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Books: Catching and Handling Birds and Data

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Books

CATCHING AND HANDLING BIRDS, AND DATA: PRACTICAL PAPERS PUBLISHED IN THE WADER STUDY GROUP BULLETIN. Edited by David A. Stroud and N. C. Davidson. 2003. *Wader Study Group Bulletin* 69 & *International Wader Studies* 6. iv + 138 pp.

Although *NABB* was not sent a copy of this special issue of *Wader Study Group Bulletin* for review, it is devoted entirely to banding activities and thus more appropriately reviewed as a volume than in a series of the usual abstracts that I prepare of banding-related notes and papers published in the *Wader Study Group Bulletin*.

This volume consists primarily of reprints of 69 contributions published previously between 1975 and 1996. Most were published originally in *Wader Study Group Bulletin* and the year, volume and pages of the original are indicated on each reprint. Many of them have been abstracted in *NABB* previously. Although some shorebird banders will already have copies of many of these, this volume provides copies of earlier publications to more recent shorebird banders and should be valuable to more seasoned banders in grouping many banding papers together by topic. The reprints are, moreover, not all identical to the original, as brief updates are provided in some and portions are deleted or revised as considered appropriate, in others. The "exceptionally long incubation period" (p. iv) of a decade between the conference and the publication also means that some details, even in the updates, may now be outdated. The flyway map (Fig. 1, p. 2) of Europe, Asia, Africa and Australia plus extreme northern Canada reflects its primarily "Old World" content, but the front cover photograph is from Ellesemere Island, Nunavut, and a couple of papers are from North America. Moreover, most of the species covered also occur in North America or are closely related to our species, so the techniques discussed are mostly relevant here.

After a few introductory sections (table of contents, two prefaces and a protocol "on international co-operation on migratory flyway research and conservation"), the text begins with a section on "catching, ringing and marking: cannon-netting," with six papers on the use of cannon-nets and other projectiles, as well as a glossary of related terms and two precautionary notes. These contributions include techniques and tips for setting up, securing and moving cannon-nets, the use of decoys and the effects of season and moon light on catching success. The editors have added a footnote that the use of live decoys is legal in some countries, but not others. A second section on "catching, ringing and marking: cages and boxes" consists of two papers on the design and construction of containers to hold netted birds safely until somebody has time to band and release them.

The third section consists of eight notes on the condition known variously as leg cramp, leg paralysis, capture myopathy and stress myopathy in shorebirds generally or specifically in curlews and Bar-tailed Godwits. These include notes describing the condition, duration of the condition, possible causes of the condition, factors that seem to accentuate it [including numbers of birds captured/crowding, length of time a bird is in a net, temperature, physiological condition, amount of fat and/or weight of the birds when caught, stage of molt, and parasite load] and tips on avoiding it or treating it through covering birds in the nets if extraction is likely to be delayed, removing the most susceptible species from nets first, holding cage design, warming the legs of afflicted birds, administering valium to afflicted birds, and maximizing care in the way that birds are released. These notes are based on experience and research in Africa, Australia and Europe on shorebirds, flamingoes and even ungulates. In general, longer legged bird species are more susceptible than those with shorter legs, birds with large amounts of pre-migratory fat are especially vulnerable and the problem arises proportionately more during mist-netting operations than during cannon-netting, apparently because a bird is more likely to be struggling uncovered in a mist-net than under a cannon-net. Research on this problem continues and shorebird banders should consult the recent paper by Rogers *et al.* (2004) for progress on treating this condition.

The final chapter on capturing birds focuses on trapping nesting birds. A general 1975 paper by Peter Ferns and Harry Green on placement of nets, methods of trapping at nests, catching of pre-fledged and just fledged young and recording the details is followed by two follow-up notes, one providing illustrations of trap designs and two netting set-ups, the other partially reprinting and commenting on a note first published in *Safring News,* by R. W. Summers, on placement of traps in relation to nest position. Two other papers follow on trap and netting designs. These contributions emphasize the importance of not leaving traps over nests too long if adults are not caught promptly. In a 1977 comparison of several traps and two netting techniques at nests, Kate Lessells and Roderick Leslie note that snipe are prone to jumping up in traps and abrading their head plumage. They credit Nigel Clark for suggesting fine mesh terylene or plastic netting for the roofs of traps for catching snipe. Several of the cautions and tips in this chapter are relevant to other ground-nesting birds.

A chapter on "catching, ringing and marking: rings and flags" consists of five short notes and two short papers. The first two notes are anonymous cautions–one on the importance of ensuring that bands large enough to read through telescopes are placed right-side up and one cautioning banders catching large numbers of shorebirds to check each for bands placed "above the knee" to ensure that none are banded twice by accident. Another consists of a note on the amount of wear on bands on Ruddy Turnstones two to eight years after banding. The other two notes address the use of temporary and permanent leg flags on Dunlin, with an editorial plea to avoid the latter and use conventional color bands instead in order not to compromise the usefulness of the former. A slightly longer paper by Brian Harrington and Linda Leddy on knots banded in Florida presents evidence that banded birds may not be distributed randomly within a flock, reducing the reliability of a common assumption that birds within a flock are distributed randomly. They note that this agrees with the finding of a study in Europe on an unstated species, but that Peter Myers' findings in Sanderling flocks in California showed no intra-flock association of this sort. The final paper in this section is a 1983 proposal by Myers, Harrington and five others from three countries for a hemisphere-wide color-marking protocol for shorebird-banding in the Americas to avoid confusion among the growing number of projects and to ensure maximum cooperation among our shorebird banders. The protocol listed in Table 1 of the paper includes only three Caribbean countries, excluding some, such as Cuba and Jamaica, where fairly large numbers of North American-banded shorebirds have been recovered.

Another chapter in the "catching, ringing and marking" series consists of two papers on radio-telemetry: one on 1 g radios attached to European Golden-Plover chicks to monitor both movements and growth rates and one reviewing the use of radio-transmitters in "sandpiper" studies generally. The latter summarizes studies on 11 shorebird species, eight of which are scolopacids, as suggested by the title, but also including three plover species, including the paper immediately preceding the review. Kenward's (1987) book on radio tagging is cited in this paper but not listed in its literature listed. Fortunately, however, it is listed in the golden-plover paper. On the other hand, a paper by G. D. Johnson *et al.* on retention of transmitters listed in the references is not cited in the text. These two omissions were in the original 1993 publication and should have been noted in an editors' footnote in this volume of reprints.

The "catching, ringing and marking" series ends with a chapter with three short notes based on a proposal for using measurements of pre-fledging young to estimate pre-fledging mortality and replies to it, based on experience with Northern Lapwings and Common Redshanks. Weights are apparently more reliable for determining age of pre-fledging chick lapwings, whereas bill lengths may be more reliable for redshanks.

Four chapters cover morphometrics. The first consists of seven contributions on plumage and ageing, the second includes seven notes on moult, the third covers measurements and adult biometrics in eight publications and the fourth is comprised of five papers on egg and chick growth. These publications include age and geographic variations in color patterns, several variations in molt patterns and various measurement tech-

niques and molt scores, based on shorebirds generally or specificially on Eurasian Oystercatchers, Black-winged Stilts, Northern Lapwings, Eurasian Golden-Plovers, Dunlin, Sanderlings, Common Sandpipers, Ruddy Turnstones, Eurasian Curlews, Bar-tailed Godwits, Ruffs, Common Redshanks, Eurasian Woodcocks and Red Knots. Most are based primarily on Eurasian data, but a paper on Bar-tailed Godwits compares axillary feather color patterns on Alaskan birds with those in other parts of their breeding range and a review of biometrics in shorebirds includes data from Alaska and Arctic regions of Canada.

The final section consists of seven articles on statistical analyses of data collected on shorebirds. Five of these, by Jeremy J. D. Greenwood, are designed to introduce statistical principles to researchers who are inexperienced in using them. These are followed by another by Greenwood critiquing the statistical methodology in another paper to test randomness in flocks. Two "typos" in this note ["conservation" when "conservative" is intended and "binimial" instead of binomial] are obvious enough that they should not cause any confusion. Another note on a possible bias in "log-transformed allometric equations" will be of interest primarily to readers well versed in statistical tests.

This special issue of *Wader Study Group Bulletin* should be on the book shelves of all banders who catch and band large numbers of shorebirds. It does not replace the more comprehensive trapping books by Bub (1991) and McLure (1984), but provides an important supplement to them. Similarly, until Pyle publishes the water bird volume of his guide to age and sex determination, shorebird banders should consult this section as a supplement to the guide by Prater *et al.* (1977) when classifying ages of shorebirds. Although little in it is new, the grouping of all these banding-oriented notes and papers into a single volume makes it a handy reference for anyone who frequenting bands shorebirds. Many of the principles and designs discussed also apply to banding generally. Enquiries about its availability for purchase can be directed to Wader Study Group, The National Centre for Ornithology, The Nunnery, Thetford, Norfolk IP24 2PU, UK.

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RAPTORS OF WESTERN NORTH AMERICA. By Brian K. Wheeler. 2003. Princeton University Press, Princeton, NJ. xv + 544 pp. $49.50.

This is one of two detailed volumes on North American vultures and diurnal raptors. Its coverage is somewhere between that of a field guide and a handbook. Its emphasis is on identification and distribution, but each species account includes brief sections on various life history traits, conservation and references. The book is too bulky for most observers to take comfortably on a field trip, but its comprehensive coverage of plumage variation makes it an invaluable resource for anyone banding and/or studying raptors in western North America. As western populations of many raptor species present observers with a bewildering variety of plumages, its comprehensive coverage of morphs, racial differences and even aberrant plumages make it especially useful for banders who specialize in raptors and for observers who participate in hawk migration counts and/or raptor

transects or other census efforts. As its many photographs [and even the text] are printed on glossy paper, it should be kept out of the weather, but close at hand in raptor banding stations or in nearby vehicles or field packs if banding or observation sites are in the open.

The book begins with the usual series of opening material [title pages, dedication, table of contents, a foreword by raptor expert Clayton M. White, a preface, two pages of acknowledgments and a list of frequently used abbreviations]. These are followed by an introduction on general principles of identification, a four-page account of the format of the species accounts, comments on the color plates and their captions and comments on the distribution maps [mostly plotted by John M. Economidy] and a color key to the maps. A pleasing feature of the maps is that smaller places are often plotted instead of the more familiar larger cities. For example, one includes my childhood cottage site of Gimli, Manitoba, instead of the nearby capital city of Winnipeg and another shows Hope, BC, instead of the more familiar Vancouver.The introductory section continues with six glossaries [general, anatomy and feather, plumage, molt and age, flying and perching displays, and perching and flying attitudes]. Some of these glossaries are further sub-divided into sub-topics.The topics covered in the definitions in these glossaries are wide-ranging, although the overall emphasis is on terms related to raptor anatomy, plumage and flight. The comprehensiveness of these glossaries makes the book a useful addition to any ornithological editor's library, to be used along with ornithological dictionaries and encyclopedias. I would quibble with a few definitions. For example, Wheeler indicates that a raptor has to be "already airborne" when it begins to pursue prey to be "aerial hunting," whereas I would consider a kestrel that zeroed in on a grasshopper or vole that it spotted from a fence post to be aerial hunting when it hovered above the field to "fix" the location of the prey even though the hunt began when the kestrel first noticed the prey from its fence post perch. The noun "kettle" is included for a migrating flock of raptors, but the verb "to kettle" or "kettling" often used for the circling up by such flocks on air thermals and gliding down to the next thermal is not. A few terms that would have been logical to include are missing. For example, Neotropical is included, but neither Holarctic nor Nearctic are. Each definition is stated clearly and some go beyond simple definitions. For example, Molt Patterns According to Family Classification summarizes general patterns of molt of both remiges and rectrices in non-eagle Accipitridae, eagles, Osprey, New World Vultures and Falconidae in considerable detail. The introductory sections end with a note on the photographic techniques, equipment and film used for the 603 photographs that illustrate the book.

The bulk of the text consists of accounts of the 33 species that occur regularly in western parts of Canada and mainland US. This section begins with a note on the taxonomy of the New World Vultures, now placed by many taxonomists and the American Ornithologists' Union closer to the storks than the diurnal raptors, but ecologically and behaviorally much like diurnal raptors. Species accounts consist of three and a half (Gray Hawk) to 31 (Peregrine Falcon) pages of text, one to six color-coded map(s) of the portion of the species' range, each subspecies' range or each disjunct population in western North America [and/or northern Mexico if applicable] and six (Black Vulture, Swallow-tailed Kite and Zone-tailed Hawk) to 83 (Red-tailed Hawk) photographs of as many different morphs, ages, races and postures as possible of the species perched and in flight. The photo captions are often detailed and sometimes include details not emphasized in the text. An additional five photographs on one plate illustrate the Anatomy and Feather Glossary and 22 more are included in the Perching and Flying Attitudes Glossary. The text of the species accounts covers ages, molt, subspecies, color morphs, size, species traits [i.e., descriptions in detail of plumage, shape and other aspects of head, body, wings and tail of different ages and different morphs or sub-species if applicable], molt details, known abnormal plumages, "habits," feeding behavior, flight patterns, voice, status and distribution by season, seasonal and extralimital movements, nesting [including courtship] details, conservation efforts if any, past and present sources of mortality, similar species within the geographic coverage of the book [perched and flying], other names [hawk migration abbreviations and colloquial, Spanish and French names] and a list of references. Emphasis is on

identification-related features for most species, but current status, declines, conservation challenges and recovery efforts for California Condors, Ospreys, Bald Eagles and Peregrine Falcons are discussed in considerable detail as is the recent expansion of the North American portion of the range of the Hook-billed Kite, including the first North American nest in 1976, the historic range and decline of Swallow-tailed Kite, detailed accounts of the foods of goshawk races, the influence of Snowshoe Hare and Ruffed Grouse population fluctuations on numbers of Northern Goshawks and the hypothesis that Zone-tailed Hawks "mimic" Turkey Vultures. The Bald Eagle map is accompanied by a list of the number of nests or territories estimated or counted in a recent year (between 1995 and 2002) in each of the western US states and two Mexican states but no Canadian provinces or territories, that for Northern Goshawk includes a population estimate for Canada as a whole and 13 US states and that for Ferruginous Hawk lists estimated numbers of nesting pairs in 1992 in four Canadian provinces and 17 US states.

The main value of this book to banders is its very detailed treatment of plumages and molts, with numerous descriptions of variations by age, gender, race/sub-species, geographical variants and even aberrant individuals, such as albinistic, leucistic, melanistic and even gynandromorph birds. The Swainson's Hawk account includes an outline of the geographical distribution of color morphs. An apparent hybrid dark morph Harlan's Red-tailed x dark morph Rough-legged Hawk is also described briefly (pp. 333 and 393). Until Pyle's non-passerine volume is published, this will serve as the key North American reference for molts and plumages of diurnal raptors, although ongoing research will undoubtedly continue to expand on our understanding of molts and plumages of each species [e.g., see Clark and Bloom (2005) on Rough-legged Hawks and Ellis (2004) on Golden Eagles]. However, Wheeler deviates from banding terminology in basing Humphrey and Parkes labels for plumages and molts on biological progression rather than calendar dates. Several aberrant individuals are even included in the photographs.

The role of banding, patagial tags and/or telemetry to monitor recovery efforts for declining species is covered in considerable detail. The California Condor account includes several photos of birds with patagial tags, noting that *all* of these birds currently in the wild have such tags. These markers and radio-tags have shown that some condors travel up to 257 km in a single day, that populations released in southern California mingled with those released in northern California and that condors released in Arizona have wandered to Colorado, Nevada, Utah and Wyoming, with one observed 1,100 km from the release site. Banding and telemetry are also significant tools for monitoring recovery efforts for Aplomado and Peregrine falcons. Other specific band recovery and radio-tagging results mentioned include a Wisconsin-banded Turkey Vulture recovered in Belize, a 2,052 km, two-day flight of an Osprey, the contributions of telemetry and banding data to tracing migration routes of Ospreys from Minnesota, Oregon and Saskatchewan, telemetry data indicating that Osprey pairs winter separately, the demonstration by telemetry that Swallow-tailed Kites flying from Florida to the Yucatan Peninsula use an overwater route, the documentation through banding recoveries and radio-tagging of several connections between Bald Eagle nesting sites and wintering areas or post-breeding dispersal sites, Mexican recoveries of an Arizona-banded Common Black-Hawk, an Arizona-banded Gray Hawk and an Arizona-banded Zone-tailed Hawk, dispersal patterns of California-banded and radio-tagged Red-shouldered Hawks within California and to Nevada and Mexico, documentation by telemetry of different migration routes and durations of stay by different breeding populations of Swainson's Hawks, movements northwestward of Oklahoma and New York-banded fledgling Red-tailed Hawks to Manitoba, movements southeastward of Saskatchewan-banded Red-tails to Wisconsin and Georgia, movements north of California-banded nestling Red-tails to winter in five states to the north and northeast, differences in wintering areas of nestling Ferruginous Hawks banded in Alberta, Saskatchewan and Colorado, northeastern post-fledging movements of fledgling Ferruginous Hawks radio-tagged in Washington, recoveries in California of Alaska-banded Rough-

legged Hawks, a recovery in New Mexico of a Mexican-banded Aplomado Falcon and that banding data indicate that most juvenile Prairie Falcons disperse north, east or southeast of natal areas. A decline in band recoveries of Sharp-shinned Hawks is interpreted as reflecting the overall decline in shooting of North American raptors in recent years.

Band recoveries and telemetry have been especially informative on Peregrine Falcon biology. In addition to demonstrating migration routes, such as the Nunavut-banded bird recovered in Kentucky, these markers have revealed that Peregrines sometimes migrate at night, that some deviate considerably from straight line migration routes, times and routes traversed by different races, that at least some Peale's Peregrines are less sedentary than thought previously and long-term winter site fidelity.

As the emphasis of this book is on identification and range, its coverage of natural history features is not as thorough as would be expected in the appropriate volumes by A. C. Bent, R. S. Palmer and the *Birds of North America* accounts of the species covered. Nevertheless, it is an excellent supplement to them and a good source from which to start a literature search for more information. In addition to the banding/telemetry-generated details mentioned above, numerous life history and conservation tidbits are scattered throughout the species accounts, such as differences among Red-shouldered Hawk races in their degree of "tameness" and tendency to perch in the open vs. shaded sites, the pesticide poisoning of large numbers of Swainson's Hawks in Argentina and allopreening between Black Vultures and Crested Caracaras.

Apart from a few minor grammatical points, the text is relatively error-free. The statement (p. 107) that "Powered flight is accessed a moderate amount of the time" by Mississippi Kites is incomprehensible to me or [if my impression of what is intended is correct] badly worded. Birds hatch from eggs, rather than being "born" (pp. 121 and 133). As I see Bald Eagles on utility poles frequently in coastal areas of British Columbia, I would amend his statement (p. 129) that "Except from n. California to Washington, Bald Eagles in the West rarely perch on utility poles" to "Except from n. California to British Columbia..." Similarly, I found the statement (p. 167) that Sharp-shinned Hawks do not perch on telephone poles too dogmatic, as I have seen at least one do so. A few minor "typos" in a book of this length are inevitable, but the number herein give an impression that proof-reading was rushed and/or minimal. For example, the photograph of the first US record of a dark morph Hook-billed Kite is on plate 49, not plate 45, as stated on p. 81. A few more technical errors crept in. For example, the singular of rectrices is rectrix, not rectrice (p. 79). As "dispersal" refers to movements from the nest-site to some other site, the statement (p. 133) that "Most youngsters [Bald Eagles] from the n. US and Canada do not fledge early enough to disperse" is puzzling, especially as it contradicts several of the sentences that follow it. The mighty river that enters the Pacific Ocean in southern British Columbia is the Fraser (p. 481), not the Frazier and "Scott Island" off northwestern Vancouver Island (p. 483) is actually several islands. There are also a few omissions. The indication (p. 98) that there are no other English names for White-tailed Kite is technically correct, but as that species was "lumped" for several years with two others under the name "Black-shouldered Kite" (American Ornithologists' Union 1983), readers wishing to look up additional literature on the species need to know of both names. The two Spanish names given for Turkey Vulture differ from that used in Cuba, the Dominican Republic and Puerto Rico (Raffaele et al. 1998). Although nesting of Turkey Vultures in abandoned buildings is mentioned, the recent increase in this behavior in at least three Canadian provinces (Houston et al. 2002, Brunton 2004, Nelson et al. 2004) was documented just before (Saskatchewan) or after (Alberta and Ontario) Wheeler's book was published. On the other hand, the very recent expansion of the BC breeding range of the Broad-winged Hawk south to near Prince George is included (p. 249), although its increasing non-breeding occurrence along the BC coast (summarized in Stirling 2001) is not. Although the sections on extralimital occurrences appear remarkably thorough, a few were missed, such as a 1996 record of Crested Caracara in Oregon and a 1998 one on Vancouver Island (Morrison 1996, Campbell et al. 2001).

The 15-page bibliography includes both references that are cited in the species accounts and introductory material and additional references that are not cited. The number of citations from provincial, regional and state journals suggests that Wheeler's literature search was extensive. Unfortunately, numerous references cited are either missing from the reference list or the dates cited in the text vary from those in the literature list, adding to the impression that proof-reading was rushed or sloppy. For example, a 1999 reference by Bylan is cited at least 13 times, but the references by Bylan listed are both dated 1998. As the Bent volumes cited were reprints, not revisions, they should have been cited by their original publication dates (1937 and 1938), not their 1961 reprint date. A few reference details are embedded within the relevant text, rather than in the bibliography. The index of slightly more than a page is restricted to species accounts and some maps and does not include references to one species in the account of another, geographic names or topics.

This volume is jammed with all sorts of information useful to raptor banders and other raptor enthusiasts. It is also cross-referenced thoroughly. It should be a standard reference volume on North American diurnal raptors for many years and will no doubt stimulate further research that will expand our knowledge even further.

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