

Students *(continued)*

Andrew Johnson (MS student)

Carrie Topp (MS student)

Matthew Miller (PhD student)

James Maley (MS student)

David Shaw (MS student)

Heather Moncrief (undergraduate)

Joshua Bacon (undergraduate)

Nathan Pamperin (undergraduate)

Research Associates

Heinrich Springer

Johannes Erritzoe

Rose Meier

Kevin McCracken

Mersee Madison-Villar

Olga Butorina

Volunteers

Robert Dickerman

David Sonneborn

Steven Heintl

Robert Wilson

P. J. McCracken

Chris Barger

Luke DeCicco

Before hearing from some of these people, here are synopses of our two most recent annual reports:

ANNUAL REPORT - ORNITHOLOGY

FY 2001

This was an exceptional year of activity and growth for the Department of Ornithology and the Bird Collection. Personnel and volunteers conducted an unprecedented 19 independent field expeditions this fiscal year. Fourteen of these trips were made to sample Alaska localities, ranging from Attu, Shemya, Ugamak, and Amak islands in the Aleutians, to Revillagigedo and Prince of Wales islands in southeast Alaska, to Kodiak Island, Nunivak Island, the Seward Peninsula, Cordova, and the North Slope. Five foreign expeditions were made to sample the wintering areas of long distance migrants: to Australia, Singapore, the Philippines, Belize, and Argentina. This sampling program, coupled with continued efforts to obtain specimens through salvage, enabled us to add an unprecedented 2,300 specimens to the collection this year, an increase of 21%. Rearrangement of the entire collection was completed. An endowment was established through the generosity of Brina Kessel for the collection and related activities. Our postdoctoral researcher, Kevin McCracken, left us for gainful employment - congratulations, Kevin! One new graduate student, Andrew Johnson, began his studies with us this year. Students and staff gave six presentations at five national and international scientific meetings and continued writing

on the Birds of Alaska and the Birds of North America series.

FY01 statistics:

Volunteer hours	3,330
Acquisitions	2,300
Grants	6
Publications	3
Reports	11
Loans	14
Data requests	171
Professional visitors	24
Student visitors	73
Public contacts	300+

Students working with collections:

PhD	3
MS	1
Undergraduates	12

ANNUAL REPORT - ORNITHOLOGY

FY 2002

This was another exceptional year of activity and growth. Personnel and volunteers conducted 16 independent field expeditions this fiscal year. Eleven of these trips were made to sample Alaska localities, ranging from Attu, Unalaska, and Unimak islands in the Aleutians, to Ketchikan, Haines, Kodiak Island, Barrow, and the North Slope. Five other expeditions were made to Belize, Philippines, Argentina and Bolivia, Mongolia, and Montana and North Dakota. This sampling program, coupled with continued efforts to obtain specimens through salvage, enabled us to add an unprecedented 3,600 specimens to the collection this year, representing an increase to the collection of 27%. Mercedita Madison-Villar joined us as a Research Associate. Carrie M. Topp and Matthew J. Miller began graduate studies with us this year. Students and staff gave 10 presentations at three national and international scientific meetings and continued writing on the Birds of Alaska and the Birds of North America series.

FY02 statistics

Volunteer hours	1,470
Acquisitions	3,600 <i>(cont.)</i>

FY02 statistics (*cont.*)

Grants	6
Publications	4
Reports	9
Loans	14
Data requests	188
Professional visitors	37
Student visitors	76
Public contacts	300+

Students working with collections:

PhD	4
MS	2
Undergraduates	2

FROM STAFF & STUDENTS

Daniel Gibson

During 2001 I was able to devote important time to ongoing work on a monograph on birds of the Aleutian Islands that Vern Byrd, of the Alaska Maritime National Wildlife Refuge, and I are preparing. We are working toward having a completed draft soon.

I had been looking forward to February fieldwork in the western Aleutians, at Shemya Island, but unusually heavy snowfall and persistent bad weather cancelled that trip at the last minute. Meantime, Fairbanks's midwinter exotic visitor—a Eurasian Bullfinch visiting a local feeder for some weeks in February-March—brought the *Fairbanks Daily News-Miner* to the Bird Collection for more information on the species in Alaska, and we enjoyed seeing friends from out of town who came to see the bird (e.g., Dave Sonneborn, Grace Steurer, and others). Subject of a March talk I presented to Arctic Audubon Society was Alaska as a meeting ground of Old World and New World avifaunas; the bullfinch's visit allowed me to preface my talk with a cartoon from the Anchorage Daily News that featured the Fairbanks bullfinch.

Under various auspices I was able to spend May-June at Shemya during which time Mike Schwitters and I conducted daily surveys (for the U. S. Fish and Wildlife Service and U. S. Air Force) of species of particular BASH (Bird Air Strike Hazard) concern--at Shemya, primarily Canada Geese, Glaucous-winged Gulls, and Common Ravens. We kept daily notes on timing and abundance of migrants as spring came and went and

collected specimens, notable among them American Wigeon, Red-flanked Bluetail, Olive-backed Pipits, Eurasian Bullfinch, and Hawfinch. Returning from fieldwork at nearby Attu Island under the aegis of the U.S. Coast Guard, Deb Rocque and Andy Johnson looked over Shemya with us during an overnight visit, and, later, Bob Dickerman, Dave Sonneborn, and James Maley conducted surveys with us for several days while waiting at Shemya for aircraft repairs to allow them to fly from Attu to Kodiak. I continued to serve as vice-president and a member of the board of directors of Western Field Ornithologists, and as an associate editor of *Western Birds* I shepherded about a half dozen manuscripts through the review and editorial process from submission to publication. I attended the WFO annual meeting, in Reno, in September, following which fellow board member Bob Gill and I spent a week examining specimens at the California Academy of Sciences, in San Francisco, and at the Museum of Vertebrate Zoology, at the University of California Berkeley.

The UAM Bird Collection continued to grow at an impressive pace. Exciting specimen events during 2001 included a singular beginning—the January discovery in Ketchikan by Andy Piston and Steve Heintz of the first European Golden-Plover ever found anywhere in the Pacific basin. Their specimen provided me an opportunity to prepare (as a study skin with accompanying partial skeleton, frozen tissues, stomach contents, and guts) and catalogue a Alaska specimen. (They went on to publish this record later in the year. See Piston and Heintz 2001. *Western Birds* 32:179-181, "First record of the European Golden-Plover (*Pluvialis apricaria*) from the Pacific."). And in August Dave Sonneborn collected the first Alaska specimen of Pink-footed Shearwater, in the Gulf of Alaska—just a year after he produced the first photo-substantiation of that species in Alaska waters. Dave's specimen became another opportunity for me to prepare and catalogue a uniquely interesting and important Alaska specimen.

During the year, Bob Gill visited the Collection to study Rock Sandpiper series (for one of his numerous, encyclopedic *Birds of North America* accounts), and George Divoky to study turn-of-19th-20th century Black Guillemot specimens borrowed from Academy of Natural Sciences of

Philadelphia.

Dave Sonneborn and I went to Kodiak in late October to collect a short series of Song Sparrows (topotype *Melospiza melodia insignis*), and I brought back frozen specimens from both Kodiak National Wildlife Refuge (Denny Zweifelhofer) and National Marine Fisheries Service (Rich MacIntosh) that had been collected there earlier in the year.

'Exotic' visitors to the UAM Bird Collection in 2001 included Anchorage Mayor George Wuerch, University of Alaska President Mark Hamilton, UA Fairbanks Chancellor Marshall Lind, UAF Provost Paul Reichardt, students from Noorvik, and about 42 members of the Alaska State Chamber of Commerce.

Deborah Rocque

I am a native of New England and received a Master's Degree from the University of Connecticut. I came to the University of Alaska Fairbanks to conduct contaminant research in Aleutian avian communities. My main goal in this research has been to determine whether contaminants in Aleutian avifauna stem from local or long-range sources. While conducting this contaminant research, I became interested in stable isotopes and their application in avian research to track migrants, infer diet, and serve as intrinsic markers.

In spring/summer 2001, I traveled to Attu and the Seward Peninsula to collect the remaining samples needed for my research. Cormorants and Rock Sandpipers collected from Attu are being used in my Aleutian Island contaminant study. Golden plovers and Northern Wheatears collected on the Seward Peninsula have been used in my study examining the efficacy of feather stable isotopes in identifying breeding and wintering areas in these taxa.

I presented the results of my stable isotope study at two scientific conferences and was awarded the best student paper at each venue. During the 2001/02 academic year, I was funded by a Graduate Fellowship, and in my final year I am being funded by the NSF-sponsored Alaska EPSCoR Graduate Fellowship.

The highlights of my field season in 2001 were experienced on Attu during the spring. I had an opportunity to experience many Asian migrants that I have never seen before, such as: Red-throated Pipits, Pechora Pipits, Brambling, Eyebrowed Thrush, Rustic Buntings, Eurasian Wigeons, and Wood Sandpipers. The influx of migrants was such that we were able to see a new

species almost every day.

During my trip to the Seward Peninsula, I was able to see and collect Northern Wheatears, Bluethroats, and many *Calidris* sandpipers as well as Golden Plovers. I also saw a Gyrfalcon aerie. Another great trip was up to Barrow, where Kevin and I experienced Ross's Gulls.

I have enjoyed my work with the museum and have traveled to many parts of Alaska. I am constantly amazed at the diversity of the avifauna and am always looking for new places to visit and new birds to see. In 2002 I worked with the U.S. Fish and Wildlife Service and the Alaska Maritime National Wildlife Refuge and was able to visit St. Matthew Island in July. I am presently writing up my dissertation and plan to complete my degree in spring 2003.

Thomas Braile

I was born in 1971 while my father was working on his Ph.D., and I grew up interested in science and natural history. Influenced by the focus of education and outdoor activities of my father (Professor of Geophysics, Purdue University), mother (5th Grade teacher, M.S.), and late Grandfather (Dr. Louis Braile, M.D.), I attended The Evergreen State College and earned a B.S. in field biology and natural history in 1993. At Evergreen I studied ornithology under Dr. Steve Herman and became an enthusiastic student of his philosophy in conservation and methods in field observation and archival techniques. In 1993 I also served as an intern in the Department of Ornithology at the Burke Museum in Seattle, Washington. I worked a series of field positions for the College of Forest Resources at the University of Washington and also conducted field and museum work for the Department of Forestry and Natural Resources at Purdue University, where I was accepted as a Master's student in 1997. I completed my M.S. in 1999 in shorebird migration studies under Dr. John B. Dunning, Jr. Currently I'm pursuing a Ph.D. under Kevin Winker at the University of Alaska Museum. I was awarded a grant in 2000 from the Angus Gavin Memorial Alaska Bird Research Fund and was also the recipient of an Alaska Genome Diversity Initiative EPSCoR fellowship for 2001-2002.

I was very excited to begin my Ph.D. studies under Kevin in the fall of 1999 in the Department of Biology and Wildlife at the University of Alaska

Fairbanks to pursue molecular systematic and evolutionary studies of shorebirds (e.g., stilts, avocets, plovers, and sandpipers). Having previously worked at three museums with a commitment to bird collection development, I was also pleased to focus on specimen-based research and serve as a Curatorial Assistant in the Department of Ornithology at the University of Alaska Museum. Along with the challenges of hard work and many responsibilities as a Ph.D. student and Curatorial Assistant, there are also many entertaining opportunities as well. So far, bird collection expeditions have taken me to Canada, Singapore, Philippines, Mongolia, western and southeastern Alaska, Montana, North Dakota, and South Dakota.

I've had a long interest in shorebirds, and Alaska is an ideal place to study them due to the high diversity of breeding shorebirds and their dominant role in the arctic ecosystem.

Shorebirds are known for their dramatic migrations. Alaska is one of the world's most important breeding areas for shorebirds, supporting 48 breeding species (some of which only breed in Alaska). Every year, Alaska's shorebirds undergo impressive long-distance migrations to areas throughout North, Central, and South America, Oceania, Asia, and Australasia, spending up to 80% of their lives in non-breeding habitats. Shorebirds have undergone significant population declines, likely due to factors outside their breeding ranges, including destruction of mangrove and natural habitats, exotic plant invasions, hunting, and pollution, dictating the need for conservation planning at global scales. Although some migratory and wintering sites have been identified and afforded some level of protection, specific links between different breeding and wintering populations in broad-ranging species are virtually unknown. Knowledge of which populations use these sites is essential to monitoring populations and species in decline and for formulating appropriate management strategies.

I hope to use techniques that will enable molecular identification of populations, which offer new possibilities in monitoring populations throughout the annual cycle. In 2001, I initiated Department of Ornithology field work in the Philippines hoping that this research could lead to new discoveries of the status of Alaska's birds in southeast Asia.

Field work in the Philippines offered a great way to gain additional experience as an international biologist. The challenges of international research not only requires

scientific knowledge, but the skills of a diplomat as well. Although long-distance migratory birds cross international borders easily, biologists have much to overcome. In the Philippines the most difficult part was to obtain research permits needed for sampling. Negotiations were necessary at local, regional, and even at the highest levels of government. The permits required a cabinet-level Secretary's signature, and I even meet briefly with President Arroyo. I attended meetings of mayors and local politicians to explain the biological importance of this research, often using the local language dialects. Collaboration was initiated and implemented with regional government agencies, universities, and the National Museum of the Philippines. Successfully negotiating these permitting issues has refined my skills as a diplomat every bit as much as the field work is enriching our understanding of Alaska's birds far from their breeding grounds. Research at the Museum's Department of Ornithology is not just about birds, but about the world.

James Maley

I came to Alaska in August of 1998 from western New York to pursue a bachelor's degree in Fisheries. After two years I realized that Biology suited my interests more, so I switched. The year of 2001 was a whirlwind introduction to the world of ornithology. Enrolling in Dr. Winker's ornithology course in spring of 2001 sparked my interest in the field. I had never studied birds prior to this, nor had I been a serious birder. I found the subject fascinating and decided to start volunteering to prepare specimens in February. I began working about 20 hours a week skinning birds. I was immediately taken with the concept of combining art and science by producing not only a valuable scientific contribution but also a beautiful representation of these birds. Volunteering was a great way to learn to prepare specimens at my own pace and also to utilize the incredible bank of knowledge that can be found in the bird lab. I was hooked into birds, and Dr. Winker gave me the opportunity to work for him for the summer. I immediately seized on the offer and began to prepare specimens and prepare myself for my first trip into the field for birds.

I went to Attu Island without realizing what a sought-after opportunity this really was. It was the birding trip of a lifetime, I couldn't believe I could

actually go out there and get paid to look at birds! With Dr. Robert Dickerman's help, in addition to increasing my general knowledge about birds I gained important field skills that I will use the rest of my life.

My next trip was a tour of Southeast Alaska, an amazing contrast to my previous fieldwork. I went again with Dr. Dickerman. His lifelong experiences as a professional ornithologist enabled me to pick his brain for useful ornithological information. We drove to Haines and took the ferry all the way to Ketchikan. In Ketchikan I was fortunate enough to meet Steve Heinl. I was amazed at his birding skills in the thick rainforest, and his hospitality was nothing short of astounding.

Dr. Winker again gave me an incredible opportunity when he allowed me to create my own independent research course studying the molecular phylogeography of Blue Grouse in the Queen Charlotte Islands and Southeast Alaska. It was a slow and bumpy road, because I lacked the base knowledge of how to conduct this research. But again the graduate students in the lab provided me with patience and instruction that I have rarely witnessed even in some faculty members here at UAF. So, overall, 2001 was filled with more opportunities than I ever thought possible for an undergraduate. It opened me to an incredible and diverse field of study that is filled with genuinely good people, and it started me on my path to becoming an ornithologist.

Carrie Topp

This past year has been a huge learning experience for me. In the fall of 2001 I started in the masters program at the University of Alaska Fairbanks so I could work with Kevin Winker to study population genetics and systematics of landbirds from Southeast Alaska and the Queen Charlotte Islands. I had recently finished a bachelor's degree from UAF and at that point I knew little about molecular work. I also knew some very general things about birds and their study, having had an ornithology class and two internships at the Alaska Bird Observatory as well as being a casual bird watcher since I was a child growing up in Fairbanks.

Because museum specimen and tissue samples are integral to my study, I have become very involved in the museum, learning about its processes and functions in bird conservation studies. Right away I started learning how to properly skin, measure, and prepare museum specimens for long term archiving in order to maximize their usefulness for scientific studies. I also learned how

the specimen and tissue collections are organized and how they grow. Along with learning about the museum, I began learning how to run samples through the molecular lab. This was a very complex process completely removed from my previous experience. Luckily, very helpful and patient PhD students were available to pass on their skills.

Once I became competent with molecular methods, I began working in earnest on my masters research project, which consists of making genetic comparisons of Northern Saw-whet Owls (*Aegolius acadicus*) and several other landbird species that show subspecific endemism in the region of the Alexander Archipelago and Queen Charlotte Islands. To answer phylogenetic questions about these birds I am using several genetic markers, including sequence data from mitochondrial cytochrome *b* and 12 nuclear microsatellite loci. The results of this study will be informative for conservation and management decisions in Southeast Alaska, because the data will indicate whether populations in the region are genetically unique.

As part of my work with the museum and Southeast Alaska birds I was lucky enough to be part of a collecting trip to Haines Alaska in July of 2002. I had never been to that region of Alaska before and was excited by the opportunity to see some of the birds I am working on. Haines was beautiful, with lots of sunshine, which I am told is unusual. We spent most of the time walking the river flats upriver from town. Of course we saw lots of Bald Eagles along the river. We also saw several sets of fresh bear tracks which kept us very alert. The trip was all very interesting, but we had two especially memorable experiences. One was finding a busy Vaux's Swift feeding ground along the river flats. It was amazing to watch them zooming across the sky and occasionally right by our heads. The other memorable experience was our encounter with Common Nighthawks. We set out at dusk to see if we could find some owls. Unfortunately, this endeavor turned up dry. However, when we got out of the car on the river flats we were surrounded by the calling and booming of Common Nighthawks. This was incredible, because we did not know that there were so many pairs in the area; we had found the first substantiated breeding record for the area the day before.

Now I am again working away in the molecular lab pushing toward the end of my degree. Thinking back on the summer's activities is a nice reminder of why I like working with birds. They are amazing, complex organisms.

FRIENDS OF ORNITHOLOGY

Founders

Brina Kessel
David & Alexandra Sonneborn
Robert W. Dickerman

Patrons

James G. King
Frederick & Patricia Winker

Donors

Waren David and Glenda Sue Cummings
Kevin Winker
Langdon R. Stevenson (In memory of Tim Schantz)
Ronald M. & Mary Kay Teel
Dr. & Mrs. Ronald M. Finch

Contributors

Ward/Tedin Partnership
Gus van Vliet
Dr. & Mrs. Walter M. Sonneborn
Deanna MacPhail
Richard D. Spight
Steve Heintz
Michael T. Schwitters
Stanley E. & Patricia K. Senner
Cynthia R. Meyers
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Pat Pourchot
Jim Blackburn
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Jennifer Johnson-Culver
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Harold F. John
Steven T. Zimmerman
Elizabeth F. Hardesty
Calvin E. Keppler
Candace A. Myers, Ph.D.
Sid O. & Erna F. Morgan
Grace L. Steurer

If you know of someone else who might like to become a member, please pass along a copy of the enclosed membership materials or point them to our web page at www.uaf.edu/museum/bird

RECENT PUBLICATIONS

Winker, K. 2000. Migration and speciation. *Nature* 404:36. *Considers the evolutionary aspects of avian differentiation when coupled with migration in relation to recent advances in sympatric speciation theory; suggests that nonallopatric speciation may be a common phenomenon among migratory animals.*

(continued...)

RECENT PUBLICATIONS *(continued)*

Winker, K. 2000. Obtaining, preserving, and preparing birds. *Journal of Field Ornithology* 71:250-297. *Detailed guide to procedures in field and laboratory.*

Winker, K. 2000. A new subspecies of toucanet (*Aulacorhynchus prasinus*) from Veracruz, Mexico. *Ornitología Neotropical* 11:253-257. *Describes a morphologically distinct form endemic to the Sierra de Los Tuxtlas.*

Winker, K., G. R. Graves, and M. J. Braun. 2000. Population genetic differentiation in a migratory songbird: *Limothlypis swainsonii*. *Journal of Avian Biology* 31:319-328. *Isozyme variation among five populations of a Nearctic-Neotropical migrant songbird breeding in the unglaciated southeastern U.S.A. shows relatively high levels of heterozygosity and a surprising degree of population structure for a migratory bird with no recognized subspecies. Moderate levels of gene flow are inferred, yet population structure does not fit an isolation-by-distance model. Vicariance events on the breeding range, a split wintering range, or both could contribute to the pattern of differentiation observed.*

Benson*, A.-M., and K. Winker. 2001. Timing of breeding range occupancy among high-latitude passerine migrants. *Auk* 118:513-519. *Brief summers at high latitudes constrain the amount of time migrants have available to occupy these regions. Examination of 18 passerine species at 64.8° N in Fairbanks, Alaska showed differences between median dates of spring and autumn migration ranging from just 48 d for Empidonax alnorum to 129 d for Turdus migratorius. Occupancy of this region's breeding grounds tends to occur within the average annual range of frost-free days. In 10 species adults departed later in autumn than immatures; adults left earlier in just one species (Empidonax alnorum).*

Pruett*, C. L., D. D. Gibson, and K. Winker. 2001. Molecular "cuckoo clock" suggests listing of western Yellow-billed Cuckoo may be warranted. *Wilson Bulletin* 113:228-231. *MtDNA sequence data (978 bp of cyt b) show fixed differences in bases and amino acid coding between the western and eastern subspecies of Coccyzus americanus (subsp. occidentalis and americanus), suggesting that the western subspecies, occidentalis, be managed as an evolutionarily significant unit (ESU).*

Weicker*, J. J., and K. Winker. 2001. Sexual dimorphism in the birds from southern Veracruz, Mexico, and other localities. III. Wilson's Warbler (*Wilsonia pusilla*). *Journal of Field Ornithology* 73:62-69. *Continues examination of sexual size dimorphism in skin-based mensural characters of Neotropical passerines in a Nearctic-Neotropical migrant. Discriminant functions are given to aid the sexing of birds in the field.*

Weicker*, J. J., R. B. Brumfield, and K. Winker. 2001. Estimating the unbiased estimator theta for population genetic survey data. *Evolution* 55:2601-2605. *A method for approximating Weir & Cockerham's (1984) theta, an unbiased estimator of population genetic structure, is considered for converting published values that used biased estimators (Wright's Fst and Nei's Gst). This method is useful for both model and empirical data sets, but the correlation between the biased and unbiased estimators calculated independently for the real data is quite strong (r²=0.91). Thus, the advantage of approximating the unbiased estimator from published data is not evident, given the small effect of Weir & Cockerham's theta on removing bias from empirical data.*

Winker, K. 2002. [Review of] Handbook of the birds of the world, Vol. 6: Mousebirds to hornbills. *Loon* 74:47-50.

Kessel, B., D. A. Rocque*, and J. S. Barclay. 2002. Greater Scaup, *Aythya marila*. *The Birds of North America*, No. 650:1-32.

Gibson, D. D. 2002. Correct type locality of the Emperor Goose (*Chen canagica*) *Proceedings of the Biological Society of Washington* 115:706-707.

(* Asterisks denote our students)

University of Alaska Museum's
Friends of Ornithology

The birds of Alaska have never been in better hands.