

Handbook of Census Methods For Terrestrial Vertebrates

Edited by David E. Davis. 1982. CRC Press, Boca Raton, Florida. 397 pp., U.S. \$140.00.

This guide should be useful to those wanting to estimate the abundance of amphibians, birds, mammals or reptiles in a habitat. It could be consulted as a starting-point reference (along with Schemnitz, S. D. 1980, *Wildlife Management Techniques Manual*) during planning, prior to a census of a species in a particular habitat.

This guide is a series of more than 150 short articles written by 160 authors. It features articles on 3 amphibians, 43 birds, 60 mammals, 4 reptiles and 32 habitats (for combinations of species). Each article was written by a researcher (address provided for direct inquiries) who has personally tested and recently published (since 1974) a scientific article on the use of the censusing method he discusses. Included in the discussions are many basic facts on the species or habitat concerned.

Each article may answer several questions: how many traps should be set?; how long should the traps be set?; what

areas should be checked?; how accurate will the estimate be?; and/or where is more information on the species or habitat? A comprehensive chapter contains general methods usually used during census work (basically a reprint of Chapter 14 in Schemnitz 1980).

The index is very good — an important aspect of a handbook of this kind. The text reads with facility, is informative, and has few typographical errors.

Perhaps a problem with this book is its high price. Few researchers may want to obtain a personal copy whereas the guide will probably receive wide use as a reference.

Persons interested in beginning a study on a terrestrial vertebrate or habitat (a few aquatic species and habitats are discussed) should find this guide a useful reference.

RICHARD M. ZAMMUTO

Kananaskis Centre for Environmental Research, University of Calgary, Seebe, Alberta T0L 1X0.

EDITOR'S NOTE

The following two publications are only available in Chinese. The reviewers have combined linguistic and scientific backgrounds to provide a unique insight into the status of fisheries research in this vast and important geographic area.

The Fishes of the Islands in the South China Sea

By South China Sea Fisheries Institute, Xiamen Fisheries College, Institute of Oceanology, Institute of Zoology, East China Sea Fisheries Institute, South China Sea Institute of Oceanology, Beijing Natural History Museum, and Fisheries Institute of Hainan Administrative Region. 1979. Science Press, Beijing, China. xxv + 613 pp. Cloth ¥11.80; paper ¥7.80 (approximately \$8.00 and \$5.50 Canadian, respectively).

China faces on three seas, the Yellow, East China and South China Seas. Because of their richness, the faunas ranging from boreal to tropical and comprising over 2 000 marine species, are of wide ichthyological interest.

Although most of the larger ichthyological studies published in China in the last decade have been on freshwater fishes, several marine faunal works have been published in the 50's and 60's: Tchang Tchun-Lin *et al.* 1955. *Fishes of the Yellow Sea and Pohai, China*. Science Press, Peking. 362 pp., 206 fig.; Institute of Zoology *et al.* 1962. *Fishes of the South China Sea*. Science Press, Peking, 1184 pp.; Cheng, C.T. *et al.* (eds) 1962. *Economic fauna of China. Marine Fishes*. Science Press, Peking. 174 pp. 32 pls. and Chu Yuan-Ting. 1963. *Fishes of the East China Sea*. Science Press, Peking. 642 pp., 442 fig. These works are scientific in style. A popular guide series has also been started: Institute of Oceanology and Shanghai Natural History Museum. 1975.

Zhong Guo Hai Yang Yu Lei Yuan Se Tu Ji (The color pictorial guide to Chinese marine fishes). 1. People's Press, Shanghai. 230 col. pl.

The Fishes of the Islands in the South China Sea covers the surrounding waters of the four groups of islands: Dongsha (Pratas Islands), Xisha and Zhongsha (Paracel Islands including Macclesfield Bank), and Nansha (reef islands around Investigator Shoal, roughly between 7° and 12°, west to Palawan of the Philippines and north to Borneo). As in all the other works mentioned, the text is naturally in Chinese, but scientific names in Latin are also included in the text, tables of contents, and captions.

The book consists of the following sections: a detailed table of contents including a list of contributors (31) and their responsible taxa, and illustrators (16); scientific descriptions including synonymies, keys to taxa, and other interesting information such as cooking recipes and medicinal uses; literature cited (10 pages, somewhat incomplete); a Chinese index; an index to scientific names in Latin; and colour plates (34 species) and black and white plates (96 species). There are accounts for 521 species. Compare this with 386 species for the Pacific coast of Canada (Y. Jean, A. Peden, and D. E. McAllister. 1981. British Columbia Provincial Museum Heritage Record Number 13).

The format of the book is excellent, and some features such as synonymies should be adopted for Canadian fish books. The use of multi-character keys is commendable; drawings, paintings and their printing quality good. The drawings, prepared by 16 artists in seven institutions, are remarkably uniform in appearance. Important morphological characters in the species description are under-dotted. Four species of Chinese fishes were run through keys to correct identifications without any difficulty. Aside from a

handful of publications, all references predate 1975. Thus, references such as G. U. Lindberg and Z. V. Krasnyukova, 1975, *Fishes of the Sea of Japan*, Zool. Inst. Acad. Nauk SSSR, were omitted. Some classifications are out of date, such as the use of Scopeliformes instead of Myctophiformes (J.S. Nelson's 1975, *Fishes of the world*, is not mentioned). A preliminary report of the deep-sea fishes of the South China Sea by Q. Cheng and M. Tian (1981 *Studia Marina Sinica* 18: 235-275, 32 text-fig., 1 pl.) recently added 34 new records for China.

Obviously *The Fishes of the Islands in the South China Sea* is an important contribution to science and will assist in managing fisheries and educating students. If translated, this and the previously mentioned faunal works would be of great service to western scientists. Canada, which is just develop-

ing the field of aquaculture, could profit from China's centuries of experience.

Readers may be interested to learn that a Chinese Society of Ichthyology was inaugurated 16 October 1979, which bodes well for the continued development of ichthyology in this ichthyologically rich country. A "Transactions of the Chinese Ichthyological Society" will be published by the Society.

DON E. MCALLISTER and C. T. SHIH

Vertebrate and Invertebrate Zoology Divisions, National Museum of Natural Sciences, National Museums of Canada Ottawa, Ontario K1A 0M8

A Study of the Lateral-line Canals System and that of Lorenzini Ampullae and Tubules of Elasmobranchiate Fishes of China

By Yuanling T. Chu and Ching Wen Meng. 1979. Monograph of Fishes of China, No. 2. Shanghai Kexue Jishu Zhubanshe (Shanghai Science and Technology Press), Shanghai. 132 pp. 64 colour plates.

This book, in Chinese, but with a seven page abstract in English, is devoted to the study of the structure and arrangement of the lateral line system, the ampullae and tubules of Lorenzini, and Savi's sacs, as well as the phylogeny of elasmobranchs. The authors describe these epidermis-derived sensory systems in 73 species of sharks, rays, and skates found in the seas of China. They illustrate all but two in colour plates which show the lateral line of the head and often the body in blue, the ampullae and tubules of Lorenzini in red, and Savi's sacs in green. Many of these have never been depicted before. Based on the arrangement of these structures, and referring to the classification system of Woodward (1889, 1891), Jordan (1923), Whiteley (1937), Bigelow and Schroeder (1948-1952), Berg (1955), Romer (1966), Rass and Lindberg (1971), and Compagna (1973), the authors develop a new classification system for Chinese elasmobranchs and present a key and a phylogenetic tree with a geological time scale. Several taxonomic changes are made in their new system. *Galeorhinus japonicus* (Müller et Henle) is removed from Carcharhinidae and placed in Tri-

kidae and *Triaenodon obesus* (Rüppell) from Triakidae to Carcharhinidae; *Rhinobatos granulatus* (Cuvier) is assigned to the genus *Scobatus* and *Dasyatis kuhlii* (Müller et Henle) to *Urolophoides*. A new family Cirrhoscyllidae is created to house *Cirrhoscyllium expolitum* Smith and Radcliffe, formerly of Orectolobidae.

Clearly this study makes important contributions to the sensory systems and classification of the Elasmobranchii.

It should be noted that this study appeared 16 years after the first of the series was published (Chu, Lo, and Wu, 1963: A study on the classification of sciaenoid fishes of China, with descriptions of new genera and species). Apparently the Chinese scientists have wasted no time in publishing studies that had been interrupted by the cultural revolution. Other works related to systematics known to us include Fauna Sinica, Economic Fauna of China, and monographs such as *The Fishes of the Islands in the South China Sea*.

DON E. MCALLISTER and C. T. SHIH

Vertebrate Zoology Division and Invertebrate Zoology Division, National Museum of Natural Sciences, National Museums of Canada, Ottawa, Ontario, Canada K1A 0M8



McAllister, Don E. and Shih, Chang-tai. 1983. "The fishes of the islands in the South China Sea, South China Seas Fisheries Institute [Review]." *The Canadian field-naturalist* 97(1), 133–134. <https://doi.org/10.5962/p.354961>.

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