

## Book Review

**Insect Spiracular Systems.** By T. B. Nikam and V. V. Khole. Ellis Horwood Series in Entomology and Acarology. Published by Ellis Horwood Ltd., Chichester, and distributed by John Wiley & Sons, Inc. 1989. 136 pages. Price US \$59.50. ISBN 0470-21308-6.

The authors and the publisher are to be complimented for the production of this book summarizing the various aspects of the morphology, development and physiology of the insect spiracular systems. Emphasis has been given to those aspects of the insect spiracular systems that have received scant attention so far, like functional morphology and ecophysiological considerations. The role of spiraculo-trachial system thermoregulation has been explained and integrated with the role of haemolymph circulation. The biophysical aspects have been fully explained and integrated with morpho-physiological aspects.

The book is divided into seven chapters. Chapter 1 deals with the development and metamorphosis of spiracular system; chapter 2 with comparative morphology and physiology of the adult spiracular system; chapter 3 with environmental compulsions and relative adaptive features of spiracles; chapter 4 with exogenous and endogenous factors affecting the functioning of spiracles; chapter 5 with spiracular response to chemical agents; chapter 6 with non-respiratory functions of spiracular systems; and finally chapter 7 is entitled, "Insects: an air-cooled engine", where the role of haemolymph circulation and role of spiracular-tracheal system are explained in thermoregulation and their roles are integrated. At the end there is an index. At the end of each chapter there is a list of references that are cited in the text.

The production and get-up of the book are excellent.

This little book should be recommended for reading in insect morphology and physiology courses, and should serve as a ready reference manual for all biologists. -- **V. K. Gupta**