

## **A Book Review of Katydid and Bush-Crickets, Reproductive Behavior and Evolution of the Tettigoniidae by D.T. Gwynne**

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A Book Review of  
***Katydid and Bush-Crickets, Reproductive Behavior and Evolution of the Tettigoniidae*** by D.T. Gwynne

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Cornell University Press, Ithaca, New York. 317 pages. \$US42.

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REVIEWED BY D.C.F. RENTZ

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Katydid (or Bush-Crickets as they are also known), the Tettigoniidae, comprise more than 6,000 species spread across all continents except Antarctica. They occur in a variety of habitats ranging from alpine to coastal. The majority of species are seldom seen, even by avid entomologists, because of their secretive nocturnal habits.

In recent years, katydids have been used as study animals by students of insect behavior, communication, and physiology. The University of Western Australia, Perth has been the "zoo center" for these studies in the past 25 years because of the combination of its geographical position, diversity of fauna in its backyard, excellent laboratories and the hospitality of its host, Dr. W. J. Bailey. Many investigators in many disciplines have initiated their studies there.

"Katydid and Bush-Crickets" examines in detail various aspects of sexual communication, emphasizing the author's own interests in Darwinian evolution by describing such recent concepts as nuptial feeding, mate size and mate choice. It is a "natural history" in a sense, a concept lost in modern-day biology, where many molecular biologists, for example, have no idea what their study animals do in nature. The difference in this book is that the author successfully blends natural history observations with hypotheses.

The book commences with a discussion of turn-of-the-19<sup>th</sup>-century observations of Mormon Cricket behavior [*Anabrus simplex* (Haldeman)] in western North America. Some of the illustrations used are remarkable, being little known and more than 60 years old. These beg the questions on which Gwynne bases the book. He carefully sets the scene for the remaining chapters, asking: "What is reflected in tettigoniid taxonomy"—are Mormon Crickets "crickets" or something else?, "What is the latest phylogeny of Tettigoniidae?", "Why do insects provide edible sexual gifts?", "What role does weight have in mate selection?", "What about non-specific courtship behavior—where does it fit?". Pursuit of the answers to these and related topics led to a career of tettigoniid study on several continents. The nine chapters of the book include discussions on life cycles, survival strategies, including natural enemies, population regulation and the like, song and mate attraction, nuptial feeding, mate choice, mating risks, and an intriguing discussion about the differences in sexes and the significance of role reversal.

Each chapter is built on the copious literature of its topic. In fact, the reference section at the end of the book is 37 pages in length, an incredible compendium of virtually everything known on the subject. The book is well illustrated with many half-tones that are perfect in every way (the printer was not afraid to use ink) and graphs and charts that are relevant and easily understood. There are two pages comprising 24 color illustrations, also excellently produced, but positioned where they might be overlooked.

The author's style is worth noting. Gwynne is an excellent writer with a keen sense of history. This he attributes to his mentor Dr. Howard E. Evans. For example, on the first page you will find an explanation of the derivation of the common name 'katydid'. Each chapter is enhanced by a relevant quote and the sources are also worth noting. They range from the staid writings of Oliver Wendell Holmes and J. Fabre to the words of Dean Martin (yes, THE Dean Martin!).

Finally, some note should be made about the price of the book. In this day when economic rationalists dictate the rules, and where a stipend is often necessary to entice a publisher to print a scientific work, I am happy to report that this book is very affordable and can even be considered a bargain at the price—less than the cost of a carton of cigarettes in some places. With such a comprehensive and well-written treatise, the book is destined to be on all orthopterists' bookshelves and will attract a market of insect behaviorists and the like, not to mention its potential as a textbook.

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