

**The first record of the Chiselmouth, *Acrocheilus alutaceus* Agassiz and Pickering, from British Columbia, Canada.** — A single specimen of chiselmouth was obtained by gill net on July 22, 1948, in Skaha lake, British Columbia. The net was set in approximately fifteen feet of water at the mouth of the Okanagan river at the north end of the lake.

Skaha lake is on the upper reaches of the Columbia river drainage, in the Okanagan valley, immediately south of Okanagan lake.

The appearance of this specimen represents a considerable northward extension of the known range for the species. Schultz and

DeLacy (Journ. Pan-Pac. Res. Inst., 10(4), (1935) record the general range as the lower Columbia river system and Malheur lake drainage, Oregon, but also include records of specimens taken in the Spokane, Washington area, which is above the junction of the Okanagan and Columbia rivers.

The measurements and counts of the specimen taken were: length 20.5 c.m. standard length; lateral line scales on right side 87; fin rays: dorsal 10, anal 9, pectorals 17, pelvic 9; colour brownish with orange under bases of pectoral and pelvic fins.—R. G. FER-GUSON, *Department of Zoology, University of British Columbia.*

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## REVIEWS

**The Sandhill Cranes.** By Lawrence H. Walkinshaw. Cranbrook Institute of Science, Bull. 29, 1949, pp. I-X, 1-202, pls. 1-17.

In the past fifteen years the author has travelled some 70,000 miles in Alaska, Canada, the United States, Cuba, and the Isle of Pines to study the four known races of the Sandhill Crane, *Grus canadensis*. Sections of the book are devoted to plumages and molts, voice, behaviour, food and feeding habits, pairing and territory, nesting, and the young. Another section deals with this crane in the fall, winter, and spring seasons and there also is a history of North American crane populations.

Appendix A is a Key to the Cranes of the World. Appendix B presents the distributional information known to the author, these data being arranged seasonally and subspecifically. The breaking down of some of the field observations into subspecies was undoubtedly a difficult undertaking. In one case (p. 168) a small breeding female and a set of eggs from near Yorkton, Saskatchewan, is identified as probably *canadensis* while on page 173 apparently the same female and set of eggs are referred to *tabida*. It would seem best to refer them to the latter.

The detailed information brought together in this book is well organized and interestingly presented. One is impressed with the abundant detailed information which is a result of the author's own observations. There is a bibliography and an index. — W. EARL GODFREY

**The Siphonaptera of Canada.** By George P. Holland. 306 pages, 44 distribution maps, 42 plates containing 350 figures. Technical Bulletin No. 70 of the Dominion of Canada, Department of Agriculture.

The Siphonaptera of Canada by George P. Holland issued September 1949 (actual mailing date, December 6, 1949) is a major contribution to the knowledge of the Siphonaptera of North America and is essentially a taxonomic monograph. It supplements the previous books: Fleas of Eastern United States, by Irving Fox, 1940, and Fleas of Western North America, by C. A. Hubbard, 1947.

Most of the work on this volume was done by Mr. Holland while at the Livestock Insects Laboratory, Kamloops, British Columbia, and he personally collected many of the specimens used in this study. Mr. Holland has now been transferred to Systematic Entomology, Division of Entomology, Ottawa, Ontario. <sup>1</sup>

One hundred twenty-seven species and subspecies of fleas representing five families are treated in this monograph. Six species included, are believed to be introduced from Europe or Asia.

Introductory sections are devoted to acknowledgements (which are generous), synopsis of families, genera and species, distribution by Provinces, notes on life history

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and ecology, host specificity, geographical distribution, notes on the relationship of Nearctic and Palearctic fleas, economic importance of fleas, notes on anatomy as applied to systematics, and the problem of flea taxonomy.

A key to the genera which has received much careful consideration introduces the real taxonomy section which is arranged by families, genera, and species, respectively. Each species is given separate consideration with a bibliography, distribution map, and figures of critical characters, interesting notes on relationships, host and geographic distribution, and specific collection records including locality, date, host, number of specimens collected and collector.

Tedious and lengthy redescriptions of well-recognized species giving bristle counts and measurements are omitted. New species and subspecies are adequately described and figured. A comprehensive host-flea index indicates the author's opinion on (1) true host-parasite relationships, (2) doubtful, and (3) obviously accidental host records which are very numerous in fleas. This is based on the collection and examination of many thousands of specimens. An appendix discusses notes on collecting methods, mounting techniques, and a glossary of collectors. The bibliography covers 12 pages.

The 42 plates of 350 line drawings including critical characters of every recognized Canadian species demand special mention. They are superior in choice of subject, in accuracy, in technique of execution, and in reproduction. These are all original drawings by Mr. Holland and it may be said that preparation of this book was delayed at one time by prolonged eye fatigue or failure in making these camera lucida drawings.

In the systematic arrangement of Ceratophyllidae, Holland has used the basic division into genera proposed by Jordan 1933 instead of the revision by Ewing and Fox 1943 which has in general been rejected by students of North American fleas.

Described as new are:

*Hystrihopsylla occidentalis*  
*Hystrihopsylla spinata*  
*Callistopsyllus campestris*  
*Peromyscopsylla hesperomys pacifica*  
*Megabothris obscurus*

The hitherto unknown male of *Megarhroglossus divisus exsecatus* Wagner, and the females of *Tarsopsylla coloradensis* (Baker) and *Malariaeus euphorbi* (Rothschild) are described. A new subfamily, *Nearctopsyllinae*, is proposed. *Monopsyllus bakeri* (Wagner) is shown to be a synonym of *M. thambus* (Jordan). *Opisodasys jellisoni* Fox is considered a synonym of *Tarsopsylla coloradensis* (Baker).

Most of the collections are from specifically determined hosts, giving adding value to these host-parasite records.

An impressive list of Canadian naturalists, trappers, Royal Canadian Mounted Police, clergymen, and others have contributed specimens to this study.

It is a pleasure to see this volume added to the literature on ectoparasites. — W. L. JELLISON.

**Bird-Watching.** *Fifteenth Annual Report of the British Trust for Ornithology, 1948 (1949), pp. 1-49.*

This interesting report outlines some of the ornithological problems investigated by the British Trust for Ornithology during 1948. Considerable emphasis on population densities is apparent. There are well-organized long-term censuses of such species as the Great Crested Grebe, the Hobby, and the Black Redstart, as well as of the heronries in the British Isles. Extensive studies of the migration of waders, terns, and swifts are being made. A particularly worthwhile study, by the Edward Grey Institute, of factors influencing numbers of the Great Tit, *Parus major*, is begun.

The opening of milk bottles and the drinking of the milk by birds, first recorded in the British Isles in 1921, has become widespread in many parts of England and less extensively in Scotland, Wales, and Ireland. This behavior was investigated by the B.T.O. The vast majority of the attacks on milk bottles, it was found, were by two tits, *Parus major* and *P. caeruleus*, although 11 species of birds have been reported obtaining food in this way.

An apparently effective system for the collecting of nesting date is being carried out by the British Trust for Ornithology. Cards on which data can be written in by the observer are sent to cooperators. When these are completed they are returned to the files





Jellison, William L. 1950. "The Siphonoptera of Canada, by George P. Holland [Review]." *The Canadian field-naturalist* 64(4), 156–157.

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