ize bamboo life histories. Threatened birds therefore justify conservation efforts not only for their own sake but also for the sake of the ecosystems on which they depend.

As a final note, I would like to pay tribute to Ted Parker, one of the coauthors who was killed in a plain crash in western Ecuador while in pursuit of additional information on the birds of this threatened ecosystem. Ted's knowledge of South American birds was unsurpassed, and he took irreplaceable information with him to his grave. We are fortunate that so much of Ted's knowledge of these threatened species is contained within these pages. Knowledge of the avifauna of South America has come at a high price.

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PIGS: A HANDBOOK TO THE BREEDS OF THE WORLD. *By Valerie Porter; illustrated by Jake Tebbit. Comstock Publishing Associates (Cornell University Press), Ithaca, New York.* $35.00. xv + 256 p.; ill.; index. ISBN: 0-8014-2920-X. 1993.

This attractive book not only lives up to its title as a handbook of the breeds of pigs, but it also provides interesting information that goes far beyond present-day and extinct breeds.

The 24 color plates and facing-page descriptions in themselves provide a good overview of the vast variety of breeds and their wild ancestors. The scientific names of the ancestors are given. The plates are arranged by geographic area, but the text provides easy cross-reference to similar pigs from different parts of the world.

The book is written in a readable style. There are short chapters on wild pigs, domestication, and simple genetics that serve as a background to the body of the text. The subject matter is then arranged by continent and country. Roughly one-third of the book deals with pigs in Europe, and about one-third of that is devoted to pigs of the United Kingdom and Ireland. In contrast, the large pig populations of China are covered in ten pages. The difference in coverage is probably a reflection of the amount of readily available published information.

The modern era of pig breeding as represented by the breeding companies is relegated to the Appendix. Here, eight breeding companies (all based in the UK) are described briefly. The author is to be complimented for the inclusion of this section, as it represents a clear departure in the philosophy of pig improvement from that of the traditional breeders of purebred animals.

In addition to the descriptions of the great variety among pigs, the author makes a plea for the preservation of indigenous pigs (and rare breeds) to avoid the loss of genetic material that may be of value in the future.

The history of the pig and its contribution to civilizations of the world give testimony to the persistence and adaptability of this animal to survive and prosper under all kinds of conditions.

This book tells the fascinating story of the pig, in addition to serving as an easily accessible reference with a wealth of information.

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MAMMAL PHYLOGENY: PLACENTALS. *Edited by Frederick S. Szalay, Michael J. Novacek, and Malcolm C. McKenna. Springer-Verlag, New York.* $89.00. xi + 321 p.; ill.; topic and taxon indexes. ISBN: 0-387-97853-4. 1993.

This volume contains 21 articles by several of the participants of a conference held at the American Museum of Natural History at the end of May 1990. It is meant to present the current state of affairs in eutherian phylogeny. As is true of most such compilations, however, it is plagued by many afflictions; it is outdated, disorganized and eclectic, the articles vary greatly in quality, and the price is unreasonably high.

The book contains only a few review articles. The remainder of the papers can be divided roughly into (1) original contributions that could have been published in relevant journals much more quickly than it took Springer to publish them, and could, as a consequence, have reached a greater audience, and (2) papers of such poor quality that a merciless dose of anonymous peer review should have been applied before letting them see the light of day. The most outdated part of this book is its treatment of molecular methodologies and results. Only four papers deal directly with molecular data. Two other papers touch on molecular phylogenetic results, but one (by Vincent Sarich) deals mainly with the history of the discipline, while the other (by David Irwin and the late Allan Wilson) chiefly highlights the "limitations of molecular methods" (p. 257). An additional article by Donald Prothero indirectly deals with molecular data. Its main conclusions are (1) all molecular evidence is ambiguous and limited if it contradicts Prothero's systematic theories, and (2) "where [molecular] data are available" (p. 173) the results agree with Prothero's morphological hypotheses. These two conclusions can be combined to yield one rule: Prothero is always right.

When reviewing particular phylogenetic issues, molecular data are treated as pariahs. Two approaches are used. The first is the most elegant one: Molecular data "have been recently summarized by . . . and will not be further discussed" (e.g., Robert Hunt and Richard Tedford: 61). The

second approach is to argue that molecular data are either redundant or worthless. For example, ". . . where morphologic evidence has been inconclusive in revealing relationship, molecular comparisons frequently prove to be equally ambiguous" (André Wyss and John Flynn: 50). And in the Introduction, Frederick Szalay paternalistically emphasizes the "need for new algorithms, which ould [*sic*] better reflect the realities of molecular evolution" (p. 4). Interestingly, no such new "algorithms" are deemed necessary to deal with such "quantitative" morphological definitions, as "small," "reduced," "somewhat flattened," and "partially enclosed" (p. 285). While I assume that a bizarre group for which this book may be of value may exist, I cannot even begin to identify it.

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AQUATIC SCIENCES

ANTARCTIC FISH AND FISHERIES. *Studies in Polar Research.*

By Karl-Hermann Kock. Cambridge University Press, Cambridge and New York. $110.00. xvi + 359 p.; ill.; index. ISBN: 0-521-36250-4. 1992.

This book provides, for the first time, a comprehensive account of the fisheries of the Southern Ocean. The author is a fishery biologist with extensive experience in the Antarctic region. The fact that this part of the world has been subjected to overfishing, resulting in crashes of the affected populations, will come as a revelation to many biologists. The general view of the Antarctic as an unexploited area is in obvious need of revision. The beginning of commercial fishing coincided with the termination of shore-based whaling and sealing in the mid-1960s and the decline of pelagic whaling in the early 1970s.

During the past 20 years, a time when most nations considered Antarctic fishing to be economically unfeasible, the Eastern Bloc countries devoted a major effort to harvesting in that area. The greatest activity was put forth by the former Soviet Union. The most productive region of the Southern Ocean is that bordered by the Atlantic Ocean. From 1969 to 1990, the Soviet Union took 88.4 percent of that catch. The second most important country was Poland, followed by East Germany and Bulgaria.

As stocks of one species became scarce, the fishery shifted to another. This continued until almost all 12 commercial species, separated into 30 stocks, are now considered to be depleted. In 1978, France declared the Kerguelen and Crozet Islands to be within its Exclusive Economic Zone. In 1982, an International Convention on the Conservation of Antarctic Marine Living Resources came into force. Although the convention applies to all of the area south of the Antarctic Convergence, special privileges were conceded to France. A series of conservation measures adopted by the convention have been objected to by France and, more important, there has been no effective means of ensuring that fishing activities are conducted in compliance with the regulations. These factors do not bode well for the future of the Southern Ocean fisheries.

The most authoritative parts of the book deal with fish biology and the details of the various fisheries. Subjects such as reproduction and life history, age and growth, and ecosystem relationships are competently discussed. The description of each fishery includes historical development, trends of exploitation, stock assessment, and problems of management. The weakest sections are those dealing with evolution, classification and biogeography. The latter subjects are more adequately addressed in two other recent books: *Fishes of the Southern Ocean* (ed. by O. Gon and P. C. Heemstra, J. L. B. Smith Institute of Ichthyology, Grahamstown, 1990) and *Antarctic Fish Biology: Evolution in a Unique Environment* (J. T. Eastman, Academic Press, New York, 1993).

This volume is likely to be the major source of information on Antarctic fisheries for the next several years. The bibliography is extensive and includes all the pertinent Russian and European literature. The use of color instead of black-and-white photographs would have enhanced its visual appeal. Even so, Cambridge University Press has produced a handsome volume.

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LIGHT AND LIFE IN THE SEA. *Based on a symposium held at the Polytechnic South West, Plymouth, 10–11 April 1989.*

Edited by Peter J. Herring, Anthony K. Campbell, Michael Whitfield, and Linda Maddock. Cambridge University Press, Cambridge and New York. $69.95. ix + 357 p.; ill.; index. ISBN: 0-521-39207-1. 1990.

This book arose from invited presentations at the Symposium on Light and Life in the Sea held at Plymouth, England. The goal of the organizers was to select topics that would provide a well-balanced view of the interactions between organisms and the photic environment in the sea. This goal appears to have been met quite nicely. The book is divided into five major sections, with additional introductory and summary chapters.

The first section covers the physics of light in the sea. Of import here is the inclusion of two