



NEW MEXICO
ORNITHOLOGICAL SOCIETY
50TH ANNUAL MEETING
31 March 2012
Albuquerque, New Mexico

**NEW MEXICO
ORNITHOLOGICAL
SOCIETY
50TH ANNUAL MEETING**

**31 March 2012
Best Western Rio Grande Inn
Albuquerque, New Mexico**

AGENDA

- 7:30-8:30 **REGISTRATION**
- 8:30-9:30 **NMOS BUSINESS MEETING**
- 9:30 – 10:00 **BREAK**
- 10:00-10:15 **NMOS GREETING**
DAVE KRUEPER (PRESIDENT)
ANNOUNCEMENTS
- 10:15-11:55 **NMOS GENERAL SCIENCE SESSION**
MORNING
MARTHA DESMOND (NMSU) SESSION CHAIR
- 10:15-10:35 **DISTRIBUTION LIMITS AND COMPETITIVE DYNAMICS OF**
BLACK-CHINNED AND BROAD-TAILED HUMMINGBIRDS ON AN
ELEVATIONAL GRADIENT
B.L. ABRAHAMSON and C.C. WITT
- 10:35-10:55 **MOST OF THE HUMMINGBIRDS OF NEW MEXICO AND**
ARIZONA
T. REEVES

- 10:55-11:15 **SOME RECENT BIRDS OF THE ORGAN MOUNTAINS, DOÑA ANA COUNTY, NEW MEXICO**
D.J. GRIFFIN
- 11:15-11:35 **RAPID NORTHWARD RANGE EXPANSION BY THE CACTUS WREN IN NEW MEXICO**
S.O. WILLIAMS, C.M. RUSTAY, and W.H. HOWE
- 11:35- 11:55 **AVIAN RESPONSE TO CATASTROPHIC FIRE AT A SINGLE SITE IN THE MIDDLE RIO GRANDE BOSQUE**
T.W. FETZ and G.L. GARBER
- 11:55 -1:15 **LUNCH**
- 1:15-4:55 **NMOS GENERAL SCIENCE SESSION AFTERNOON**
MARTHA DESMOND (NMSU) SESSION CHAIR
- 1:15-1:35 **NESTING PREFERENCES, PRODUCTIVITY, AND SUCCESS OF LOGGERHEAD SHRIKES ON KIRTLAND AIR FORCE BASE.**
C. BORGMAN and V. BAILEY
- 1:35-1:55 **NEST SITE DEFENSE OF COOPER'S HAWKS IN ALBUQUERQUE**
K.K. MADDEN and B.A. MILLSAP
- 1:55-2:15 **RAPTOR MONITORING ON THE UPPER RIO GRANDE AND SAN ANTONIO GORGES, AND ORILLA VERDE RECREATION AREA, NEW MEXICO**
G.L. GARBER, T.W. FETZ, and V.A. WILLIAMS
- 2:15-2:35 **POPULATION CYCLES OF GOLDEN EAGLES AND PEREGRINE FALCONS ON THE JICARILLA NATION, 2002-2011**
D.W. STAHLCKER and T. J. WATTS
- 2:35-2:55 **COMMON BLACK-HAWK (*BUTEOGALLUS ANTHRACINUS*) IN NEW MEXICO'S CLIFF-GILA VALLEY 2010 – 2011**
R.S. SHOOK and D.K. WALKUP
- 2:55-3:25 **BREAK**
INFORMAL POSTER SESSION

- 3:25-3:45 **POPULATION STATUS AND NEST FAILURE OF BURROWING OWLS ON KIRTLAND AIR FORCE BASE**
K. CRUZ-MCDONNELL and O. CRUZ- CARRETERO
- 3:45-4:05 **DIFFERENTIAL MIGRATION BY SEX IN NORTH AMERICAN SHORT-EARED OWLS (*ASIO FLAMMEUS*)**
C.C.WITT and R.W. DICKERMAN
- 4:05-4:25 **THE EFFECTS OF MIGRATION ON THE SPREAD OF AVIAN MALARIA IN NEOTROPICAL BIRDS**
M. DODGE, S.L. GUERS, C.H. SEKERCIOGLU and R.N.M. SEHGAL
- 4:25-4:45 **AVIAN ABUNDANCE AND FOREST FRAGMENTATION IN NORTHEASTERN UNITED STATES USING GIS**
F. ANAYA and Z. JONES
- 4:45-5:05 **ISOLATED AND UNDER THREAT: SCARLET MACAWS IN BELIZE AND GUATEMALA**
C. BRITT, R. GARCIA ANLEU, M.L.CORDOVA, and M.J. DESMOND

POSTERS

ALL PRESENTERS MUST BE AT THEIR POSTERS FROM 2:55-3:15

SORTING THE SOUTH AMERICAN SISKINS (SPORAGRA): THE ROLE OF ECOLOGY IN A RAPID CONTINENTAL RADIATION
E.J. BECKMAN

GENETIC COLOR POLYMORPHISM IN THE MC1R GENE AND LOCAL ADAPTATION IN THE VERMILION FLYCATCHER (*PYROCEPHALUS RUBINUS*). C.J. SCHMITT, W. VARGAS CAMPOS, S.M. MCNEW, and C.C. WITT

5:05 **ADJOURN**

5:05 – 6:00 **INFORMAL SOCIAL**

6:00 **NMOS BANQUET**

7:00 **KEYNOTE PRESENTATION: THE NEW MEXICO ORNITHOLOGICAL SOCIETY ON ITS 50TH ANNIVERSARY: PROUD PAST, PRESENT STATUS AND FUTURE PERSPECTIVES**
DAVE KRUEPER

ABSTRACTS

ORAL PRESENTATIONS

(In order of presentation; presenters underlined)

DISTRIBUTION LIMITS AND COMPETITIVE DYNAMICS OF BLACK-CHINNED AND BROAD-TAILED HUMMINGBIRDS ON AN ELEVATIONAL GRADIENT

B.L. Abrahamson and C.C., Witt Department of Biology and Museum of Southwestern Biology University of New Mexico Albuquerque, NM 87131

The ranges of lowland Black-chinned Hummingbirds and montane Broad-tailed Hummingbirds overlap at intermediate elevations in Northern New Mexico during the breeding season. We investigated the proximate ecological causes of elevational distribution limits in these two species, specifically the upper distributional limit for black-chinned and the lower distributional limit for broad-tailed. We evaluated hypotheses that these distributional limits are caused by interspecific competitive interactions, habitat, and/or climatic factors. We surveyed nine sites on two transects between 2000 and 2600 m elevation in the Sandia Mountains. Black-chinneds occurred up to 2344 m, while broad-taileds occurred down to 2207 m. Black-chinned abundance correlated with elevation and average nighttime temperature while broad-tailed abundance correlated negatively with black-chinned competitive dominance. Black-chinneds were competitively dominant over broad-taileds at low elevations, but not at high elevations. These results suggest that black-chinneds are limited to lower elevations by temperature or pressure constraints, whereas broad-taileds were limited by intense interspecific competition in the lower portion of their elevational range.

MOST OF THE HUMMINGBIRDS OF NEW MEXICO AND ARIZONA

T. Reeves, Department of Computer Science and Information Technology San Juan College, Farmington, NM 87402

Photographs are provided for the following species and hybrid hummingbirds known to occur in New Mexico and Arizona: Broad-billed Hummingbird, White-eared Hummingbird, Beryline Hummingbird, Violet-crowned Hummingbird, Blue-throated Hummingbird, Magnificent Hummingbird, Lucifer Hummingbird, Black-chinned Hummingbird, Anna's Hummingbird, Costa's Hummingbird, Calliope Hummingbird, Broad-tailed Hummingbird, Rufous Hummingbird, Allen's Hummingbird, and the hybrid Lucifer X Costa's Hummingbird. Diagnostic characteristics of each species are discussed.

SOME RECENT BIRDS OF THE ORGAN MOUNTAINS, DOÑA ANA COUNTY, NEW MEXICO

D.J. Griffin, Zia Engineering & Environmental Consultants, LLC., 755 S. Telshor Blvd, Ste. F-201, Las Cruces, New Mexico 88011

Surveys were conducted for avian species of concern in the Organ Mountains on Fort Bliss during the 2010 and 2011 breeding seasons. In 2010, early-season survey effort was spent conducting presence/absence surveys and nest searching/monitoring for Gray vireo. Due to overall poor habitat conditions in 2011, less effort was spent for Gray vireo and more time was spent at higher elevations to survey for as wide a range of breeding birds as possible. Most survey effort was directed at diurnal avian species; however, formal nocturnal surveys for owls and nightjars were conducted in several areas and opportunistically from our camps. In 2010, a total of 106 species was recorded, including 38 that were considered species of concern or of regional interest. Numbers of Gray vireo were low with only one nesting pair observed, compared to 14 territories in 2007. Fifty-eight species were documented breeding and 14 additional species were probable or possible breeding species. In 2011, a total of 96 species were recorded, including 38 that were considered species of concern or of regional interest. Numbers of Gray vireo were very low with only 1 territorial/non-breeding pair, and 2 or 3 unpaired/transient males. Forty-one species were documented breeding and 24 additional species were probable or possible breeding species. Environmental conditions were vastly different between years and likely influenced the occurrence and abundance of many species. Madrean Sky Island species were well-represented in both years, however not all species were observed both years.

RAPID NORTHWARD RANGE EXPANSION BY THE CACTUS WREN IN NEW MEXICO

S.O. Williams III, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131, C.M. Rustay, Playa Lakes Joint Venture, 7103 4th Street, Suite O-5, Los Ranchos, NM 87107, and W.H. Howe, Migratory Bird Program, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, NM 87103.

The New Mexico range of the Cactus Wren was well-documented by the 1920s, as resident throughout the desert lowlands across southern New Mexico east to Carlsbad and north to Tularosa, San Marcial, and Cliff; by the early 1960s, that northern limit was adjusted slightly, north to Hagerman, Carrizozo, and Socorro. Detections north and east of that established range began to accumulate noticeably in the 1970s, including to multiple sites in Socorro, Lincoln, and Chaves counties, north to Cibola and Torrance counties, and east into Lea County, and this phenomenon continued into the 1980s, including far north to San Miguel County by 1988. The spread accelerated in the 1990s, with populations detected throughout the east as far north as Quay, Harding, San Miguel, and Guadalupe counties, colonization of the Albuquerque area began by 1995, and scattered detections were obtained north into Santa Fe County. The early 2000s have witnessed consolidation of the range throughout the east and north to Albuquerque, and, most recently, northwestward into Sandoval County. This substantial range expansion has been overlooked by recent Cactus Wren compendia, but it is complemented by similar northward movements in Texas and Arizona, which likewise began in the 1970s. The current status of the Cactus Wren in New Mexico will be summarized, and possible explanations for the range expansion will be examined.

AVIAN RESPONSE TO CATASTROPHIC FIRE AT A SINGLE SITE IN THE MIDDLE RIO GRANDE BOSQUE

T.W. Fetz and G.L. Garber, Hawks Aloft, Inc., P.O. Box 10028, Albuquerque, NM 87184

Beginning in December 2003, Hawks Aloft, Inc. conducted avian line transect surveys, duplicating the methods of the early 1980s Middle Rio Grande Biological Survey, in the Middle Rio Grande Bosque between Rio Rancho and the La Joya Waterfowl Management Area, New Mexico. In February 2007, a wildfire consumed over 90% of the vegetation at one transect. Pre-fire vegetation at the site was characterized by a mature cottonwood (*Populus fremonti*) canopy with a dense understory dominated by Russian olive (*Elaeagnus angustifolia*) and a smaller component of salt cedar (*Tamarix* sp.). Avian density (608 birds/100acres) and species richness (32 species detected) during spring 2007, immediately following the fire, were both slightly lower than pre-fire spring densities (range: 697-722 birds/100 acres) and richness (range: 36-43 species). During all post-fire summers avian density (range: 1183-1316 birds/100 acres) and species richness (range: 36-50 species) were greater than or equal to all pre-fire summer densities (range: 767-973 birds/100 acres) and richness (range: 32-36 species). During all post-fire winters avian density (range: 700-1536 birds/100 acres) and species richness (range: 24-30 species) were greater than all pre-fire winter densities (range: 107-662 birds/100 acres) and richness (range: 11-23 species). In addition, our data indicate that during all seasons that surveys were conducted, avian density and richness at the burn site were greater than at all surveyed sites where mechanical clearing of non-native vegetation had occurred (n= 7). We will address possible reasons for the high avian use of the burn and implications relative to bosque land management.

NESTING PREFERENCES, PRODUCTIVITY, AND SUCCESS OF LOGGERHEAD SHRIKES ON KIRTLAND AIR FORCE BASE.

C. Borgman and V. Bailey, Envirollogical Services, Inc., Albuquerque, NM 87120

Loggerhead Shrikes (*Lanius ludovicianus*), a small passerine predator and one of only two true shrike species in North America, are conspicuous birds of open habitats across North America. Despite their widespread distribution, Loggerhead Shrikes have experienced range-wide declines over the past decades. Breeding Bird Surveys in New Mexico have noted a steady 3.2% decline since 1966. A population occurs on Kirtland Air Force Base (KAFB) in New Mexico. Since 2007, Envirollogical Services has worked to determine habitat preferences, productivity, and nest success of this population. Shrike habitat on KAFB is predominately grasslands interspersed with four-wing saltbush (*Atriplex canescens*), Siberian elm (*Ulmus pumila*), and one-seeded juniper (*Juniperus monosperma*). Shrikes also utilize high perches such as utility poles and trees for detecting prey and barbwire fences or thorny bushes for impaling prey. Between 26 and 40 nests have been located each year, some representing second broods. These nests are found primarily in four-wing saltbush and one-seeded juniper, though are occasionally found in various other substrates. Clutch size and overall productivity are fairly consistent each year, but nest success (using Mayfield's method) is highly variable. Nest success has ranged from about 10% to 45% and is somewhat correlated to annual precipitation. Nests are lost most often to predation, but severe weather and abandonment are also factors.

NEST SITE DEFENSE OF COOPER'S HAWKS IN ALBUQUERQUE

K.K. Madden, New Mexico Department of Game and Fish and B.A. Millsap, U.S. Fish and Wildlife Service, Albuquerque, NM

Cooper's Hawks (*Accipiter cooperii*) have become the most common diurnal raptor in the Albuquerque area. While Cooper's Hawks are more likely to exhibit aggressive behaviors toward conspecific intruders of the same age and sex, agonistic behaviors directed toward humans are reported more and more frequently as these hawks settle increasingly in urban areas. In order to identify potential factors influencing nest-site defense toward humans, we collected data from nests in Albuquerque urban areas and in the riparian woodland corridor (bosque) that runs through the center of the city during the 2010-2011 breeding seasons. Observers visited each nest once weekly and recorded aggressive behaviors according to a pre-determined scale. Additional information was documented regarding habitat type, nest-tree species, nest height, parental age and sex. While not a completely reliable indication of a specific age, eye color in Cooper's Hawks changes dramatically over time. Therefore, birds were grouped according to predominant eye color: yellow, orange, and red eyes. Chi-square tests support the hypothesis that hawks nesting in urban areas and surrounded by regular human activity are less responsive in defense of nest sites than those nesting in forested areas with minimal human activity. Analyses also indicate that males and younger Cooper's Hawks are more aggressive than females and older Cooper's Hawks. In addition, analyses indicate a significant relationship between nest site defense and nest stage, with stronger responses immediately after hatching and again during the branching stage when at least one chick was observed outside the nest.

RAPTOR MONITORING ON THE UPPER RIO GRANDE AND SAN ANTONIO GORGES, AND ORILLA VERDE RECREATION AREA, NEW MEXICO

G.L. Garber and T.W. Fetz, Hawks Aloft, Inc., PO Box 10028, Albuquerque, NM 87184 and V. Williams, Bureau of Land Management, Taos Field Office, 226 Cruz Alta Road, Taos, NM 87571

The Upper Rio Grande Gorge, Orilla Verde Recreation Area, and the Rio San Antonio Gorge are important areas for nesting raptors and migration corridors for many other raptor species. This area includes an abundance of cliff faces that provides ideal nesting substrate for many raptors, including Golden Eagle (*Aquila chrysaetos*), Prairie Falcon (*Falco mexicanus*), Peregrine Falcon (*F. peregrinus*), Red-tailed Hawk (*Buteo jamaicensis*), and Great Horned Owl (*Bubo virginianus*). Hawks Aloft, Inc. and the Taos Field Office of the Bureau of Land Management began monitoring distribution and productivity of breeding raptors in 2000. Prior to 2000, little information concerning the status of raptors in the Upper Rio Grande Gorge region was available, and official surveys had not occurred since the 1980s. Surveys continued from 2003 to 2007, 2010 and 2011, documenting a total of 92 nests. In 2011, there were 17 active nest sites, representing five raptor species. Reproductive success was determined at 16 sites and, of those, all were successful; however, due to a late start because of contracting issues, sites that failed or fledged chicks before June were not included in the sample. A minimum of 28 chicks were fledged, resulting

in an average productivity of 1.75 chicks per site. Productivity was highest for Ferruginous Hawk (3.00, n=1), Prairie Falcon (2.40, n=5) and Peregrine Falcon (2.00, n=2), and lowest for Red-tailed Hawk (1.25, n=4) and Golden Eagle (1.00, n=4). Here we document 2011 results and summarize findings from past survey years.

POPULATION CYCLES OF GOLDEN EAGLES AND PEREGRINE FALCONS ON THE JICARILLA NATION, 2002-2011

D.W. Stahlecker, Eagle Environmental, Inc., 30 Fonda Road Road, Santa Fe, NM 87508, and T. J. Watts, Jicarilla Game and Fish, P. O. Box 313, Dulce, NM 87528

Breeding populations of Golden Eagles (*Aquila chrysaetos*) and Peregrine Falcons (*Falco peregrinus*) were monitored concurrently on the 850,000 acre Jicarilla Nation, Rio Arriba County, New Mexico, between 2002 and 2011. Survey effort doubled the number of known eagle territories on the Jicarilla Nation by 2008. Eagle reproductive effort was cyclic; the Nation averaged 5.3 fledglings/year for 2002-04, then 25.3 fledglings/year for 2005-2008, but only 2.3 fledglings/year for 2009-11. In 2011 confirmed Golden Eagle occupancy of territories remained high (80%). Known Peregrine Falcon territories increased 240% between 2002 and 2007, then declined 18% by 2011. While the 2011 confirmed Peregrine Falcon occupancy of territories had declined to 82%, slightly below the 85% target of the species' Recovery Plan, there still were twice as many occupied falcon territories in 2011 as in 2002. Between 2002 and 2006, the annual falcon fledging rates averaged 1.91 young/territory, while from 2008 to 2011 they averaged 1.11 young/territory, suggesting that fecundity was less than mortality. Breeding populations of both species are not isolated from adjacent populations, so that immigration/emigration is likely occurring, but recent poor reproductive output by both species is worrisome.

COMMON BLACK-HAWK (BUTEOGALLUS ANTHRACINUS) IN NEW MEXICO'S CLIFF-GILA VALLEY 2010 – 2011

R.S. Shook and D.K. Walkup, Department of Natural Sciences, Western New Mexico University, Silver City, NM 88061

A historically monitored population of Common Black-Hawks (*Buteogallus anthracinus*) in New Mexico's Cliff-Gila Valley, Grant Co. was re-surveyed during the 2010 and 2011 breeding seasons. A total of 31 active nest sites were found, 19 and 24 in 2010 and 2011, respectively. Of the 31 nest sites, 12 were active both years. Twenty-one territories were documented in 2001 in the same study area. During this study, an average linear density of 0.60 pairs/km on the 38 km of Gila River surveyed was calculated. If totals of successful nests for both years were combined, 38 of 43 pairs (88%) produced at least one fledged young each, a noticeably higher rate than in 2000 (75%) and 2001 (62%). Black-Hawks selected nest trees that were found closer to water, in habitats with younger cottonwoods, and in patches with smaller trees, more trees/ha, and a greater subcanopy layer in 2010-11, than in 2000-01. Beginning in the early 1990s, increase irrigation in the Cliff-Gila Valley resulted in increased widespread hydration of the soils with the concomitant increased growth of the understory in riparian woodlands. As recently as 1970, concerns were

expressed about the high probability that Black-Hawks could be extirpated in New Mexico's Cliff-Gila Valley, however, since that time population numbers have been increasing. It is likely that this increase is the result of the consolidation of many small farms into larger holdings, which led to a decrease in access to the river corridor, and also to a decrease in wanton shooting.

POPULATION STATUS AND NEST FAILURE OF BURROWING OWLS ON KIRTLAND AIR FORCE BASE

K. Cruz-McDonnell and O. Cruz- Carretero, Envirollogical Services, Inc. Albuquerque, NM 87120.

Monitoring of the population of Western Burrowing Owls (*Athene cunicularia hypugaea*) on Kirtland Air Force Base (KAFB) began in 1998, due to concerns about declining numbers across much of the species' range. The monitoring study is conducted annually to assess population trends and productivity of Burrowing Owls on KAFB. Although the KAFB population status has varied over the 14 years of study, the recent declining trend has caused alarm. The breeding population, nest success, and productivity have shown a strong decline. In 2011, the number of breeding pairs and nest success were the lowest since monitoring began in 1998. With only 14 pairs breeding on KAFB in 2011, 86% failed to produce fledglings. In order to investigate the high rate of nest failure, cameras were installed at five nest burrows during the 2011 breeding season to gain qualitative behavioral information at nest sites. These cameras were motion activated and recorded ten second digital videos. The recorded videos documented many breeding behaviors, prey deliveries, nestling activities, and interspecific interactions. Videos also recorded disturbance by humans, pets, and predators. High levels of badger and coyote activity were recorded by all burrow cameras, and videos documented badger and coyote predation of young and adult owls. In 2011, 58% of Burrowing Owl nest failure on KAFB could be attributed to predation.

DIFFERENTIAL MIGRATION BY SEX IN NORTH AMERICAN SHORT-EARED OWLS (*ASIO FLAMMEUS*)

C.C. Witt and R.W. Dickerman, Museum of Southwestern Biology and Department of Biology, University of New Mexico, Albuquerque, NM 87131-0001.

Differential migration of the sexes is thought to be the predominant pattern in migratory birds, but sex-specific migratory patterns have yet to be described for a majority of species. We used museum specimen data to characterize the seasonal distributions of male and female Short-eared Owls (*Asio flammeus*), a species that cannot be sexed by external characteristics due to very subtle sexual size dimorphism. We found 1188 specimen records from North America with adequate data. Winter distributions of males and females were almost entirely overlapping, but the mean latitude of females was significantly lower than that of males for the months of November to March. The difference averaged 3.1°C during mid-winter but increased to a peak of 6.0°C in March, at which time males initiate spring migration. This result is compatible with the hypothesis that males winter closer to breeding areas because they gain a reproductive advantage from early arrival on breeding territories. However, the sex ratio in the specimen record is skewed, with female specimens

predominating during late fall and winter and male specimens predominating during the nesting season. The apparent differential winter mortality of females suggests that that female-differential migration may also be affected by intrinsic sex differences in foraging efficiency, cold tolerance, or dominance. We conclude that the longer migratory distance of females reflects each sex optimizing its migratory strategy in light of the higher likelihood of winter mortality in females and the reproductive benefits to males of early arrival on breeding territories.

THE EFFECTS OF MIGRATION ON THE SPREAD OF AVIAN MALARIA IN NEOTROPICAL BIRDS

M. Dodge, S.L. Guers, C.H. Sekercioglu and R.N.M. Sehgal, Department of Biology, San Francisco State University, San Francisco, CA 94132

We examined the phylogenetic relationships among cytochrome b lineages of the avian blood parasite genera *Haemoproteus*, *Plasmodium* and *Leucocytozoon* from three sites across the range of the Swainson's Thrush. To determine whether transmission of these parasites occurs on breeding or wintering grounds, we collected blood samples from both hatch year and adult birds in Alaska and California, and adult birds in Costa Rica. If parasite transmission occurs on breeding grounds, hatch year birds will be found to harbor local lineages of these parasites. Specifically, we examine the extent to which avian blood parasite lineages migrate with the Swainson's Thrush. Preliminary data reveal a high diversity of blood parasites in this host, and we assess the parasite-host specificity to these and other migratory and non-migratory passerines. Understanding how avian blood parasites are spatially distributed will help us to predict how migration can affect host switching and range expansion events.

AVIAN ABUNDANCE AND FOREST FRAGMENTATION IN NORTHEASTERN UNITED STATES USING GIS

F. Anaya and Z. Jones, Department of Biology, Eastern New Mexico University, 1500 S Ave. K, Portales, NM 87016

There has been a steady decline of avian populations for at least 100 years throughout the Northeastern United States. Although there may be many factors contributing to these population declines, this study examined the landscape-scale effects of forest fragmentation on avian abundance. Aerial photographs and satellite imagery from 2001, along with GIS analysis, performed in 2010-2011, were used to identify three categories of forest fragmentation (90%, 50% and 25% remaining forest) on 12 (four plots in each category), 625km² plots in four Northeastern states. Breeding Bird Survey (BBS) routes were used to examine how the varying degrees of forest fragmentation influenced avian abundance for 18 species of forest dwelling birds from 1993-2007. The results indicated that amount of remaining forest in 625km² does have an influence on some species abundances. Forest fragmentation had a negative impact for eight of the 18 species, and a positive influence for seven of the 18 species. Furthermore, three of the 18 species examined apparently had no significant response to forest fragmentation.

ISOLATED AND UNDER THREAT: SCARLET MACAWS IN BELIZE AND GUATEMALA

C. Britt, Department of Fish, Wildlife, and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003, R. Garcia Anleu and M. Cordova, Wildlife Conservation Society – Guatemala, Flores, Petén, Guatemala and M.J. Desmond, Department of Fish, Wildlife, and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003

Scarlet Macaws (*Ara macao cyanoptera*) in northern Mesoamerica have experienced recent evident genetic isolation and are under threat from a myriad of human pressures. The core breeding areas in Belize and Guatemala are large riparian valleys of the Chiquibul Forest and lowland moist forests in the central-west Maya Biosphere Reserve, respectively. From 43 monitored nests in 2010, 20 in Belize and 23 in Guatemala, nest poaching was determined to be the greatest threat to nest survival in Belize; concentrated around the Chalillo dam reservoir. Connecting tree canopies has an important influence on nest survival across both countries; likely affecting access for non-volant nest predators. Corroborated by the highest nest poaching rates in Belize reported to date, in 2011, nest survival rates from 2010 suggest that the Belize population is likely to be experiencing a population decline. The intense management efforts in Guatemala are reflected in high nest survival rates, suggesting that current management practices may result in an increasing population. In 2011, we tracked three nesting/post-breeding females in Belize for eight months using satellite telemetry collars. Primary utilized habitats were mid-elevation lowland broad-leaved moist forest, adjacent submontane pine forest, and shrubland, respectively, near water. These macaws exhibited restricted, but gradually expanding, movements following the estimated fledge dates, and continued to utilize nesting areas as the core of their daily movements. These findings emphasize the need to protect nest areas as well as the adjacent habitat that are important to post-breeding family groups.

POSTERS

(Alphabetical order by author)

SORTING THE SOUTH AMERICAN SISKINS (SPORAGRA): THE ROLE OF ECOLOGY IN A RAPID CONTINENTAL RADIATION

E.J. Beckman, Department of Biology, University of New Mexico, Albuquerque NM 87131

Ecological transitions across evolutionary time have important consequences for speciation processes and biodiversity. Analyses of young, rapid radiations permit us to address the relevance of ecological transitions to speciation due to the relatively short period between speciation events and the present. The genus *Sporagra*, closely related to the American Goldfinch (*Carduelis*), is a recent, rapid radiation of nine species in the South American Andes. The genus includes species from low and high elevations, humid and dry habitats, and several species with extensive overlap in breeding ranges. We used phylogenetic methods and ancestral character state reconstruction with a multi-locus dataset to ask: (1) What impact do ecological transitions have on the shape of the *Sporagra* phylogeny?

And (2) what ecological and morphological traits characterize the *Sporagra* ancestor? We found the genus was derived from a single colonization of a dry habitat, lowland ancestor from North America with a generalist bill about 0.74 million years ago (MYA). Interestingly, the most recently diverged taxa (<0.12 MYA) breed sympatrically, however these species are ecologically distinct from each other through bill morphology and habitat use, suggesting ecological pressures may have facilitated the rapid evolution of reproductive isolating barriers. We also found humidity differences were an important habitat feature separating closely related species. These results suggest that ecological transitions have played a key role in the evolutionary history of *Sporagra* and may be an important factor in other rapid continental radiations like the Rosy Finches of North America.

GENETIC COLOR POLYMORPHISM IN THE MC1R GENE AND LOCAL ADAPTATION IN THE VERMILION FLYCATCHER (*PYROCEPHALUS RUBINUS*).

C.J. Schmitt, Department of Biology and Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131, W. Vargas Campos², Centro de Ornitología y Biodiversidad (CORBIDI), Urb. Huertos de San Antonio, Surco, Lima, Perú, S. M. McNew, and C. C. Witt Department of Biology and Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131

Vermilion Flycatchers are strikingly bright red and sexually dimorphic throughout their range, from the southwestern United States to Argentina; however, in the heavily polluted city of Lima, Peru, over half of Vermilion Flycatcher individuals of both sexes have sooty brown plumage. We found that plumage morph is perfectly predicted by a single polymorphism in the MC1R gene and is determined by a 2-allele system. The dominant allele confers a solid sooty brown plumage and homozygotes lack any red color. Homozygous recessive individuals have bright red plumage typical of the species, while heterozygous individuals have intermediate phenotypes, which are sooty brown with reddish or pinkish tinges, or aberrant pink or red feathers. We used this new understanding of the genetic basis of the plumage morphs to quantify genotype frequencies in and around the city of Lima to compare to predicted genotype frequencies under Hardy-Weinberg Equilibrium. We found striking differences in allele frequencies between the urban center and adjacent agricultural areas. The most parsimonious explanation for this pattern is strong diversifying selection associated with local adaptation to the climate of Lima's unique littoral desert and anthropogenic pollution.