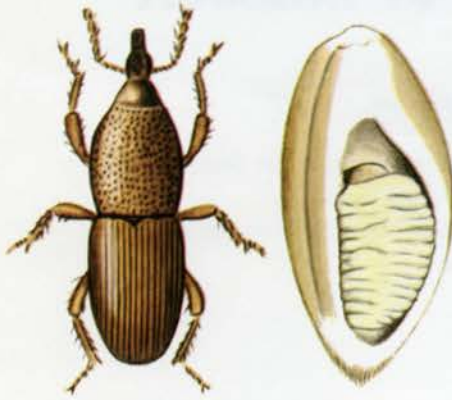

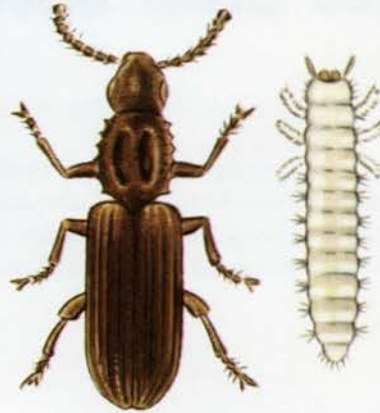



PRINCIPAL STORED GRAIN INSECTS

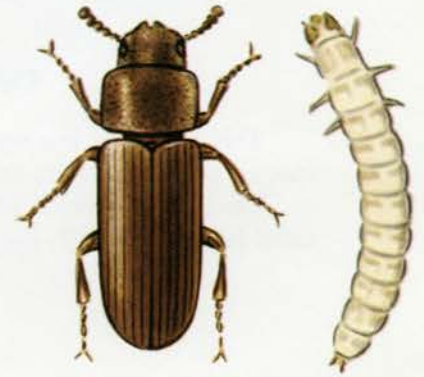
For safe and effective use of insecticides, always identify the problem correctly.



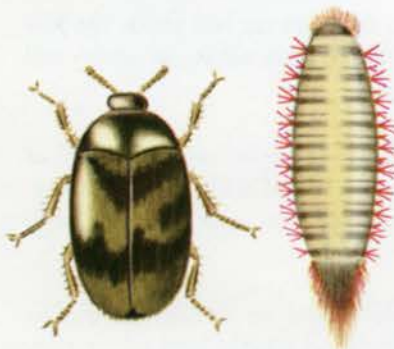
1. Granary weevil 




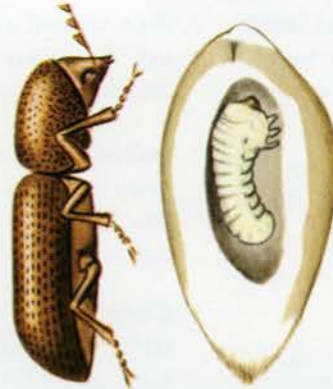
2. Saw-toothed grain beetle 



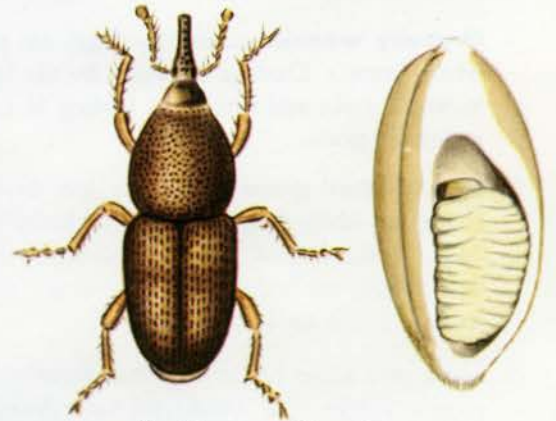
3. Red flour beetle 



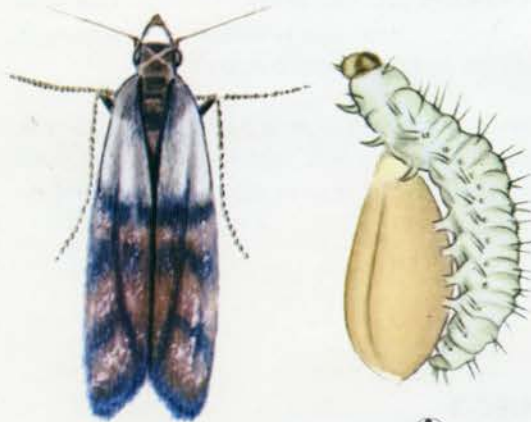
4. Larger cabinet beetle 



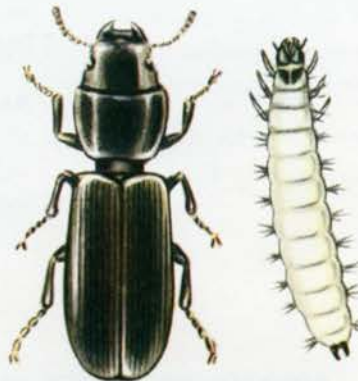
5. Lesser grain borer 



6. Rice weevil 



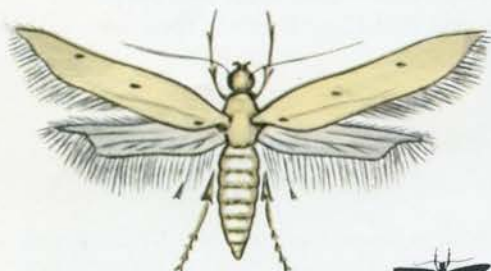
7. Indian-meal moth 



8. Cadelle 



9. Flat grain beetle 



10. Angoumois grain moth 



Some of these stored grain insects are also **KITCHEN PESTS.**

The saw-toothed grain beetle, red flour beetle, larger cabinet beetle, and Indian-meal moth develop in flour, cake mixes, corn meal, breakfast foods and similar products. The Angoumois grain moth infests popcorn.

Principal Stored Grain Insects of Missouri

Wilfred S. Craig, Department of Entomology, College of Agriculture

This is the first in a series of picture sheets prepared by Extension entomologists of the North Central states in cooperation with the Federal Extension Service, U. S. Department of Agriculture.

The principal species of stored grain insects found in Missouri are pictured showing both the adult and larval forms. The small, black drawings indicate the actual size of the insects.

DESCRIPTION

1. **Granary weevils** cannot fly. Eggs are placed inside whole kernels. Damage is caused by the larvae feeding in whole grain and the adults feeding in and on whole or broken grain.
2. **Saw-toothed grain beetles** seldom fly but both the larvae and adults feed on cracked or broken grain, flour, meal, breakfast food, stock feed, candy, and dried fruit. The thorax, the body region behind the head, has saw-toothed points on both sides.
3. Larvae and adults of the **red flour beetle** and a closely related species, the **confused flour beetle**, feed on flour, grain dust, and broken grains.
4. **Larger cabinet beetles** and several closely related species are general feeders on grain and grain products. They will also feed on material of animal origin, such as hides.
5. The eggs of the **lesser grain borer** are placed on kernels and the larvae bore into the kernels. The adults can fly and also feed on grain.
6. **Rice weevil** adults can fly. Eggs are laid inside the kernel. The larvae feed in whole grain while the adults will feed both in and on grain.
7. **Indian-meal moth** larvae spin webs on the surface of grain and feed on kernels enclosed within the webbing. The larvae will also spin webs on sacked grain in storage areas.
8. **Cadelle** larvae and adults feed on whole grain. The larvae bore holes in the wood within bins where they hibernate. This is one of the largest stored grain insects.
9. **Flat grain beetles** are one of the smallest common stored grain insects. It is usually found associated with out-of-condition or insect damaged grain.
10. **Angoumois grain moth** eggs are laid on the outside of the grain. The larvae bore into the grain and feed within the kernel. Adults may fly from granaries and infest corn in the field.

CONTROLLING STORED GRAIN INSECTS

For control recommendations in farm bins see UMC Guide 7100, "Insects in Farm Stored Grain—Their Prevention and Control." For control in kitchens see UMC Guides 7374, "Angoumois Grain Moth and Indian Meal Moth;" and 7376, "Saw-toothed Grain Beetle, Confused Flour Beetle, and Red Flour Beetle." These are available at your county University Extension Center.