



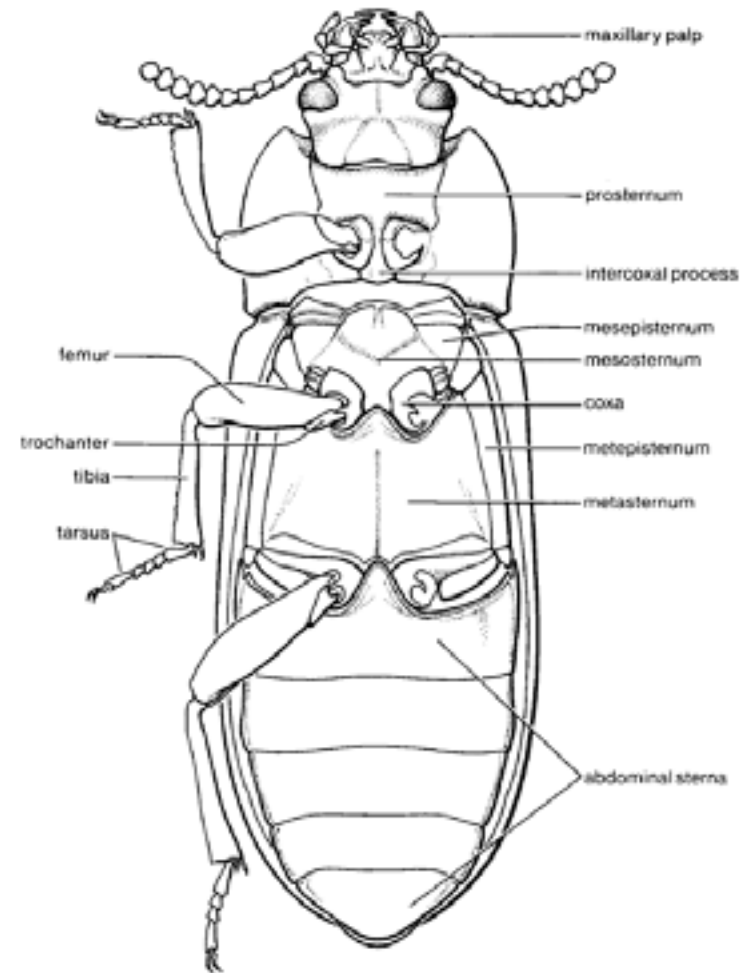
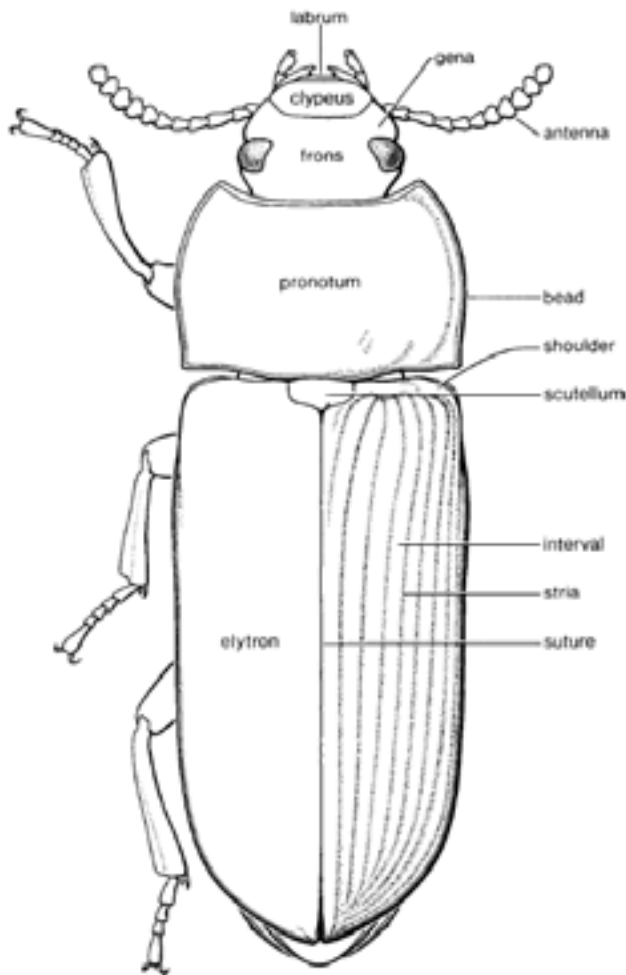
Canadian Grain Commission
Commission canadienne
des grains

Short guide to common adult insects found in stored grain in Canada

Canada 

Beetle Anatomy

(From: Bousquet, Y., 1990. Beetles associated with stored products in Canada:
An identification guide.)



Simple key to common adult insects found in stored grain in Canada



Figure 1.1.

- 1 Length 1 mm or less
Go to couplet 2

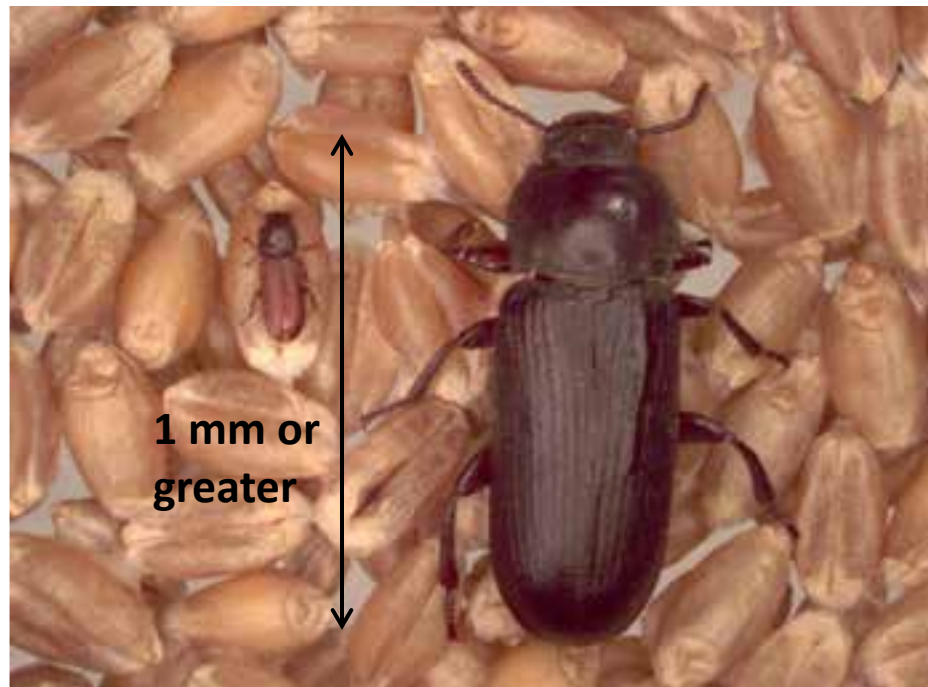


Figure 1.2.

- 1' Length greater than 1 mm
Go to couplet 3

Return to preceding couplet (1).

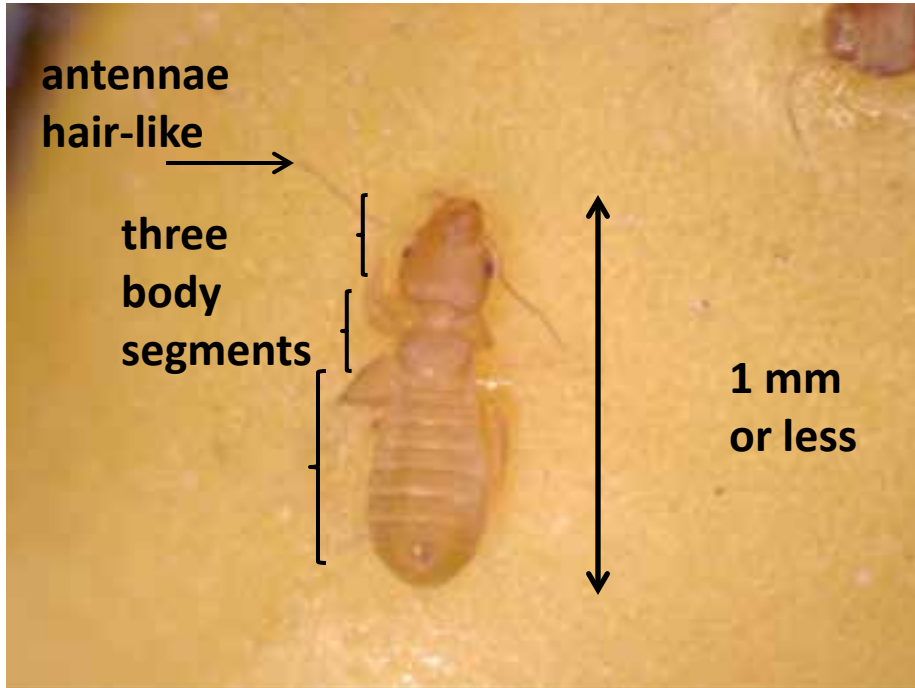


Figure 2.1.

- 2** Antennae long and hair-like, body clearly in three segments, six legs.
Booklice or Psocids

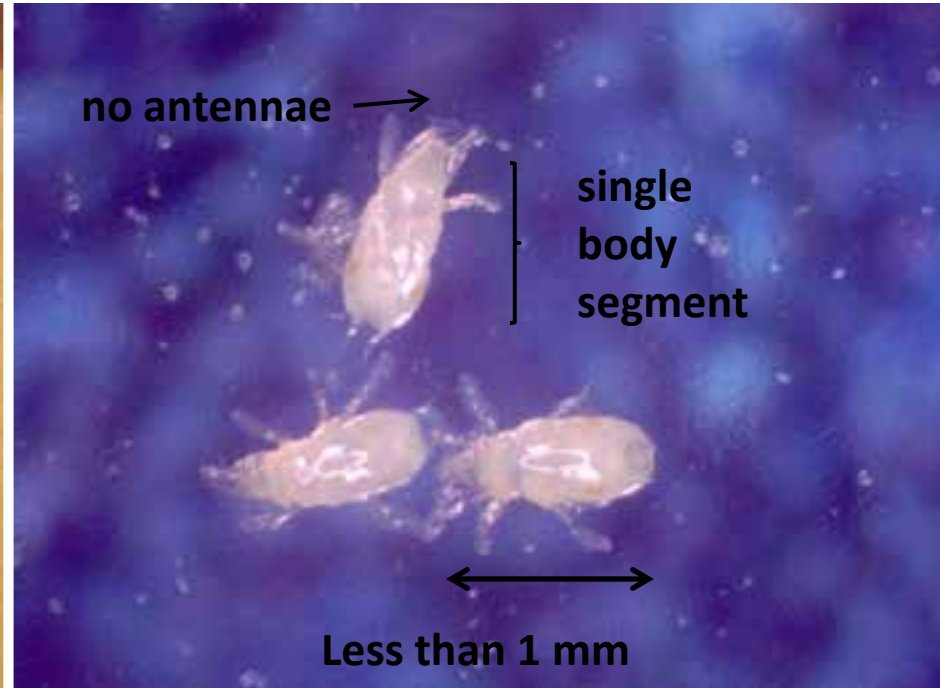


Figure 2.2.

- 2'** Antennae absent, single body segment, eight legs.
Grain mites

Return to preceding couplet (1').



Figure 3.1.

3 Is it a moth?
Lepidoptera



Figure 3.2.

3' Not a moth?
Go to couplet 4

Return to preceding couplet (3').

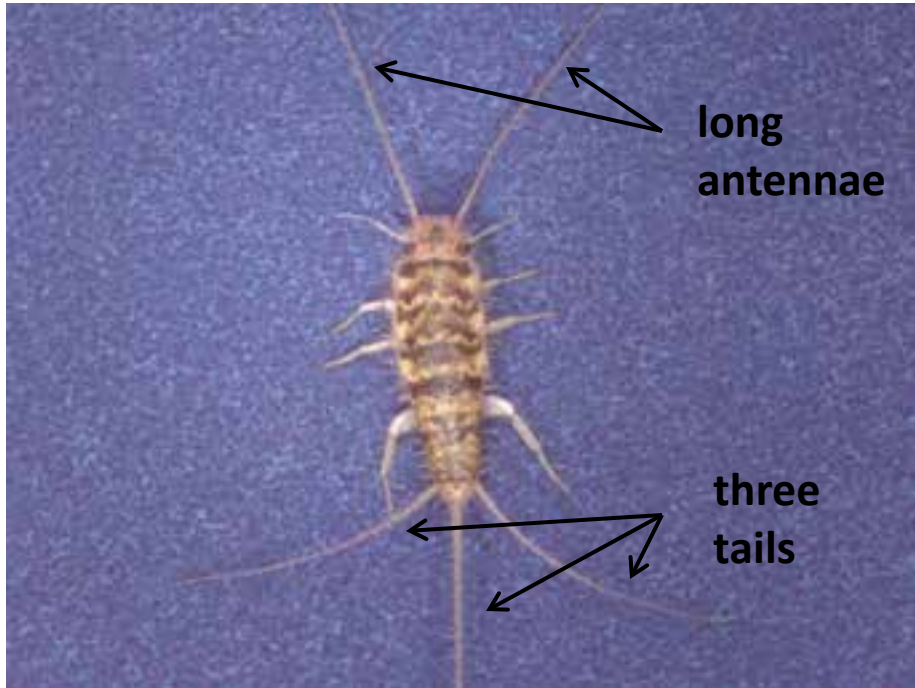


Figure 4.1.

- 4 Larger insect with two long antennae and three distinct tails present.
Silverfish or Firebrat

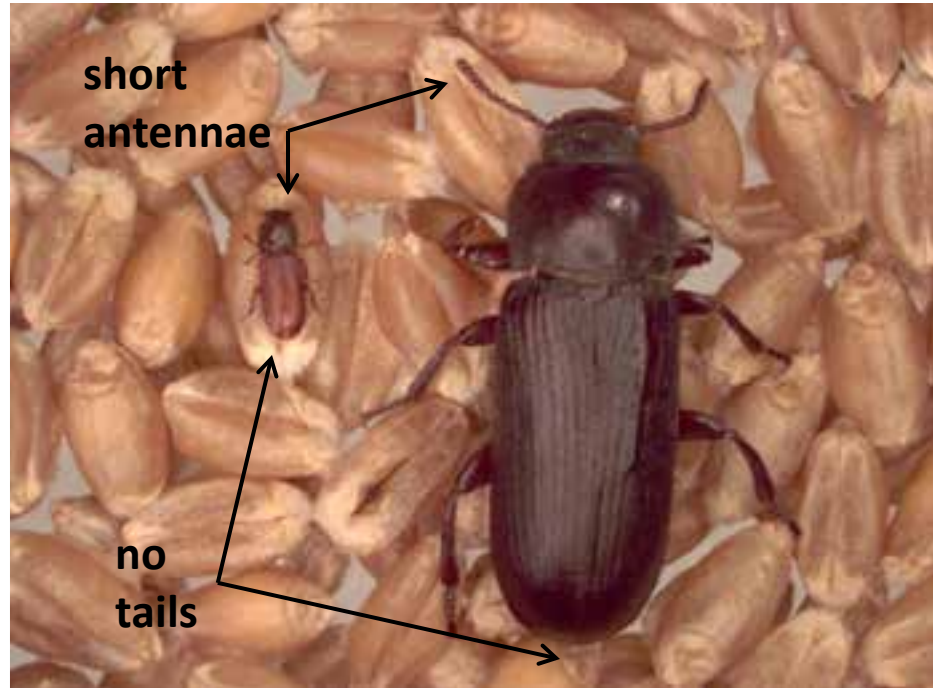


Figure 4.2.

- 4' May be large or small insect with antennae but no distinct tails.
Go to couplet 5

Return to preceding couplet (4').

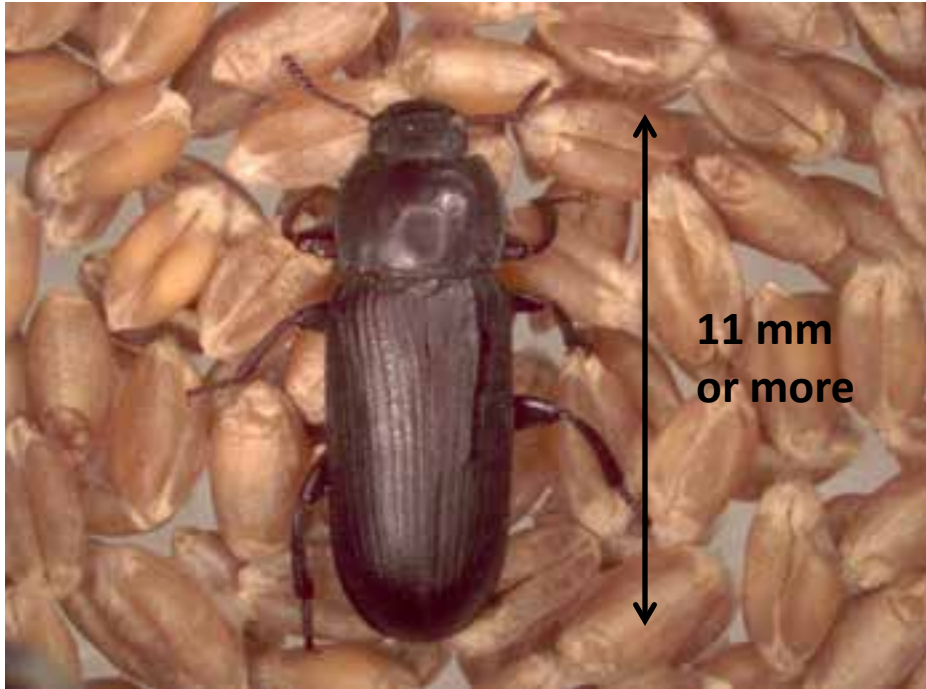


Figure 5.1.

- 5 Larger insect, 11 mm or more in length.
Yellow mealworm – *Tenebrio molitor*



Figure 5.2.

- 5' Smaller insect, less than 1 mm in length.
Go to couplet 6

Return to preceding couplet (5').

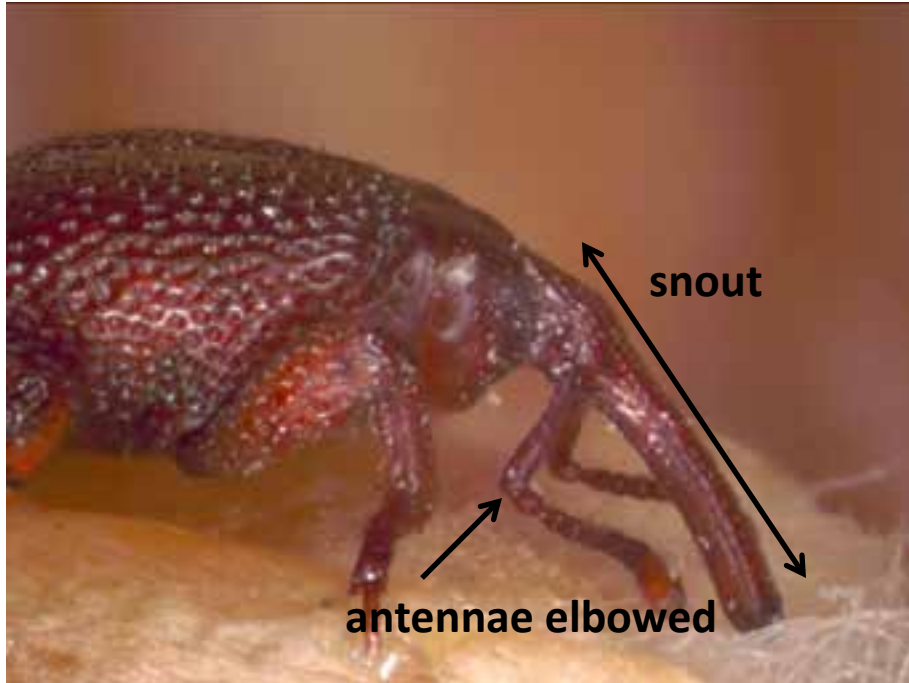


Figure 6.1.

6 Head prolonged into a snout,
antennae elbowed (weevil).
Go to couplet 7



Figure 6.2.

6' Head not prolonged into a snout,
antennae straight without distinct
elbow.
Go to couplet 8

Return to preceding couplet (6).

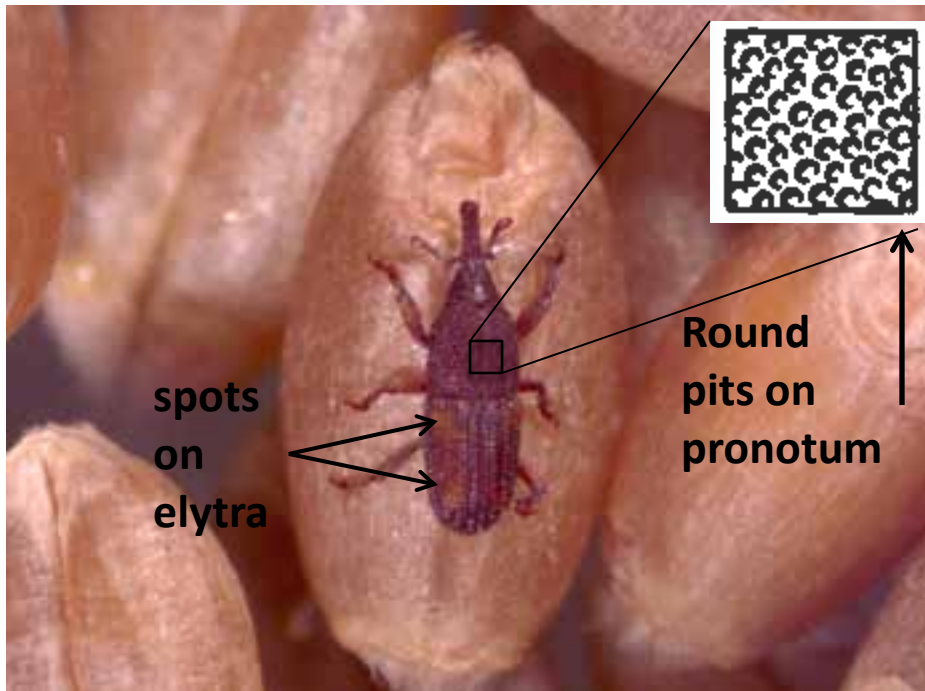


Figure 7.1.

- 7 Four red to brown spots on back (elytra), pits on pronotum round in shape.
Rice weevil – *Sitophilus oryzae*
(may be the maize weevil, *Sitophilus zeamais*, cannot tell apart by external features).

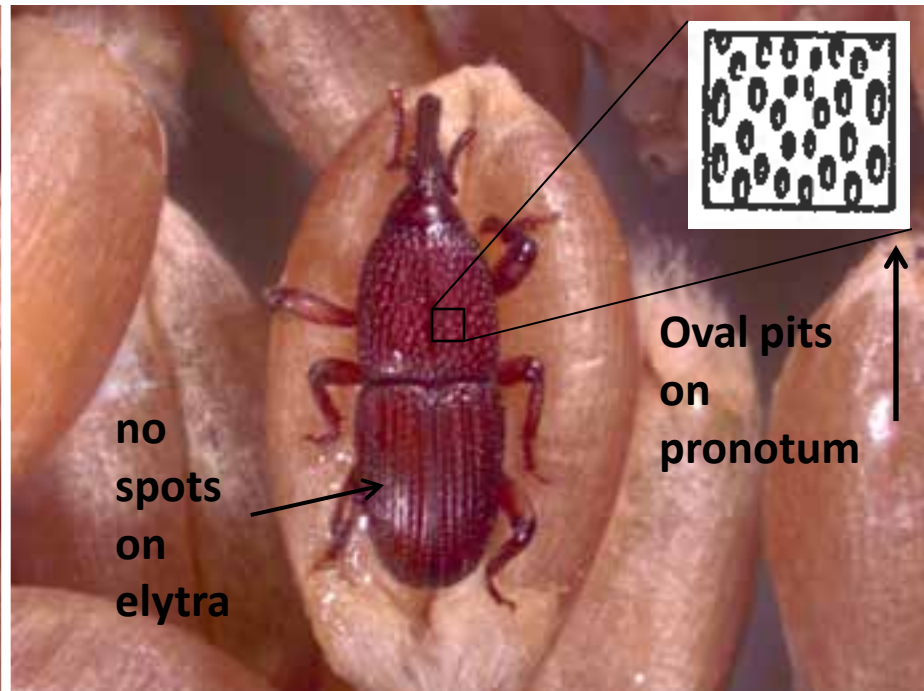


Figure 7.2.

- 7' No spots on back (elytra), uniformly dark brown, pits on pronotum oval in shape.
Granary weevil – *Sitophilus granarius*

Return to preceding couplet (6').

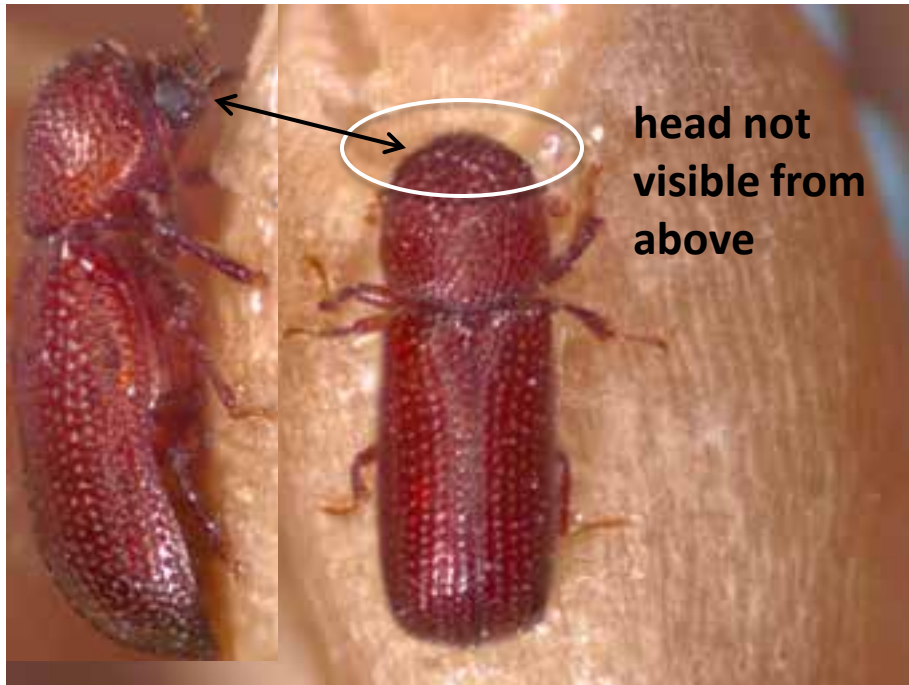


Figure 8.1.

(other species with head not visible from above [click here](#))

8 Head not visible or only partially visible from above.
Go to couplet 9

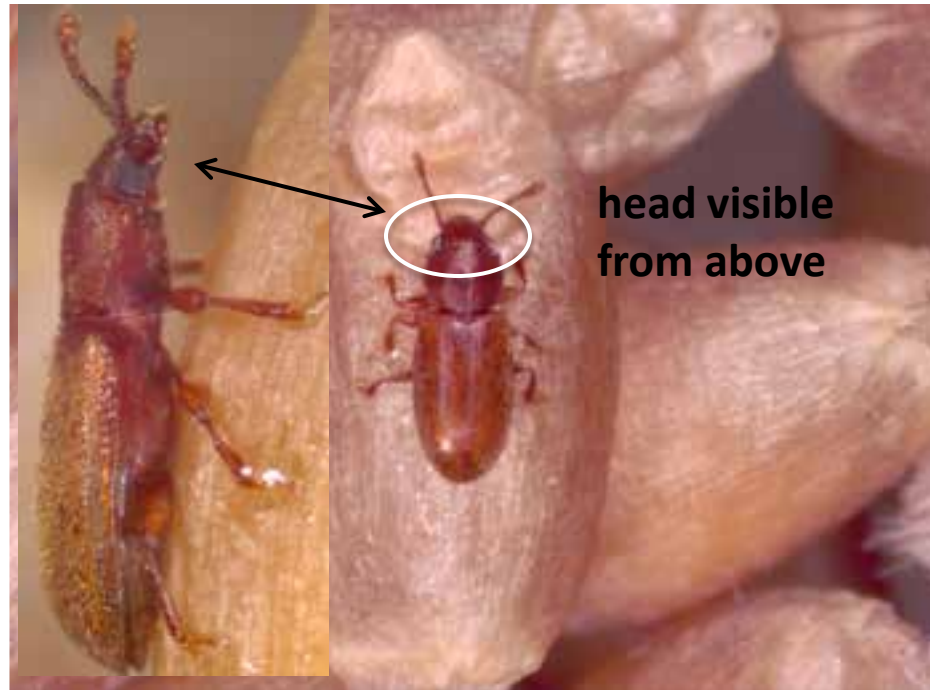


Figure 8.2

8' Head clearly visible from above.
Go to couplet 11



Figure 8.3.
***Trogoderma variabile* (dermestid beetles)**
head not clearly visible from above.



Figure 8.4.
A spider beetle, ***Ptinus fur*** head not clearly
visible from above.

Return to preceding couplet (8).

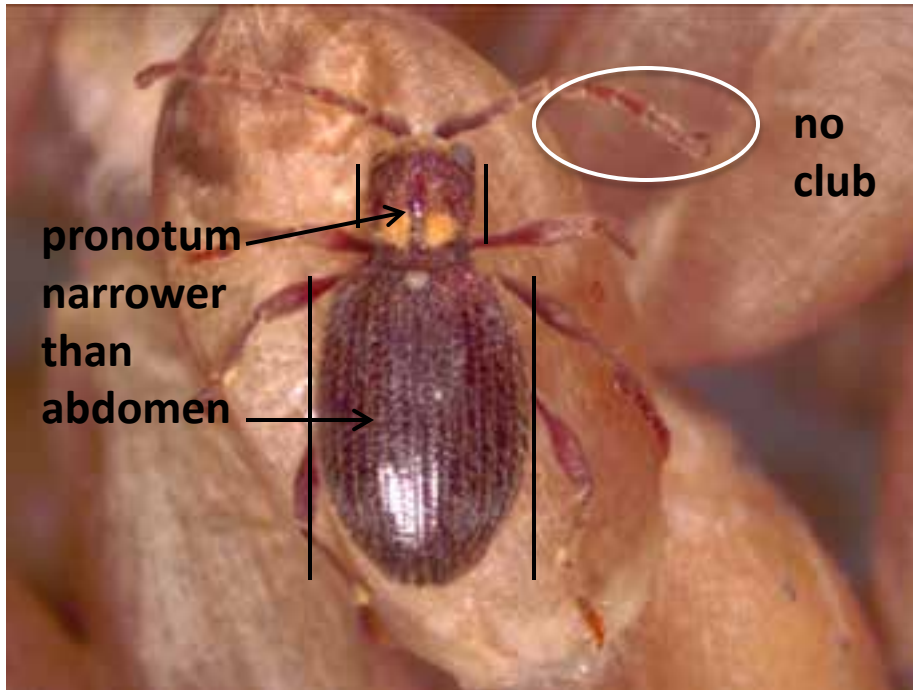


Figure 9.1.

- 9 Antennae long with segments uniform in shape, pronotum narrower than abdomen, abdomen and pronotum slightly rounded (not parallel sided), may be spider-like in appearance.
Spider Beetles - Ptininae

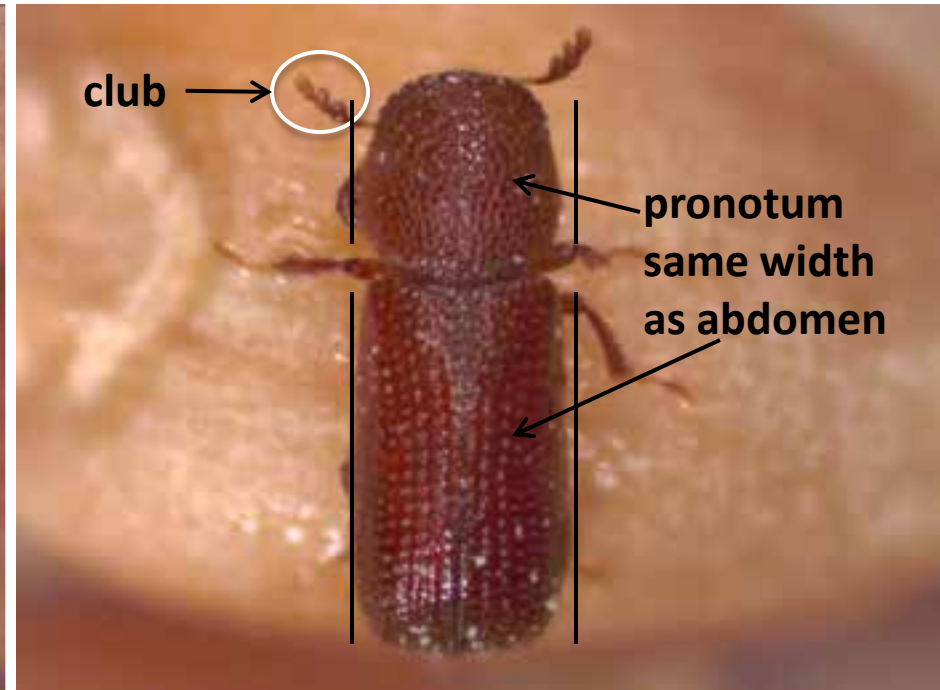


Figure 9.2.

- 9' Insect with antennae variable in length (usually short) but end in more or less distinct club, pronotum and abdomen same width.
Go to couplet 10

Return to preceding couplet (9').



Figure 10.1.

- 10 **Abdomen and pronotum parallel sided, not round in shape; cylindrical in cross section; shiny and uniform in colour; pronotum with rasp-like teeth.**
Lesser Grain Borer – *Rhyzopertha dominica*



Figure 10.2.

- 10' **Round or oval in overall shape, covered with setae (hair) or scales and appearing hairy or fuzzy; colour variable and may be patterned; front edges of pronotum strongly curved.**
Hide Beetles or Larder Beetles - Dermestidae

Return to preceding couplet (8').



Figure 11.1.

11 Pronotum with teeth-like projections (6).
Saw-toothed grain beetle – *Oryzaephilus surinamensis*



Figure 11.2.

11' No teeth-like projections pronotum.
Go to couplet 12

Return to preceding couplet (11').



Figure 12.1.

12 Insect with antennae long with segments uniform in shape, not ending in a club.

Rusty grain beetle – *Cryptolestes* spp. Most likely to be the rusty grain beetle but difficult to distinguish between species.

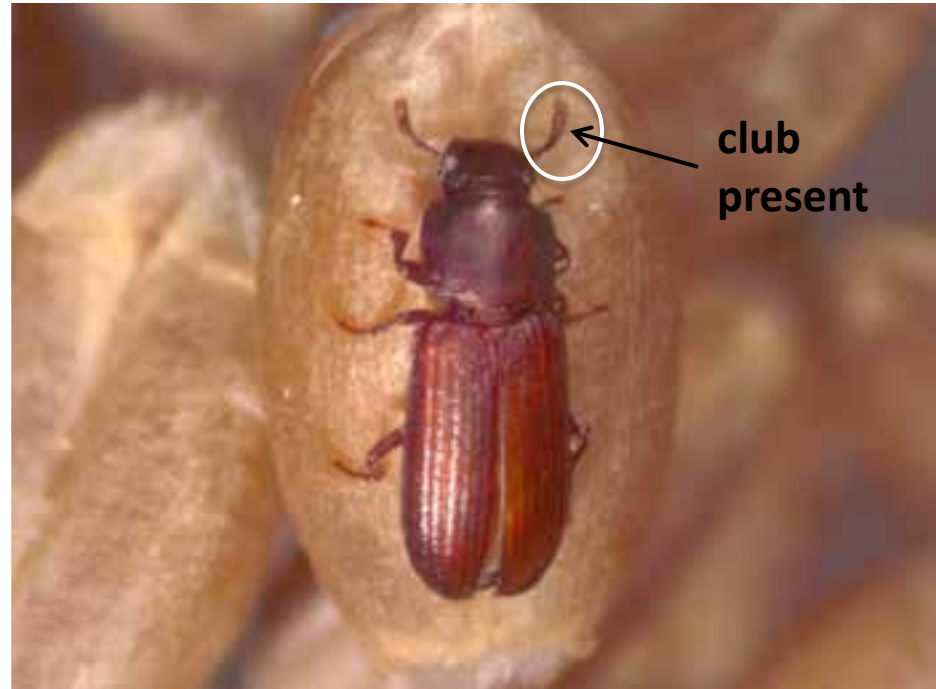


Figure 12.2.

12' Insect with more or less distinct clubbed antennae.

Go to couplet 13

Return to preceding couplet (12').

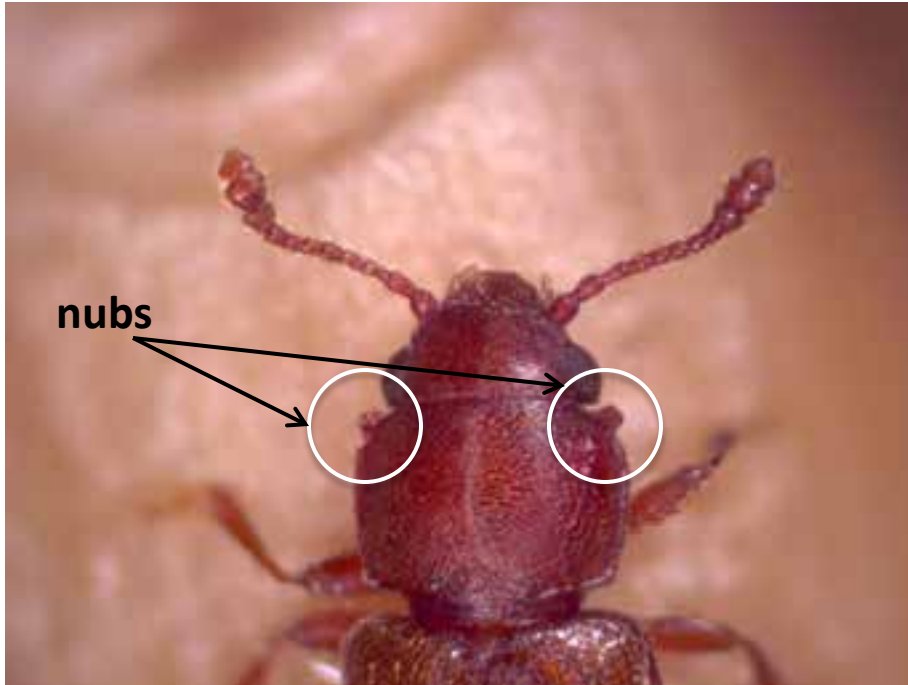


Figure 13.1.

- 13** Conspicuous tooth on front corners of pronotum. Antennae with distinct club. Combination often referred to as 'nubs and clubs'. Foreign grain beetle – *Ahasverus advena*

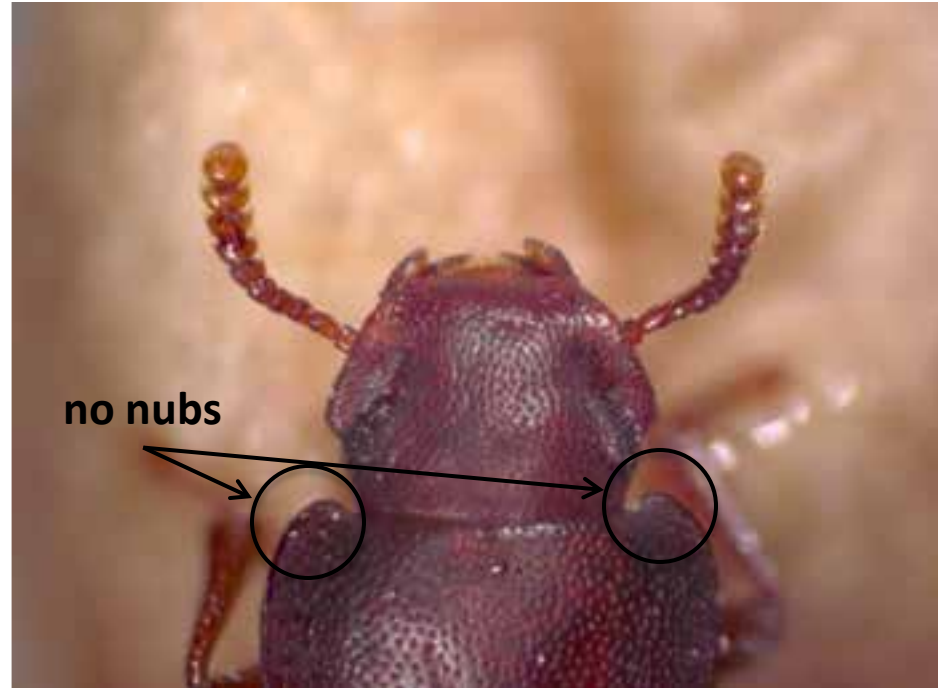


Figure 13.2.

- 13'** No conspicuous tooth (or nub) on front corners of pronotum. Go to couplet 14

Return to preceding couplet (13').



Figure 14.1.

14 Red flour beetle
Tribolium castaneum

Gap between eye differences:
Gap narrow or wide.
[View comparison here](#)

Antennal club differences:
Club distinctly or gradually
enlarged.
[View comparison here](#)



Figure 14.2.

14' Confused flour beetle
Tribolium confusum

Lateral eye width differences:
Eye more than four or only two
facets wide at narrowest point.
[View comparison here](#)



Figure 14.3.

Red flour beetle
Tribolium castaneum – antennal club abruptly enlarged.



Figure 14.4.

Confused flour beetle
Tribolium confusum– antennal club gradually enlarged.

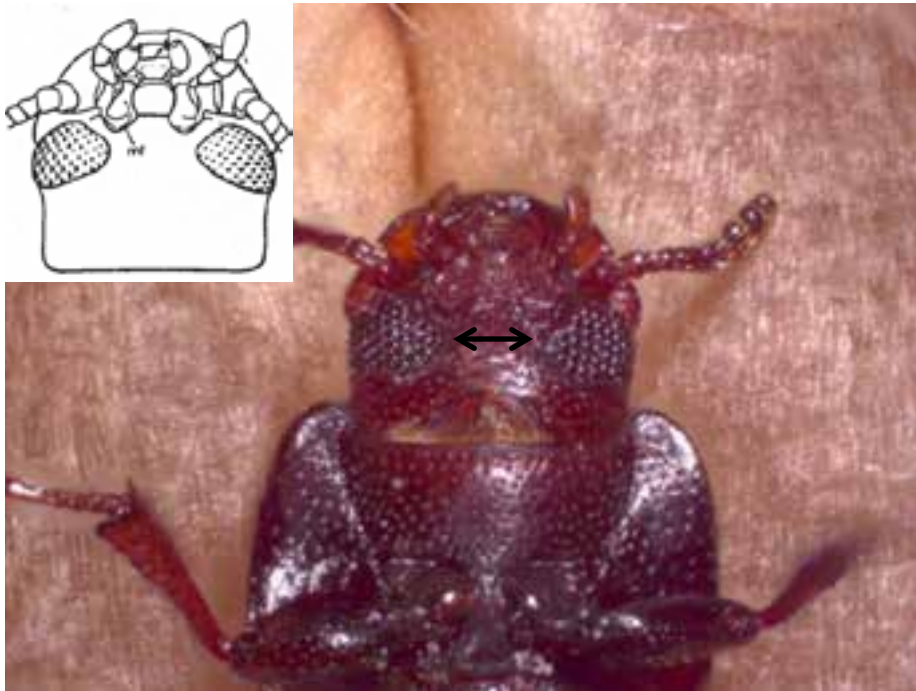


Figure 14.5.

Red flour beetle
Tribolium castaneum – gap
between eyes relatively narrow
(about 33% of head width).

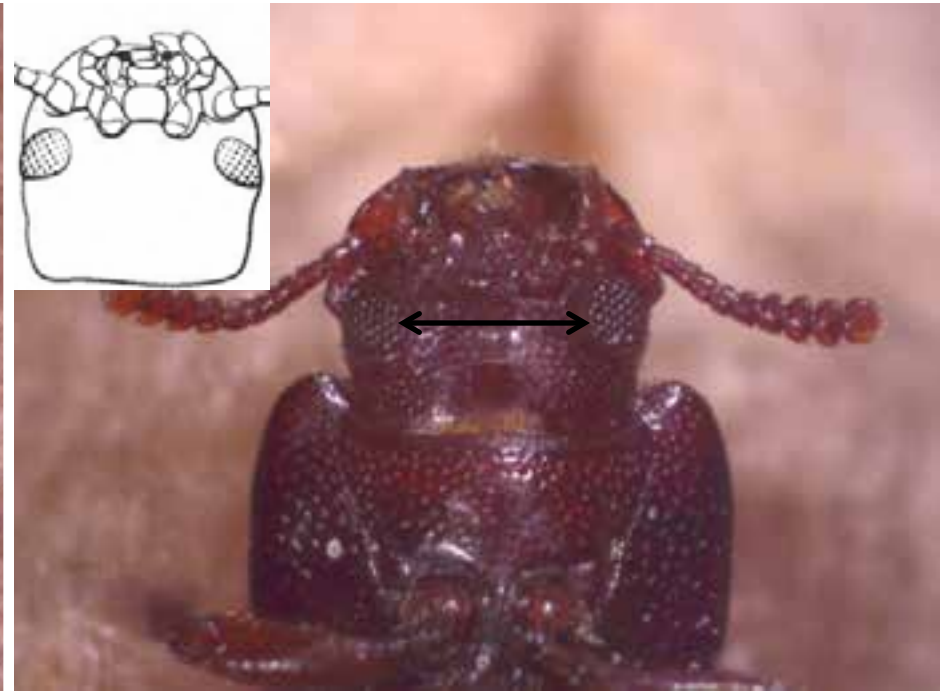


Figure 14.6.

Confused flour beetle
Tribolium confusum– gap
between eyes relatively
wide(about 50% of head width).

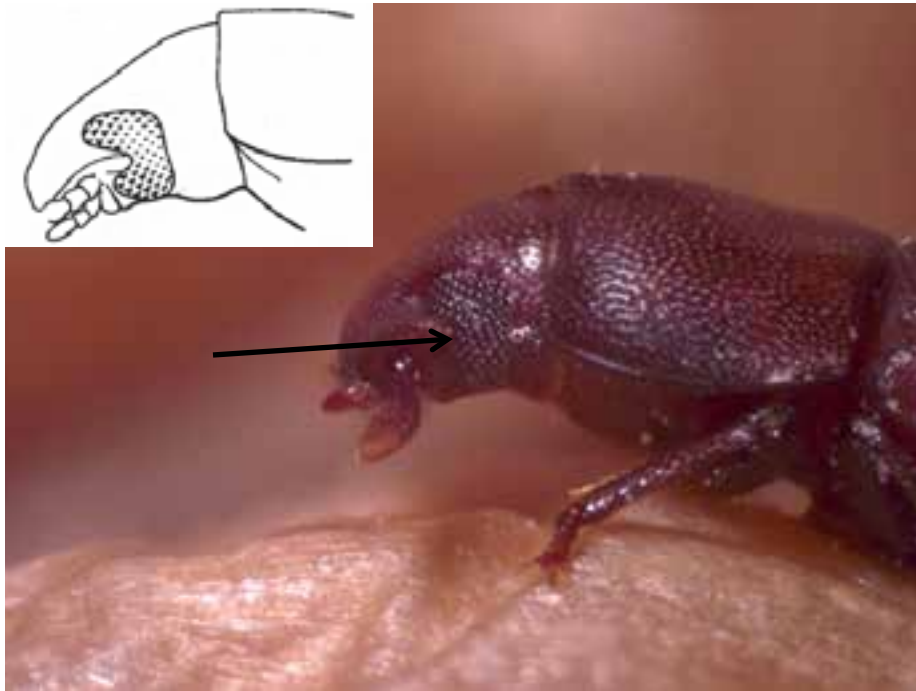


Figure 14.7.

Red flour beetle
Tribolium castaneum – eye four
facets wide at narrowest point.

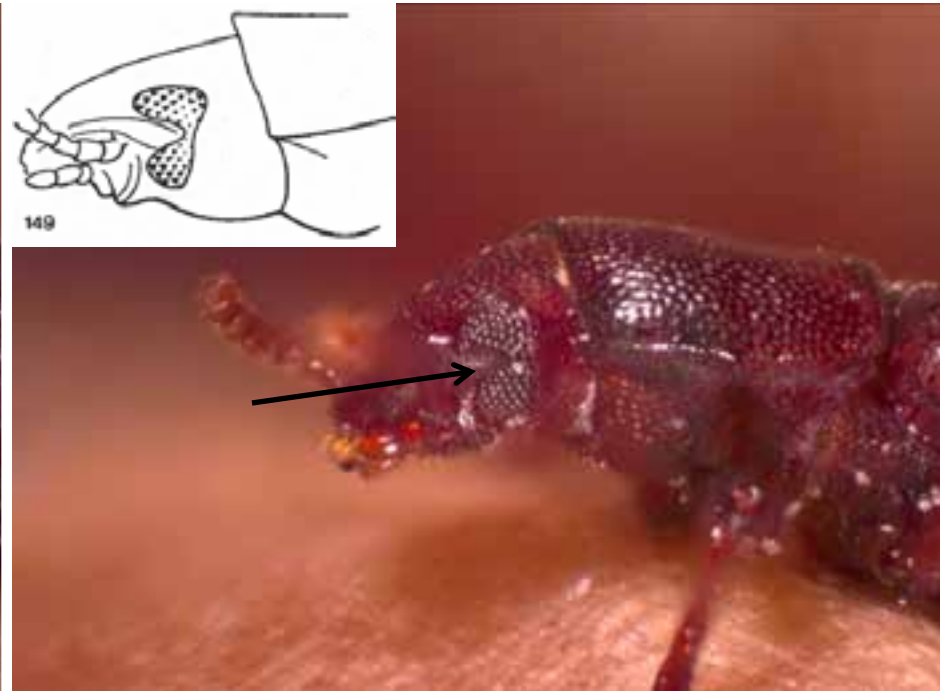


Figure 14.8.

Confused flour beetle
Tribolium confusum– eye two
facets wide at narrowest point.