

The critically endangered Hooded Grebe (*Podiceps gallardoi*) breeds in plateaus of western Santa Cruz, Argentina. It overwinters in estuaries at the Atlantic coast, in Santa Cruz. Its migratory behavior and movements are unknown. A survey of 400 lakes at 7 plateaus from 2009 to date showed that numbers across seasons in each plateau did not change ( $\chi^2 < 0.001$ ). Tissue samples of 51 individuals from two plateaus (Buenos Aires – BALP–  $n=31$ ; Siberia  $n=20$ ) were analyzed for testing breeding site fidelity. We sequenced mtDNA (control region, 353 bp), and analyzed population structure with AMOVA. Genetic variability between them explained 11% of the variation, and haplotype frequency distribution was significantly different between plateaus ( $F_{ST}=0.1, p=0.009$ ). Since 2011 we tagged 53 individuals at BALP and Strobel plateaus. Two juveniles and adults banded at BALP were detected nesting at the same plateau. An adult and a juvenile banded at BALP were detected at the Río Gallegos estuary (April). Lastly, we monitored the three main estuaries since 2011 and found a temporal trend, with early presence (April-May) in southern estuaries and a later northward displacement (June-August). The results suggest a phylopatric behavior, and number variations among lakes suggest fidelity at the scale of plateau, instead of specific lakes. The northwest – southeast migratory routes are likely to differ between autumn and spring migration. The information obtained is essential to understand population dynamic of Hooded grebes and the importance of each plateau as reproductive habitat and the role of each estuary during different stages of its migratory cycle.

#### **10537 NATIONAL BANDING SCHEME OF BRAZIL: LINKING BANDERS AND BIRD CONSERVATION ACROSS THE COUNTRY**

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Brazil holds several bird migration routes, latitudinal and longitudinal migrations, local or regional movements, in addition to intratropical and altitudinal migratory patterns. Bird migration studies in Brazil have substantially benefited from new technologies in the last decade, but traditional ringing is still also on focus of our National Banding Scheme (SNA). The first band recovered in Brazil was from a *Sterna hirundo* with a US band, in 1928. Although the primary focus of bird ringing in Brazil was the study of bird movements and migration since CEMAVE establishment in 1977, today the focus is also on understanding health, behavior and population dynamics issues, such as dispersion after fledging, survival rates and longevity. Nevertheless, successful banding programs depend on the effort to recapture marked birds, which can be carried out by specialists aiming to understand population dynamics but also by citizen-scientists, when looking for dispersal and seasonal movements. Although a relatively high effort is required to mark and recapture birds, banding is still a useful tool for understanding bird movement strategies. In addition, cost is not a limiting factor since CEMAVE provides metal rings for projects registered in the SNA. Therefore, SNA is still engaged in a continuous effort of training, communicating and organizing ringing in Brazil.

Currently, more than a thousand scientists are ringing birds in Brazil, studying several topics. Here, we present the history of our banding scheme as well as innovations, online services (SNA.net), results and challenges throughout the years.

#### **10556** INTRA-TROPICAL BIRD MIGRATION RESEARCH IN THE 21ST CENTURY: NEW INSIGHTS ABOUT A COMPLEX SYSTEM

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Recent studies show that intra-tropical bird migration is much more common than previously thought. However, we still know very little about the details of such intra-tropical movements, including how many species migrate in the tropics, when and to where different populations migrate, the underlying mechanisms responsible for such movements, or the risks to survival during migration. Differences in the seasonality of tropical vs. temperate ecosystems and in the life history strategies of intra-tropical migrants vs. migrants breeding at temperate regions suggest that intra-tropical migrants are under a different set of selective pressures than their temperate counterparts. Proposed drivers of intra-tropical migration are spatial and temporal variation in the availability of food resources, risk of predation, limitation of nesting sites, competition for food, and weather. Understanding which populations migrate within the tropics, as well as what determines individual migratory strategies is imperative to a full appreciation of how and why birds move across the planet, as well as how to best conserve and manage their populations. We provide a synthetic review of the geographic distribution of migrants in South America and discuss potential mechanisms underlying different patterns of movement (e.g., altitudinal migration). We also highlight some recent discoveries from ongoing research using a diversity of novel tracking technologies and discuss important future directions for research on intra-tropical migration.

#### **10682** HOW SEASONALITY IN THE SOUTHERN HEMISPHERE AFFECTS MIGRATION OF AUSTRAL MIGRANT *Tyrannus savana*

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We lack a thorough understanding of the degree to which the seasonal changes in locations of animals are driven by the timing and sequence of resource availability across the annual cycle, a necessary component for their conservation in a changing global climate. However, recent advancements in animal tracking technology offer an unprecedented ability to explore how individual animals track seasonal changes. This