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# FRIENDS OF ORNITHOLOGY

## Newsletter

Number 13  
Nov 2017



Grus, The Crane (Willughby & Ray 1678)



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### From the Curator

*Kevin Winker*

Following a protracted fall, winter finally arrived and we're under an excellent blanket of snow. Migratory birds are on their wintering grounds, and many of the resident species are keeping our bird feeders busy. Watching them helps distract from onslaughts of news we'd rather not hear. The fiscal situation in the state remains dire, and the University has sustained four straight years of cuts, with still more anticipated. The state legislature has spent a lot of time making no progress in getting new revenue streams online. The majority of Alaskans agree it needs to get done, but there are some powerful people who think a lot more cutting should happen first (wrong—we've cut 44% so far). They don't seem to understand how fast you can seriously degrade a university. We're down hundreds of positions. When I arrived 20 years ago, we were in a downsizing mode that took a good 10 years to recover from. This time it will likely take 15-20 years. It's demographics. Back then we cashed in older faculty to replace them with younger ones. Now we're losing many of our very best (leaving for jobs outside) and not replacing them. When we eventually get replacements, it usually takes the better part of a decade for junior faculty to build a strong research and teaching program. As you can imagine, morale is generally low. What's really depressing is that we haven't hit bottom yet.

But there is good news, too. I love my job! We've got a great group, and we're involved with a lot of exciting things. The collection continues to grow and is being used by more people across the state, country, and world for impressive research. Our own biggest projects right now are in bird population genomics, explorations

of the avian gut microbiome, and renewed efforts in avian influenza. We'll continue to do high-quality work in our own little corner of the universe, helped greatly by the generous donations to Friends of Ornithology. We think of you daily with gratitude.

### The Department of Ornithology

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

#### Residents

*Kevin Winker* (Curator)

*Jack Withrow* (Collections Manager)

#### Students

*Jessica McLaughlin*

*Fern Spaulding*

*Jessica Herzog*

*Mary Mercier*

*Tiffany Lebnerd*

*Grace Ongtawasruk*

#### Research Affiliates

*Daniel Gibson*

*Johannes Erritzoe*

*Rose A. Z. Meier*

*Kevin McCracken*

*Christin Pruett*

*Kyle Campbell*

#### Volunteers

*David Sonneborn*

*Luke DeCicco*

*Rebecca Cheek*

*Payal Patel*

*Bennett Wong*

*Alex Lewis*

*Rachel Pernick*

*Elise Stacey*

*Nick Newberry*

## A SAMPLING FROM STAFF

*Jack Withrow*

### Of grouse and grebes

In 1996 Bob Dickerman and Jack Gustafson described a new subspecies of Spruce Grouse from Prince of Wales Island in southeast Alaska on the basis of specimens at UAM and the American Museum of Natural History (Dickerman and Gustafson 1996). They named the bird *Falcipennis canadensis isleibi* in honor of the late Malcom E. “Pete” Isleib of Cordova, an enthusiastic contributor to knowledge of Alaska birds (e.g., Isleib and Kessel 1973). This discovery eventually focused much attention on this subspecies (e.g., Rabe 2009, USFWS 2010) and several graduate students have since completed projects on the ecology of *isleibi* (Russell 1999, Nelson 2010). Genetic work by other researchers in the University of Alaska system showed that *isleibi* possesses a distinct mitochondrial DNA lineage in relation to other populations of Spruce Grouse from western North American (Barry and Tallmon 2010). They also found some genetic divergence between populations of *isleibi* on Prince of Wales Island and a nearby island, Zarembo, using a very fast evolving molecular marker (microsatellites; *ibid*). This finding, combined with Dickerman’s hunch that Zarembo Island birds might differ in plumage from Prince of Wales Island birds, suggested that acquiring specimens from Zarembo would be worthwhile. At that time there was no specimen of an adult male from Zarembo Island, in this case the age and sex most likely to show differences among populations. This is one of many specimen gaps from SE Alaska among many species, so a field trip was in order.

In late September 2016 I drove/ferried from Fairbanks to Wrangell, thence to Zarembo I., to spend ten days camping and driving the logging roads in search of grouse. I benefited from one of the driest falls on record in southeast Alaska (Juneau Empire, 1 Nov 2016; Fig. 1) and was successful in bringing back a series of grouse, including five adult males. There are still less than 55 specimens of Spruce Grouse from southeast Alaska archived at public lending institutions, more than 90% are right here at UAM, most originated as road kills or hunter-taken birds. Assessments of the distinctiveness of Zarembo Island grouse are ongoing.

During the course of this trip I sampled broadly, filling gaps in our holdings where possible. Western Grebes (*Aechmophorus occidentalis*) are locally common wintering birds in southern Southeast Alaska (Gibson and Withrow 2015), but until last fall there were only four specimens from Alaska: George Willett took one at Craig, Prince of Wales Island in 1921; Ira Gabrielson took one at Carroll Inlet near Ketchikan in 1944; Steve MacDonald took one near Wrangell in 1976; and Pete Isleib took one in Sumner Strait in 1990. This trip brought the number of Alaska specimens to eleven and revealed two interesting things: First, all but the Craig specimen are female. If one was sampling randomly from a population with a 50/50 sex ratio this sampling result would only have a 0.05% chance of occurring. This suggests that the Alaska wintering population has a skewed sex ratio, perhaps composed largely of female birds. Wintering grebes in California (Humple et al. 2011) and Washington (VertNet data) appear to have a more even sex ratio. Differential migration patterns are relatively common in birds (Cristol et al. 1999), but the reasons, magnitude, and potential timing of this apparent difference remain to be worked out. Second, at least three of the Alaska specimens had lost all of their remiges and were clearly flightless. Both observations have implications for conservation assessments for the species in Alaska.



Figure 1. A view northwest from high on Zarembo Island looking over Sumner Strait at Kupreanof Island on a sunny 1 Oct 2016.

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[www.fws.gov/alaska/fisheries/endangered/pdf/pow\\_spgr\\_species\\_assessment.pdf](http://www.fws.gov/alaska/fisheries/endangered/pdf/pow_spgr_species_assessment.pdf)

### Jessica Herzog

(undergraduate student assistant)

#### For the Love of Birds

My time with the Bird Lab started with 18 eggs collected during the summer of 2016 on the Seward Peninsula, which I gave to the Bird Collection at the start of fall semester last year. I was then invited to learn how to prepare a bird specimen, and I seized the opportunity. A newfound interest quickly developed, spreading from the curiosity over yolk to diversity of feathers, organs, and bones perfectly placed to form the most captivating, efficient machines I've ever met—birds.

Blowing eggs could preserve the nuances of speckled shells and sometimes unborn siblings who missed the chance to gape exuberantly from their tiny nest. Surely the Museum would want these shells and embryos, and I wanted to discover the look of any growth phase I could possibly reveal behind ellipsoids of calcium carbonate.

I was impatient with the process at times, cheeks aching as I blew through a rolled up sticky note straw to force yolk out of small holes. Yet I was intrigued by the shapes, sizes, and patterns of the shells and why these almost-birds, looking at minimum like closed eyes of nestlings and at most a miniature sleeping sandpiper, didn't progress to fight egg tooth and claw through their shells to see sunlight.

Many eggs I checked did hatch that summer however, revealing pink and grey beings with fuzz on their heads who at least doubled in size each day. They eventually looked over the nest cup edge as if it were a precipice and I thought of flight. They'll strengthen their wings on the refreshing wind of spring's slow retreat and fly miles over the course of mere days, ending up in places I could only hope to visit so quickly.

Since my introduction to bird specimen preparation last year, I've peeled back the paper thin skin of many birds to find serpentine intestines, enigmatic gonads, and an assortment of hearts.

Dissections exposed me to the intricacies of bird anatomy and my ignorance of birds themselves. I was unaware of the strength of songbird skin and the delicacy of that of the Spruce Grouse; uninformed of bristled toes and bills reminiscent of crocodile jaws. I had never appreciated the skeleton of the Ruby-Throated Hummingbird, overwhelmed by its label, looking like a bumblebee at the base of my finger, or the Sandhill Crane skeleton, large as my torso, that I took to the dermestid colony. I've never been so mesmerized by the variety of iridescence on throats, wings, and backs, or the variation in camouflage between the wings of different Great Horned Owls. I've never before compared Merlin claws to my fingernails, which I wish were just as sharp, or held the Tundra Swan's foot, large as my hand, or cleaned the spindly ribs of a Whooping Crane skeleton.

The Bird Lab has taught me how quickly I can separate primaries from bone with my thumb nail and make a flat skin from a Raven. It's deepened my thoughts and admiration on how a Swainson's Thrush can fly from Alaska to South America despite weighing only 32 grams. It's exposed me to feathers of beings that I may never see, let alone hold or have the privilege of preserving for research projects over the next who knows how many years.

I've loved these anatomical masterpieces all along, but working in the Bird Lab brought new experiences and perceptions about efficiency's dream, flying from Panama or New Mexico to Alaska. Thousands of birds have been given to the Museum, and I've been lucky enough to work with some of them. As migration routes crisscross continents, people come here from thousands of places to study, learn, and admire our collection. It seems the world is connected by birds. I'm grateful that I get to be a part of such a wonderful place, working with truly fascinating animals, and I love coming to work!

### ANNUAL REPORT - ORNITHOLOGY, FY17

This year we finished our large-scale collections infrastructure upgrade and associated specimen moving. This was funded by the National Science Foundation (NSF) through their program Collections in Support of

Biological Research. The collection continues to support quite a lot of diverse science, and its *b*-index is up to 55 (a measure of the importance of the science produced using it). Planning for the Gallery of Alaska renovation and how best to incorporate birds into it began in earnest.

We had more than ten graduate and undergraduate students working with the collection in various capacities this year. Jessica McLaughlin successfully defended her MS thesis and has gone on to a PhD program in Oklahoma.

The collection grew by 2,000 specimens this year. Department staff, students, and research associates produced eight publications and gave several presentations at national and international meetings. Fieldwork was conducted in Prince William Sound, southeast Alaska, the Kodiak archipelago, the Alaska Peninsula, the Denali Highway, and various sites in interior Alaska.

Thanks as always to our students, volunteers, and the Friends of Ornithology for their ongoing support.

Volunteer hours	750
Acquisitions	2,000
Publications	9
Reports	11
Loans	14
Data requests	199*
Professional visitors	10
Student visitors	5
Public contacts	~500**

#### Students working with collections

PhD	9
MS	4
Undergrad	9

\* Excludes >10,000 electronic database requests.

\*\* Excludes Halloween (~950) and Open House (~510) events.

## FRIENDS OF ORNITHOLOGY

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please pass along a copy of the enclosed membership materials  
or point them to our web page:*

[www.universityofalaskamuseumbirds.org](http://www.universityofalaskamuseumbirds.org)

## RECENT PUBLICATIONS

(FY16-17, Annotated)

(**Bold** denotes our students)

Gibson, D. D., L. H. DeCicco, R. E. Gill, S. C. Heintl, A. J. Lang, T. G. Tobish, Jr., and J. J. Withrow. 2017. Checklist of Alaska birds, 23<sup>th</sup> edition.

Pruett, C. L., A. Ricono, C. Spenn, and K. Winker. 2017. Island life and isolation: The population genetics of Pacific Wrens on the North Pacific rim. *Condor* 117:131-142. *Six subspecies of Troglodytes pacificus from nine locations in Alaska and British Columbia show considerable population genetic structure. The population on Attu Island, T. p. meligerus, is quite isolated and has notably low genetic diversity. Management of subspecies as separate units is warranted.*



Winker, K., and J. J. Withrow. 2017. Collectively, we need to accelerate Arctic specimen sampling. *Arctic Science* 3:515-524. doi.org/ 10.1139/as-2016-0037. *Objects and associated data are archived for present and future research. These collections provide diverse benefits, helping us understand species, populations, and the environments in which they live(d). Despite these benefits, the specimen resource is inadequate—there are many gaps, taxonomically and in time and space. We examine these gaps using bird collections as an example. Given the speed of climate change in the Arctic, we need to collectively work to fill these gaps so we can develop and wield the science that will make us better stewards of Arctic environments.*

Winker, K. 2016. An examination of species limits in the *Aulacorhynchus* “*prasinus*” toucanet complex (Aves: Ramphastidae). PeerJ 4: e2381 doi.org/10.7717/peerj.2381. *The major color-based “prasinus” toucanets are not just cookie-cutter taxa with different head and bill colors. The congruence and complexities of the morphological and color changes among these groups suggest that ecological adaptation (through natural selection) and social selection have co-occurred and that species limits are involved. Further, hybridization is not evident at key places. I recommend that this complex be recognized as comprising five biological species: A. wagleri, prasinus, caeruleogularis, albivitta, and atrogularis.*

**Campbell, K. K.,** T. M. Braile, and K. Winker 2016. Integration of genetic and phenotypic data in 48 lineages of Philippine birds shows heterogeneous divergence processes and numerous cryptic species. *PLoS ONE* 11: e0159325. doi:10.1371/journal.pone.0159325. *Philippines avian diversity is likely underestimated. We integrated genetic and phenotypic data and compared populations in 48 lineages. We found possible species-level differences in 25 of these lineages. Genetic endemism is high. The conservation implications are profound. Speciation routes differed. A logarithmic relationship between phenotypic and genetic divergence suggests that selection may initially drive divergence.*

Winker, K. 2017. Eyeballs on science: Impact is not just citations, but how big is readership? bioRxiv 136689; doi: doi.org/10.1101/136689 .

Winker, K. Q. C. Kessel, and D. D. Gibson. 2016. In Memoriam: Brina Cattell Kessel, 1925-2016. *Auk* 133:820-821.

AOU Committee on Classification and Nomenclature (one of 11 members). 2016. Fifty-seventh supplement to the American

Ornithologists' Union *Check-list of North American Birds*. *Auk* 133:544-560.

Gibson, D. D., L. H. DeCicco, R. E. Gill, S. C. Heinl, A. J. Lang, T. G. Tobish, Jr., and J. J. Withrow. 2016. Checklist of Alaska birds, 22nd edition.

Withrow, J. J., D. D. Gibson, Y. Gerasimov, N. Gerasimov, A. Shestopalov, and K. Winker. 2016. Occurrence and taxonomy of Arctic Warblers (*Phylloscopus borealis*) *sensu lato* in North America. *Wilson Journal of Ornithology* 128:262-271.

Lavretsky, P., J. L. Peters, V. Bahn, I. Kulikova, Y. N. Zhuravlev, R. Wilson, C. Barger, K. Winker, K. Gurney, B. Clark, A. Breault, S. Slattery, and K. G. McCracken. 2016. Becoming pure: identifying generational classes of admixed individuals within lesser and greater scapup populations. *Molecular Ecology* 25:661-674.

Pruett, C. L., L. Wan, T. Li, C. Sperrin, S. L. Lance, T. C. Glenn, B. Faircloth, and K. Winker. 2015. Development and characterization of microsatellite loci for common raven (*Corvus corax*) and cross species amplification in other Corvidae. *BMC Research Notes* 8:655.

Winker, K. 2015. [Review of] HBW and BirdLife International Illustrated Checklist of the Birds of the World, Volume 1: Non-passerines. *Loon* 87:137-139.



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*The birds of Alaska have never been in better hands.*

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