



## BOOK REVIEWS

PEARCE, M. J. 1997. Termites. Biology and Pest Management. CAB International; Wallingford, U.K. xii + 172 p. ISBN 0-85199-130-0. Hardback. \$65.00.

Surprisingly few books have been written about termites, and those which include information about their control can be counted on one hand – with this book included. In seven brief chapters, Mike Pearce reviews termite systematics, distribution, biology, nest habits, ecology, pest status, and control. Four appendices follow. The first, on collecting, is rather generic. The appendix on culture techniques is more useful and provides some ideas on long-term laboratory maintenance of termites. Those on monitoring and laboratory testing are incomplete and offer little discussion about their purposes and limitations.

On the back cover, the publisher promises that the book “will fill a gap in the market” and states that it is “aimed at advanced students of entomology and pest management, as well as professionals concerned with urban and agricultural pest control”. [Also on the back, the publisher advertises six other books on specific pest/insect groups, but the page lengths of these (368-600) suggest more detailed reviews of their subjects. By comparison, a comprehensive book on termite biology and control should be at least 500 pages in length]. My appraisal of the book is more reserved. For those new to termites, Pearce offers a glimpse into the diverse natures of these insects. For those wanting a detailed treatise on the subject, they will find predecessors of this book, listed under general references, more complete, accurate, and rewarding. Pest control professionals will be disappointed by the tentative overview given to both established and new control techniques. Brevity of text is compounded by a lack of photographs or figures that depict basic elements of infestations such as subterranean termite foraging tubes or drywood termite fecal pellets. No mention is made of acoustic emissions, fiber optic, or other detection methods.

Many original figures are inaccurately drawn and mislabeled. For example, the first figure shows the caste composition and life cycle of a generalized member of the family Rhinotermitidae, but is labeled as that of a kalotermitid. Thirteen full-page figures consist of rough free-hand drawings of morphological characters. These should have been detailed line drawings, photographs, or scanning electron micrographs as used elsewhere in the book. In the pictorial keys to termite families and subfamilies, the drawings look like preliminary first-draft sketches that omit or confuse some useful characters. Some figure labels are missing. The 32 color plates are of good quality, but focus mainly on nest structures and unusual damage (e.g., clothing, book, telephone pole, etc. eaten by termites). Only six photographs in the entire book depict adult termites (soldiers or imagos), and three of these are of African *Macrotermes*. Thirteen photographs are of nesting structures. Another general criticism is that the text is only selectively cited so as to obscure the source of much of the information presented.

The introductory chapter and those on biology, nests, and ecology are benign in content and useful reviews for the novice. The eight-page chapter on termite distribution needs revision. Biogeographical information is lacking or outdated as in reference to land bridge dispersal mechanisms instead of tectonic theory. The explanation for the distribution of the drywood genus *Cryptotermes* was incorrectly cited. The distribution maps of the pest groups given are haphazardly inked in and depict errors such as the presence of *Cryptotermes* in the western Nearctic or the exclusion of *Coptotermes* from Texas to Florida and Taiwan. With regard to introduced pests, the exhaustive records in the classic review by Gay (1967, A World Review of Introduced Termite Species. Bull. 286 CSIRO Melbourne 88 p.) and more recent discoveries of intercontinental introductions of species including *Coptotermes*, *Heterotermes*, and *Reticulitermes* are not used.





In light of the book's title and the heavy pace of research on applied termitology over the last decade, I was disappointed that Pearce devoted only 6 pages of text to the control of termites in buildings. An update of the excellent control chapters in Edwards and Mill (1986, *Termites in Buildings: Their Biology and Control*, Rentokil Ltd. UK, 261 p.) should have been in order in place of an obsolete and incomplete list of chemical and non-chemical controls or a list of socioeconomic considerations. Owing to his experience in termite research in Africa, Pearce is more complete in his discussion of termite management practices in non-paradomestic ecosystems. Likewise, however, it gives the book a bias toward Africa, where advanced control methods are generally not practiced, and target species are in agriculture.

Pearce's experience with control practices outside of rural Africa is tenuous. He confuses the reader by mixing remedial treatments like gallery dusting and fumigation with preventative treatments like wood preservation. He goes so far as to include engine oil as a short-term wood protectant. The author also proposes archaic supplements to soil treatments like filling expansion joints with coal tar. He erroneously refers to a photograph depicting soil treatment as a wood injection or "drill-and-treat" application. When discussing fumigation methods, he confuses gas exclusion polymers with fumigant-retaining tarpaulins, reports incorrect exposure rates, and lists carbonyl sulfide as an alternative fumigant. He does not point out that inert gases can only be used as fumigants in gas-tight chambers, states incorrectly that humidity must be measured in heat treatments, and specifies wrongly that dampness is a requisite for intragallery control of termites using an electrocution device called the Electrogun. With reference to baiting, Pearce puts emphasis on the "attractiveness" of bait systems when, in order to be efficacious, baits need only be palatable after termites find them. He wrongly categorizes the bait toxicants mirex and sulfuramid in the same class with the chitin synthesis inhibitors diflubenzuron and hexaflumuron.

In conclusion, this book would have been more aptly named if the title had been prefaced with the phrase "An Introduction to". The book appears to have been written with some oversight and haste and was not authoritatively reviewed. It can best be recommended for those wanting a brief overview of termite biology and control. Specialists wanting a comprehensive review of this subject will not find it here.

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