

BOOK REVIEWS

EDITED BY JEFFREY S. MARKS

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Raptor Migration in Israel and the Middle East: A Summary of 30 Years of Field Research. By Hadoram Shirihi, Reuven Yosef, Dan Alon, Guy M. Kirwan, and Reto Spaar. 2000. International Birding and Research Center, Eilat, Israel. 192 pp., 55 color photographs, 2 tables, 33 figures. Hardcover, \$50.—One of the largest and most impressive migration streams of raptors passes each spring and fall through Israel and the Middle East. The birds involved breed over a large part of Eurasia and winter in Africa, mainly south of the Sahara. Over the past three decades, counts of migrating birds have been made at various sites in Israel and elsewhere, those in northern Israel having involved long lines of observers spread across the broad migration path. The main purpose of this book is to summarize these various counts, giving the totals and seasonal patterns for each species in spring and fall.

Up to nearly 1 200 000 diurnal raptors have been counted passing through Israel in spring, and about half that number in autumn, when many of the birds take a more easterly route. Some 43 species have been recorded, but six species make up the bulk of the total. In addition, about 300 000 to 350 000 storks and pelicans pass through along with the raptors. Spring totals have included up to 852 000 Honey Buzzards (*Pernis apivorus*), 466 000 Common Buzzards (*Buteo buteo*), 75 000 Steppe Eagles (*Aquila nipalensis*), and 37 000 Black Kites (*Milvus migrans*), among other species. Fall counts of most species are lower, but the 142 000 Lesser Spotted Eagles (*Aquila pomarina*) and 60 000 Levant Sparrowhawks (*Accipiter brevipes*) are thought to represent almost the entire world population of these species.

Brief introductory sections describe the history and methods of study, the sources of information, conservation problems, and the flight behavior of the migrants. The bulk of the book summarizes the available count data, species by species, giving the

totals seen at different sites, migration phenology, long-term trends, and other relevant information.

Within their limited remit, the authors have done a good job in pulling together the available data from scattered sources. Trends in numbers are examined from the total seasonal counts for periods up to 13 years. Although some downward trends are claimed, the significance of the regression slopes is not stated (for some species we are given only the r^2 values). In addition, I was surprised to see references given at the end of each chapter, as well as at the end of the book. The 32 pages of color photographs, depicting birds in flight and perched, are of good quality and are well reproduced. The book will be of interest chiefly to birdwatchers and others keen on bird migration, especially if they intend to visit Israel to see this spectacle for themselves.—**Ian Newton, Institute of Terrestrial Ecology, Monks Wood, Huntingdon, Cambridgeshire PE17 2LS U.K.**

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Harriers of the World: Their Behaviour and Ecology. By Robert E. Simmons. 2000. Oxford University Press, Oxford, U.K. xiv + 368 pp., numerous line drawings, 87 figures, 52 tables. ISBN 0-19-854964-4. Paper, \$27.50.—Raptors in general, and harriers (*Circus*) in particular, attracted the interest of behavioral scientists for most of the last century. The rich literature resulting from these investigations permits analyses that would have been impossible as recently as the early 1980s. Rob Simmons, who has studied harriers on two continents (both within and outside the tropics), has taken this accumulating database and cast it in the light of early 21st century behavioral ecology. *Harriers of*

the World is an information-rich, rewarding read that is both satisfying and provocative, an engaging combination of science accomplished and science in progress.

More closely resembling a text on the Darwinian whys and wherefores of breeding ecology than a global review of harrier ecology and natural history, the book provides examples of how biologists working experimentally within an adaptationist program (*sensu* Mayr, 1983, *Am. Nat.* 121:324–334) seek to explain patterns in nature. A quick review of the work's more than 700 references suggests the flavor of the effort: 14 papers and books by Anders Møller and 4 by David Lack are cited along with those of many harrier specialists, including Fran Hamerstrom, Eddie Balfour, Nick Picozzi, Bea Arroyo, Massimo Pandolfi, and David Baker-Gabb. This is a book that describes aspects of harrier behavior, particularly reproductive behavior, and then uses them to address questions of interest in modern biology.

Although several chapters are substantially stronger than others—my personal favorite is “Clutch Size and Latitude,” partly because of its thoroughness (one table alone presents clutch sizes based on 27 published works), and partly because of its balanced approach (six hypotheses are assessed)—almost every portion of the book offers new insights and posits new questions.

The focus of *Harriers of the World* is clearly on reproduction, and within that aspect of harrier biology, eggs—the size, shape, and number of which receive as detailed a treatment as anyone could expect, and then some. Indeed, Simmons is so focused on eggs that he even includes a sketch of a “pregnant” harrier in flight with a visibly distend-

ed belly and vent area to help those of us who may not be so observant see what we have been missing! Even so, given that most harriers are complete or partial migrants, and that many spend considerable portions of their annual cycles en route to and from their breeding grounds, it might have been nice to include at least a brief section on migration. Communal roosting, too, seems to have been shortchanged. These are minor quibbles, however, because the book largely compensates for these absences by providing a wealth of information on other aspects of harriers' lives.

In addition to the book's content per se, Simmons' longstanding and outstanding enthusiasm, both for the harriers themselves and for the adaptationist program he has followed for more than 20 years, makes for a remarkably lively and engaging read, especially in light of the book's serious and exhaustive treatment of its subject matter. Although *Harriers of the World* is something of a rarity among modern works on raptors in lacking color plates, it is more than adequately illustrated with many excellent line drawings by John Simmons that effectively capture the graceful, aerial nature of the genus.

In summary, I can recommend the work both to raptorophiles who want to know more about the birds they love, and to students of behavioral ecology who want to know what makes harriers “tick.” Given its provocative, “science-in-progress” approach, *Harriers of the World* also would make excellent reading material for a graduate seminar on raptor breeding ecology. The bibliography alone is worth the price of this significant addition to the raptor literature.—**Keith L. Bildstein, Hawk Mountain Sanctuary, 1700 Hawk Mountain Road, Kempton, PA 19529 U.S.A.**