
FRIENDS OF ORNITHOLOGY

Newsletter

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Grus, The Crane (Willughby & Ray 1678)



From the Curator

Kevin Winker

With the sun streaming through the window on a lovely late winter's day, it's a pleasure to be openly thinking about birds again. As an ornithologist, I actually rarely stop thinking about birds, but it's not every day that I get to share my enthusiasm with everyone else. We've shifted the Newsletter from November to March to better fit the timing of apparent interest. In keeping track of downloads of the Checklist of Alaska Birds from our web site, we've noticed distinct annual peaks over the past two years. As spring waxes, so too does interest in birds.

Since the last Newsletter we've had two successful master's thesis defenses (Jack Withrow and Kyle Campbell), and we have been embroiled in pressing issues related to databases and space (future projections and an NSF grant proposal for new cabinets). The latter issues are signs of growth and change, and, while they can be mind-numbing when all you want to do is learn more about birds, they are nonetheless important. We figured out a new way to summarize an aspect of the scientific impact of the Bird Collection, and *Nature* published our short note on that last year (<http://bit.ly/14Z9fE7>). We've had other publications appear since the last Newsletter, and there is a lot to report. We greatly appreciate your ongoing support as a Friend of Ornithology.

The Department of Ornithology

Although our existence and many of our activities are centered around the Bird Collection, it is the people involved who make it all happen:

Residents

Kevin Winker (Curator)

Jack Withrow (Collections Manager)

Students

Kyle Campbell (PhD student)

Research Associates

Heinrich Springer

Johannes Erritzoe

Rose A. Z. Meier

Kevin McCracken

Christin Pruett

Daniel Gibson

Volunteers

David Sonneborn

Luke DeCicco

Steven Heintz

Isaac Helmericks

Barbara Logan

Rebecca Cheek

Brandi Ringgenberg

Bennett Wong

Lacey Broskey

Joey Fricilone

Jessica McLaughlin

Alex Lewis

Jayce Williamson

Hayden Nevill

Rebecca Dunne

Luis Alza

Rachel DeWilde

Benjamin Hurlock

FROM STAFF, ETC.

Jack Withrow

Alaska Checklist reaches 500 species

In 2013 the Alaska Checklist had the 500th species added to the list of birds substantiated in the state. The 500th species was a Flesh-footed Shearwater (*Puffinus carneipes*), a species attributed to the state, albeit without specimen or photo documentation,

since 1968. Over the last fifty years Alaska's checklist has grown at a rate of 3.5 species per year, a rate that shows no sign of approaching an asymptote (Fig. 1). As we celebrate this milestone, it is useful to reflect on just what a checklist ultimately does and does not tell us.

Checklists reflect our evolving understanding of systematics, taxonomy, and distributions. They summarize the work of many professionals and bird enthusiasts and exist at the intersection of basic and applied research. They also play a critical role in dissemination of this information to a wide array of users.

Without a large dose of standardization, however, the comparative numerical value of a checklist is meaningless. As Joseph Grinnell (1922:375) pointed out for California over 90 years ago in *The Auk*, "it is only a matter of time theoretically until the list of California birds will be identical with that for North America as a whole...and the process might continue on ad infinitum, until theoretically, sometime after the full number of the North American list had been reached, our state list would no longer contain any accidentals at all." Grinnell's jestful conclusions about the theoretical end point of his state's checklist was, as he pointed out, beside the point; rather, he used that example to point out that "vagrancy" is the expected condition in natural bird populations as a whole and to show that this issue has impacts on biogeography, distribution and diversity, adaptability, ecological niches, etc.

Terms like rare, casual, and accidental are more qualitative than their perceived quantitative definitions would suggest. Without the contextually agreed upon scope, duration, and level of effort, definitions of status (relative abundance) make little sense. They are handles we use to describe a pattern or lack thereof. The most common changes to status on a checklist are due to the expected (according to Grinnell) accumulation of records over time and not, most of the time, actual changes in biological abundance. Sometimes birds really do experience changes in their biological abundance, but we must be careful to distinguish between true changes to this and merely increased observations due to time, observer effort, increases in our ability to document occurrence, etc., and checklists provide part

of the data for doing this.

Checklists are important, and we will continue to keep the Alaska Checklist updated and available on our web site (<http://bit.ly/PlkgLI>). However, the total number or status of species in a checklist is much less important than the patterns, processes, and contexts underlying it. That being said, I look forward to celebrating the 600th species being added in about 2042.

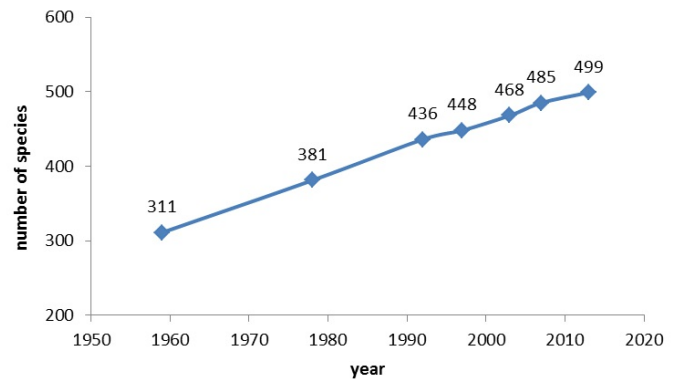


Figure 1: Alaska bird checklist growth by year of summary publication, starting with Gabrielson and Lincoln (1959; 311), and moving through Kessel and Gibson (1978; 381), Gibson and Kessel (1992; 436), Gibson and Kessel (1997; 448), Gibson et al. (2003; 468), Gibson et al. (2008; 485), and Gibson et al. (2013; 499).

Literature Cited

- Gabrielson, I. N., and F. C. Lincoln. 1959. *Birds of Alaska*. Stackpole, Harrisburg, PA.
- Gibson, D. D., and B. Kessel. 1992. Seventy-four new avian taxa documented in Alaska 1976-1991. *Condor* 94:454-467.
- Gibson, D. D., and B. Kessel. 1997. Inventory of the species and subspecies of Alaska birds. *Western Birds* 28:45-95.
- Gibson, D. D., S. C. Heil, and T.G. Tobish, Jr. 2003. Report of the Alaska Checklist Committee, 1997-2002. *Western Birds* 34:122-132.
- Gibson, D. D., S. C. Heil, and T.G. Tobish, Jr. 2008. Report of the Alaska Checklist Committee, 2003-2007. *Western Birds*

39:189-201.

Gibson, D. D., L. H. DeCicco, R. E. Gill, Jr., S. C. Heinl, A. J. Lang, T. G. Tobish, Jr., and J. J. Withrow. 2013. Third report of the Alaska Checklist Committee, 2008-2012. *Western Birds* 44:183-195.

Grinnell, J. 1922. The role of the “accidental.” *Auk* 39:373-380.



Rebecca Cheek

I thought the Ornithology lab at the UA Museum was kind of weird and strange-smelling when I was introduced to preparing bird specimens over a year ago. I was entering my junior year as a history major and I never devoted much thought to pursuing science until I happened upon the Museum Research Apprenticeship program in the UAF course catalogue. Despite my affinity towards the liberal arts, Kevin Winker welcomed me to the bird lab and immediately put me to work. Though I didn't mind the sometimes messy parts of the job, I saw my time in the lab as something to just fill gaps between my classes for the first few months. Plus it provided me with gross stories to tell my dad, a casual bird enthusiast.

It is difficult to pinpoint just when my attitude towards science changed. I toyed with the idea of

switching my major, but I was having trouble deciding if three more years of school was worth my curiosity. When Kevin Winker told me about the potential field position in Perú with Dr. Kevin McCracken, I began to pay attention. I earned Dr. Winker's recommendation and was offered the position within a few weeks. That settled it. I filed the paperwork and declared myself a dual degree seeking student, History and Biology.

The summer I spent in Perú was both heartbreaking and wonderful. We traveled along three rivers in the Andes, collecting blood samples from Torrent Ducks (*Merganetta armata*) at elevations over 4,000 meters above sea level. This extreme environment is challenging for both the birds and the scientists to live in due to the severe drop in partial pressure O₂. Suddenly, your body feels like it is made of lead and all those nightmares of being unable to run become unbearably true as you breathe yet feel suffocated. Though biologists may struggle with the elements, the Torrent Ducks seem to do just fine. Not only do these animals endure the hypoxia associated with the elevation, but they also fly and dive for prolonged periods of time, which places an additional strain on the ducks' hearts and lungs.



Rebecca Cheek and friends

This unique trait has attracted the attention of scientists, like Dr. McCracken, who want to understand whether there are any genetic adaptations in the animal's hemoglobin that increase the protein's O₂ affinity. This could explain why the ducks can tolerate the physiological stress of life in the Andean highlands while I struggle with walking and breathing simultaneously.

My future career as a scientist remains an exciting mystery to me in a maze of ideas and possibilities that I could not have thought possible just a few years ago, and it all comes back to the Bird Lab and the wonderful people there. Pursuing Biology has quite literally opened up the world to me, and preparing birds for the collection has developed into my not-so-secret obsession.



Jessica McLaughlin

When I first started at UAF in the fall of 2011 as a wildlife biology student newly migrated from Ohio, I have to admit that two things were more or less completely off my radar as to topics I might one day be interested in: Africa and birds. I had come to Alaska to study things in the Arctic, and while I hadn't decided exactly what those things might be, I assumed they would have fur.

My freshman self would have been very confused, therefore, to see me step off the plane at Kilimanjaro International Airport in northern Tanzania

last August, binoculars and a brand new copy of *The Birds of East Africa* in hand, to spend a full semester south of the equator and, with any luck, study birds. I had been a student in the Museum Research Apprenticeship program in the Ornithology Department the semester before, which had started to shift my focus from mammals to birds. Although I didn't know it at first, Tanzania was to make it clear very quickly which I was really interested in.

I was there as part of a study abroad program run by the School for International Training, taking courses in wildlife conservation, field research techniques, and Kiswahili. Our classrooms were some of the most recognizable place names in Africa: Serengeti, Ngorongoro, and the western slopes of Kilimanjaro. We spent a month of our semester living with local families, to experience the culture and learn the language. To top it all off, for the last month of the semester, each of the 24 students in the program was allowed to go anywhere in Tanzania to conduct a study on any topic of our choosing. Within a day of my arrival, the academic director told me about a small nature refuge near the Serengeti where several students had in past years conducted studies of birds, and he asked if I'd be interested in a project that made use of the previous data. After all, I had spent almost every spare moment wandering through camp with my binoculars stuck to my face.

Eventually, I planned a study that focused on the effects of woodland encroachment on the bird community in the refuge, particularly focusing on the changes in the diversity of foraging guilds. The refuge, called Enashiva, is part of the larger Serengeti-Mara ecosystem, a savannah made up of a mosaic of wooded and grassland habitats. These habitats are always fluctuating, with wooded habitats expanding when fire impacts are reduced and elephants are no longer present—characteristics of Enashiva. Previous studies of the vegetation had concluded that woodland encroachment was occurring, but no one had yet analyzed the five years of previous data to see if this was having a significant impact on the bird community. In fact, there hasn't been much work done on how birds

respond to these changes in the African savannah at all.

I set up eight different transects in the same places that previous studies had used. Four of these were in sites dating back to 2008, while the others had been set up in 2012. I spent twenty days in the field, living in my extremely well-traveled tent and seeing an amazing array of species. I recorded 144 bird species over the course of my study, out of the over three hundred known to be present on the refuge, and I counted over 3700 individuals. In the end, I found that the bird assemblages of the grassland sites that had been originally surveyed in 2008-2010 had an increased similarity with the woodland and wooded grassland sites from the same period. However, contrary to my predictions, foraging guild diversity actually decreased in both the wooded grassland and woodland. As I had expected, the newer sites showed no significant differences compared with the two previous studies that had used them, but they should provide useful data for future studies.



White-throated Bee-eaters (J. McLaughlin).

My semester in Tanzania was an incredible experience. I was immersed in a fascinating culture, traveling off the beaten path (sometimes literally—the bus to Enashiva got stuck in a sand dune), and in the end saw 375 species of birds. I conducted a study that I am using as my Honors Capstone project, and I got to visit places like Lake Victoria, the Usambara Mountains, and Ngorongoro. I'm not sure if I would have done all of the things I did last semester if I hadn't spent the previous semester as an MRAP student with

Ornithology—I most likely wouldn't have done the same project, at the very least—and I've returned to Alaska knowing more clearly what I want to study. I'm excited to find out where my interest in ornithology will take me next, and what questions can be answered.

ANNUAL REPORT— ORNITHOLOGY FY13

This year the collection grew by 1,500 specimens, and department staff, students, and research associates produced 15 publications. Fieldwork took staff to Interior Alaska, the Alaska Range, Prince William Sound, Togiak National Wildlife Refuge, and Kodiak Island. We continued to have a wonderful assemblage of students and volunteers working with us throughout the year. To further understand how the science developed from use of the Bird Collection is itself used, we created a Google Scholar profile of the publications that are based on the collection (<http://bit.ly/14Z9fE7>). It turns out that the scientific impact of these publications is considerable, and we had a short note on that published in *Nature*. The Bird Collection is in dire straits with respect to cabinet space, and we submitted a proposal to the National Science Foundation to rectify this. As always, we thank our students, volunteers, and the Friends of Ornithology for their ongoing support, which helps enormously in being able to sustain these important activities.

Volunteer hours	1,648
Acquisitions	1,500
Publications	15
Reports	12
Loans	14
Data requests	264*
Professional visitors	24
Student visitors	92
Public contacts	~500

Students working with collections	
PhD	3

MS 3
 Undergrad
 & high school 5

* Excludes 21,870 electronic database requests.
 ** Excludes Halloween (1,191), Open House (556), and
 Military Appreciation (237) events.

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www.universityofalaskamuseumbirds.org

RECENT PUBLICATIONS (ANNOTATED)

(**Bold** denotes our students)

Pruett, C. L., C. Whelan, A. Ricono, S. L. Lance, T. Glenn, B. Faircloth, and K. Winker. 2014. Development and characterization of microsatellite loci for two species of Beringian birds, rock sandpiper (*Calidris ptilocnemis*) and Pacific wren (*Troglodytes hyemalis*). *Conservation Genetics Resources* 6:175-177. doi:10.1007/s12686-013-0040-4

Topp, C. M., C. L. Pruet, K. G. McCracken, and K. Winker. 2013. How thrushes conquered North America: A comparative phylogeography approach. *PeerJ* 1:e206 <http://dx.doi.org/10.7717/peerj.206> *Five species of migratory thrushes occupy a transcontinental range across northern North America. Using mtDNA sequence data, we found that despite their ecological similarities populations from each side of the continent exhibit perhaps as many as five different continental histories but just two broad among-species patterns: relatively deep splits (within Swainson's and Hermit thrushes and between Gray-cheeked Thrush and Veery) and relatively shallow splits (within the latter two species and in the American Robin). These differences are probably related to the ages of the lineages involved.*

Bryson, R. W. Jr., J. Chaves, B. T. Smith, M. J. Miller, K. Winker, J. L. Pérez-Emán, and J. Klicka. 2013. Diversification across the New World within the “blue” cardinalids (Aves: Cardinalidae). *Journal of Biogeography* 41:587-599. doi: 10.1111/jbi.12218

Shaw, D. W., P. Escalante, J. H. Rappole, M. A. Ramos, R. J. Oehlenschläger, D. W. Warner, and K. Winker. 2013. Decadal changes and delayed avian species losses due to deforestation in the northern Neotropics. *PeerJ* 1:e179 <http://dx.doi.org/10.7717/peerj.179> *Using a mist-netting dataset that spans three decades, we found that our study area in the Sierra de Los Tuxtlas in southern Veracruz, Mexico has seen continued bird species losses following major deforestation that occurred mostly in the 1970s and 1980s. The delayed species losses and the heterogeneity of these apparently extirpated taxa provide*

substantial challenges for the successful management and conservation of tropical rainforest.

Winker, K., K. G. McCracken, D. D. Gibson, and J. L. Peters. 2013. Heteropatric speciation in a duck, *Anas crecca*. *Molecular Ecology* 22:5922-5935. doi: 10.1111/mec.12525

A new model of speciation is examined in duck populations that are in allopatry and sympatry at different times of the annual cycle. Green-winged Teal in the Aleutian Islands are sedentary and are passed through twice a year by migratory individuals from the Eurasian population. Data from eight nuclear introns and mtDNA supported three predictions of the heteropatric model: there is significant genetic differentiation and low gene flow between the two populations, and the sedentary Aleutian population is not especially small. We infer that adaptation to local optima in different places promotes genetic isolation despite periods of sympatry between them, as the heteropatric model predicts.

Braile, T. M., and K. Winker. 2013. New distributional records of Philippine birds from Bohol, Mactan, Olango, Busuanga and Luzon islands. *Forktail* 29:140-141.

AOU Committee on Classification and Nomenclature (one of 12 members). 2013. Fifty-fourth supplement to the American Ornithologists' Union *Check-list of North American Birds*. *Auk* 130:558-571.

Pruett, C. L., **C. M. Topp**, **J. M. Maley**, K. G. McCracken, S. Rohwer, S. Birks, S. G. Sealy, and K. Winker. 2013. Evidence from the genetics of landbirds for a forested Pleistocene glacial refugium in the Haida Gwaii area. *Condor* 115:725-737. *MtDNA sequence data from 11 forest-dwelling species indicate that there was a glacial refugium in the Haida Gwaii (Queen Charlottes) area during the Pleistocene. Both a sedentary life-history strategy and the presence of an endemic subspecies seemed correlated with the likelihood that a species' genetic signal indicated long-term, refugial presence.*

McCracken, K. G., R. E. Wilson, J. L. Peters, K. Winker, and A. R. Martin. 2013. Late Pleistocene colonization of South Georgia by yellow-billed pintails pre-dates the Last Glacial Maximum. *Journal*

Winker, K. 2013. *Walking Wild Shores: Portraits of the Natural World*. Two Harbors Press, Minneapolis, Minnesota. (More at www.walkingwildshores.com). A review is here: <http://bit.ly/14jH65U>

Winker, K. and J. J. Withrow. 2013. Small collections make a big impact. *Nature* 493:480.
We created a Google Scholar publication profile for the University of Alaska Museum bird collection (UAM Birds). The publications that it has supported are diverse and well cited, with an h-index equivalent to an average Nobel laureate in physics (following Hirsch's analysis in creating this index; PNAS 102:16569-16572). This level of impact should encourage more institutions to rediscover and reinvest in collections as important scientific infrastructure and societal resources.

Bulgarella, M., C. Kopuchian, A. S. DiGiacomo, R. Matus, O. Blank, R. E. Wilson, and K. G. McCracken. 2013. Molecular phylogeny of the South American sheldgeese with implications for conservation of Falkland Islands (Malvinas) and continental populations of the Ruddy-headed Goose *Chloephaga rubidiceps* and Upland Goose *C. picta*. *Bird Conservation International* (doi:10.1017/S0959270913000178).

Muñoz-Fuentes, V., M. Cortázar-Chinarro, M. Lozano, and K. G. McCracken. 2013. Stepwise colonization of the Andes by Ruddy Ducks and the evolution of novel beta-globin variants. *Molecular Ecology* 1231–1249.

Sonsthagen, S. A., S. L. Talbot, R. E. Wilson, M. Petersen, J. C. Williams, G. V. Byrd, and K. G. McCracken. 2013. Genetic structure of the Common Eider in the western Aleutian Islands prior to fox eradication. *Condor* 115:28–39.

Wilson, R. E., J. L. Peters, and K. G. McCracken. 2013. Genetic and phenotypic divergence between low- and high-altitude populations of two recently diverged Cinnamon Teal subspecies. *Evolution* 67:170–184.

Gibson, D. D., S. C. Heinl, A. J. Lang, T. G. Tobish, Jr., and J. J. Withrow. 2013. Checklist of Alaska birds, 19th edition.

Winker, K. 2012. [Review of] *Handbook of the Birds of the World*, Vol. 16: Tanagers to New World Blackbirds. *Loon* 84:50-52.

Winker, K. 2012. The wretched riddle of reduced rectrices in wrens. *Western Birds* 43:255-258. *Some species of Troglodytidae have only 10 rectrices, while most have 12. Reduced rectrices arose at least three times in the family, and rectrix number is not a useful character in determining genus limits. I cannot figure out any evolutionary hypothesis other than stochasticity that might explain the distribution of this trait in the family. In this case, the trait of reduced rectrices may be akin to genetic drift of a rather neutral phenotypic character.*

AOU Committee on Classification and Nomenclature (one of 12 members). 2012. Fifty-third supplement to the American Ornithologists' Union *Check-list of North American Birds*. *Auk* 129:573-588.

Withrow, J. J., and M. T. Schwitters. 2012. First North American record of the Common Moorhen (*Gallinula chloropus*) confirmed by molecular analysis. *Western Birds* 43:259-265.

Gibson, D. D. 2012. On two fronts: Occurrence of the House Sparrow in Alaska. *Western Birds* 43:248-254.

Dunn, J. L., D. D. Gibson, M. J. Iliff, G. H. Rosenberg, and K. J. Zimmer. 2012. Alaska records of the Asian White-winged Scoter. *Western Birds* 43:220-228.

Dunn, J. L. (chair), D. D. Gibson (co-chair), K. L. Garrett, M. J. Iliff, M. W. Lockwood, R. Pittaway, D. A. Sibley, and K. J. Zimmer. 2012. 23rd Report of the ABA Checklist Committee. *Birding* 44(6):28-33.

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