

The Parts of an Insect

Many people confuse insects with closely related animals or at least they often call certain animals insects. For example, pests such as spiders, ticks, mites, pillbugs, millipedes, centipedes, earthworms, and similar animals are not insects. By observing such animals a little more closely you can usually distinguish them from insects very quickly. All you need to look for are a few basic characteristics.

Suggestions for doing this exercise

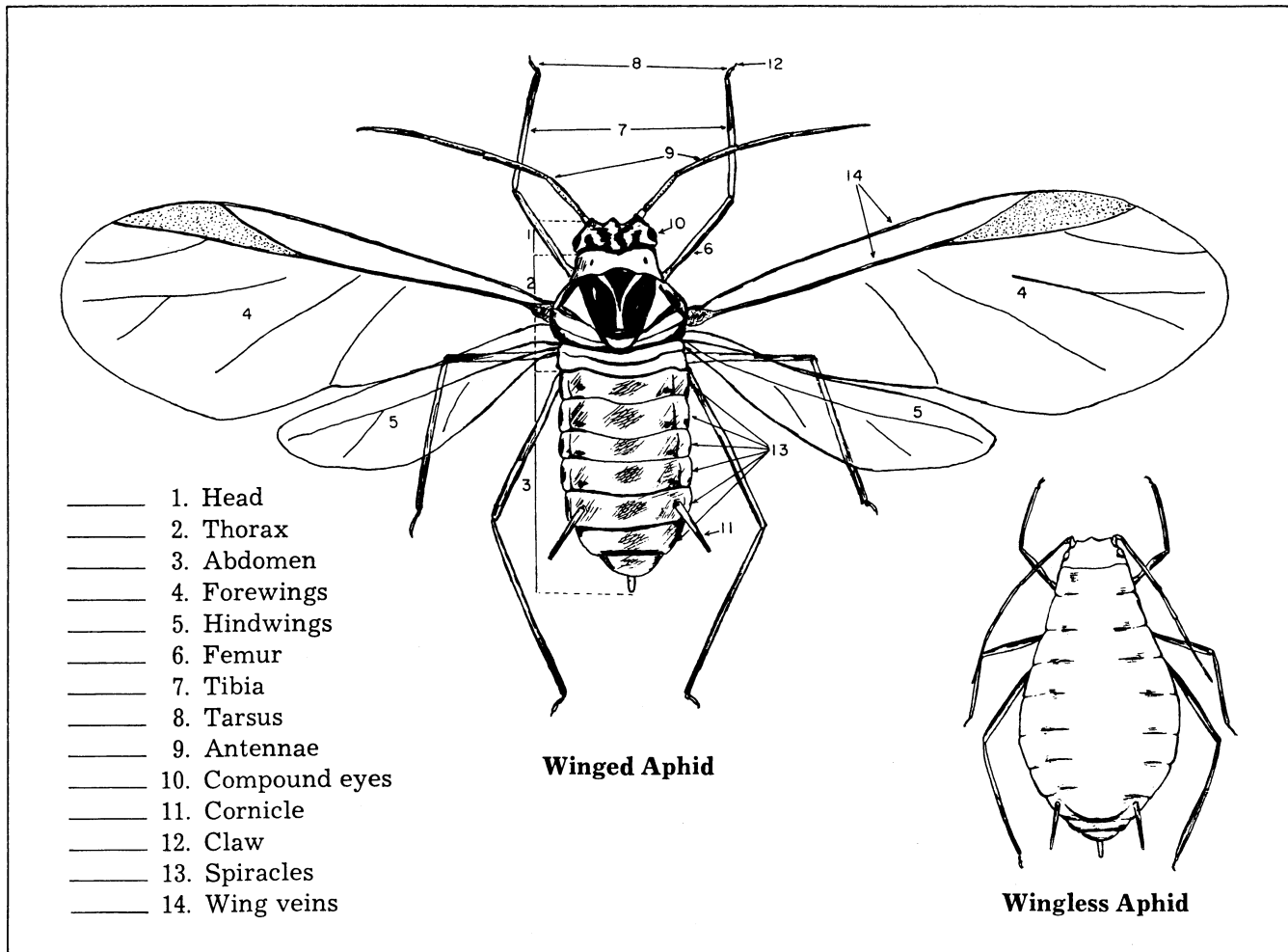
Study and identify some simple body parts of an insect using the aphid as an example. Compare an aphid with some closely related animals mentioned above. Learn those characteristics that separate aphids from these near relatives.

What you will need

1. A ten power (10X) hand lens.
2. A colony of aphids from an infested plant.
3. Some spiders, ticks, centipedes, millipedes, earthworms.

How to do it

1. Select a large aphid to observe (use both winged and wingless, if available).
2. Study the parts of an aphid given in the drawing. With your hand lens find the same parts on the aphid specimen. Check each blank as the parts are located.



When you have completed identifying the parts of an aphid, look at any of the close relatives (spiders, ticks, etc.) available for characteristics that separate these from insects.

Close relatives have:

1. One or two body regions, *not three*.
2. None or four or more pairs of legs, *not three pair (6 legs)*.
3. No wings. (Insects usually have *two pairs of wings*, but some, such as flies, have one pair; many insects have no wings.) If wings are present, it is an insect.

If no wings are present, check legs and body regions to make determination.

Complete the following

1. Aphids are true insects. Yes _____ No _____
 What animals that are close relatives to insects did you study? _____, _____, _____, _____, _____.

Information for leaders

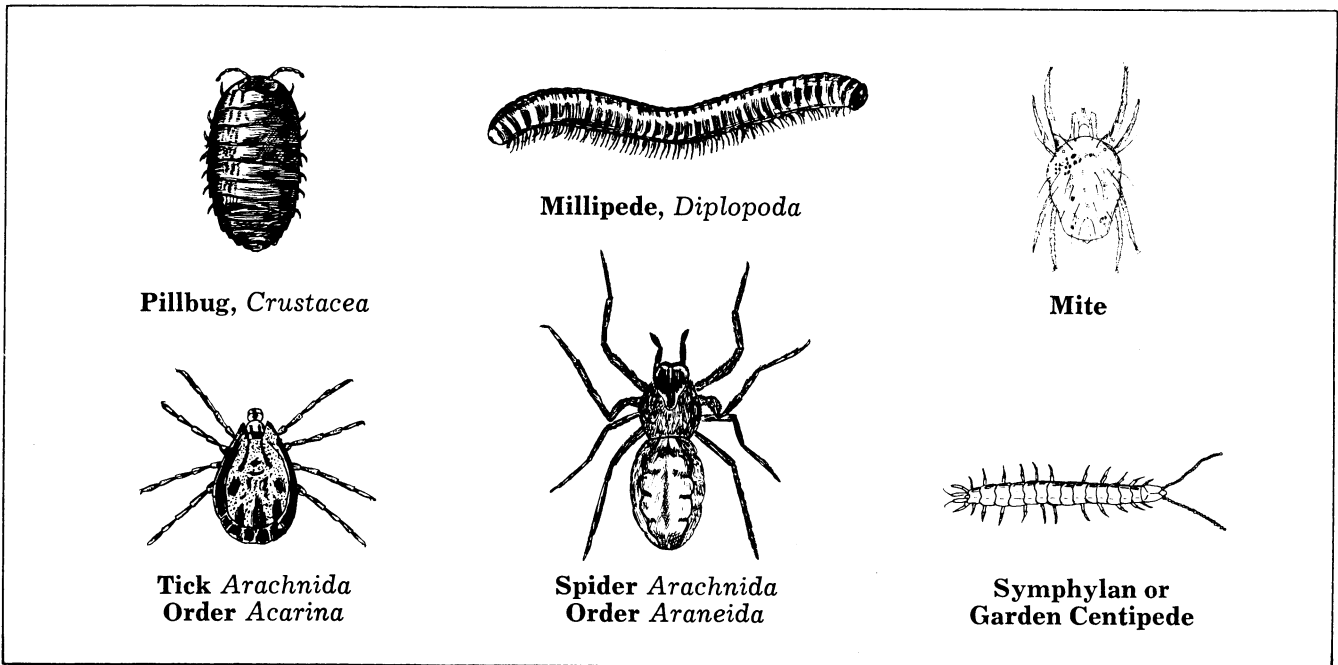
The best time to conduct this exercise is during mid-May to September when aphids are easily collected. Spiders, ticks, centipedes, millipedes and other close relatives mentioned could be collected any time and preserved in rubbing alcohol for the meeting. Spiders, harvesters or daddy-long legs would be available in weeds, shrubs, flowers of

certain plants, buildings, and similar places. Webs of spiders are easily seen in early morning or evening. Centipedes and millipedes can be collected under leaves or in rotten logs. Ticks may be found on dogs, in homes, or obtained from veterinarians at kennels and pet hospitals. Earthworms are easily collected by digging in heavy organic soil, or from driveways and walks after rains.

Hand lenses are available from scientific supply houses or local county Extension offices. A ten power (10X) hand lens would be preferred. Lenses with more than 10X magnification might be difficult to keep in focus for young members and lower power may not magnify sufficiently to see characteristics easily.

The time needed to complete this exercise will depend on the size of the group and how much individual help is necessary. You should allow more time with younger members. Thirty to forty-five minutes will probably be needed with 15 to 20 members. For larger groups, parts of an aphid can be studied in one session and a second session can be scheduled for comparing close relatives with aphids. If you would like to extend this study on insect parts, use a copy of "The Parts of a Grasshopper" from your county Extension office.

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