

several firm squeezes to get each band fully closed. It is particularly effective to do this with the band's seam oriented 90° away from facing the tip of the pliers. I have examined about a dozen of these bands that had been on birds for a year and all were still tightly closed. However, two of my field assistants recaptured birds with light green bands that had opened slightly. The more extreme case was one that appeared to have a 0.5-mm gap along the seam (judging from a picture of the band). This gap is too small for the band to fall off a vireo's leg, but perhaps sufficient to catch on fibrous materials. A colleague who works with the Golden-cheeked Warbler observed that several birds banded last year returned without their light green bands this

year. This species has a smaller tarsus diameter than that of the vireo which may have been a contributing factor to the loss of bands.

In summary, acetal bands are not as precisely formed as darvic or celluloid color bands and they require a certain amount of smoothing before use. Nonetheless, they appear to work perfectly well on the legs of birds. The hot pink and especially the purple fade more rapidly than other colors and I would avoid using these on birds that inhabit sunny areas. The color retention of several available colors remains to be tested.

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Books

BIRDS OF THE ROSETOWN-BIGGAR DISTRICT. By Robert D. Wapple and Wayne E. Renaud. 2008. Nature Saskatchewan Special Publication No. 27, Regina, SK. 385 pp.

This 27th contribution to Nature Saskatchewan's book series is dedicated generally to all observers who contributed observations and specifically to the memories of Wayne Harris and William Jasper, two recently deceased major contributors. In the preface, the authors explain that this is essentially an update of the ninth, 120-page, contribution in the series (Renaud and Renaud 1975), but with its boundaries expanded to both the north and west, adding about 40% to the area covered. The book consists of a series of introductory sections, followed by species accounts, a bibliography (mostly of cited literature) and two appendices (listing scientific names of non-bird species mentioned in the text and a list of dead birds found under a telecommunications tower).

A lengthy acknowledgments section is followed by a detailed 50-page introduction, including a description of the location of the area within the province and map co-ordinates of numerous locations within the study area, archeological and cultural history, two sections on pre-European settlement explorers and expeditions (1691-1890),

a longer section on settlement (including surveying, the role of railway building and influences of these on habitat and wildlife) and a shorter account of more recent (starting in the 1950s) depopulation and effects on habitat and thus bird populations. A short account of climate and weather follows, then summaries of seven major landscape features, including their hydrological features, topographic notes and effects of human activities on their habitats, and a section on "Habitats and Birds," featuring 21 more specific habitat types and geographical features, including prominent vegetation, associated characteristic birds and other animals and changes in population of various species in response to farming practices, fire suppression, housing "development," other causes of habitat alterations, human uses of aquatic resources, differences among freshwater lakes, potholes and sloughs and marshes, influences of salinity and amounts of water on ecological significance of varying types of wetlands from season to season and year to year, and ecological effects of other human activities. Changes in the local seasonal occurrences of some species are also noted. This section ends with an account of artificial wetlands in the region, with a comparison of the different ecological influences of dugouts, borrow pits, various sizes and types of reservoirs and sewage lagoons.

The bulk of the book (pp.56-373) consists of species accounts, beginning with a two-page key to abbreviations and a six-page introduction in which the authors note that 282 bird species have been documented to occur in the region and one other (Passenger Pigeon) likely did, but no evidence confirms its occurrence there. Two introduced species (Ring-necked Pheasant and Wild Turkey) apparently failed to establish sustained breeding populations. Definitions are listed for status, abundance, and seasonal occurrence and codes defined for early, median and late spring and fall arrival departure dates and for official COSEWIC (Committee on the Status of Endangered Wildlife in Canada) status, in any. The introduction ends with brief accounts of four organized data sources used: banding data from the banding office, data from 37 Breeding Bird Surveys on two routes, 87 Christmas Bird Counts at three sites (with notes on population changes of several species) and data from two spring provincial owl survey routes, one of which was discontinued after three years of hearing no owls.

The species accounts begin with a three-paragraph general summary of waterfowl ecology and natural history, followed by one paragraph to about four page accounts of each species documented within the study area. Another brief (two-paragraph) account summarizes general aspects of the ecology, migration and life histories of the 36 shorebird species that have been documented in the area and the wood warbler accounts are preceded by a similar five-paragraph introduction to their life histories and environmental challenges, much of which is applicable generally to Nearctic-breeding, Neotropical-wintering passerines. Each account begins with current English and scientific names, followed by brief accounts of all records for seldom-seen species to longer accounts of seasonal status, seasonal numbers, arrival and departure dates and habitat use. Formerly used recent or persistent names, colloquial names, distinctive subspecies, morphs, changes in relative proportion of morphs, flocking associates, gender composition of some flocks, times of large flock numbers, influence of weather on migration "fall outs" and timing, types of flight, local nesting details (courtship displays, dates of Ruffed Grouse

drumming, egg-laying, chronology, nesting habitat, nest sites [including re-use of older nests], nest materials, nesting associates, nest density, clutch sizes, incubation periods, re-nesting after earlier clutches fail, brood sizes, and/or prolonged parental care), interspecific nest parasitism, food and feeding behavior (including adaptations for foraging, feeding associates, daily or seasonal feeding patterns and some foraging distances), times of molt migration (including differences between those of different races of Canada Geese), population changes by season, post-breeding dispersal, notes on relatively little documented plumages, range expansions, population trends (including those since the previous book), influence of weather and climate changes on populations, out-of-season occurrences, success rate of introductions and banding data are added when warranted. In addition to infrequently seen species, the rare blue morph of Ross's Goose has been reported in the area and the only verified Brant was a specimen of the Black race. In the Cackling Goose account, the authors note that the only three records reflect lack of information on which "race" of "Canada Goose" applies to most records of small individuals before the species was divided into two in 2004. A winter record of Fox Sparrow was probably of the extralimital Slate-colored race.

As usual in regional avifaunal works, several noteworthy to newly documented natural history details are mentioned. Six examples are documented of birds nesting close to potential predators: a Mallard nest close to that of a Northern Harrier, two Northern Pintail nests and a Willet nest close to Short-eared Owl nests and Canada Geese and Great Horned Owls nesting in a Great Blue Heron colony. Large clutches of a Gray Partridge and Horned Grebes suggested that they were laid by more than one female. Tower kills helped determine local timing of Virginia Rail and Sora migration periods. Other victims of human hazards included wire-killed American White Pelican and Sora. Unusual predation attempts included a Cooper's Hawk attacking a plastic kite, a Golden Eagle attacking an adult Pronghorn, a Merlin preying on a saw-whet owl and a Northern Shrike carrying a Red-breasted Nuthatch. Other notable foraging observations included a California Gull swallowing a whole

Canada Goose egg and Eastern Kingbirds eating ripe chokecherries and Saskatoon berries. Note-worthy nesting notes included a pair of American Kestrels nesting in a combine, differences between tree species used for nesting by Merlins between rural and urban areas, the apparent effect of water levels on Sora breeding populations, possible creching by young Willets, an example of a floating nest of Bonaparte's Gulls, Mourning Doves nesting on horizontal snowfence boards, increasing use by Pileated Woodpeckers of aspen parkland in addition to their more traditional thicker woodland habitats, a pair of Least Flycatchers rebuilding its nest three times in the same location after strong winds blew away the previous versions, a Western Kingbird nest on a board inside a chicken coop, a scare-crow used by a pair of Tree Swallows, several unusual American Robin nest-sites (including five nests on top of each other on a wall ledge), a Brown Thrasher nest on top of the previous year's nest, a Brown-headed Cowbird egg on top of an old fence post and three House Sparrow pairs nesting together in an old magpie nest in addition to their better known nestings in active hawk nests. The Swainson's Hawk account includes a highly appropriate caution to check nests of this notoriously sensitive species only from a distance. I was surprised to read that an apparent decline in Chestnut-collared Longspur may possibly be associated with encroachment by snowberry, the plant that I most associated with their nesting territories in the Winnipeg, Manitoba, area. The comment (p. 142) that the possibility that a Gyrfalcon remained at a specific site throughout one winter was unusual contrasts with some sites in British Columbia, which have hosted a Gyrfalcon for much of one winter, at least one of which does so predictably. Some information gaps are also highlighted, such as whether a scarcity of local fall records of some *Catharus* thrushes reflect a lack of south-bound migrants through the area or result from their rapid southbound flight through the area rather than an actual scarcity of birds.

Like other avian volumes in this series, banding features prominently, with Stuart and Mary Houston and banding office personnel acknowledged for advice and information and the Houstons for some of the actual banding. Banding data

received from the banding office include recoveries of birds banded in the area and recovered elsewhere 1926-2007 and birds banded elsewhere and recovered in the area during the same period. Local recoveries of birds banded elsewhere include 36 species banded in other parts of Saskatchewan, four other Canadian provinces, Northwest Territories, Nunavut, 38 US states, three Mexican states (Colima, Michoacan and Sinaloa), one other Central American country (El Salvador), one South American country (Peru) and one Asian country (Russia). Neck bands from Wood Buffalo National Park allowed observers to determine lengths of stay of individual Whooping Cranes migrating through the area. Locally banded birds recovered elsewhere include 21 species recovered in other parts of Saskatchewan, five other Canadian provinces, Nunavut, 41 US states, five Caribbean countries (Bahama Islands, Cuba, Dominican Republic, Haiti and one of the Lesser Antilles), 12 Mexican states, five other Central American countries (Belize, Guatemala, Honduras, Nicaragua and Panama), six South American countries (Argentina, Brazil, Colombia, Peru, Surinam and Venezuela) and one Asian country (Russia). Locally banded Blue-winged Teal have been recovered in 16 countries! The only recoveries to date of one locally banded species (Black-billed Magpie) have also been local. Readable bands on two Snow Geese showed them to be the Greater subspecies, additional to the usual Lesser Snow Geese. Significant longevity records include a 22-year-old Ross's Goose, six months younger than the oldest documented by the time the book was completed; a 21 year, eight months old American Wigeon, nine months older than the previous record for that species; a 22-year, six-month old Mallard, nearly four years younger than the oldest record; a locally banded male Blue-winged Teal recovered at 17 years, two months in Guatemala; a Louisiana-banded female Northern Pintail recovered locally at 18 years, eight months; a nearly seven-year old Franklin's Gull; a 16-year old Ring-billed Gull; and an eight-year, nine-month old American Crow. Banding of young contributed to documentation of nesting by Cooper's Hawk and Northern Goshawk in the area. Stuart Houston's banding evidence on the relationship between food scarcity and Great Horned Owl dispersal distances is also noted. Totals of species that have been

banded in the study area without any recoveries elsewhere are also noted for 18 species. Banding data from the Last Mountain Bird Observatory, 170 km away, are used to estimate the relative abundance of Alder vs. Least flycatchers during fall migration locally, given the challenge of differentiating these species by sight when they are silent. Chickadee banders will appreciate Wapple's comment on the difference between the "seemingly friendly" nature of flocking chickadees vs. the "vicious" nature of these "little dynamos" while being handled for banding.

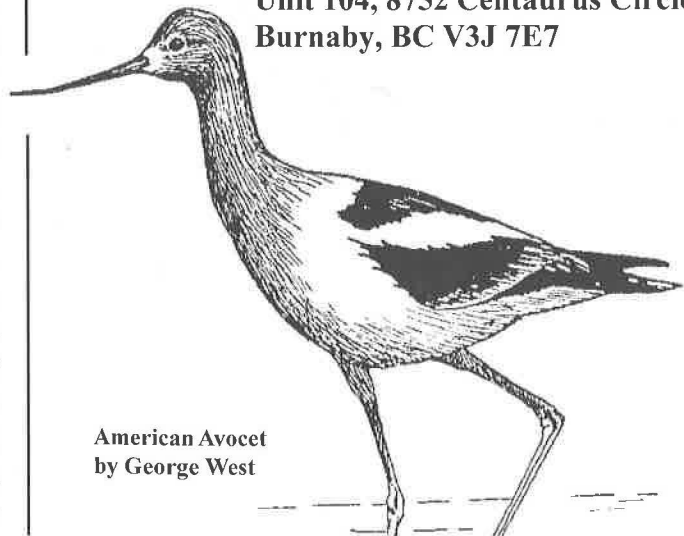
Proof-reading of references was less thorough than ideal, with one reference cited by name as Carnegie (1875) in the text (p. 12), but by title (Southesk, James Carnegie, Earl of) in the Literature Cited (p. 380) and 15 cited references (Bock and Lepthien 1976 on p. 367, Brown and Frederickson 1997 on p. 94, Curson *et al.* 1994 on p. 309, Devogel 1979 on p. 228, Ferguson and Hunt 1981 on p. 104, Friedman [sic: Friedmann] 1963 on p. 359, Fyfe *et al.* 1976 on pp. 140-141, Gilroy 1988 on p. 248, Humphry 1933 on p. 250, Inglis 1964 on p. 150, Kennard 1976 on p. 367, Renaud (1969) on p. 286, Renaud *et al.* 1979 on pp. 160-161, Stephens 1979 on p. 155 and Townsend 1966 on p. 92) not listed. One reference cited (Houston 1988 on p. 131) could refer to one of two references, neither of which refers in its title to the species under discussion, indicating that a letter is needed to pin-point the reference intended. A note on Willow Flycatcher by Harris is cited as 1971 in the text (p. 233), but listed as 1972 in the references (p. 376). Four references (two by R. F. Koes and P. Taylor and two by R. Martin) are incomplete. Minor proof-reading lapses failed to catch the repeated spelling of Clay-colored as Clay-coloured, Western Wood-Pewee as Wood-pewee once (p. 34), *Pelecanus* as *Pelicanus* (p. 114), Night-Heron as Night Heron six times (pp. 120-122) and several slight inconsistencies between US vs. British spelling, capitalization vs. lower-case, typographical and punctuation flaws. A minor redundancy (p. 62), occasional stray words (probably accidentally retained after a minor revision), and an occasional missing word also escaped correction. Most importantly, the factual integrity of the text is high, although the two types of flickers that occur there are more accurately

referred currently to as races or subspecies, rather than "varieties" and the offspring of their interbreeding as intergrades, rather than "hybrids." Much of the writing is delightfully evocative, as exemplified by the description of the American Avocet (p. 163) as "the archetypal guardian of alpine lakes," by the "wild frenzies" of Willets near their nests...attracting "droves of Marbled Godwits and occasionally Long-billed Curlews to mount a joint defence" (p. 168) by Black Terns "alight[ing], as does a leaf in a gentle breeze, on their shallow nest platforms" (p. 201), male Baltimore Orioles as a "jewel-of-a-bird" (p. 360) and several other examples. Several photographs of habitats and birds, a map and three graphs enhance the text. Knowledge gaps are also emphasized for future attention. For example, has McCown's Longspur been extirpated from the area or is it at the low end of a frequently fluctuating population cycle, are Smith's Longspurs as scarce as indicated by the records or underdetected in huge flocks of restlessly moving Laplands, and why have Chestnut-collareds disappeared from apparently suitable habitat in addition to deteriorating habitat? Thus, this is yet another outstanding volume in an exemplary series of books on local avifauna.

LITERATURE CITED

Renaud, W. E. and D. H. Renaud. 1975. Birds of the Rosetown - Biggar District, Saskatchewan. *Saskatchewan Natural History Society Special Publication No. 9.*

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American Avocet
by George West