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# Western Regional News

## Western Bird Banding Association's Fall and Winter Webinar Series

One of the best things about the banding associations are the annual meetings where we get to share ideas and visit with friends. Not everyone can get to every meeting and see all of the talks, so the Western Bird Banding Association has created a series of webinars for this fall and winter to share some of the amazing work happening in our region.

Everyone is invited to these free presentations. We have planned several evenings of webinars beginning in October 2023. These evenings will usually include two topics, 20-minute talks with 10 minutes of questions each, and be held at 6 pm Pacific Time, usually on Wednesdays or Thursday nights. We expect the series to run through April, at which time people tend to get busy with their field seasons.

The topics will have several formats, from talking about various projects different organizations in the WBBA region are tackling, scientific presentations of results and papers, informational talks on molt, presentations about banding stations in the tropics, and more. At the moment our slate is full through April 2024, but we plan to continue this series again in the Fall of 2024. If you are interested in giving a talk in the fall or winter of 2024-2025, please reach out to me at, [wbbadani@gmail.com](mailto:wbbadani@gmail.com) Dani Kaschube WBBA President.

We know that by the time you read this, several months of talks will likely have taken place, and even as I write this, two evenings of talks have

already passed. Because we want people to have access to the talks, we are recording them and posting them on the WBBA website at

Upcoming talks will also be listed on this webpage as well as on WBBA's social media platforms. We hope that you can join us and that in future seasons we can hear about your projects as well.

Sincerely,  
Danielle Kaschube  
WBBA President

### **Diversity and body condition of birds inhabiting native and exotic forests in the Pampas of Argentina**

*[Note: this is a project proposal that received funding from Western Bird Banding Association's annual research grant.]*

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## Background

The Pampas is a vast region dominated by temperate grasslands, which in the last century has undergone major conversion due to cattle ranching and other agricultural activities. In this open landscape, forests and woodlands are extremely important habitats for birds, as they naturally provide food, shelter, and nesting sites, while birds are important to forests for their role as seed dispersers. However, these habitats are naturally scarce and human activities have altered their composition and distribution (Haene 2006, Torres and Tur 2006).

The tala forest or “talar” is the only native forest of the Pampas. It is composed of small, low-lying woodlands, dominated in its tree layer by the tala (*Celtis ehrenbergiana*) and with an understory of shrubs and grasses (Haene 2006). These forests occur mainly along the pampean Atlantic coast on soils of high xericity, distributed in stands that contrast with the grassland matrix. Due to the flexibility, resistance and the intricate arrangement of their branches, talaes provide birds a safe place to nest and protection from predators (Cueto 1996, Gonzalez 2019). However, the majority of talaes have been fragmented and reduced via extraction of firewood, use for domestic livestock shelter, or directly eliminated by mining activities, and currently only small fragments remain (Torres and Tur 2006).

As native forests disappeared, the establishment of exotic tree plantations in the Pampas increased (Matteucci 2012). These forested patches were planted for ornamental purposes, to provide shade, or as shelter from the wind, and are usually associated with ranches and urbanized areas. Although exotic woodlands might compensate to some extent for the disappearing native forests, the replacement usually leads to a loss of avian diversity. This is because bird species richness is often lower in tree plantations compared with native forests (Farwig et al. 2008, Phifer et al. 2017), especially due to the disappearance of native bird species (Lacoretz et al. 2021). However, there are no long-term studies evaluating the importance

of talaes or the loss of avian biodiversity due to exotic woodlands in the Pampas.

Monitoring studies are essential to evaluate how human-induced environmental changes affect the composition and health status of bird assemblages. Since 2018 we have been carrying out a long-term program for monitoring the spatio-temporal variations in the composition of Pampas bird assemblages (Project Biology and Conservation of Pampas Birds ([ByCAP] 2023). In this period, we banded more than 300 individuals of 40 passerine species in representative environments of the Pampas, including grasslands, wetlands, and forests (Cardoni et al. 2022, Lunda Monassa et al. 2023). In the present project, our proposal is to continue with the long-term monitoring program of bird assemblages inhabiting forested areas of the Pampas, evaluating the influence of the landscape matrix on the bird species composition and health status of individuals.

## Objectives

Our specific objectives are to: (a) continue the long-term monitoring program of bird species that use forest and woodland patches in the Pampas, (b) evaluate the effect of the type of patch (exotic, native) and the landscape matrix (urban, rural, grassland) on bird richness and diversity, and on the body condition of individuals, and (c) provide sound scientific information for use in science communication.

## Methods

**Study area.** The study will be carried out at the eastern coast of Buenos Aires province, Argentina, an area characterized by its heterogeneity, including a diverse array of natural environments (grasslands, wetlands, forests), and modified environments (grazing fields, croplands, urban areas). Thus, the typical landscape is an agricultural matrix interspersed with patches of other cover types. Forests and woodlands are found in small patches associated with houses in urban areas, ranch entrances and roadsides in rural areas, and wetland margins in natural areas (Isacch et al. 2016). We will capture birds at three banding stations, corresponding to urban, rural, and natural forest patches, where we have been

working previously. The urban station is located on the campus of Mar del Plata University, a 3-ha area in the city of Mar del Plata (38° 0' 32" S, 57° 34' 29" W), where vegetation is predominantly exotic. The rural station is located at Nahuel Rucá ranch (37° 37' 11" S, 57° 25' 22" W), which includes a 15-ha tala forest used for shading cattle and for rural tourism. The natural station is located in Campos del Tuyú National Park (CTNP; 36° 21' 15" S, 56° 52' 34" W), a protected area located on the eastern Pampas, created to preserve that ecosystem. Because of its important role in the conservation of flora and fauna, the CTNP was declared a Ramsar site, is in Category IV-Group A of the International Union for Conservation of Nature, and is considered an Important Bird and Biodiversity Area with Globally threatened species (IBA-A1) by BirdLife International. The area (3,040 ha) includes eight talaes interspersed in a grassland matrix, thus resembling the natural distribution of talaes in the Pampas. This is one of the few places where the tala forest is protected in Argentina, and the only one with national park status.

### ***Sampling design.***

At each station, we will capture birds during the breeding and non-breeding seasons, with the objective of banding forest-dwelling birds and recording their morphological and physiological characteristics of individuals. Individuals will be captured using mist nets (9-m long x 2-m high; 1-cm mesh), which will be activated early in the morning and disabled at sunset. We will band each individual with a unique combination of colored bands. Then, we will take the following morphological measurements: tail, wing, culmen and tarsus length, and bill width and height. We will determine the body condition of each individual by integrating body fat index (abdominal and pectoral) and pectoral musculature index, feather molt, and reproductive condition (i.e., presence of cloacal protuberance and/or brood patch) following standardized protocols (Ralph et al 1996). We will also measure body mass (weight) using a digital scale, and we will estimate the age (juvenile, subadult, or adult) and the sex in those species with differences in plumage characteristics.

Finally, we will take a blood sample from the brachial/ulnar vein by performing a venipuncture with a hypodermic needle (30 G x 1/2", 0.3 x 13 mm). This sample will be used to determine the leukocyte profile and sex of the individual when necessary (Fridolfsson and Ellegren 1999, Davis et al. 2008). Blood samples will be processed in the laboratory of the Vertebrate Group of the Institute of Marine and Coastal Research (IIMyC, CONICET-UNMdP; Instituto de Investigaciones Marinas y Costeras, CONICET-Universidad Nacional de Mar del Plata), which has safety protocols for laboratory work. Profile and dorsal photos will be taken of each individual before releasing it near the capture site. Handling time for each individual will be minimized as much as possible. With the information obtained, we will calculate the richness (i.e., number of species), abundance, and diversity of passerines in each forest patch (Jaksic 2007). Simultaneously during each sampling campaign, we will conduct fixed radius point surveys in and around each banding station to record banded individuals (Bibby et al. 2000). The number of surveys will be determined based on the size of the forest patches. The date, species, banding combination, and geographic location will be recorded for each individual observed. This information will be used to study the survival of individuals and habitat use at local and landscape scales

### ***Science communication activities.***

We believe that this study may represent a valuable opportunity to establish environmental and ornithological education programs to raise awareness among the local population about the importance of birds and native forests conservation. We will address this objective through different outreach activities: (a) posters and brochures that we will distribute in touristic villages and schools, (b) publication via social media, and (c) informative talks at schools and tourist centers to share audiovisual material

### ***Research team.***

The project will be carried out by Alejandro Baladrón, accompanied by Matías Pretelli, Matilde Cavalli, and Nicolás Chiaradia. We are

all researchers from CONICET and the University of Mar del Plata and our studies focus on different aspects of bird ecology ([www.iimyc.gov.ar/iimyc/es/grupos-de-investigacion/grupo-vertebrados](http://www.iimyc.gov.ar/iimyc/es/grupos-de-investigacion/grupo-vertebrados)). In addition, we will encourage the participation of biology students, park rangers, and volunteers in the fieldwork.

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