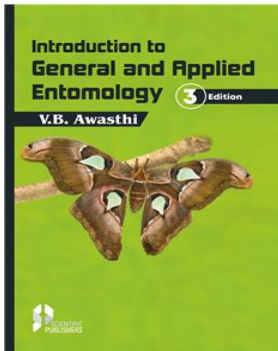


## Introduction to General and Applied Entomology, 3rd Edition



[V.B. Awasthi](#)

ISBN	: 9788172335953	Book Format	: Book
Language	: English	Binding	: Paper Back
Imprint	: Scientific Publishers	Edition	: 3
Pages	: 499	© Year	: 2017
Weight	: 550 Gms	Trim Size	: 5.75 x 8.75 x 1.50

**Print Book : ₹550.00**

### Blurb

This text book aims at to provide an up to date, general and applied account of Entomology which is written in a simple and lucid language keeping in view the syllabi of Entomology in M.Sc. Zoology M.Sc. (Ag.) of various Indian Universities. The book will also be useful to those who are preparing for competitive examinations conducted by various central state Government agencies for recruitment. The book is equally useful to those dealing with pests and pest control. It is hoped the book will be useful not only to students but also to agriculturist, horticulturist, foresters, veterinary and clinical doctors and laymen dealing with pest control.

### Table of Contents

#### PART I - GENERAL ENTOMOLOGY

1. The Integument Cuticle; Composition of cuticle ; External processes of the integument; (i) Cellular out growths; (ii) Non-cellular out growths
2. The Head and its Appendage Orientation of the head; (i) Sclerites and sutures; Antennae - Types of antennae; Mouth parts - Types of mouth parts
3. The Thorax and its Appendages  
Thoracic segments; Wings; Origin; Structure; Articulation; Margins; Angles etc.; Venation, hypothetical wing venation; Kinds of wings and cells; Modification of veins; Legs - Types of legs
4. The Abdomen and its Appendages  
Male genitalia; Female genitalia
5. The Digestive System  
The alimentary canal ; Stomodaeum; Mesenteron; Proctodaeum; Cephalic glands; Functions of saliva
6. Nutrition  
Nutritional requirements; Micro-organisms as a source of accessory substances
7. Digestion and Absorption  
Digestive enzymes; pH Enzyme relationship; Temperature; Activators and inhibitors; Absorption
8. The Circulatory System  
Components of the circulatory system; Composition of blood; Functions, and Circulation of blood; Beat and control of heart beat
9. The Excretory System  
Malpighian tubules ; Stimules to urine formation ; Function of malpighian tubules; Composition of urine; Labial glands; Nephrocytes; Urate cells; Excretion by gut
10. The Respiratory System  
Development, structure and modifications of tracheae ; General plan of tracheation; Types of respiratory systems; Types of spiracles; Mechanism of opening and closing of spiracles; Physiology of respiration; Respiratory adaption in aquatic insects ; Resplrtray adaptations in parasitic forms.
11. The Nervous System Nerve cells; Central nervous system; Sympathetic nervous system; Stomodaeal nervous system; Ventral sympathetic nervous system; Caudal and peripheral nervous system ; Modifications of the nervous system; Transmission of nerve impulses

## 12. The Sense Organs

Trichoid sensilla; Campani form sensilla; Chordotonal organs; Basiconic sensilla ; Coeloconic sensilla; Placodea

## 13. The Sound Producing Organs

Friction between part of the body and any external object ; Friction caused between two parts of the insect body; By wing vibration; By the vibration of special structures of the body; Sound of miscellaneous and unknown origin

## 14. The Photo Receptor and Photogenic Organs

Photo receptor organs; Ocelli; Compound eyes; Structure of ommatidium; Types of compound eyes; Formation of image ; Photogenic or Bioluminescent organs.

## 15. The Endocrine Organs

The neurosecretory cells; Synthesis of neurosecretory material; Transport of neurosecretory material; Neurohaemal organs; The corpora cardiaca; The cephalic aorta ; Corpora allata; Ecdysial glands; Release of hormones.

## 16. Some Hormonally Regulated Phenomena

Hormonal control of metamorphosis; heart beat; diapause; reproduction; metabolism; pigmentation of euticle; green/brown polymorphism in Locustsand grasshoppers.

## 17. The Pheromones

## 18. The Reproductive Organs

The female reproductive organs; The ovaries; Structure of ovariole; Types of egg tubes; Genital ducts and accessory structures; The male reproductive organs; Testes; Genital ducts and accessory structures; Mating, sperm transfer and fertilization; Special modes of reproduction

## 19. The Development

Structure of egg; Cleavage & blastoderm formation; Germ band formation; Embryonic coverings & blastokinesis; Formation of germ layers; Segmentation embryo; Organogenesis; Eclosion.

## 20. The Metamorphosis

Types of metamorphosis; Types of larvae; Types of pupae

## **PART II – APPLIED ENTOMOLOGY**

### 21. Chemical Control

Formulation of insecticides - Dusts, granule formulations, insecticides fertilizer mixture, wettable powders, solutions, emulsifiable concentrates, insecticidal aerosoles, fumigants, miscellaneous formulations; Classification of insecticides; Inorganic insecticides; Organic insecticides; Insecticides of plant origin; Organic oils - (Summer oil, Dormant oils, Superior spray oils, Emulsifiable oils, Tank mix oils); Synthetic insecticides; Chlorinated hydrocarbons; Organophosphorus ; compounds; Systemic insecticides; Fumigants; Antifeedants; Attractants; Repellants; precautionary measures

### 22. Insecticidal Application Equipments

### 23. Cultural Control

### 24. Physical and Mechanical Control

### 25. Biological Control

### 26. Insect Hormones as Pesticides

### 27. Plant Quarantine and Legal Control

### 28. Integrated Control

## **BIOLOGY AND CONTROL OF INSECT PESTS**

### 29. Pests of stored Grains

*Sitophilus oryzae*; *Rizopertha dominica*; *Trogoderma granarium*; *Tribolium castaneum*; *Callosobruchus chinensis*; *Citotroga cerealella*; *Corcyra cephalonica*; Methods of control of stored grain pests

### 30. Pests of Cotton and Fibre Crops

*Dysdercus koenigii*; *Earias fabia*; *Pectenophora gossypiella*; *Spodoptera exigua* ; *Utetheisa pulchella*; *Holotrichia consaguinea*; *Oxycaerus laetus*

### 31. Pests of Sugarcane

*Pyrilla perpusilla*; *Aleurolobus barodensis*; *Scirpophaga nivella*; *Emmalocera depressile*

32. Pests of Oil Seeds

Achaea janata; Aphids; Athalia sp.; Bagrada cruciferarum

33. Pests of pulses

Agrotis ypsilon; Heliothes armigera; Prodenia litura

34. Pests of sorghum

Atherigona varia; Calocoris angustatus

35. Pests of Crops yielding cereal products

Chilo zonallus; Leptocoris varicornis; Hieroglyphus banian; Sesamia inferns; Mythemna separata; Hispa armigera

36. Polyphagous Pests

Termites; Schistocerca gregaria; Amsacta

37. Household Insects

Periplaneta americana; Blatta orientalis; Supella supellectilium; Blatella germanica; Musca domestica; Cimex lectularius; Pediculus humanus; Tineola; Mosquitoes; Lepisma saccharina; Gryllodes sigillatus; Black ants

38. Pests of Fruits and Vegetables

Aulacophora foveicollis; Idiocerus atkinsoni; Dacus; Ophideres; Plusia orichalcea; Papilio demoleus; Epilachna beetles; Leucinodes orbonalis.

39. Beneficial Insects

Honey bees; Honey as food; Honey as tonic; Honey as medicine; Bees wax; Uses of wax; Bees; The lac - Uses of lac; The silk and Silkworms

40. Pests of Veterinary Importance

Hypoderma; Xyanopsilla; Stomaxys; Tabanus; Cattle lice; Hippobosca

41. Pests of Forestry

Hoplocerumbyx spinicornis; Xylotrechus buquete; Batocera horsfieldi; Batocera rufimaculata; Dinoderus; Sinoxylon; Lyctus africanus; Cryptorhynchus; Rhynchophorus ferrugineus; Oryctes rhinoceros; Control measeers

**PART III - ECOLOGY AND BEHAVIOUR**

42. Light

43. Humidity

44. Temperature

45. Tropisms In Insects

46. Ecological Aspects of Diapause

47. Language of Bees & Their Behaviour

Appendix - Principal Orders of Insects

Selected Bibliography

Index

This is computer generated document and does not require signature

Scientific Publishers

Date :- Wed Jun 17 2026