

الانبار	الجامعة
العلوم	الكلية
علوم حياة	القسم
الثانية	المرحلة
تصنيف حشرات	اسم المادة باللغة العربية
Systematic Entomology	اسم المادة باللغة الانكليزية
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رتبة (متجانسة الاجنحة ، حشرية الاجنحة)	عنوان المحاضرة باللغة العربية
Order(Homoptera & Lepidopteraa)	عنوان المحاضرة باللغة الإنكليزية
5	رقم المحاضرة

Order: Homoptera (Gr ,homo= uniform ,ptera= wings, refers to the uniform texture of the front wings).

- 1) homopteran, are more than 32,000 species of sucking insects
- 2) All of the Homoptera are plant feeders, with mouthparts adapted for sucking plant sap.
- 3) Many homopterans cause injuries or destruction to plants, including fruit trees and grain crops, and can be vectors of plant diseases
- 4) Most homopterans range from 4 to 12 mm
- 5) A pair of antennae arising below and between the eyes, are usually short and bristlelike, varying in length throughout the group.
- 6) wings, when present, number two or four.

Suborder [Auchenorrhyncha](#)

antennae with one to three basal segments, with a terminal seta; all males apparently produce sound.

- Family [Cicadidae](#) (cicadas)

Also called harvest-flies, usually large; front wings membranous; male with audible sound-producing organs on ventral base of abdomen, non jumping.



- Family [Cicadellidae](#) (leafhoppers)

leafhopper, small, slender, often beautifully coloured and marked sap-sucking insects. They are found on almost all types of plants; Their feeding may injure the plant in any of several ways: by removing sap, destroying

chlorophyll, transmitting diseases, or curling leaves. The host plant is also punctured during egg laying.



Suborder Sternorrhyncha

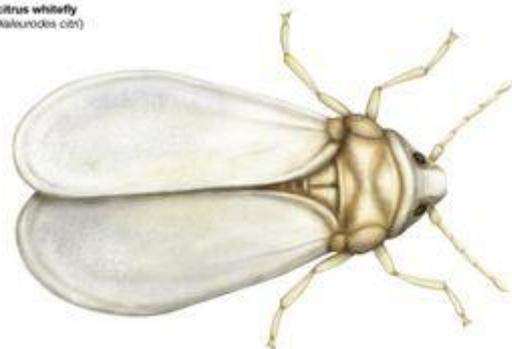
Antennae usually long, filamentous, without a well differentiated terminal seta.

- Family Aleyrodidae_(whiteflies)

Very small; covered with a white powdery, waxy material; wings opaque; not jumping insects.



citrus whitefly
(Dialeurodes citri)



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●Family Aphididae_(aphids or plantlice)

sap-sucking, soft-bodied insects, that are about the size of a pinhead, most species of which have a pair of tubelike projections(cornicles) on the abdomen. Aphids can be serious plant pests and may stunt plant growth, produce plant galls, transmit plant viruses diseases, and cause the deformation of leaves, buds, and flowers



- Family **Coccidae** (soft scales, wax scales, tortoise scales)

Females flattened, elongate oval; exoskeleton hard, smooth, or wax covered; antennae absent or much reduced. Females often tortoise-shaped; males winged or wingless



Order : Lepidoptera (Gr., lepto= scale; ptera = wing); Common name: Butterfly, Moths
Body, wings, appendages, are densely clothed with overlapping scales, which give colour, rigidity and strength. They insulate the body and smoothen air flow over the body. Most lepidopteran species feed on flowering plants. The larval stages voraciously feed on different plant parts while adults generally feed on plant juices and nectar. Approximately 1,75,000 species have been described.

Characteristic Features

- a) Butterflies and moths are efficient flying insects with siphoning type of mouthparts. Mandibles are absent, while maxilla is modified into a suctorial proboscis
- b) These have 2 pairs of membranous pigmented scales. Forewings are larger than hindwings. Forewings are larger than hindwings.
- c) Pupa is generally obtect and is either naked or enclosed in a cocoon composed of silk or larval hairs.
- d) Insects with complete metamorphosis

The butterfly families include: [Pieridae](#), the whites and sulfurs , known for their mass migrations .



[Papilionidae](#), the swallow tails and parnassians



[Lycaenidae](#), including the bluesh , coppers, hair streaks, and gossamer-winged butterflies



[Nymphalidae](#), the brush-footed butterflies



[Hesperiidae](#), the skippers



[Hedylidae](#), the American moth-butterflies (sometimes considered a sister group to Papilionoidea). includes only one genus, *Macrosoma*, with 36 species. Their common name alludes to their close relationships to butterflies as well as their nocturnal activity and moth-like appearance



Some of the better-known moth families include: [Gelechiidae](#), to which the destructive bollworms of cotton, corn, tomatoes, and other crops belong [Arctiidae](#), the tiger moths, with many brightly coloured tropical species



[Olethreutidae](#), including several destructive species such as the codling moth (*Cydia pomonella* L) and the Oriental fruit moth



[Noctuidae](#), the owlet moths, one of the largest families of lepidopterans

[Saturniidae](#), the giant silkworm moths, containing the largest individ



The differences between butterflies and moths

- 1- Their resting wing position. Moths rest with their wings open, whereas butterflies tend to rest with their wings closed.



- 2- Butterflies are active during the day (diurnal), whereas moths are active at night (nocturnal).
- 3- Moth antennae tend to be leaf or feather shape. Butterfly antennae tend to be long, bare and eject from the head in a club shape.

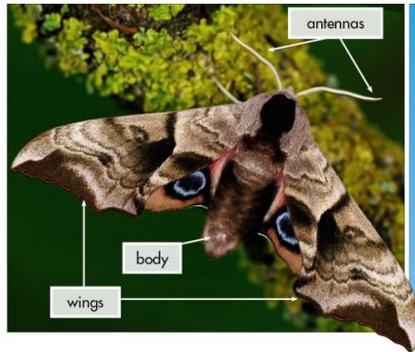


- 4- In the metamorphism from caterpillar to butterfly, caterpillars spin a pupa consisting of hardened protein. On the other hand, moth caterpillars form a silk pupa, which is known as a cocoon.

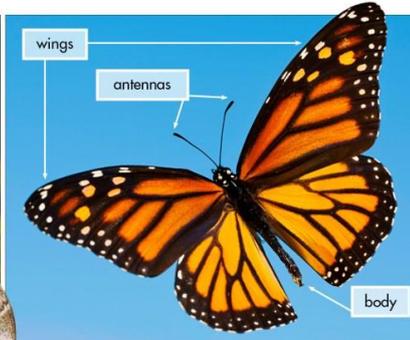


5- Widely speaking, moths tend to be stockier and have furry bodies, whereas butterflies are smooth and lean.

Moth



Butterfly



Kingdom Animalia (Animals)

Phylum Arthropoda (Arthropods)

Subphylum Hexapoda (Hexapods)

Class Insecta (Insects)

Order Lepidoptera (Butterflies and Moths)

Family Pieridae (Whites, Sulphurs, Yellows)

Subfamily Coliadinae (Sulphurs and Yellows)

Genus *Colias*

Species *eurytheme*



