

### An Investigation of Caribou Range on Southampton Island, N.W.T.

By G. W. Parker. 1975. Canadian Wildlife Service, Ottawa, Report Series Number 33. 83 pp. \$2.75.

Excessive hunting on Southampton Island in northern Hudson Bay led to the extermination of the native caribou by 1955. Caribou were captured on nearby Coats Island in 1967 and airlifted to Southampton Island where 48 were released. The author studied the island vegetation in 1970 to 1972, as to forage quality and quantity in order to evaluate the carrying capacity of the range to support barren-ground caribou. By means of aerial photographs he divided the island into land-form types on the basis of moisture regimes and physiographic features. Parker follows F. A. Clement's classical definition of plant formation as the climatic climax vegetation. Plant associations were considered the lowest unit for detailed description. The various plant associations were studied by the line-transect and plot method. In this case the line transects were 70 m long with fifteen 1-m<sup>2</sup> plots selected at 5-m intervals. Data were collected on species frequency, cover and weight of the aboveground parts of the plants. Samples of lichens were analyzed for total nitrogen, caloric energy, and for phosphorus, calcium, magnesium, potassium, and

sodium in the laboratory.

It was found that most herbaceous forage was produced in the limestone Hudson Bay lowlands while the most productive region for lichens was the Precambrian Plateau along the northeast coast. The greatest standing crop of lichens was approximately 1000 kg dry weight per hectare but the nutritional value of the lichens was low. It was concluded, however, that the quality of forage on the island was not a problem and an optimum caribou population for the island would be about 40 000 animals.

The population was forecast to reach 1000 animals by 1980; afterwards, with the cooperation of the local Inuit, a modest harvest could be sustained.

The Coats Island caribou were found to be exceedingly fat and the heaviest specimens for barren-ground caribou in Canada were recorded. Several males exceeded 180 kg in weight. The Coats Island population in March 1970 was approaching 2000 animals.

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### Mammalogy

By Harvey L. Gunderson. 1976. McGraw-Hill, New York. 483 pp., illus. \$19.80.

Harvey Gunderson of the University of Nebraska should be commended on writing a stimulating text on mammals. Unlike several recent books on mammalogy, such as Cockrum's *Introduction to Mammalogy* and Vaughan's *Mammalogy*, it makes no attempt to include extensive descriptions of the many living kinds of mammals; such information is valuable, but it can be obtained in other sources, such as Walker's *Mammals of the World*. Rather Gunderson concentrates on bringing together an interesting assortment of information from varied primary sources.

The most innovative of Gunderson's 16 chapters is that on the history of mammalogy as a science, beginning with its roots in European natural history and continuing with discussions on natural history in early America, the discoveries of explorers and fur traders, and finally the emergence of mammalogy as a discrete discipline. There is a useful section on collections of mammal specimens in United States museums and universities, on mammalogical work

done by American federal and state government agencies, and on journals devoted to research on mammals.

Other sections of particular interest in this book are those on taxonomy and on physiology and behavior. Gunderson has used recent references on which to base his comments, so that his discussions are up to date, and often accompanied by well chosen figures and good photographs.

It is understandable that in a large work of this scope some inconsistencies, repetitions, and errors will slip in; the use of both *Lontra* and *Lutra* for the otter; the statement that the camel's temperature varies between 34° and 41°C repeated three times (temperatures are given in degrees Celsius, lengths and weights in both metric and non-metric units); and the use of the generic name *Zebra*. One must also contest Gunderson's statement about Sir John Franklin's last expedition in search of the northwest passage, "the earlier disappearance of whose members remains a complete mystery to this day" (p. 16). In fact Captain M'Clintock in his book *The Voyage of the 'Fox' in the Arctic Seas* (1859) described how the fate



of Franklin was discovered. (This book was reprinted in 1972 by Hurtig Publishers of Edmonton.)

One small detail that bothered me was the use of a mammal's scientific name on every possible occasion, especially such contentious ones as for the moose (*Alces americana*) and for the wolverine (*Gulo luscus*). The word pronghorn is followed by *Antilocapra americana* over 20 times in the text. Surely in the interests of saving space, a list equating the

common and scientific names of a species could have been appended at the end of the book.

Overall, this work is a fine one, up-dating previous texts on mammalogy. I am sure it will prove useful to future classes studying this subject.

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## BOTANY

### Common Weeds of Canada/Les Mauvaises Herbes communes du Canada

By Gerald A. Mulligan. 1976. McClelland and Stewart, Toronto (in association with *Information Canada* and The Department of Agriculture). 140 pp. Paper \$4.95.

The need has long been felt for a reasonably priced set of colored pictures of weeds. This completely bilingual book is definitely a step in the right direction. It contains 117 colored plates depicting 117 weeds of regional or widespread occurrence across Canada. Ten illustrations were reproduced from water-color drawings by the late Norman Criddle, first published in 1906 in *Farm Weeds of Canada*, now long out of print. The rest are from the author's own colored photographs. Nearly all of the illustrations are about  $3\frac{1}{2} \times 5$  inches ( $9 \times 12$  cm) and occupy the lower half of one page with the names and text above. Full-page illustrations are used for poison-ivy and common ragweed, the two weeds that figure most importantly as causes of human misery and discomfort in Canada. Most of the photographs are of a general view of one plant or a group of plants in natural setting. This has virtue in helping the reader form the valuable mental association of where a plant grows, together with what it looks like. But this also has the disadvantage of the plant being submerged into the background where the two are not in sharp contrast, either by color or by focus, with the result that some diagnostic features necessary for identification cannot be distinguished. Unfortunately, this happened in a number of the photographs, and their usefulness is less than might have been.

Accompanying each illustration are the common and botanical names of the weed, the name of the family to which it belongs, and a paragraph including its life duration (annual, perennial), how it spreads, how high its stem usually grows, whether it is native in Canada or introduced, the provinces where it occurs, the habitats in which it is usually found, and the time

of year when it flowers. The reader who seeks a more complete description of each weed is, in the Introduction, referred to the revised edition of *Weeds of Canada*. (This is an excellent book, published by Information Canada in 1970 with Mr. Mulligan as senior author, containing detailed descriptions with very accurate black-and-white line drawings.) Nevertheless, had even a few of the more significant distinguishing characteristics of each weed been included in this new book, its value would have been much enhanced. This is especially true for those weeds whose features are not readily visible in the photographs.

Good quality paper was used and a nearly natural balance of color was achieved in most plates. In a few, however, such as sulphur cinquefoil, the yellow was printed too lightly so that the petals turned out nearly white, and in others, especially the Mint and Composite families, the pinks and mauves lack the brilliance normally associated with their flowers. Only one typographical error was noted: the second *t* was missing from *Bromus tectorum* in the French column although it was spelled correctly in the adjacent English column.

Attractively bound in a varnished black paper cover with an eye-catching group of 5 colored pictures on the front, this book will appeal to those who want a decorative volume as well as those who want help with identification of weeds. Being of pocketbook size,  $5\frac{1}{4} \times 8$  inches ( $13 \times 20$  cm), it can be easily carried in the field, and, being completely bilingual, it should find ready acceptance in every province of Canada.

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