

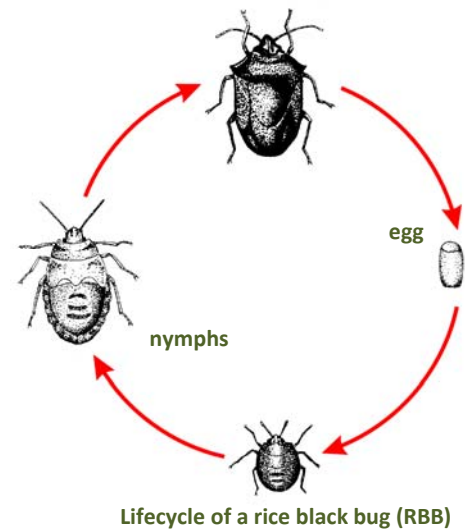
## Rice Black Bug (RBB)

Scientific name: *Scotinophara coarctata* (Fabricus) Local name: itim na atangya

- Sap-feeding insect
- Attack rice plants in irrigated areas in almost all stages of growth
- Most destructive from maximum tillering to ripening
- In rainfed areas, damage by this pest can result to severe/complete crop loss during heavy infestation

Where to find:

- marshy and wet land environment
- main habitat is the base of the rice plant
- can live at the leaves of other plants such as taro (gabi), corn, weeds, etc.
- at daytime, RBB can be seen at the base of the plant and move up to the panicle at night



Female RBB deposits its eggs usually on the decaying outermost leaf sheaths on the basal part of the plants, although some are laid on the lower part of the leaves.

The eggs are laid in mass of 40-60 eggs, with one egg measuring to 1 mm long.

A single female RBB can lay about 200 eggs during its lifetime. The eggs hatched 5-7 days and become a full-grown adult after six weeks.

Adult RBB is oval-shaped and measures about 8-9 mm long.

### Why should RBB be controlled in rainfed wetland areas?

RBB nymphs (one week) and adults (six weeks) suck the sap of the plants' base, stalk, leaves, and panicle that results in the plant's desiccation or dryness.

## What are the damages that RBB do to the rice plant?

- “Deadheart” – A condition of the plant wherein the damaged tillers’ center leaves turn brown and die. This damage occurs when the infestation happens during the tillering stage.
- Panicles with empty grains or underdeveloped panicles. This damage occurs when the infestation happens during the booting stage.
- “Bugburn” – A condition of the plant wherein the leaves turn reddish brown, resulting in crop loss. This damage occurs when the infestation happens from the seed bed, maximum tillering up to harvesting stage.

## How is RBB controlled?

### During planting time

- Practice synchronous planting. Plant rice varieties with the same maturity in a large contiguous area (barangay or village level) within a month of the regular planting time. This breaks the RBB’s life cycle and prevents RBB’s potential damage to the plants.
- Practice direct-seeding. Direct-seeded rice crop has less number of tillers per hill which is not favored by RBB. This is because having few tillers expose RBB to sunlight and other mortality factors that prevent further increase of RBB population.
- Use RBB-resistant variety. Examples are IR1314, IR44526, and C4-137.
- Raise ducks and release them on the field before planting season because duck feeds on RBB.

### With standing crop

- Use light trap to check for the presence of RBBs in the rice field. RBBs are strongly attracted to high intensity light. Collected bugs in the light trap should be buried in a pit.
- Conserve natural enemies. Conserve insects such as *Metarhizium anisopliae* (amag) and *Telenomus triptus* (maliit na kulisap) since they can help keep RBB population down. One can do this by not using pesticide.
- Practice sanitation. Always keep the rice field clean. Weeds serve as alternate hosts of RBB and their presence in the field could serve as food for RBB.
- Raise the water level up to 8-10 cm for 1-2 days to prevent RBB eggs from hatching.

### During harvest time

- Install light traps during the night after harvest more RBB adults could be collected. During harvest, RBBs move to other areas in search for food. Collected bugs in the light trap should be buried in a pit.
- Cut up to the base of the crops to destroy RBBs’ habitat and food source.
- Plow and water the field immediately after harvest. Doing these can help ensure that RBB adults, nymphs, and eggs will be killed.
- Release ducks in the field if the water is scarce. Ducks feed on RBB thus they can control RBB population in the area.

## Integrated Management of Rice Black Bug

### 1. Grow Rice Black Bug (RBB)-tolerant varieties.

Use tolerant varieties such as IR 1314, IR 44526, and IR 10871-75-3-2-2 to minimize yield loss from RBB attacks. Grow these only in areas where tungro is not a problem because these varieties are highly susceptible to tungro.

### 2. Plant early-maturing varieties during the regular planting time in the community.

Synchronous planting must be made over large contiguous areas, preferably over a 1 km radius within a locality. This is to evade the damaging population levels of RBB and to break its life cycle.

### 3. Conserve and augment natural enemies of RBB.

Conserve natural enemies of RBB by not using chemicals that will kill them. Augment natural enemies of RBB by introducing parasitoids and pathogens in areas where they are not present.

### 4. Weed control (sanitation).

Control weeds to remove alternate hosts that serve as breeding sites for RBB.

### 5. Use trap crop.

Essentially, a trap crop is a small planting of a crop that is more attractive to RBB than the crop to be protected. Use this to divert colonizing individuals of RBB to a trap crop where they can be destroyed.

### 6. Plow immediately after harvest.

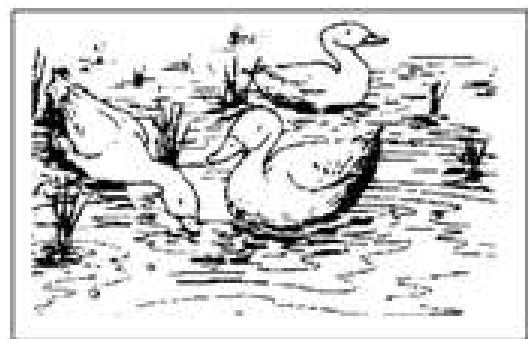
All stages of RBB are present on rice stubbles, thus incorporating the stubbles into the soil destroys their breeding/hiding habitat.

### 7. Flood the field.

To determine whether RBB eggs are parasitized or not, collect about 5 egg masses and place them inside a container. Cover the mouth of the container with a nylon mesh and wait for about a week for parasitoids (wasps) to emerge. If no wasps emerge, flood the area.

### 8. Release ducks in rice fields.

Ducks eat RBB and other pests so release them in an insecticide-free rice fields with standing water about a month after transplanting up to heading.



### 9. Apply metarhizium anisopliae (see separate handout).

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**PHILRICE**