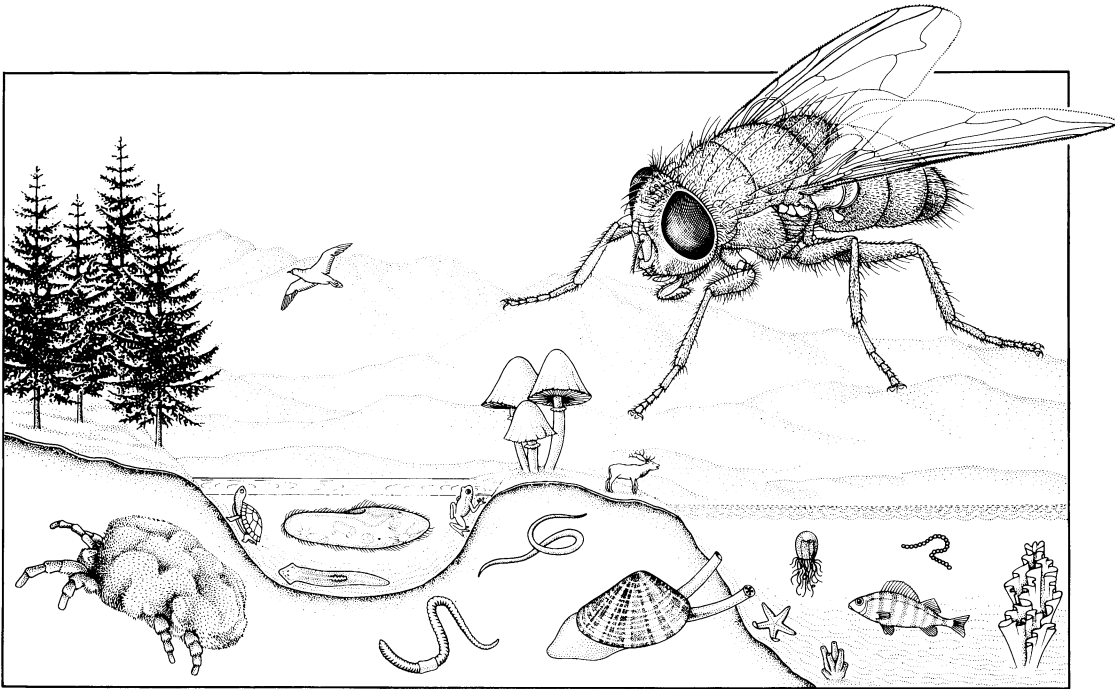


# INSECTS IN AND AROUND YOUR HOME GARDEN

James N. Hogue

Along with bacteria the insects are the most numerous and dominant life forms on Earth. Around 1 million insect species have been described. There are more species of insects than any other group of organisms. In the diagram below, the size of the individual organisms is proportional to the number of described species in the higher taxon that it represents.



In walking around any area on Earth, or examining the bottoms of freshwater habitats, you will encounter many insects. Also, because of their small size, potentially large numbers, and varied habits, insects make are ecologically very important members of biological communities. For example, insects are the largest converters of plant biomass to animal biomass. Insects consume nearly every type of organic matter and in turn are consumed by many other types of organisms, especially fish, reptiles and amphibians, birds, mammals, and of course other insects. Because of their close and long (well over 250 million years) association, the lives of many insects and plants are closely intertwined, often to the point of complete dependence.

Today we can talk about some of these amazing creatures and the interesting things they do. Things that you will certainly encounter on your explorations of your yard and garden areas. A knowledge and familiarity of these organisms will hopefully make them more appealing and more likely to be invited to become part of the diversity of your garden

To facilitate this, it will be useful to be able to recognize some of the major groups of insects that you will encounter.

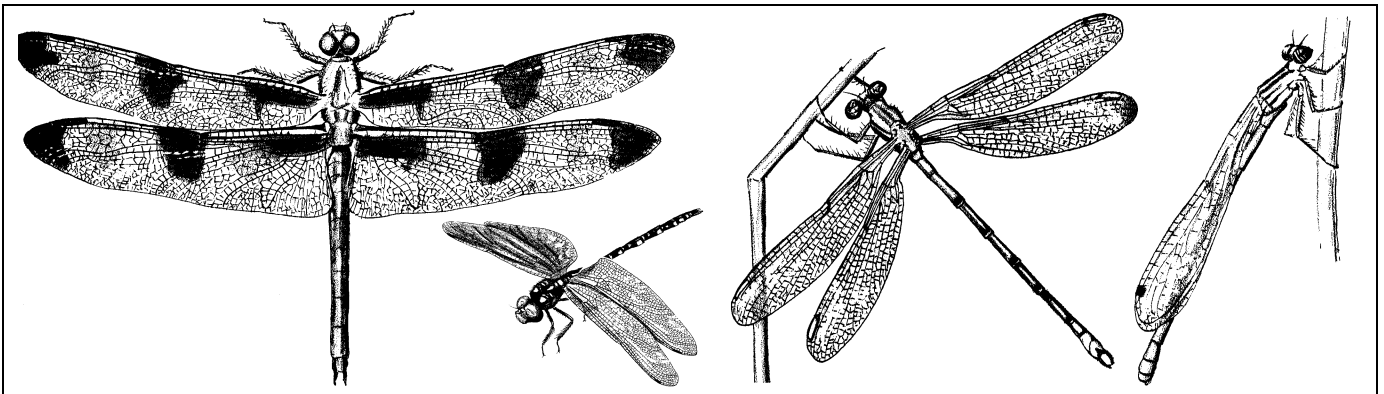
## Recognition of the 10 most conspicuous orders of insects that you will encounter in your gardens

Insects are categorized into relatively large, but easily recognizable groups called orders. There are currently about 30 recognized orders of insects. They are recognized particularly on features of the wings, mouthparts, and habits.

### 1. ODONATA – dragonflies

6500 species described worldwide.

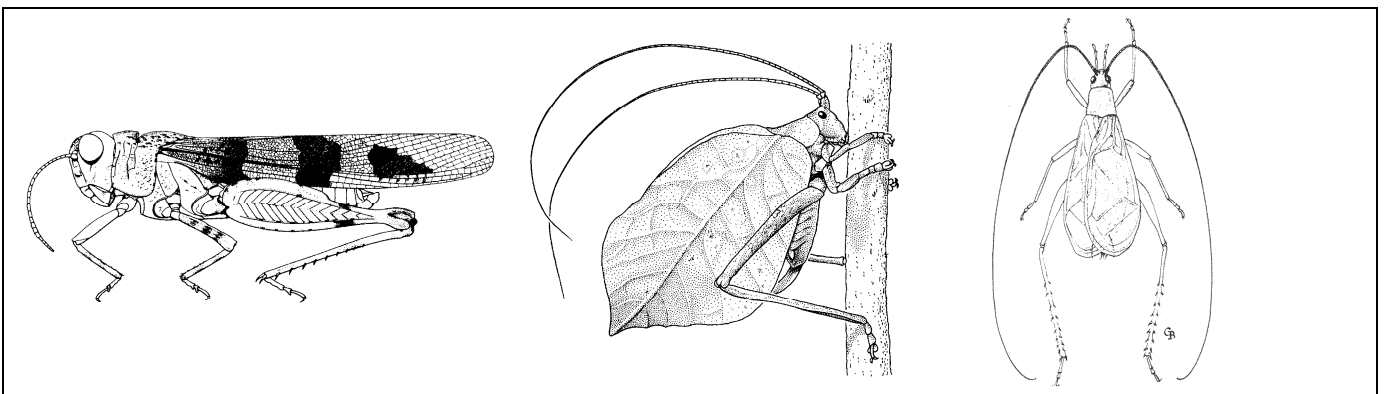
Large membranous wings with many cross veins, large eyes, and small, setaceous antennae. Chewing mouthparts. Most often encountered around freshwater.



### 2. ORTHOPTERA – grasshoppers, katydids, and crickets

20,000 species described worldwide

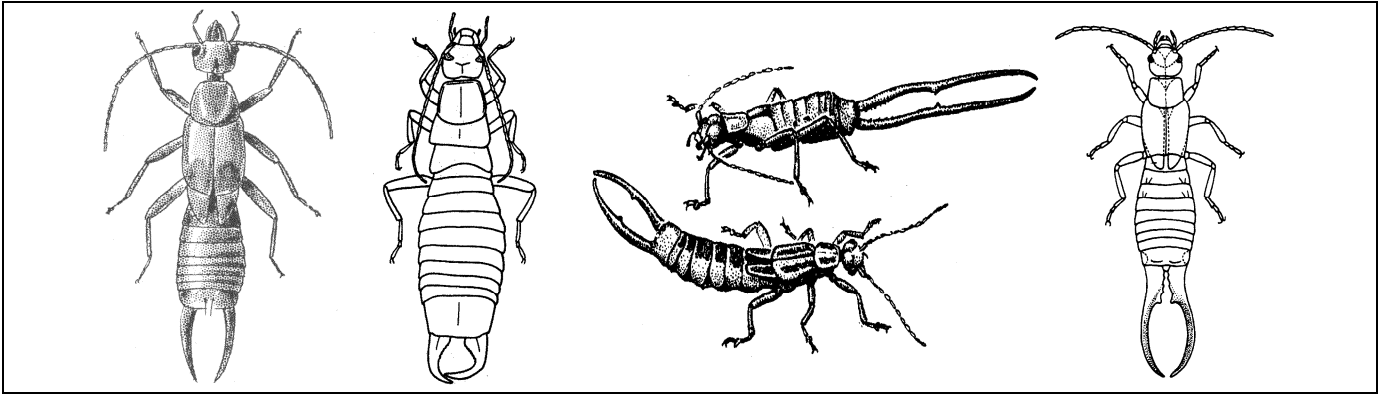
Most winged, hind wing membranous, forewing thickened and leathery. Wings folded over the body. Chewing mouthparts. Hindlegs usually modified for jumping.



3. DERMAPTERA – earwigs

1900 species described worldwide

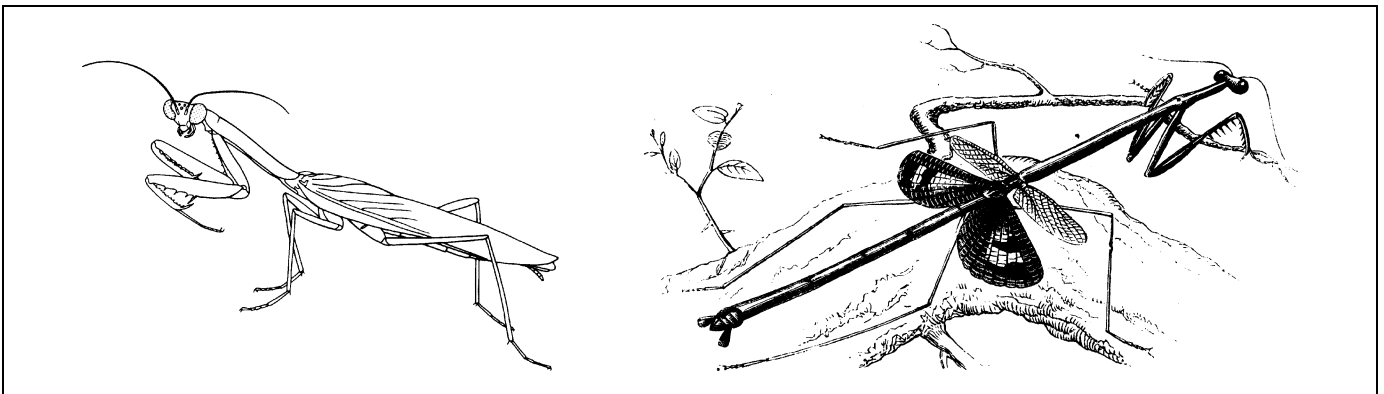
Easily recognized by their stout, terminal forceps and the short, leathery forewings.



4. MANTODEA – mantises

2000 species described worldwide

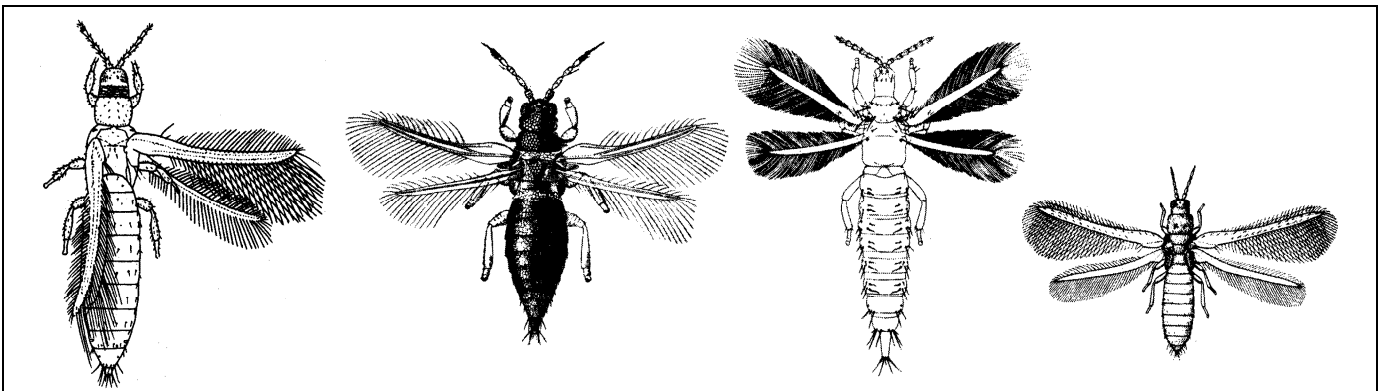
4 membranous, relatively similar size wings, chewing mouthparts, raptorial forelegs. Predaceous.



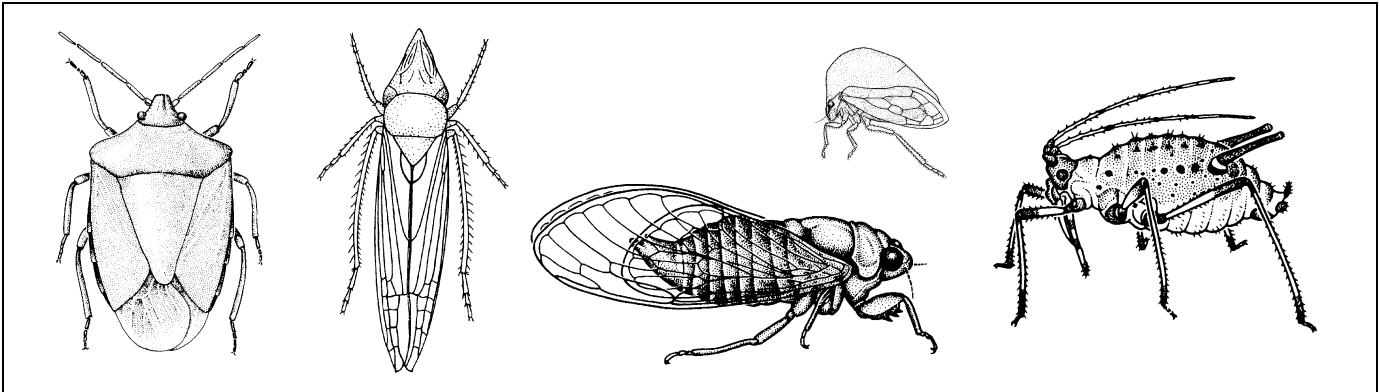
5. THYSANOPTERA – thrips

5500 species described worldwide

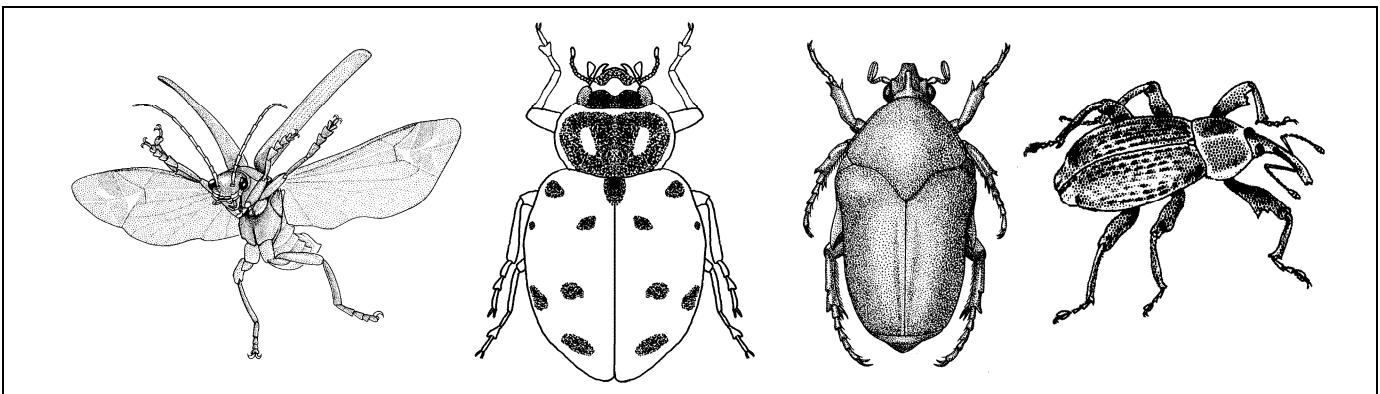
Small body size, sucking mouthparts, and distinctive, elongate wings fringed with long, fine hairs. Most rasp or suck plant juices, but some feed on fungal spores and others are predaceous.



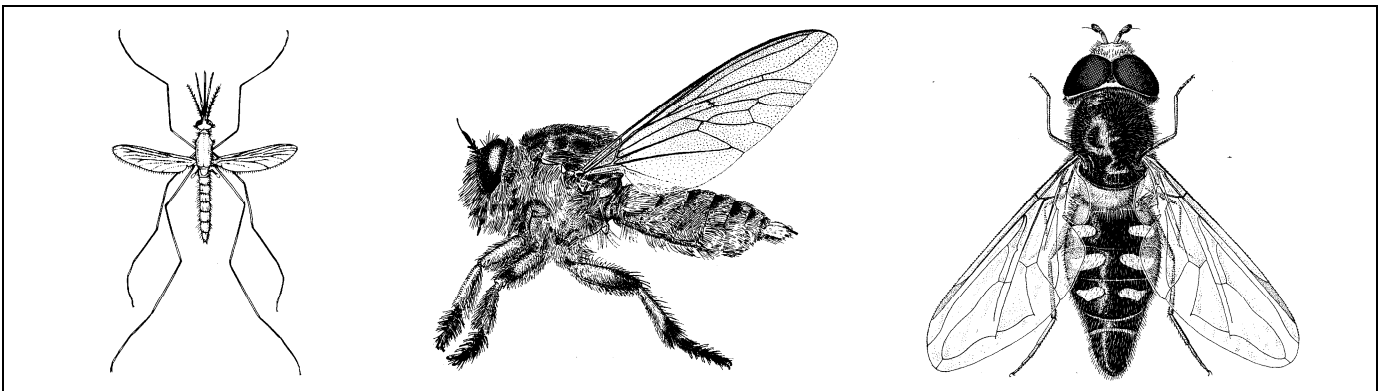
6. HEMIPTERA - true bugs, leaf hoppers, cicadas, tree hoppers, scale insects, aphids  
200,000 species described worldwide  
Forewing in some groups thickened at base, in others, membranous like hindwings.  
Mouthparts piercing or sucking.



7. COLEOPTERA – beetles  
350,000 species described worldwide  
Forewings very thickened and hard; hindwings (when present) membranous and tucked under front pair which are held tight over the body where they meet in a straight line down the middle. Mouthparts chewing.



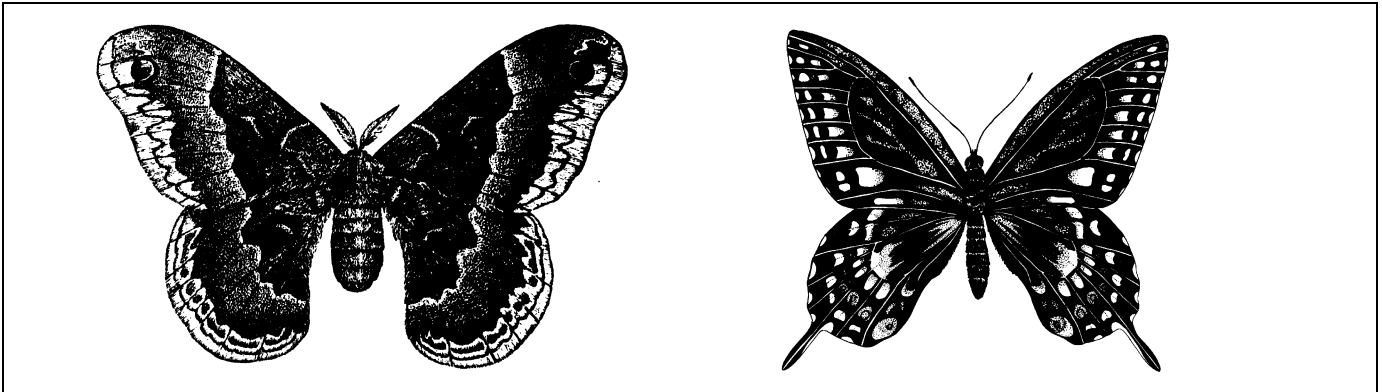
8. DIPTERA - flies  
250,000 species described worldwide  
Only one pair of membranous wings. Sucking or lapping mouthparts.



9. LEPIDOPTERA – moths and butterflies

200,000 species described worldwide

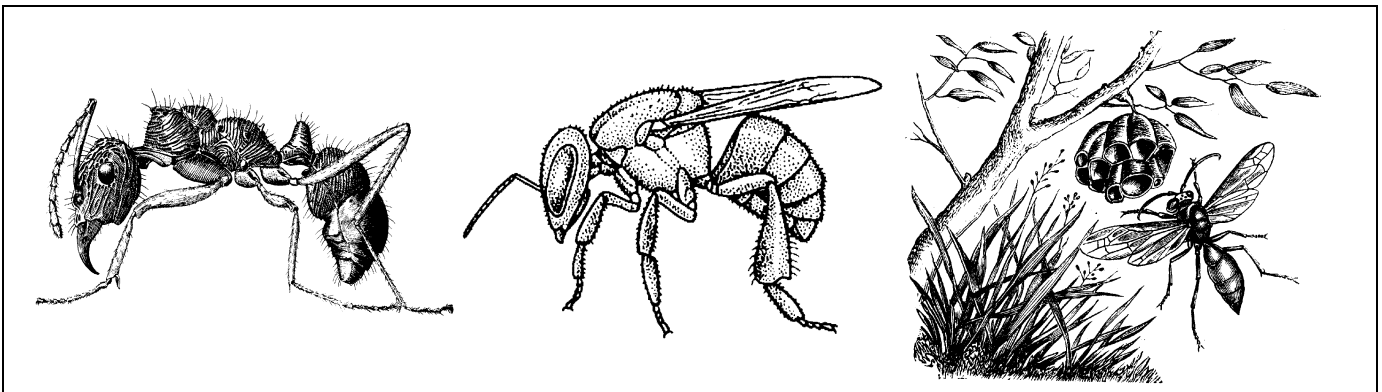
Two pairs of usually broad wings that are covered with scales. Mouthparts in form of long tube coiled under the head.



10. HYMENOPTERA – ants, bees, and wasps

100,000 species described worldwide

When present, with two pairs of membranous wings. Chewing mouthparts but often with structures for lapping. Body often constricted between abdomen and thorax.



## **Some relevant literature to aid in identification of local insects and some enjoyable reading on insect biology.**

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