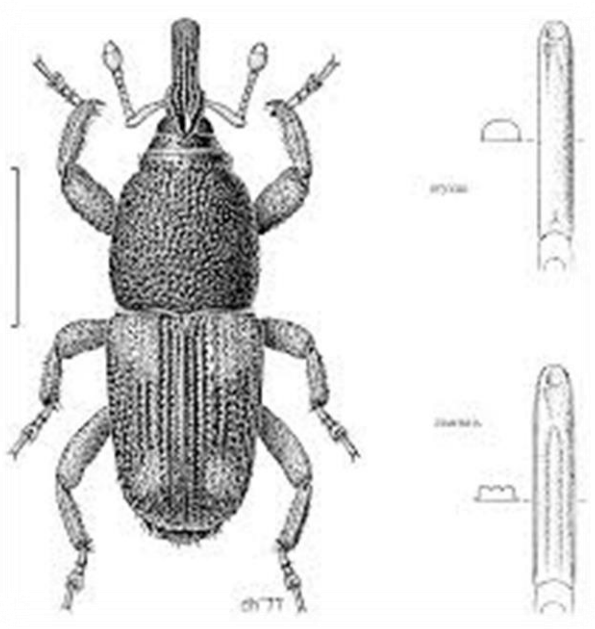
INSECT PESTS OF STORED PRODUCTS

RICE WEEVIL

Taxonomy

RICE WEEVIL

- **T.N:** *Sitophilus oryzae*
- **Family:** Curculionidae
- **Order:** Coleoptera

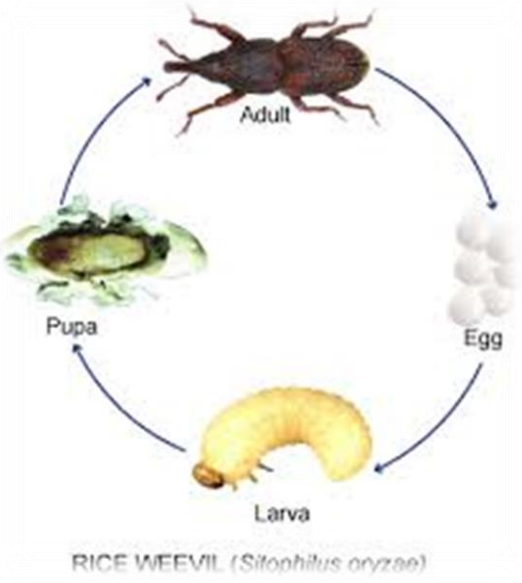


Identification

- Eggs are oval
- Grubs are dirty white with brown head
- Adults are dark brown with four brownish spots on the fore wings
- Head is modified into a snout like structure

Life History

- Eggs are laid in grooves of grain or in pits made by insects
- Grubs on hatching enter grain and feed inside
- Pupation takes place within the grains
- There are 3-4 generations in a year



Damage

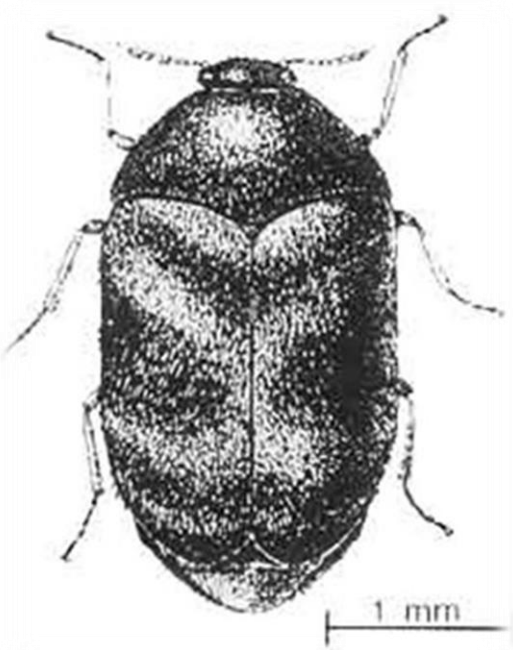
- Damage is caused by both adults and grubs
- They destroy more and eat less
- Grubs on hatching enters grain and feed inside by making a tunnel

KHAPRA BEETLE

Taxonomy

KHAPRA BEETLE

- **T.N:** *Trogoderma granarium*
- **Family:** Dermestidae
- **Order:** Coleoptera

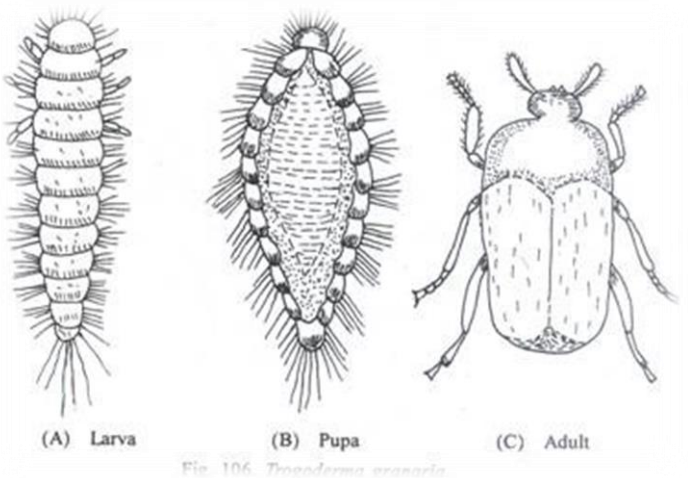


Identification

- Eggs are reddish in colour
- Grubs are yellowish white
- Adults are small dark brown beetles and covered with fine hairs
- Wings present but don’t fly

Life History

- Over winter as larva from November- February in cracks and crevices of walls and floor of granary
- Active from March- October
- Eggs are laid singly among the grains
- Larvae feeds on grains
- Pupation takes place among the grain
- There are 4-5 generations in a year



Damage

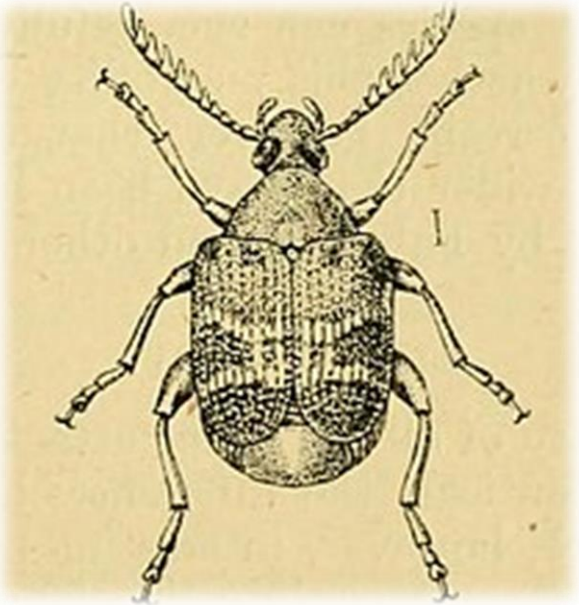
- Damage of this pest is limited to upper 50 cm layer of grains
- Grubs feeds on grains and in case of severe attack it converts grains into frass

DHORA BEETLE

Taxonomy

DHORA BEETLE

- *T.N:* *Callosobruchus chinensis*
- *Family:* Bruchidae
- *Order:* Coleoptera



Identification

- Eggs are oval and yellowish in colour
- Grubs are dirty white
- Adults beetles are reddish brown and larger in size

Life History

- Eggs are glued on the seed on top layer
- Larvae remain inside seed
- Pupa present inside in seed
- Adults come out of the grain by making a circular hole in the seed coat
- There are 7-8 generations in a year

Damage

- Grubs cause damage by feeding within a single seed
- They eat grain completely from inside having shell behind
- Damage grains converted into flour and produces smell which should not be consumed

RED FLOUR BEETLE

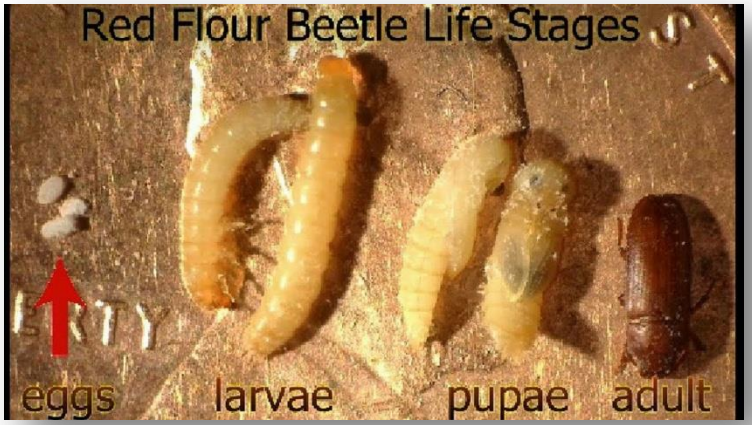
Taxonomy

RED FLOUR BEETLE

- *T.N:* *Tribolium castaneum*
- *Family:* Tenebrionidae
- *Order:* Coleoptera

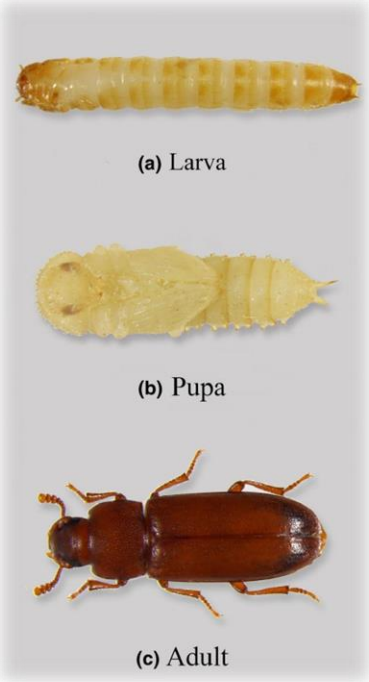
Identification

- Eggs are whitish and cylindrical
- The young larva is yellowish white which later on turns reddish yellow and become hairy
- The adult is reddish brown with club shaped antennae



Life History

- Its female lays eggs in the flour or in the frass material among the grain
- The surface of freshly laid eggs is sticky thus; flour or dust particles easily adhere to them
- The larvae undergo 6-7 moultings and then pupate in the flour for one week
- There are 4-5 generations in a year



Damage

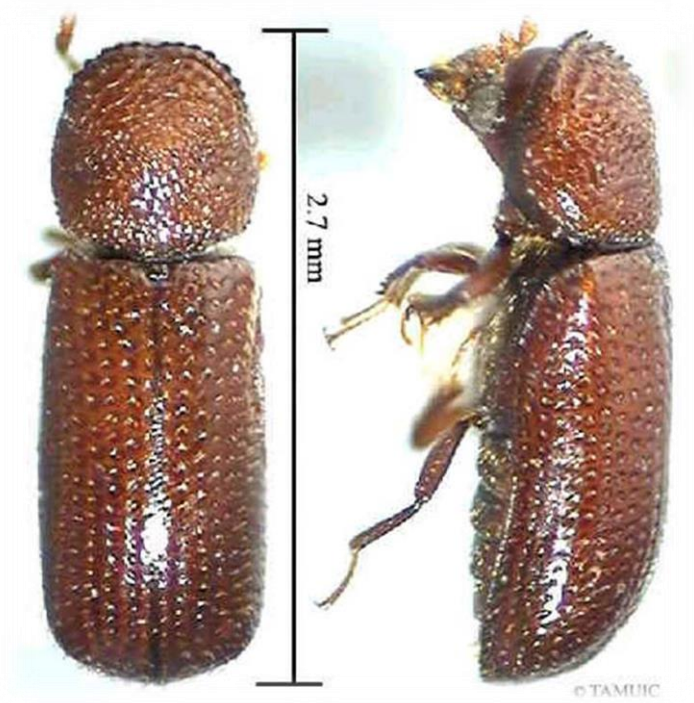
- Both adult and larvae cause damage to flour
- The damage is greatest during the hot and humid monsoon season
- In case of serve infestation, the flour turns grayish having bad smell which makes it unfit for human consumption

LESSER GRAIN BORER

Taxonomy

LESSER GRAIN BORER

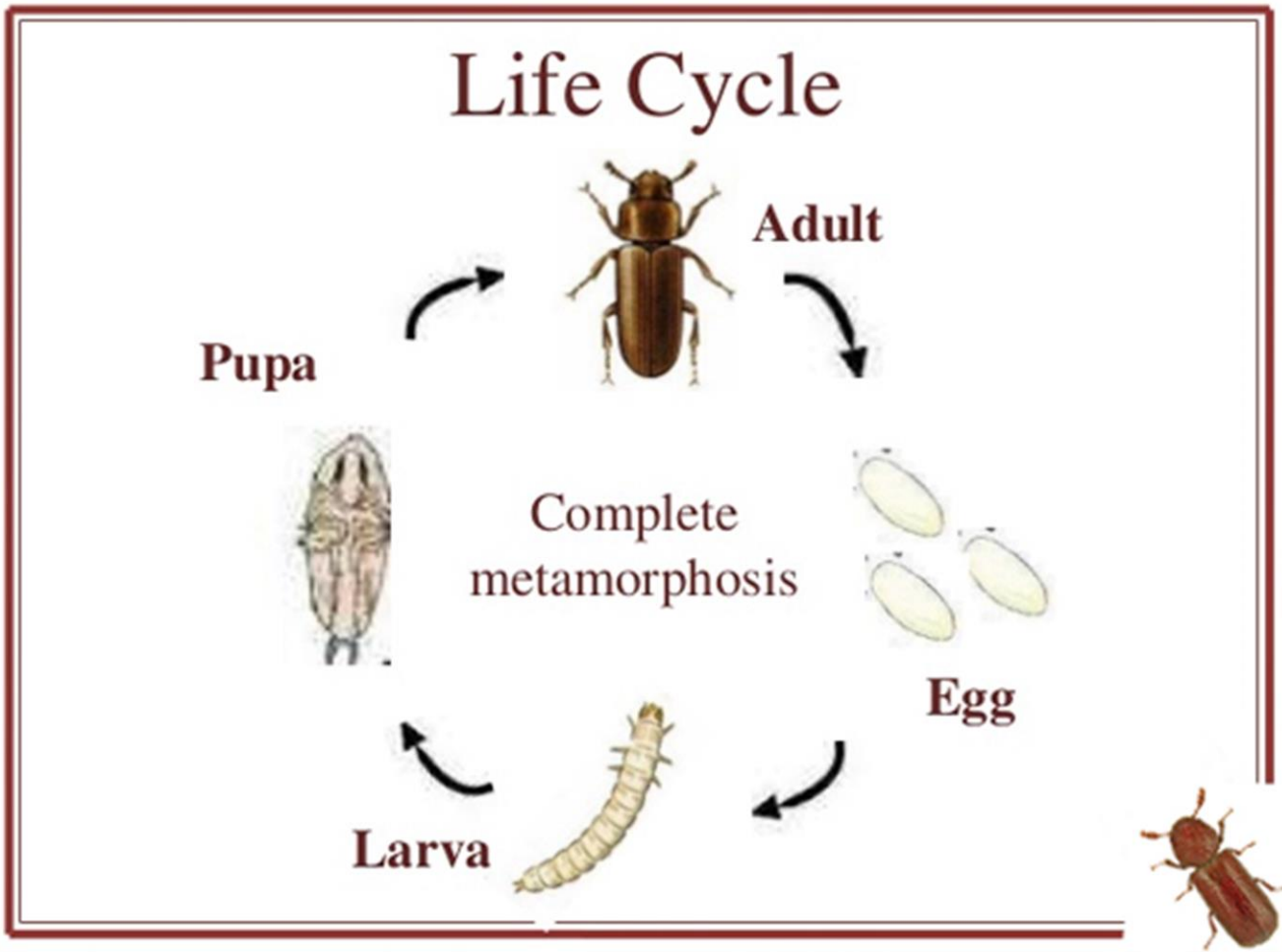
- *T.N:* *Rhyzopertha dominica*
- *Family:* Bostrichidae
- *Order:* Coleoptera



Identification

- Eggs are cylindrical and whitish
- The grubs is dirty white with a light brown head
- The adult is small cylindrical beetle having dark brown or dark color

Life History



Life History

- Eggs are laid singly among the grains or frass
- The larvae feed upon the inner material of grain
- The larvae pupate within the grain or grain dust
- After pupation adult emerge and remain inside the grain for some days and then comes out
- There are 5-6 generations in a year

Damage

- Both larvae and adult attack on the grains and cause damage by feeding and making many irregular holes on them
- In severe infestation, a considerable amount of frass is produced by adults and they spoil more then what they eat
- On the flour young grubs are nourished

Control of Stored Grain Insect Pests

- Properly dry the stored products before storage
- Store grains in the clean godowns or containers
- Plug all cracks and cervices in the store
- Disinfect the store by spraying 0.05% malathion on the floor and ceiling,
- Disinfect the gunny bags by dipping them in 0.02% fenvalerate 20 EC for 10 minutes and drying them in shade before filling with grains
- Grain treatment with 0.05% malathion or fenvalerate in water
- Fumigation of food grains and store with carbon tetrachloride / aluminium phosphide should be done