

Natural History & Biodiversity

REMOVAL OF MAMMALIAN PREDATORS REDUCES PREDATION RATE ON ARTIFICIAL BEACH-NESTS ON THE VIRGINIA BARRIER ISLANDS. Raymond D. Dueser^{1,2}, Joel D. Martin², Nancy D. Moncrief¹ & John H. Porter³, ¹Virginia Museum of Nat. Hist., 21 Starling Ave., Martinsville, VA 24112, ²Dept. of Wildland Res., Utah State Univ., Logan, UT 84322, ³Dept. of Env. Sci., Univ. Virginia, Charlottesville, VA 22903. We compared predation rates on eggs in artificial scrapes on (1) Metompkin and Parramore islands in August 2003 and on (2) Parramore Island before (2003) and after (2004) an intensive campaign to remove mammalian predators. On each island, we established 100 scrapes at randomly-selected points along a 4-km transect oriented parallel to the beach, above the high tide line. Each scrape was stocked with a “clutch” of 1 Japanese quail egg and 1 clay (Plasticene) egg. Each nest was monitored and restocked daily for 4 days. Metompkin was thought to be free of raccoons and red foxes in 2003, while Parramore harbored large numbers of both species. Mammalian predation rates were higher on Parramore (~99% per day) than on Metompkin (~0%). Nevertheless, gulls and ghost crabs depredated ~19% of the nests per day on Metompkin. We repeated this trial in 2004, using the same nest stations. Metompkin harbored 1-2 raccoons at this time, while Parramore still harbored both species even after a large number of raccoons and red foxes had been removed in autumn 2003. Mammalian predation rates on Parramore (18% per day) were still higher than on Metompkin (~0% per day), but were reduced dramatically from 2003. Once again, gulls and ghost crabs depredated ~6% of the nest per day on Metompkin. These results suggest that mammalian predation management has significant potential for reducing nest predation on islands.

THE BIRDS IN BETWEEN: PRODUCTIVITY OF EARLY SUCCESSIONAL BIRDS IN THE VIRGINIA PIEDMONT. Erica M. Rutherford¹, Mark L. Fink¹, Alix D. Fink¹, & Michael D. Collins², ¹Dept. of Biological and Environmental Sciences, Longwood University, ²Dept. of Biology, Hampden-Sydney College. Some early-successional species listed as being of global conservation concern, including the Prairie Warbler (*Dendroica discolor*), occur at high abundances in the Virginia Piedmont. Effective stewardship of those species requires understanding of how they are affected by management activities in the landscapes. We examined factors affecting reproductive success in a suite of six early successional species inhabiting in a variety of managed regenerating forests. In three seasons (2004, 2005, 2008), we located a total of 178 nests of the species suite: Prairie Warbler, Yellow-breasted Chat (*Icteria virens*), Field Sparrow (*Spizella pusilla*), Eastern Towhee (*Pipilo erythrophthalmus*), Indigo Bunting (*Passerina cyanea*), and Brown Thrasher (*Toxostoma rufum*) (and others; 10 species in total). Additionally, we measured habitat variables at two spatial scales: nest site and habitat patch. Simple nest success was 47% overall, with rates for focal species ranging from 53% for Yellow-breasted Chat (24 of 45) to 13% for Eastern Towhee (2 of 15 nests). Parasitism by Brown-headed Cowbirds (*Molothrus ater*) was relatively uncommon, occurring in 8% of total nests. Further analyses will use an

Information Theoretic Approach to evaluate factors influencing nest success, and survival models will be used to determine rates of daily survival. However, these preliminary estimates of simple nest success provide insights into the productivity of birds in these regenerating sites, as abundance is often the only indicator cited in their valuation.

DIVERSITY OF NON-*APIS* BEES IN SOUTHWEST VIRGINIA CROP LANDS. Nancy L. Adamson, Donald E. Mullins & Richard D. Fell, Entomology Dept., Virginia Tech, Blacksburg, VA 24061. Native bees provide the majority of crop pollination for some crops in the mid-Atlantic region. Little is known about native bee crop pollinators in Virginia, other than squash, bumble, and mason bees. This presentation highlights the abundance and diversity of non-*Apis* bees pollinating apples, blueberries, caneberries, and cucurbits in southwest Virginia during the 2008 and 2009 growing seasons, including six state records--*Bombus sandersoni* Franklin, 1913; *Coelioxys rufitarsis* Smith, 1854; *Holcopasites calliopsidis* (Linsley, 1943); *Lasioglossum apocyni* (Mitchell 1960); *Melissodes communis* Cresson, 1878; and *Triepeolus simplex* Robertson, 1903. As part of an on-going monitoring effort managed by the U.S. Geological Survey, the research provides baseline data to understand long-term population trends and to enhance land and farm management based on relationships between bee species richness and vegetation surrounding farm land. (Supported by a pollination research grant to the Virginia Cooperative Extension from the Virginia General Assembly and by the Virginia Tech Graduate Student Assembly's Research and Development Program and Travel Fund.)

SURVEY OF LOTIC DRAGONFLY SPECIES OF HANOVER COUNTY, VA. Allyson Lackey¹ & Leigh Adams², ¹Biology Department, Virginia Commonwealth University, Richmond, VA 23298, ² Biology Department, J. Sargeant Reynolds Community College, Richmond, VA 23285. Authors report as many as 27 lotic species might be found in this county. The collection and identification of adult dragonfly species (Odonata) found in the lotic areas of Hanover County, Virginia was conducted to verify the dragonflies found in this location. Preliminary field collections were made from two different rivers (Pamunkey and the South Anna) systems within Hanover County; one on each side of the county, occurring during the months of June through July in 2009. Adults of *Anax junius*, *Gomphus lividus*, *Gomphus vastus*, *Arigomphus villosipes*, *Stylurus amnicola*, *Dromogomphus spinosus*, *Progomphus obscures*, *Libellula Lydia*, *Libellula vibrans*, *Libellula pulchella*, *Libellula incesta*, and *Libellula cyanea* were collected and verified on the surveyed streams of Hanover County, Virginia, the summer of 2009.

SMALL MAMMALS FROM A CLOUD FOREST IN THE MONTAÑAS DE CUILCO, HUEHUETENANGO, GUATEMALA. John O. Matson¹, Walter Bulmer², Ralph P. Eckerlin², Hayley Lanier³ & Neal Woodman⁴, ¹Dept. of Biol. Sci., San Jose State Univ., San Jose, CA 95192, ²Division of Nat. Sci., Northern Virginia Community College, Annandale, VA 22003, ³University of Alaska Museum, Univ. of Alaska, 907

Yukon Dr., Fairbanks, AK 99775,⁴USGS, Patuxent Wildlife Research Center, National Museum of Nat. Hist., Smithsonian Institution, Washington, DC 20013. We surveyed the remnant mixed hardwood/coniferous cloud forest at elevations ranging from 2950m to 3160m at El Retiro, in the isolated Montañas de Cuilco, Huehuetenango, western Guatemala. Removal trapping for 4 days each in July 2008 (wet season) and January 2009 (dry season) resulted in 106 captures representing 6 species of shrews and rodents. This diversity of small mammals is the lowest that we have recorded from a Guatemalan cloud forest, compared to 10-15 species at other localities. Based on capture rates, the species in order of relative abundance in the small mammal community are *Peromyscus beatae sacarensis* (n=45), *P. guatemalensis* (n=34), *Reithrodontomys microdon* (n=9), *R. sumichrasti* (n=7), *Sorex saussurei* (n=6) and *R. mexicanus* (n=5). The low species diversity may result from habitat destruction by recent large-scale fires and by logging for firewood and lumber. Habitat loss may have direct effects, but also leads to fragmentation that may restrict reinvasion after fire. This represents the first collection of small mammals from this mountain range.

Psychology

GENDER, ETHNICITY, & ORGAN DONATION. Daniel Baughn¹, Stephen M. Auerbach¹, & Laura A. Siminoff². ¹Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284 and ²Department of Social & Behavioral Health, Virginia Commonwealth University, Richmond, VA 23298. Understanding the factors that influence the procurement coordinator (PC) and the family at the time of organ donation may be one way to increase the rate of donation. Using an analogue format, this study examined the interpersonal behavior of PCs and simulated families during the donation request process. Interpersonal processes were assessed using behavioral ratings by independent observers using the Impact Message Inventory (IMI), the Participatory Style of Physician Scale (PSPS), and the Siminoff Communication Content and Affect Program (SCCAP). Three-way ANOVAs were conducted to evaluate the effects of gender of PC, ethnicity of PC, and ethnicity of family on the interactional variables. There was a significant PC gender × scenario (scn) interaction effect on IMI Affiliation, $F(1,25)=6.65, p<.02$. There was a significant PC gender × ethnicity interaction effect on IMI Control, $F(1,25)=4.68, p<.04$. There was also a significant PC gender × ethnicity interaction effect on the Shared Decision Making subscale of the PSPS, $F(1,25)=5.83, p<.02$. There was a significant PC ethnicity × scn interaction effect on the Positive Affect scale of the SCCAP, $F(1,25)=5.52, p<.03$. Implications for the field of organ donation and the training of procurement coordinators are discussed.

IMPACT OF EMOTIONAL AROUSAL AND SECONDARY TASK MODALITY ON PERFORMANCE. Rachel R. Phillips & Poornima Madhavan, Dept. of Psych, Old Dominion University, Norfolk VA 23529. In order to examine the effect of different modality distractors (visual or auditory) of differing affect (positive or neutral) on performance participants completed a luggage screening task with and without a secondary task in one of four conditions (positive-visual, positive-auditory, neutral-