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## Review of *Aquatic Invertebrates of Alberta* by Hugh F. Clifford

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**Aquatic Invertebrates of Alberta.** Hugh F. Clifford. Edmonton, Alberta: University of Alberta Press, 1991. xii + 538 pp. Drawings, photos, and references. \$82.00 cloth (ISBN 0-88864-223-4), \$70.00 paper (ISBN 10-88864-234-2).

Alberta is a province with diverse geography, climate, and ecology. Encompassing level prairies, gently sloping hills, and the high mountains of the eastern slope of the Rockies, it provides outstanding scenery as well as productive farming and extensive mineral production. Its variable climate provides short, hot summers and long, cold winters. A relatively high level of rainfall (and snowfall) provides an abundance of running and standing water habitats, including four major rivers (Milk, Saskatchewan, Athabasca, and Peace), two large lakes (Athabasca and Lesser Slave), and many smaller lakes and prairie potholes. This physical diversity has provided environmental features that enable a diversified fauna to become well established. This study is the result of the devotion of one scientist and his students that spans more than two decades. Hugh Clifford knows Alberta's aquatic invertebrate fauna intimately. He has compiled an impressive book treating the known species.

The book begins with a brief introductory chapter. There follows a chapter on methods that provides useful information on tools for collecting specimens, instructions on the use of keys to the identification of specimens, techniques for relaxing and mounting specimens, types of containers for the storage of a collection, and an outline of classification. The remainder of the text is devoted to the fauna, which is subdivided into the non-arthropods (14 chapters, 98 pp.) and the arthropods (26 chapters, 331 pp.).

Each chapter covers one taxonomic group and includes general information; methods of collecting, identifying and preserving; pictorial keys; a list of Alberta species; and a list of references. In some chapters there are sections on species not yet reported from the province. The dichotomous keys are concise and well illustrated. They will be easily used by students as well as professionals, as they consist of descriptive information accompanied by line

drawings illustrating the key characters. However, there are no keys for Microturbellaria, Nematoda, or Rotifera, and the keys to Nematomorpha and Gastrotricha are to family only. Part or all of some keys go only or primarily to the genus, including those to Gastropoda, Pelecypoda, Tardigrada, water mites, Cladocera, Copepoda, Ostracoda, and most insect orders.

The illustrations are generally clear and informative. Many chapters have superb color plates illustrating some of the species. There is an extensive glossary and two lists of references, one of material cited in the text, the other of publications treating the Alberta fauna.

This is the first comprehensive treatment of the aquatic invertebrate fauna of Alberta. The book is nicely designed and makes effective use of graphics. The text is remarkably free of typographical errors. It is a nice book that should become a well-used reference for educated laymen as well as invertebrate zoologists. This volume should find a welcome spot on the reference shelves of systematists and field biologists with an interest in the aquatic fauna of western Canada. **Paul B. Kanno**ski, *Department of Biology, University of North Dakota, Grand Forks, ND.*