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| 7 | رقم المحاضرة |

Order: Phthiraptera Biting and Sucking Lice

(Gr,phthir= lice and aptera= wingless) common name: Parasitic Lice / Biting Lice / Sucking Lice , There are around 5,000 known species worldwide, divided into 26 families

Characteristic Features

- a) **Phthirapterans** are apterous, small-sized, sanguivorous insects living as ectoparasites of mammals.
- b) Body is dorso-ventrally flattened with a narrow head and 3-5 segmented antenna.
- c) Mouthparts modified for piercing and sucking
- d) Development: Hemimetabola, i.e. incomplete metamorphosis (egg, nymph, adult)

The order is divided into four suborders ([Ischnocera](#), [Amblycera](#), [Rhynchophthirina](#), and [Anoplura](#)) distinguishable from one another by the size of the head, the shape of the third antennal segment, and the presence or absence of maxillary palps.

There are two main kinds of lice in the order Phthiraptera. These are the biting lice, which are most often found on birds, and the sucking lice, which are mostly found on mammals.

Biting lice (*Mallophaga*) are ectoparasites of birds, and occasionally of mammals. Their scientific name comes from the Greek *mallos* (wool) and *phagein* (to eat).

Their mouthparts are adapted for chewing, and they munch away on skin fragments, skin secretions, feathers and hair. A few species do feed on host blood, especially from existing wounds.



Sucking lice (*Siphunculata*) have long oval bodies, and their heads are smaller than those of biting lice. Their scientific name comes from the Latin word *siphunculus*, which means little pipe or siphon.

Sucking lice have piercing mouthparts, which they use to suck the blood of their hosts - mostly mammals, including man. They hang on to hair with a single large claw at the end of their strong legs.



| Sucking Lice: | Biting Lice |
|--|---|
| 1. Head conical, with suctorial mouthparts | Head broad, with mandibulate mouthparts |
| 2. Antennae short, 3- to 5-segmented | Antennae short; 3-5 segmented |
| 3. Eyes reduced or absent | Eyes reduced or absent |

Sucking lice are responsible for the spread of disease in humans and domestic animals. It is usually characterized by skin irritation, allergic reactions, and a general feeling of malaise. Lice associated with domestic animals have also been implicated in the transmission of disease. Biting lice do not usually spread disease pathogens, but heavy infestations in poultry can cause severe skin irritation, weight loss, and reduced egg production.

Important families

Philopteridae (Bird Lice) — a large family (500 species) containing several species that are pests of poultry.



Trichodectidae (Mammal Chewing Lice) — ectoparasites of mammals, including pests of domestic cattle and sheep (e.g., *Bovicola bovis*).

Menoponidae (Poultry Lice) — includes several important pests of poultry (e.g., *Menopon gallinae* and *Menacanthus stramineus*).

Haematopinidae (Ungulate Lice) — ectoparasites of cattle, deer, pigs, horses, and zebras (e.g., the hog louse, *Haematopinus suis*).

Pediculidae (Body Lice) — includes the human body louse (*Pediculus humanus humanus*) and the human head louse (*P. humanus capitis*).

Pthiridae (Pubic Lice) — includes *Pthirus pubis*, the human pubic (or crab) louse.

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: Hexapoda

Class: Insecta

Infraclass: Neoptera

Subclass: Pterygota

Order: Phthiraptera
Suborder: Anoplura
Family: Pediculidae
Genus: Pediculus
Subject: Pediculus humanus

Order: Thysanoptera (Gr., thysan = fringe; ptera = wing); Common name: Thrips

Thrips are fragile insects which feed on plant tissues, most often flowers and foliage. A few species feed on mites and other small insects. They are weak fliers and often fly passively along with the wind. At present, > 5,000 species are described worldwide.

Characteristic Features

- a) Thrips are minute (0.5 - 0.8 mm), slender, soft-bodied insects with 6-10 segmented antenna.
- b) They have asymmetrical mouthparts which are adapted for sucking.
- c) Wings are long, narrow and fringed with hairs. Apterous forms are also common.

- d) Nymphal stage is followed by prepupal and pupal stages which are analogous to the pupae of endopterygote insects. Thus, thrips are considered as connecting link between hemimetabola and holometabola.

Thysanoptera include two sub-order

Suborder Terebrantia

The 10th and last abdominal segment, rarely tubelike, sawlike ovipositor in female; wings usually with fine hairs (microtrichia) and at least 1 longitudinal vein

- **Family Thripidae**

Oligocene (Baltic amber) to present. Worldwide. Antennae 6- to 9-segmented; ovipositor downturned, rarely weakly developed; forewings narrow, with microtrichia; antennal sensors on intermediate segments as simple or forked sense cones.

Suborder Tubulifera

The 10th abdominal segment tubelike,; females without ovipositor; wings without longitudinal veins or fringe.

- **Family Phlaeothripidae**

This is the only family currently assigned to the suborder.