, stored dried roots, spices, dried fruits and possibly in stored whole corn. Control of these beetles in a home or supermarket is as simple as finding the infested bean product and then throwing it out. Wrap infested product in another plastic bag before throwing it outside in a trash container. Crack and crevice treatments in the area where the infested beans were stored may be necessary to kill beetles that have crawled out of the infested material to hide in the cracks. When large numbers of bean weevils are flying about after emerging from infested material, a space treatment may be needed. Removing these beetles from shelves, counters and window sills with a vacuum device, however may be an easier solution to adult beetles in many situations.