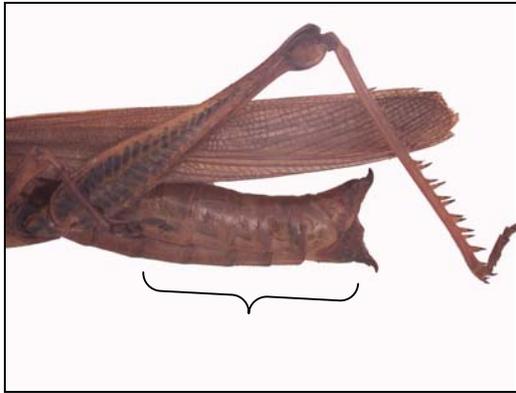


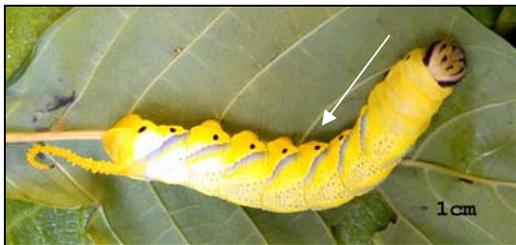
## The abdomen

The abdomen is softer and more flexible than the head or thorax and consist of eleven segments. Each segment has a pair of spiracles. Spiracle is the openings/hole on each sides of the abdomen where insect breath in and out the oxygen.

1



2



## Key

- 1: Picture one shows the abdomen of Acrididae
- 2: Picture two shows how the spiracles are arranged on the side of the caterpillar and it applies to all insects.

The head, thorax, abdomen and the other regions of the insect body parts are connected to each other, and have special functions according to the situations.



## Abstract from:

- 1 Rick Imes/The Practical Entomologist (Anatomy and Morphology)
- 2 Donald J. Borror, Dwight M. DeLong/ An Introduction to the Study of Insect Third Edition. (The Anatomy of Insects).

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## INSECT BODY PARTS



## Introduction

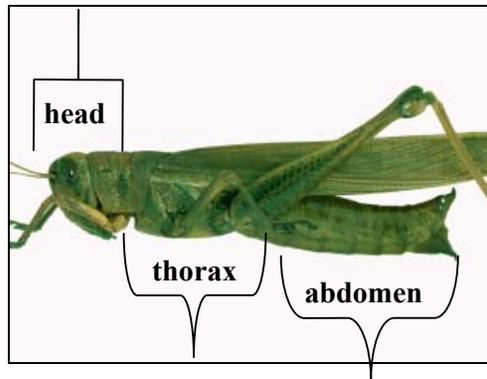
The study of the insect body parts is essential to an understanding of how insect live and how they can be distinguished from one another.

The variations in these features can help define different orders, families, genera, and species.

## The body form

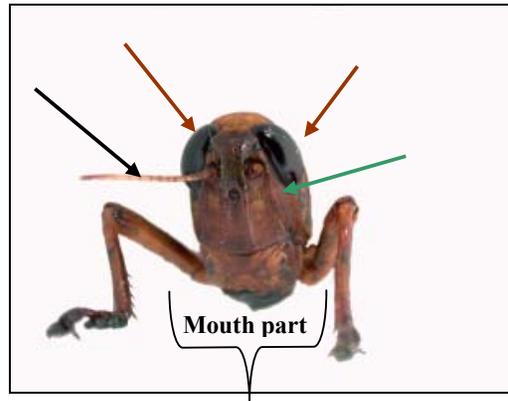
The bodies of insects are sheathed or closely covered by *exoskeleton*. (Meaning, their bodies are inside while the bones are on the outside, covering the whole body. The exoskeleton, or the outside bone, helps their movement on land.

The body of all insects are divided into three main parts: **the head, the thorax, and the abdomen.**



## The head

The head is composed of several plates fused together to form a solid body region. It includes one to three simple eyes, two compound eyes, one pair of antennae, and the mouth parts. These are external or outside parts. The head plates providing a place for the brain inside.



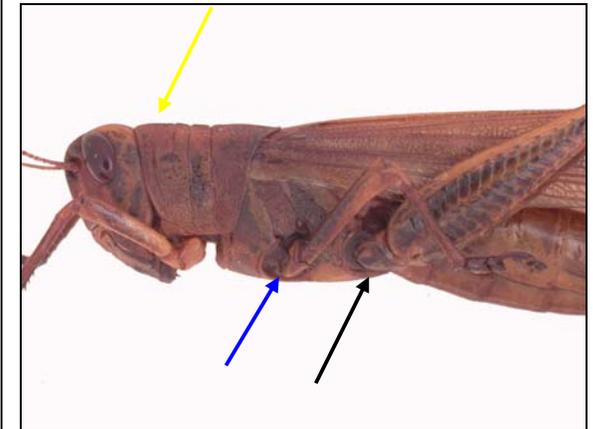
## Key

- 1 The green arrow shows the simple eye
- 2 The black arrow shows the antennae
- 3 Two brown arrows show the compound eyes.
- 4 The mouth parts

## The thorax

The thorax is the middle part of the body and bears the legs and wings (but some adult insects are wingless, and some young/ immature insects have are no legs). *Head lice, fleas and ant workers are examples of wingless insects.*

The thorax is composed of three segments: They are prothorax, mesothorax, and metathorax. Each segment of the thorax bears a pair of legs. The wings are on mesothorax and metathorax.



## Key

- 1 The yellow arrow shows the prothorax
- 2 The blue arrow shows the mesothorax
- 3 The black arrow shows the metathorax