

1. Study of Insect – Grasshopper as a model

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Morphology is inherent to an understanding of how insects live and function. A thorough understanding of the morphology of the animal might enable the economic entomologist to predict the manner of egg deposition of a potential pest species, the taxonomist to distinguish between taxonomic groupings, the medical entomologist to predict the method of feeding of some insect vector upon its host, or the phylogenist to ascertain something about the evolution of the group.

In today's practical, we have selected grasshopper because, grasshopper morphology is relatively unspecialized as they are not greatly differentiated from the appearance of ancient insect groups. In fact, entomologists have found it useful to fully understand grasshopper morphology before studying groups that are more highly modified.

EXTERNAL ANATOMY

The basic arthropod body plan is metameric, with the ancestral segments, metameres, fused to form larger tagmata. Identify the three major insect tagmata in your specimen: head, thorax, and abdomen.

1. **Head:** First anterior tagma formed by the fusion of six segments namely preantennary, antennary, intercalary, mandibular, maxillary and labial segments. Head is attached or articulated to the thorax through neck or cervix. Head capsule is sclerotized and the head capsule excluding appendages formed by the fusion of several sclerites is known as cranium. The anterior part of the head is the frons. The anterior area below the dorsum of the head, between and behind the eyes is the vertex. The area below the compound eye, on the side of the head, is the gena. The liplike sclerite is the clypeus.

