

Book Review

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"Fleas of Eastern United States," by Irving Fox. February, 1940. Cloth. VI + 191 pp. 166 figs. (31 pls.). The Iowa State College Press, Ames, Iowa. \$3.00.

We welcome the appearance of a volume devoted solely and thoroughly to a modern revision and discussion of 55 species of fleas occurring in the eastern United States. All but one of our local species are described and figured therein. Though not numerous in species, fleas have an important bearing on the health and comfort of man and animals in Hawaii. Seven species are now recognized in the Islands, some of which are known vectors of bubonic plague and murine typhus. Since 1899 there have been over 360 human deaths from bubonic plague in Hawaii and in recent years typhus has caused suffering among many people within Honolulu. The cat flea often becomes a source of great annoyance to local residents and the "sticktight" or "chicken" flea may be exceedingly common at times on poultry, dogs, cats and rats. Members of our Entomological Society are frequently required to identify some of these fleas, determine the origin of infestations and suggest remedial measures.

This book is particularly workable not only for the specialist but also for entomologists inexperienced in taxonomic studies of Siphonaptera. The concise introductory discussion on morphology and terminology, together with the profusion of clear-cut figures should enable most entomologists to use the complete keys without difficulty. Sections of the introduction dealing with methods of collection and preservation, together with paragraphs on life history and control, though short, bring together in a few pages, most of the answers to questions arising on these particular subjects. An extensive host index, selected bibliography and synonymic index also add greatly to the practical usefulness of the book.

With the frequent importation of pet animals to Hawaii and the large development of the local bird park or aviary in Honolulu, with fresh introductions of many sorts of new birds almost every year, it is conceivable that many more species of fleas will ultimately become established in the Islands and perhaps some are already here which we have not recognized. Our first, most handy and lucid reference work in a study of new or doubtful fleas, will now be Fox's "Fleas of Eastern United States."