

Thorax

The thorax is the middle section of the grasshopper. All six legs and both sets of wings are attached to it.

- Just behind the head is a saddle-shaped shield called the **pronotum**.
- All the **legs** have a similar structure with a **femur**, **tibia**, and **tarsus**, but the hind legs are much larger to allow the grasshopper to leap long distances. Notice the **claws** at the end of the tarsus, as well as **spurs** projecting from the base of the tibia.
- The front wings, called **tegmina**, are tough and leathery and may have dark spots. They lie over the membranous hind wings to protect them. The hind wings are used for flight, but some grasshopper species have short, round wings and are flightless as adults. (One such species is the plains lubber grasshopper, which is pictured in this guide because it is a common dissecting specimen.)



Abdomen

The abdomen has 11 segments, the first of which is fused to the thorax.

- On the first segment, often hidden by a wing or leg, is the **tympanum**, a round, flat membrane that acts as the grasshopper's ear drum.
- The segments of the abdomen have a small opening on each side called a **spiracle**. These openings allow air to pass through and are connected to a network of air tubes (**tracheae**) inside the grasshopper. Together the spiracles and tracheae function as the grasshopper's respiratory system.
- The abdomen of the male grasshopper has a blunt end, but the females have four end projections called **ovipositors** for laying eggs.

Grasshopper Dissection Guide

David G. Smith, Michael P. Schenk



Grasshopper Dissection Guide:

Flinn Scientific Grasshopper Dissection Guide Flinn Scientific, 2009 An Illustrated Dissection Guide to the Grasshopper David H. Hall, 1999 **Exploring Zoology: A Laboratory Guide** David G. Smith, Michael P. Schenk, 2014-01-01 Exploring Zoology A Laboratory Guide is designed to provide a comprehensive hands on introduction to the field of zoology This manual provides a diverse series of observational and investigative exercises delving into the anatomy behavior physiology and ecology of the major invertebrate and vertebrate lineages **Exploring Zoology: A Laboratory Guide, Third Edition** David G. Smith, Michael P. Schenk, 2021-01-01 Exploring Zoology A Laboratory Guide provides a comprehensive hands on introduction to the field of zoology Knowledge of the principal groups of animals is fundamental to understanding the central issues in biology This full color lab manual provides a diverse selection of exercises covering the anatomy physiology behavior and ecology of the major invertebrate and vertebrate lineages Great care has been taken to provide information in an engaging student friendly way The material has been written to be easily adapted for use with any introductory zoology textbook Field Guide to Common Western Grasshoppers Robert E. Pfadt, 1994 *The Latest and Best of TESS*, 1991 **Biology**, 1999 **The Anatomy of the Grasshopper (Romalea Microptera)** Jack Colvard Jones, 1981 **Animal Welfare Information Center Bulletin**, 2000 **The Taxonomy & Physiology of the Grasshopper**, 2002 Zoology Miller-Harley, 1993-11 Guide to Reference and Information Sources in the Zoological Sciences Diane Schmidt, 2003-11-30 Animals have been studied for centuries But what are the most important and relevant reference and information sources in the zoological sciences This work is a comprehensive thoroughly annotated directory filled with hundreds of esteemed resources published in the field of zoology including indexes abstracts bibliographies journals biographies and histories dictionaries and encyclopedias textbooks checklists and classification schemes handbooks and field guides associations and Web sites A complete revision of the award winning Guide to the Zoological Literature The Animal Kingdom 1994 this new title includes extensive up to date coverage of invertebrates arthropods vertebrates fishes amphibians and reptiles birds and mammals In addition the work features a detailed introduction by the author as well as thorough subject title and author indexes Students and researchers can now quickly and easily pinpoint works in their field of study The book is of equal importance to LIS students specializing in science or biology librarianship as it provides a comprehensive straight forward overview of zoological information sources An essential addition to the core reference collection of public and academic libraries Animal Welfare Information Center Newsletter, 2000 Addison-Wesley Science Insights, 1996 Zoology Toby Miller, Harley, 1995-10 **The Well-Trained Mind** Susan Wise Bauer, Jessie Wise, 2009-05-04 Outstanding should be on every home educator s reference bookshelf Homeschooling Today This educational bestseller has dominated its field for the last decade sparking a homeschooling movement that has only continued to grow It will instruct you step by step on how to give your child an academically rigorous comprehensive

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