

## Book Reviews

### ZOOLOGY

#### ZOO The Modern Ark

By Jake Page. Photographer Franz Maier. Facts on File, New York, 191 pp., illus. U.S. \$35. No Canadian Rights.

"Zoological gardens, from ancient China and from the time of the Aztecs, have been with and are with us still. Zoos are not out of date. Indeed, they are becoming of greater importance with each passing year..." writes Gerald Durrell in the Preface to this attractive book. Zoos have drastically changed from the first animal park that existed in the ancient Sumerian City of Ur in 2300 B.C. and since the establishment of the first modern zoo in Regent's Park in Britain in 1826.

One major influence in zoo management was initiated by Carl Hagenbeck in 1907. Hagenbeck's idea was to exhibit animals in more naturalistic settings and if possible at eye-level to the viewers. This concept has had lasting impact and is evident in present-day zoological gardens. Another turning point in zoo management arose after an article appeared in Science magazine by Katherine Ralls revealing the shocking relation of juvenile mortality to inbreeding. Ralls' article and continued studies on this subject had a remarkable impact on zoos around the world.

In *ZOO The Modern Ark*, author Jake Page does an excellent job in examining the improvements, achievements, and role of zoos in today's society. Zoos no longer house animals solely for viewing pleasure but have recently been recognized in the conservation field as sanctuaries for endangered species, for successful re-introduction of animals into the wild, and by providing homes to species threatened by loss of habitat.

The author moves from one fascinating topic to another. Page examines animals throughout the world through various perspectives, one being statis-

tics. The development of such programs as the International Species Inventory Systems (ISIS), which maintains lists of individual animals throughout world zoos, births, and acquisitions from the wild, aids researchers and zoo management in careful monitoring of zoo populations, genetic drift, and the degree of inbreeding. ISIS assists in the co-operative effort of all zoos to exchange animals for breeding purposes. Page thoroughly discusses and yet simplifies complex subjects such as genetics by using effective analogies easily comprehended by the lay readers.

Over six hundred zoos exist in the world and the author highlights ten of the finest, including the Metro Toronto Zoo. The Toronto Zoo is one of the few that group animals by zoo-geographical area. It has gained recognition for its involvement in species-survival programs and captive breeding, and houses about fifty Endangered Species. The book is sumptuously illustrated throughout. The Appendices listing pertinent addresses of zoos, descriptions, and supporting agencies is informative.

"Zoos, along with aquariums and game parks, are one of the greatest potential tools available to society to alter the attitudes of a significant proportion of mankind, to create a deep-seated awareness that we are not rightfully the overlords of this planet but share it with a vast and beautiful array of life-forms, each with intrinsic merit" concludes Page. *Zoo, the Modern Ark* provides stimulating reading and brilliant insight into the workings, objectives and challenges of today's zoos.

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#### The Magpies: The Ecology and Behaviour of Black-billed and Yellow-billed Magpies

By Tim Birkhead. 1991. T & AD Poyser, London. (Distributed in North America by Academic Press, Harcourt Brace Jovanovich, San Diego). 272 pp., illus., U.S. \$ 39.95.

Few bird species can boast of a east-west distribution as widespread as that of the Black-billed Magpie, *Pica pica*. Except for an interruption in Eastern North America (from the Great Lakes and

the Mississippi River to the East Coast), the distribution range of the Black-billed Magpie forms a belt around the world at temperate latitudes. The magpie's ubiquitousness, combined with its striking appearance and bold behaviour (where non-persecuted), may explain why this bird figures prominently in the folklore of so many countries. This place in folklore is not always a flattering one however, as many people have learned to dislike the magpie and

blame it for killing songbirds, attacking wildlife and livestock, and even stealing j

Given this long-standing "popularity", what surprising that the scientific study did not begin in earnest until about a d Since then however, research has proceeded at a steady pace in both North America and E time had come for a synthesis, and Tim book represents a timely arrival. This volume reviews what is known about t and behaviour of the Black-billed Mag California-restricted sister species, the Y Magpie, *Pica nuttalli*.

The contents include 12 chapters and dices. The first chapter is an introduction eral biology of the two species. A second methodology of magpie study, based on own experience with a magpie population in Sheffield, U.K., anchors the text in p Another nice feature is a table listing th of study in the world and the workers inv

The next three chapters deal with social behaviour. Chapter 2 is concerned with nest spacing al behaviour. Chapter 3 addresses the behaviour of breeding magpies and it c sal, pair formation, pair maintenance, and ing. There are also sections on roosting but, contrary to the title of the chapter, mostly on non-breeding birds. Chapter dispersal, flocking habits, and home ra breeding birds. Described in these intriguing behavioural actions who remains unclear, such as "funerals" (the dead magpie), "ceremonial gatherings" form of territorial probing, not obser American magpies), and communal roo

Following Chapter 5 on feeding and ing (in which we learn that, contrary to dom, magpies do not steal and hide s and Chapter 6 on magpie population comes to three chapters on the breeding eggs, and incubation (Chapter 7), chi care (Chapter 8), and breeding succes Chapter 10 examines the factors affect success, most notably bird and terr Food resources emerge as the main c

#### Advances in the Study of *Peromyscus*

Edited by Gordon L. Kirkland, Jr., and J 1989. Texas Tech University Press. 1 367 pp., illus. Cloth U.S. \$35; paper U.S

This is the second volume in ju years that is devoted to reviewing *Peromyscus* and it seems reasonab

blame it for killing songbirds, attacking injured wildlife and livestock, and even stealing jewellery.

Given this long-standing "popularity", it is somewhat surprising that the scientific study of magpies did not begin in earnest until about a decade ago. Since then however, research has proceeded at a steady pace in both North America and Europe. The time had come for a synthesis, and Tim Birkhead's book represents a timely arrival. This interesting volume reviews what is known about the ecology and behaviour of the Black-billed Magpie and its California-restricted sister species, the Yellow-billed Magpie, *Pica nuttalli*.

The contents include 12 chapters and 9 appendices. The first chapter is an introduction to the general biology of the two species. A section on the methodology of magpie study, based on the author's own experience with a magpie population in Sheffield, U.K., anchors the text in practicality. Another nice feature is a table listing the main sites of study in the world and the workers involved.

The next three chapters deal with social behaviour. Chapter 2 is concerned with nest spacing and territorial behaviour. Chapter 3 addresses the social behaviour of breeding magpies and it covers dispersal, pair formation, pair maintenance, and mate guarding. There are also sections on roosting and mobbing it, contrary to the title of the chapter, they report mostly on non-breeding birds. Chapter 4 addresses dispersal, flocking habits, and home ranges in non-breeding birds. Described in these chapters are intriguing behavioural actions whose function remains unclear, such as "funerals" (the mobbing of a dead magpie), "ceremonial gatherings" (apparently a form of territorial probing, not observed in North American magpies), and communal roosting.

Following Chapter 5 on feeding and food hoarding (in which we learn that, contrary to folklore wisdom, magpies do not steal and hide shiny objects), and Chapter 6 on magpie populations, the reader comes to three chapters on the breeding cycle: nests, eggs, and incubation (Chapter 7), chicks and their care (Chapter 8), and breeding success (Chapter 9). Chapter 10 examines the factors affecting breeding success, most notably bird and territory quality. Food resources emerge as the main determinant of

breeding success, with predation and the quality of parental care acting as secondary factors.

Chapter 11 is entitled "Magpies and man". In it, Birkhead explores the love-hate (mostly hate) relationships magpies have had with farmers, gamekeepers, and townspeople. In a particularly interesting study, Stephen Gooch, Stephen Baillie, and Birkhead used hard data to explode the myth that magpie predation affects songbird density. Songbird success and density did not decrease (actually, it sometimes increased) with increasing magpie density, at least in rural areas. When it comes to songbird mortality, Birkhead blames instead a predator that few people hate: the domestic cat.

Throughout the book, comparisons are made between the two species of magpies, and between the North American and European races of *Pica pica*. Chapter 12 reviews these comparisons and makes the case for the Black-billed Magpie as a suitable subject for comparative and evolutionary studies.

Each chapter opens with a quotation, often from older works, and ends with a summary. The text is clearly written and peppered with humorous anecdotes and comments stemming from the author's own experience with magpies, and his conversations with magpie researchers. The book is also well-researched; the reference section comprises 272 entries, at least 157 of which relate directly to magpies. In addition, the author presents some of his own original data. Each chapter is graced by beautiful drawings from David Quinn, who also did very nice color illustrations for the dust jacket and the frontispiece.

This fine book will not be out of place in the library of any amateur or professional ornithologist who comes into regular contact with magpies (in Canada this means ornithologists west of Winnipeg). Hopefully it will bring to its readers renewed appreciation for a bird whose behaviour is both fascinating and easily observed.

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### Advances in the Study of *Peromyscus* (Rodentia)

Edited by Gordon L. Kirkland, Jr. and James N. Layne.  
1989. Texas Tech University Press, Lubbock, Texas.  
367 pp., illus. Cloth U.S. \$35; paper U.S. \$22.

This is the second volume in just over twenty years that is devoted to reviewing the biology of *Peromyscus* and it seems reasonable to ask why.

These small (12-140 g) mammals are seldom economic pests, have no role as disease vectors, and rarely attract the interest of wildlife managers. They are, however, a popular choice of graduate students and have been the subject of innumerable theses. The deer mouse (*P. maniculatus*), in particular, will be familiar to most naturalists: this single species