Recent Literature

***Compiled by C. John Ralph (If you would like to help review articles of interest to banders, please contact cjr2 "at" humboldt.edu* and feel free to mention if you have a particular journal or geographic area of interest).**

Contributors to this issue:
CJR = C. John Ralph; **WHS** = Walter H. Sakai; **JS** = Judit Szabo

ANALYTICAL METHODS

Hitchhikers' guide to analysing bird ringing data. Part 1: data cleaning, preparation and exploratory analyses. A. Harnos, P. Fehérvári, and T. Csörg . 2015. *Ornis Hungarica* 23:163-188. Dept Biomatematics and Informatics, Szent Istvan Univ. Budapest, Hungary. harnos.andrea@gmail.com.

In this very important guide, the authors describe in detail, and through a real-life example, the intricacies of data cleaning and how to create a data table ready for analyses from raw banding data in the R software environment. They present the R package, ***ringR*** (http://ringr.gryllosoft.hu/) designed to carry out various specific tasks and plots related to bird banding data. **JS and CJR**

Modelling the Progression of Bird Migration with Conditional Autoregressive Models Applied to Ringing Data. R. Ambrosini, R. Borgoni, D. Rubolini, B. Sicurella, W. Fiedler, F. Bairlein, S. R. Baillie, R. A. Robinson, J. A. Clark, F. Spina, and N. Saino. 2014. *PLoS ONE* 9:e102440.

Used band recoveries of Barn Swallow *Hirundo rustica* collected from 1908–2008 in Europe. The authors model progression and change in timing of migration using binomial conditional autoregressive (CAR) mixed models. **JS**

Large-scale spatial analysis of ringing and re-encounter data to infer movement patterns: A review including methodological perspectives. K. Thorup, F. Korner-Nievergelt, E. B. Cohen, and S. R. Baillie. 2014. *Methods in Ecology and Evolution* 5:1337–1350.

This paper reviews recent developments and emerging opportunities for the quantitative study of movements of bird populations based on marked birds. The reviewed studies illustrate that analyses of large-scale banding data sets can provide robust quantitative inferences. Further work is needed to develop these modelling approaches and to test their sensitivity to key assumptions using both real and simulated data. **JS**

EQUIPMENT AND TECHNIQUES

No short-term effects of geolocators on flight performance of an aerial insectivorous bird, the Barn Swallow (*Hirundo rustica*). P. Matyjasiak, D. Rubolini, M. Romano, and N. Saino. 2016. *Journal of Ornithology* 157:653–661 (Open Access). *Department of Biology and Environmental Sciences, Cardinal Stefan Wyszy ski University in Warsaw, Poland (p.matyjasiak@uksw.edu.pl).*

The authors tested whether miniaturized geolocators (~3.5 % of body mass) affected short-term flight performance traits of breeding males by comparing flight maneuverability, velocity and acceleration of geolocator-equipped versus control (handled only) birds in flight tunnels. This was from two colonies near Warsaw, central Poland. They found no statistically significant evidence that short-term flight performance traits were affected by geolocator deployment. **CJR**

Contrasting effects of GPS device and harness attachment on adult survival of Lesser Black-backed Gulls *Larus fuscus* and Great Skuas *Stercorarius skua*. C. B. Thaxter, V. H. Ross-Smith, J. A. Clark, N. A. Clark, G. J. Conway, E. A. Masden, H. M. Wade, E. H. K. Leat, S. C. Gear, M. Marsh, C. Booth, R. W. Furness, S. C. Votier, and N. H. K. Burton. 2016. *Ibis* 158:279–290.

For Lesser Black-backed Gull, there were no short-term impacts on breeding productivity or long-term impacts on overwinter return rates. For Great Skua, there was no evidence for impacts of the device and harness on territory attendance or breeding productivity; however, there was strong evidence of reduced overwinter return rates. **JS**

A non-lethal biopsy technique for sampling subcutaneous adipose tissue of small and medium-sized birds. A. D. Rocha, P. M. Araujo, F. R. Martinho, J. A. Ramos, and J. A. Masero. 2016. *Journal of Field Ornithology* 87:213-221. University of Coimbra, Coimbra, Portugal

Important information can be derived from analysis of fat of captured birds. The authors developed a relatively simple biopsy procedure for collecting small amounts of fat tissue from the furcular area of small and medium-sized birds (13–62 g) without adverse effects, including Dunlins (*Calidris alpina*), and captive finches. All birds were monitored for two weeks after biopsies to examine potential effects of the procedure, and none were found.

Effects of neckbands on body condition of migratory geese. K. Kuhlmann Clausen and J. Madsen. 2014. *Journal of Ornithology* 155:951–958. Dept. Bioscience, Aarhus University, Denmark; kc@dmu.dk.

Using an abdominal profile index of marked geese and body mass of recaptured birds previously marked, this study investigated the effect of neckbands on body condition of Pink-footed Geese *Anser brachyrhynchus*. The body condition of geese were negatively affected in the days immediately succeeding capture, but only a minor effect persisted on a seasonal scale. There was no support for a long-term effect of neckbands on the body mass of individual birds, indicating that the capture and handling event might be the main contributory cause to the transitory decline in body condition. **JS**

Effects of Satellite Transmitters on Captive and Wild Mallards. D.C. Kesler, A. H. Raedeke, J. R. Foggia, W. S. Beatty, E. B. Webb, D. D. Humburg, and L. W. Naylor. 2014. *Wildlife Society Bulletin* 38:557–565.

At the conclusion of the 14-week captive study, mean body mass of birds in the control group was 40–105 g greater than birds with standard harnesses, and 28–99 g greater than birds with modified harnesses. Further, results of focal behavior observations indicated ducks with transmitters were less likely to be in water than control birds. **JS**

Ringing does not appear to have an adverse effect on body mass immediately following capture in Eurasian Teal *Anas crecca*. M. Guillemain, F. Cavallo, G. Massez, T. George, J.-P. Baudet, P. Gonzalez, V. Ducasse, E. Caillot, B. Lecaplain, L. Tison, N. Piffeteau, J.-P. Artel, and J. Champagnon. 2015. *Wildfowl* 65:64–74.

This study suggests that mass loss commonly observed between capture and recapture is not caused by handling, but is potentially an artefact linked to duck hyperphagia in the presence of abundant food at banding. It also implies that most available duck body mass data, which are usually obtained from birds banded at baited traps, may be artificially inflated. **JS**

NORTH AMERICAN BANDING RESULTS

Do migratory warblers carry excess fuel reserves during migration for insurance or for breeding purposes? J. Holzschuh and M. Deutschlander. 2016. *The Auk* 133:459-469. SUNY College at Brockport, NY.

Ornithologists have long wondered why some birds carry more fat than they need to fuel their migration, and a new study provides the answer. By analyzing data from a bird banding station on the south shore of Lake Ontario the authors' results support the idea that extra fat helps support reproduction—females arrived with more fat reserves than males, earlier birds arrived with less fat than later birds (rather than the other way around), and all birds carried more fat in spring than in fall. From fourteen years of data from twelve different warbler species banded at the Braddock Bay Bird Observatory, and the patterns were remarkably consistent across species. **CJR**

GPS-tracking reveals non-breeding locations and apparent molt migration of a Black-headed Grosbeak. R. B. Siegel, R. Taylor, J.F. Saracco, L. Helton, and S. Stock. 2016. *Journal of Field Ornithology*. 87:196-203. The Institute for Bird Populations, Point Reyes Station, CA., USA

The use of GPS-tags (global positioning system) is telling us much about critical periods in species' life histories. During the 2014 breeding season they tagged nine adult grosbeaks (*Pheucticus melanocephalus*) in Yosemite and recaptured one in the following summer. They found that by August the bird had moved 1300 km from Yosemite to Sonora, Mexico, where it remained until at least mid-October at the time of the area's annual peak in vegetation growth due to monsoonal conditions. By November, as the growth was declining, it moved >1300 m from Sonora to the Michoacán-Jalisco border region, where it remained until March 2015. The authors note that climate change is expected to delay the annual onset of the monsoon and accelerate the initiation of arid, summer-like conditions throughout much of western North America, possibly yielding a temporal mismatch between fall migration and the monsoon-driven conditions that may be critical for molt-migrating birds. **CJR**

Seasonal dynamics of Mourning Dove *(Zenaida macroura)* body mass and primary molt. C. E. Braun, R. E. Tomlinson, and G. T. Wann. 2015. *Wilson Journal of Ornithology* 127:630-638. 5572 North Ventana Vista Road, Tucson, Arizona USA

Body mass and primary molt of doves captured in Southeastern Arizona during 2000-2012 were found to be 116.3 g (SE= 0.16) and 109.0 g (SE=0. 18) for male and female, respectively. Male body mass was lowest in Aug-Sep and highest from Nov-Jan. Female body mass was lowest from Jun-Oct and increased from Oct-Mar. Adult primary molt began in Apr and was mostly completed by Oct, with some replacement extending into Dec. Hatch-year molt started in Apr, depending upon when hatching occurred and was mostly completed by Dec. Juvenile body mass increased as primary molt proceeded, while adult body mass decreased as primary molt proceeded. The relationship for the latter is believed to be due primarily to the energy demands of breeding activities, although primary molt may also have a role. **WHS**

Timing of hatching in a Mourning Dove population in Tucson, Arizona. C. E. Braun and R. E. Tomlinson. 2015. *Southwestern Naturalist* 60:80-84. *Grouse Inc. 5572 North Ventana Vista Road, Tucson, AZ 85750.* (sgwtp66@gmail.com)

The hatching dates of 2,479 immature Mourning Doves *(Zenaida macroura)* captured and banded in suburban Tucson, Arizona, during 2000-2012. Hatching occurred from February to late September, peaking during 21-31 May. Hatching distribution and length of the breeding season was similar to those populations in other parts of the U.S. **WHS**

Using banding and encounter data to investigate movements of Red-tailed Hawks in the northeastern United States. J. L. Morrison and J. M. Baird. 2016. *Journal of Raptor Research* 50:161-175. Dept. Biology, Trinity College, Hartford CT.

Using 1,002 records from between 1925 to 2015, the authors characterized movement patterns in straight-line distances, in direction, and latitudinal changes. They found younger hawks traveled further than adults with strong indication of philopatry. Interesting data on causes of mortality, and on the apparent decrease in recent years of migration length are presented. **CJR**

NON-NORTH AMERICAN BANDING RESULTS

Demographic variation in timing and intensity of feather molt in migratory Fork-tailed Flycatchers (*Tyrannus s. savanna*) A. E. Jahn, J. I. Giraldo, M. MacPherson, D. T. Tuero, J. H. Sarasola, J. Cereghetti, D. A. Masson, and M. V. Morales. 2016. *Journal of Field Ornithology* 87:143–154.

This represents the first comprehensive evaluation of molt timing of an austral migrant flycatcher. It was studied in breeding sites in southern South America and at wintering sites in northern South America. They found that molt of both body and flight feathers occurred primarily during the winter. **CJR**

Extracting historical population trends using archival ringing data—an example: the globally threatened Aquatic Warbler. M. Briedis and O. Keiss 2016. *Journal of Ornithology* 157:419–425.

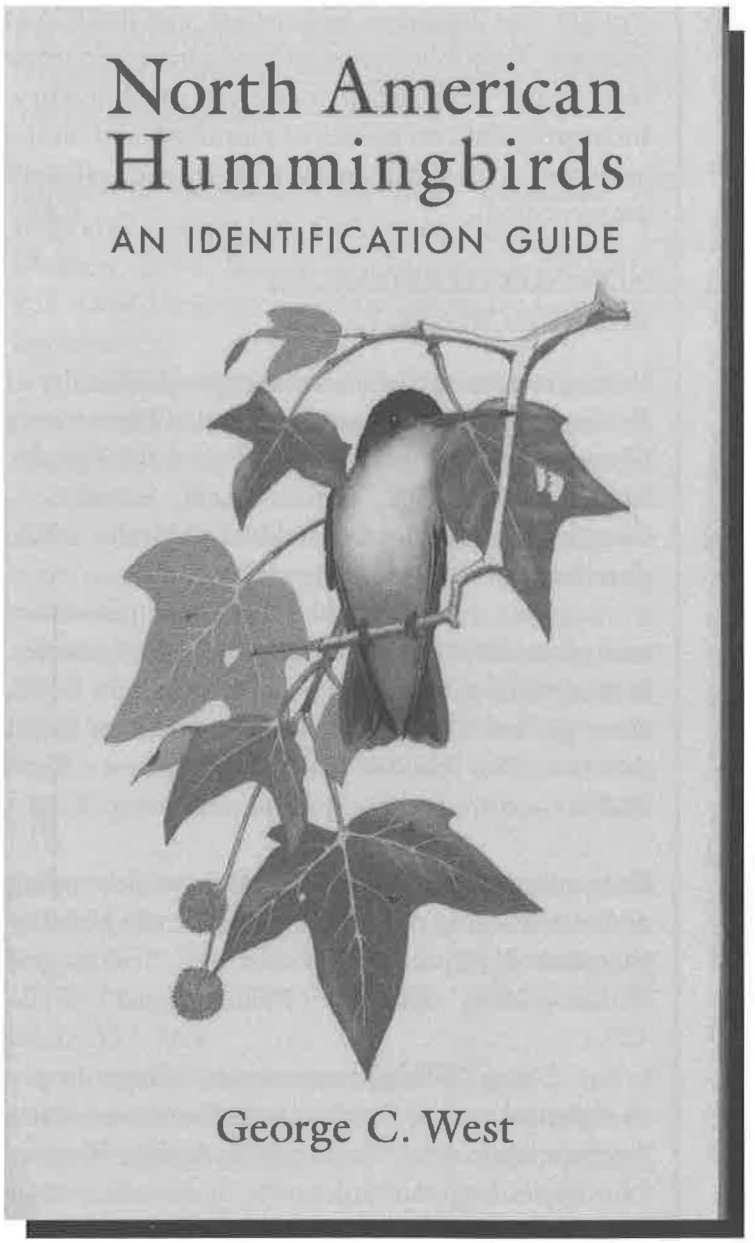
Using TRIM population monitoring software on historical records from banding schemes and shows that population size of the European Aquatic Warbler (*Acrocephalus paludicola*) population underwent a 95% decline in1950-1980. According to this model, the population has recently been stable, no further decline was observed between 1980 and the late 1990s. **JS**

Using bird banding and recovery to study the migration of Black-necked Cranes (*Grus nigricollis*) in China. D.-J. Kong, F.-S. Li, and X.-J. Yang. 2014. *Zoological Research* 35:20-38.

By reorganizing and classifying bird banding and recovery records from 1985 to 2012, the authors discussed the current research status of the migrations of this species. Recovery records indicated three migration routes. **JS**

Books

NORTH AMERICAN HUMMINGBIRDS: AN IDENTIFICATION GUIDE. By George C. West. University of New Mexico Press, Albuquerque. 2015. 233 pp. about $20.



This excellent, user-friendly guide covers Canada and the United States, and all 25 species occurring here, including many rarely recorded. It is filled with information, breath-taking and highly detailed photos, and other illustrations; all in color and on virtually every page. As a bander, it is what I have always dreamed of having. As a birder, you will find the details you need to get those confusing fall hummers defined. Dr. West illustrates (in both senses) why many banders in the Southwest are fascinated by these flying gems. When photos of some details are not available, he illustrates them with excellent paintings that he executed. Many illustrations in *North American Bird Bander* are also from his prolific hand.

The photos are sharp and clear, and have an added feature, rarely seen in pictures of banding of birds: clean fingernails! It defines "North America" as not including Mexico, but includes many species whose primary range lies in our neighbor to the south.

I would say that it represents a quantum jump in information, consolidating details for banders and birders to identify, age, and sex all seventeen species of hummingbirds found in North America. In addition it provides excellent information and illustrations on an additional eight accidentals.

We all should be grateful to Dr. West for sharing his the knowledge and images garnered from his years of study, banding, photographing, and drawing these wonderful acrobats. Get a copy for yourself and your birding and banding friends.

C. John Ralph
c.ralph@humboldt.edu