

SPIZAETUS

NEOTROPICAL RAPTOR NETWORK NEWSLETTER

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MEGASCOPS GILESII IN COLOMBIA

BUTEO NITIDUS IN VENEZUELA

BUTEO PLATYPTERUS IN COSTA RICA

PANDION HALIAETUS IN COSTA RICA

FALCO SPARVERIUS IN VENEZUELA

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Megascops gilesi photographed in Colombia
© Sebastian Ballesteros Caro

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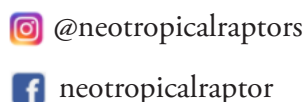


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The NRN is a membership-based organization. Its goal is to aid the research and conservation of Neotropical raptors by promoting communication and collaboration among biologists, raptor enthusiasts, and other conservationists working in the Neotropics. To join please e-mail the NRN coordinator, Marta Curti, at mcurti@peregrinefund.org, stating your interest in Neotropical raptor research and conservation.

FIRST RECORD OF *MEGASCOPS GILESI* (STRIGIDAE) PREDATION OF A FROG *PRISTIMANTIS SANCTAEMARTAE* (CRAUGASTORIDAE) IN THE SIERRA NEVADA DE SANTA MARTA, RESERVA EL DORADO, MAGDALENA, COLOMBIA

By **Guido Riccardo Spinelli Giorgi**, **Jorge Luis Gutiérrez Guillén**, and **Sebastian Ballesteros Caro**

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The Santa Marta Screech Owl (*Megascops gilesi* - Strigidae) is endemic to the Sierra Nevada de Santa Marta. It is distributed along an altitudinal range between 1,500 and 2,500 meters above sea level (m.a.s.l.) (Ayerbe 2019). This owl has medium yellow eyes, a facial disc with a relatively indistinct dark brown narrow rim, a regularly barred crown, and a back with relatively straight and broad dark bars. It has a pale nape separated in coloration by the mantle feathers, which have a contrasting dark band. It has relatively sparse and narrow blackish streaks on the underparts, contrasted by light brown crossbars that are uniformly and widely spaced on the belly, which are fairly straight rather than wavy (Fig. 1). The tarsi, but not the toes, are covered in golden-colored feathers, which contrast with the white color of the belly (Krabbe 2017).

The Santa Marta Screech Owl was formally described by Krabbe (2017) and evaluated by

BirdLife international for the IUCN Red List of Threatened Species in 2019. It was categorized as Vulnerable (VU) according to criterion B1 ab(iii), due to the lack of population studies (IUCN 2019). Current records in the Sierra Nevada de Santa Marta region suggest that this owl has a restricted distribution. Also, due to continued habitat destruction (caused by agriculture of both illegal and legal crops, logging, and forest burning) in the Sierra Nevada de Santa Marta, this species could be considered in some other category of threat that suggests greater protection (IUCN 2022).

This species may sometimes be confused with *Megascops choliba* due to their taxonomic relationship and morphological kinship (Krabbe 2017). Todd and Carriker (1922) cataloged it as a subspecies of *Otus choliba*, a former genus in which *M. choliba* was placed. Few articles discuss *Megascops gilesi*. Krabbe (2017) described this



Figure 1. A) Morphological attributes of *Megascops gilesi* in its reddish phase (photo taken on 18 January 2022 at 22h03min UTC). Foto © Guido Spinelli; B) Morphological attributes of *Megascops gilesi* in its gray phase (photo taken on 13 April 2022, at 02h05min UTC). © Foto Jorge Gutiérrez.

scoops owl as a new species for the Sierra Nevada de Santa Marta, based on a sound analysis that indicated that at least some of its vocalizations differ from the rest of the taxa of the genus *Megascops* which had been evaluated. Likewise, the phylogenetic studies carried out by Danta et al. (2016) show that the Santa Marta scoops owl was divergent from the other *Megascops*, with a minimum genetic distance of 6.1% from *M. watsonii*.

According to Méndez (2017), this species has only been recorded towards the Cuchilla de San Lorenzo, municipality of Minca in the Sierra Nevada de Santa Marta, department of Magdalena, Colombia. The habitat types in the area include cloud forest, humid forest, forest edges and grasslands, at elevations between 1,800 and 2,500 m.a.s.l. Human action in the region's habitats and the limited knowledge about the population

ecology of this scoops owl justifies the urgent need to carry out research to learn about its distribution, habitat requirements and use, feeding habits, and population density, among other relevant information to help establish measures for its conservation.

La Sierra Nevada de Santa Marta is found in northern Colombia and it encompasses an area of approximately 12,000 km². The geographical location of the massif and the effect of interception on the circulation of the trade winds from the northeast, create a differential distribution of vegetation. It has an altitudinal gradient that extends from 500 to 4,300 m.a.s.l. and it hosts a variety of ecosystems from the grasslands and thickets of the páramo to the jungles and forests of the equatorial region (Rangel 1995).

Some of the common plant species found in the tropical region of Sierra Nevada de Santa Marta include *Cyathea pungens*, *Piper augustum*, *Psychotria limonensis*, *Anthurium trisectum*, *Guarea guidonia*, *Carludovica palmata*, *Passiflora maliformis*, *Sapium glandulosum*, *Conostegia icosandra* and *Weinmannia pinnat*. The vegetation of this region is different than the vegetation present in the lower zones (hills), the latter being dominated by xerophytic vegetation, spiny forests, and soil with little vegetation cover (Rangel 2012).

In the more internal variants, thorny forests are found, as well as forests with deciduous foliage dominated by *Pereskia guamacho*, and humid forests. The climate varies in the Caribbean region, and is considered three subregions: arid-dry, dry-humid and humid-very humid. The arid-dry subregion is the one that characterizes the Sierra Nevada de Santa Marta region, which

includes the areas from La Guajira to the limits with Magdalena (Sierra Nevada de Santa Marta) and Cesar (Serranía de Perijá). There are marked climatic variations in the different departments, thus the dry and humid climate is accentuated in the departments of Magdalena, Atlántico, Sucre, Cesar, and the humid-very humid climate in the departments of Córdoba, Bolívar and Cesar (Rangel 2012).

The Sierra Nevada de Santa Marta has a median average precipitation of 2,446 mm (Rueda et al. 2005). Rainy season occurs between April and May, and July and October. Though in July, there is a reduction in precipitation which coincides with the “veranillo (little summer) de San Juan.” The dry season occurs during the remaining months, between November and March. The region's high precipitation favors the establishment of typical physiognomic formations of the tropi-

Figure 2. *Megascops gilesi* found at 2,074 m.a.s.l. feeding on a frog of the species *Pristimantis sanctaemartae*, in the El Dorado Reserve. Photo © Sebastian Ballesteros Caro



cal pluvial forest (Rangel 2012). The main threat to the habitats and biodiversity in the Sierra Nevada de Santa Marta is deforestation, caused by the change of forest cover to agricultural areas. This transformation of natural habitats to habitats with anthropic influence will probably have repercussions for the displacement of this endemic owl (Rangel 1995).

To date, there have been no published articles or scientific notes on the species' natural history that document hunting and/or feeding habits of *Megascops gilesi*. However, there are publications on the feeding habits of other species within the genus *Megascops*, such as the study by Motta-Junior (2002) which investigated the diet of *Otus choliba* (currently *Megascops choliba*) in southeastern Brazil during the breeding season. Likewise, the investigation of Delgado-V (2007) in the city of Medellín, Colombia, found that this species feeds on rodents, scorpions, snakes, spiders and insects.

Prior to our discovery, it was suspected that *Megascops gilesi* might feed on two species of common amphibians (genera *Cryptobatrachus* and *Pristimantis*) within these elevational gradients. This information arose from field observations of the species. However, in none of the cases could the prey be identified. On 23 May 2014, in the El Dorado Reserve, San Lorenzo Sector, Sierra Nevada De Santa Marta (coordinates 11°06'01.6"N; 74°04'10.8"W) at an

altitude of 2,074 m.a.s.l., the photographer Sebastián Ballesteros Caro had the opportunity to photograph *M. gilesi* with its prey. This photograph made it possible to identify that *M. gilesi* feeds on *Pristimantis sanctaermatae*.

This photographic report has allowed us to learn a little more about the diet of this species, which has nocturnal habits and cryptic behavior. Of course, there is much more to investigate and learn about its diet. For example, there are anecdotal accounts of local inhabitants who have reported seeing the Santa Marta Scops Owl consume beetles. More field research is required to systematically document the species that make up the diet of this scops owl.

Through this short note, we hope to awaken the enthusiasm of readers and researchers to carry out studies with *M. gilesi* or other species of scops owls. Future studies would allow us to obtain data that improve the understanding of the species' population dynamics and trends, and determine the state of conservation, and their role within the food chain, among many other relevant ecological aspects.

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GRAY-LINED HAWK (*BUTEO NITIDUS*) FEEDING ON WATTLED JACANA (*JACANA JACANA*) IN THE HACIENDA GUÁQUIRA, SAN FELIPE, YARACUY STATE, VENEZUELA

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Predation is an ecological interaction between species which is defined as the consumption of all or part of one living organism by another. In turn, a predator functions as an agent of mortality with the potential to regulate prey populations. The populations of both predator and prey influence the composition of communities as a consequence of their adaptations, while contributing to natural selection and the evolution of organisms (Smith y Smith 2007).

In the five orders that make up birds of prey: Accipitriformes, Cariamiformes, Falconiformes, Cathartiformes and Strigiformes (Katzner 2020), the first four orders usually hunt during daylight hours, while the last usually hunt during the night. In this way, raptors influence the flow of energy 24 hours a day due to this predator-prey interaction.

The Gray-lined Hawk (*Buteo nitidus*) is a diurnal bird of prey which has a continuous distribution from the extreme southwest of the United States, passing through Central America and South America to northern Argentina, including Trinidad and Tobago (Ferguson-Lees and Christie 2001). In Venezuela it is distributed in the entire continental territory from 0 to 2000 m.a.s.l. where it inhabits cloud forests, evergreen, semi-deciduous, deciduous, gallery forests, farmlands and open fields with scattered trees (Phelps et al. 1994, Hilty 2003, Rengifo and Puente 2017). It feeds on rodents, birds, lizards (including *Iguana iguana*), snakes, amphibians, and insects (Phelps et al. 1994, Ferguson-Lees and Christie 2001, Hilty 2003).

The Wattled Jacana (*Jacana jacana*) is a diurnal aquatic bird that is found from Costa Rica to northern Argentina, Chile and Uruguay (Hilty 2003, Sanz et al. 2020). It is distributed through-



Figure 1. An adult *Buteo nitidus* with a dead *Jacana jacana* in its talons. Photo © Jone Troconis Aldaz

out all the Venezuelan states, including the Isla de Margarita, where it inhabits environments associated with bodies of water with abundant floating vegetation from 0 to 1215 m.a.s.l. (Salcedo 2013, Sanz et al. 2020, eBird 2021). Previous references have been made to the predation of the Wattled Jacana by the Aplomado Falcon (*Falco femoralis*) and also by the Barn Owl (*Tyto alba*) (Hilty 2003, Ingels et al. 2015).

On the afternoon of 22 October 2021, a group of people (including invited photographers and local workers) were able to observe a predation event during a driving tour. The event occurred in an artificial lagoon with abundant floating aquatic vegetation, including *Eichhornia* sp., located in the Reserva Ecológica Guáquira, south of

the city of San Felipe, Yaracuy State, Venezuela, at 114 m.a.s.l. (10°29'05'' N; 68°66'57'' W). We observed an adult *Buteo nitidus* flying from the lagoon. It carried an adult *Jacana jacana*, which was identified and photographed while the hawk remained perched on the border of an evergreen forest. It then flew out of sight with the dead prey in its talons, thus we weren't able to observe it consume its prey (Figures 1 and 2).

Wattled Jacanas measure between 23-24 cm. Males weigh between 90-120 grams and females weigh between 140-150 grams. Gray-lined Hawks measure between 38-43 cm and weigh 475 grams (Hilty 2003). This predation event points to the possibility that the Gray-lined Hawk is capable of capturing prey that is 58% of its body size and

25% of its weight. Although some dietary habits of this species are known, its list of prey animals is very generic, and only groups of animals in general have been identified. *Iguana iguana* is the only prey animal identified to the species level (Hilty 2003). With this contribution, we can now add *Jacana jacana* to its list of prey species. It is clear that future studies are needed to learn more about the diet of the Gray-lined Hawk and its place in the food chain.

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To the administration of the Guáquira Ecological Reserve for allowing us to closely witness each natural element that lives there. To the photogra-

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Figure 2. Adult *Buteo nitidus* flying into the forest carrying an adult *Jacana jacana* in its talons. Photo © Alberto Blanco-Dávila.



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MIGRATORY RAPTOR'S (*BUTEO PLATYPTERUS*) OPPORTUNISTIC CAPTURE OF BIRDS INJURED IN WINDOW COLLISIONS

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Knowledge of the trophic ecology of a predator can help us understand the influence of climate and seasons on the exploitation of resources and inter- and intra-specific relationships (Zocche et al. 2018). Hawks of the genus *Buteo* are found almost everywhere in the world and usually in large numbers (Burns 1911). The Broad-winged Hawk (*Buteo platypterus*; Accipitridae: Buteoninae) is a medium-sized hawk (43 cm, 450 g, Stiles and Skutch 1989). It is dark brown above and white below with reddish brown markings, especially on the chest, with pale brown irises, and yellow cere and legs. (Stiles and Skutch 1989).

Buteo platypterus mainly inhabits forested areas (BirdLife International 2016), although other authors state that it prefers open areas, forest edges, fragmented forests and semi-open areas, and only occasionally enters dense forest (Stiles and Skutch 1989). This hawk is a long-distance migrant that flies in large flocks, sometimes with *Buteo swainsoni* or *Cathartes aura*, through the Mesoamerican Land Corridor (Bildstein 2004, Garrigues and Dean 2014). In Costa Rica, *Buteo platypterus* is an abundant species from mid-November on the Caribbean slope and in the highlands, and from the beginning of March to the end of May on both slopes. (Stiles and Skutch 1989).

Buteo platypterus breeds in North America and its wintering area extends from southern Florida and southern Mexico to Peru and northern Brazil (Stiles and Skutch 1989). It is distributed from sea level to 2000 m.a.s.l. (Garrigues and Dean 2014). It is a common winter resident on both slopes of Costa Rica (Stiles and Skutch 1989). In Costa Rica it has been observed pouncing or jumping on its prey from a perch in the middle levels of the forest edge (Stiles and Skutch 1989, Garrigues and Dean

2014). Most often, it waits for prey while perched on a dead trunk or branch (Burns 1911). If there is a slight movement below it leans forward and attacks (Burns 1911) - a typical hunting technique used by *Buteos* (Panasci and Whitacre 2000). It feeds on reptiles, large invertebrates, rodents, and occasionally small birds (Errington and Breckenridge 1938, Stiles and Skutch 1989, Birdlife International 2016).

In eastern North America, *Buteo platypterus* populations are declining, while north central populations appear stable and western populations are increasing (McCabe et al. 2020). It is classified as Least Concern by the IUCN (BirdLife International 2016). However, information on its survival,

trophic ecology, and resource selection, among other things, during the wintering period of the annual cycle is limited (Cuadros et al. 2021), making it necessary to learn more about this species. Here we present the first documented record of opportunistic feeding behavior of *Buteo platypterus* on birds injured by window collisions.

Bird collisions with human-made structures are frequent and the number of birds that collide with windows is high. Such collisions must be addressed since they are the cause of an annual mortality of more than 2% of bird populations, which amounts to millions of individuals (Klem 2015, Menacho-Odio 2018). Vertical constructions are a pervasive obstacle to bird flight globally, and collisions with

Figure 1. Observation point (blue point) of a Broad-winged Hawk (*Buteo platypterus*) in the Soltis Center, San Ramón, Costa Rica.





Figure 2. Broad-winged Hawk (*Buteo platypterus*) perched near the main building of the Soltis Center, San Ramón, Costa Rica. Photo © José M. Mora.

buildings, especially with their glass windows, are a major anthropogenic threat to birds (Loss et al. 2014). Mortality rates from this cause have been found to increase with the percentage and surface area of buildings covered by glass, the presence and height of vegetation, and the amount of light emitted from windows (Loss et al. 2014).

Observation

In January 2018, we began to observe a Broad-winged Hawk around the administrative buildings of the Soltis Center, located in San Isidro de Peñas Blancas, San Ramón, Costa Rica (10° 23' 01'' N, 84° 37' 00'' W, 480 m a.s.l.; Figure 1). The center has several buildings and dormitories which are surrounded by gardens. On the periph-

ery of the gardens are wooded areas, including 105 ha of forest that connect to the Children's Eternal Forest (CEF). The CEF Reserve also forms part of the Arenal-Monteverde Protected Zone, a large forest mass of more than 26,000 ha (Mora et al. 2020). This forest is known as Premontane Tropical Forest, a life zone characterized by high rainfall of about 4,000 mm per year, evergreen forests with two or three strata, a canopy that measures 30 - 40 m high, and an abundance of epiphytes (Holdridge 1967).

For four consecutive years, we have observed a Broad-winged Hawk, which appears to have established its wintering site in the surroundings of the Soltis Center administrative building. It

perches in the trees near the building's windows. In 2020, we first observed the hawk taking birds that collided with the windows of the main building. It is possible that it did so in previous years, since it was observed in the trees near the building, however, we did not notice this behavior.

The species we have observed the hawk taking after they collided with windows are Summer Tanager (*Piranga rubra*), Silver-throated Tanager (*Tangara icterocephala*), Wood Thrush (*Hylocichla mustelina*), White-eyed Vireo (*Vireo griseus*), White-ruffed Manakin (*Corapipo altera*), Chestnut-sided Warbler (*Setophaga pensylvanica*), White-tipped Sickbill (*Eutoxeres aquila*), and White-tipped Dove (*Leptotila verreauxi*), a resident dove. The hawk has taken Silver-throated Tanagers after they collided with windows on at least three occasions. These sightings were generally casual and we were unable to observe the condition of the birds, although some were apparently stunned and had very little mobility.

From 28 to 30 December 2021, we observed this hawk (Figure 2) over prolonged periods, but we only observed it eating a large insect (Orthoptera). We didn't see any birds colliding with the windows on those days. In January and February 2022, we observed two Short-billed Pigeons (*Patagioenas nigrirostris*) and one Ruddy Ground-dove (*Columbina talpacoti*) crash into windows, and they were subsequently taken by the hawk.

However, we were still unable to see their condition. In March, the center's staff put guards on the windows to prevent collisions.

Discussion

The Broad-winged Hawk is one of the most common migratory raptors in Costa Rica, where it prefers fragmented landscapes and road sides (Acosta-Chaves et al. 2019). It has been reported that this hawk feeds on carrion (Errington and Breckenridge 1938) and that it takes advantage of dung beetles that can be found in cattle manure on rural roads in ranching areas (Acosta-Chaves et al. 2019). These authors consider that perhaps the beetles consumed by this hawk were dead, since certain species of birds of prey feed on road-kill (Meunier et al., 1999).

Necrophagy has been observed in larger birds of prey such as *Spizaetus ornatus*, a forest predator which has exhibited opportunistic or scavenging behavior (Idris Jones and Dorward 2014; Acosta-Chaves et al. 2019). The scavenging behavior of some hawks could be due to the scarcity of prey in their habitat during winter (Medrano et al. 2016). Some of these events have been described as opportunistic behavior. Broad-winged Hawk appears to be opportunistic; for example, one hunted a flying squirrel (*Glaucomys volans*) opportunistically when an individual was startled by the presence of researchers (Saenz and Schaefer 1995). And our observations of consumption

of birds that have collided with windows at the Soltis Center have been consistent with such behavior.

During the day, the rooms at the Center tend to be darker than the exterior of the buildings. The transparent glass reflects the trees, the sky, and the surroundings, and the birds may perceive the reflected images as real (Menacho-Odio 2018). The bird diversity and activity in the immediate areas around the main building of the Soltis Center are very high, which favors accidents with windows. The hawk seems to have learned to watch and wait for colliding birds to take advantage of them as food, since this species does not generally hunt birds while they fly. (BirdLife International 2016).

In general terms, any attractant for birds, be it plants, flowers and fruits, water, or feeders that are more than 1 m from a window increase the risk that they will be killed by colliding with the glass (Menacho-Odio 2018). Hummingbirds frequently collide with windows in Costa Rica, as do more than 100 additional species (Menacho-Odio 2015).

Measures must be taken to prevent, or at least reduce the number of collisions, especially in places like the Soltis Center, which are surrounded by forests. These forests are key to ensuring the conservation of *Buteo platypterus* because this species utilizes these habitats during the wintering pe-

riod (Cuadros et al. 2021). However, this period is a little studied stage in the annual cycle of the Broad-winged Hawk (Cuadros et al. 2021). The persistence of *Buteo platypterus* in discrete areas (Cuadros et al. 2021) and its generational time of 9.3 years (BirdLife International. 2016), could explain the presence of an individual Broad-winged Hawk for more than four wintering seasons at the Soltis Center.

Like several other long-distance Neotropical migrants, *Buteo platypterus* is exposed to many threats throughout its annual cycle, including hunting, pollution at stopover and wintering sites, and habitat destruction and fragmentation in its breeding and wintering ranges (Cuadros et al. 2021). Any action taken in favor of safeguarding this species is useful, as well as any information that can be generated that allows a better understanding of the ecological needs of this hawk.

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FIRST RECORD OF MELANISM IN AMERICAN KESTREL; (*FALCO SPARVERIUS*) (AVES: FALCONIDAE) IN VENEZUELA

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The American Kestrel (*Falco sparverius*) is the smallest representative of the true falcons in the new world (23-28 cm). It is distributed from North America to Tierra del Fuego, as well as in The Bahamas, Hispaniola, Puerto Rico, Granada, Aruba, Bonaire and Curaçao (Márquez et al. 2005, White et al. 2018). In Venezuela, it is distributed north of the Orinoco River (and Isla de Margarita) to the south, east of Bolívar and north of the Amazonas (Hilty 2003, Restall et al. 2006, Ascanio et al. 2017). It is considered common throughout the areas of its distribution (Jensen et al. 2005).

The typical plumage of this species includes a bluish-gray crown with a rufous spot in the center. On the back of the neck, there are two small black spots in a vertical position, like tears. The cheeks show marked mustaches or dark spots. Its back is also rufous, as well as its tail, which

ends in a single black band. The wings are mottled white, especially in the male, and are clearly visible when taking flight. In general, all its colors are contrasted. The chest is cream, lighter on the ventral part, with some black spots also observable on the thighs. The females, unlike the males, have a rufous brown back, shoulders, inner remiges and tail with black bars and reddish brown stripes on the chest and sides. Juveniles are similar to adults. The male's breast is more speckled or spotted, the primaries have brown tips, and the subterminal stripe in the female is less marked, and it has a brown speckled crown (Phelps and Meyer de Schauensee 1979, Gómez 1994, Márquez et al. 2005).

Melanism is an excess of the pigment melanin. Melanins (usually light yellow to reddish brown, dark brown and black, unless modified by the structure of the feathers) are the most common

pigments in birds (Terres 1995) and are the result of the expression of a single dominant allele in heterozygosis (Alpizar-Trejos 2012).

Two types of melanism have been described. Eumelanism, defined by the abnormal concentration of eumelanin, gives the individual a more blackish coloration. While phaeomelanism, when present in abnormally high amounts, gives the individual a reddish-brown coloration (Montenegro and Caballero-Sadi 2009, Urcola 2011, van Grouw 2017).

Within the Order Falconiformes there are documented records of melanistic individuals. In North America, there are specimens of *Buteo jamaicensis*, *Buteo harlani*, *Buteo platypterus*, *Buteo lagopus* (Gross 1965) and *Pandion haliaetus* (Clark 1998). And in South America, specifi-

cally in Ecuador, there are records of melanistic *Chondrohierax uncinatus uncinatus* (Ramírez-Jaramillo 2019).

On 24 April 1976, a female *F. sparverius* was collected in Hueque, Estado Falcón (11°23'52" N; 68°59'56" W). Then, on 10 December 1991, a female *F. sparverius* was collected in Santa Isabel de Tiznados, Fundo La Mata, Guarico State. (09°17'54"N; 67°51'51"O). Both presented total melanism, of the eumelanism type. The individuals presented a black mantle all over their body, maintaining the same design and typical pattern (Figure 1). These specimens are deposited in the Ornithology collection of the Rancho Grande Biological Station Museum (EBRG) with Catalog numbers EBRG 9000 and EBRG 10974, respectively.

Figure 1. Individuals of melanistic (eumelanistic) *Falco sparverius* have a black mantle all over their body (the two specimens on the left), maintaining the same design and normal pattern of the species (specimen on the right). Photos © Marcos Salcedo



The causes of melanism are not very clear (disease, poor nutrition, environmental changes). It is also not known whether it affects the ecology of *F. sparverius* or that of other Falconiformes species (Gross 1965, Clark 1998 and Ramírez-Jaramillo 2019). More field studies are required to understand the causes and effects of melanism in raptor populations.

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USING CITIZEN SCIENCE: REPORT OF OBSERVATIONS OF OSPREY (*PANDION HALIAETUS*) IN TWO URBAN PARKS IN SAN JOSÉ, COSTA RICA

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The Osprey (*Pandion haliaetus*) is a large, cosmopolitan bird of prey (Ferguson-Lees and Christie 2001, BirdLife International. 2019). In America, the subspecies *P. haliaetus carolinensis* has a wide distribution, nesting in Canada, the United States, and northwest Mexico. During the boreal winter, it migrates to Central and South America (Pole et al. 2002). Its migration to low latitudes begins in August, and it reaches its wintering areas in October. In turn, migration to the breeding areas occurs between March and April (Washburn et al. 2014).

In Costa Rica, depending on the locality, it is considered a rare to relatively common species in coastal and inland waters (Stiles and Skutch 2007, Garrigues 2014). Its population trends seem to be increasing, so its conservation status is Least Concern (LC) according to the IUCN Red List (BirdLife International 2019). In Costa Rica, it is not within the category of threatened species for

the country (SINAC 2017). However, on some occasions, it is persecuted because it is considered a harmful species for aquaculture (Monge 2013).

In recent years, citizen science has become a useful tool for monitoring wildlife, with birds receiving the most attention (Ramírez-Alán 2017). According to Bierregaard et al. (2004), the Osprey is an excellent model for carrying out citizen science projects. Despite being one of the most studied birds of prey, there are unknown aspects about its ecology and conservation in non-breeding areas.

This report, using direct observations (JCS) and citizen science data, describes the observation and monitoring of an individual Osprey (banded in Montana, USA) in San José, Costa Rica.

Observations

Information was collected from records published in the Facebook group of the Ornithological As-

sociation of Costa Rica (hereinafter FAOCR; www.facebook.com/groups/aocr1), as well as in the eBird database (www.ebird.org). The details of the records are specified in Table 1.

In January 2018, the sighting of a banded Osprey was reported in the FAOCR (Figure 1). In the photographs (taken on 5 November 2017; Table 1) a metallic band can be observed on the left leg (code 1088-05250) and a green metallic band on the right leg (alphanumeric code 29C; Figure 1). The individual was seen flying over and fishing in the system of artificial lakes of the La Sabana Metropolitan Park located in the central canton of the province of San José, Costa Rica (09° 56' 6.0" N, 84° 06' 10.0" W). Once the record was confirmed, the photographer was contacted in order to report the sighting through the Bird

Banding Laboratory's ReportBand.gov website. According to the information provided, this individual had been banded on 14 July, 2015 at approximately 32 days post hatch, in the vicinity of the Yellowstone River, Montana, USA. (44° 15' 00.0" N, 110° 55' 0.0" W; Figure 2) (M. Restani pers. comm.).

Subsequently, this individual was sighted and photographed for approximately one year (from 17 November, 2019 to 2 December, 2020) by at least 30 people. These sightings were shared in FAOCR and in eBird (Table 1). Likewise, during November 2021, the individual was photographed fishing in the artificial lakes of Parque de la Paz, San Sebastián district, San José Province (09° 54' 50.0" N, 84° 04' 25.0" W), (Table 1). Considering the time elapsed between the ban-

Figure 1. Banded Osprey (*Pandion haliaetus*) in the La Sabana Metropolitan Park, Costa Rica. Photos © Oscar Borbón



ding date and the last records reported in this note, it is estimated that this individual is approximately 6 years and 4 months old.

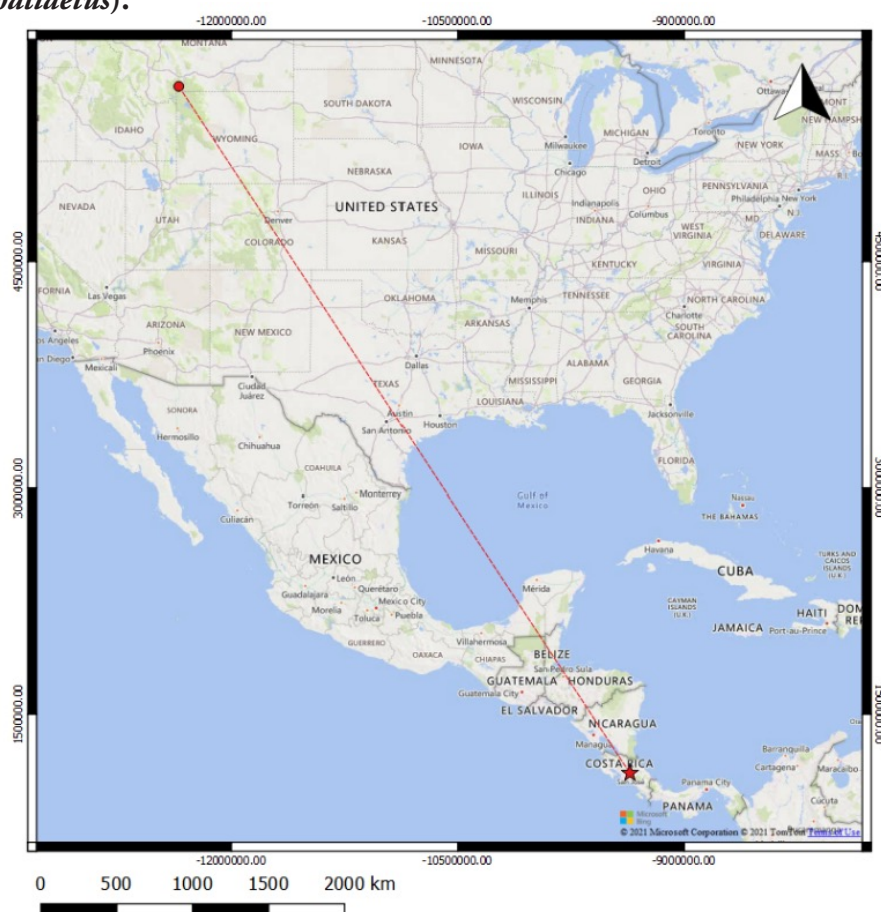
Previous records confirm that some individual Osprey usually migrate from the Yellowstone River to Central America during the boreal winter. For example, individuals have been reported in Mexico and in Garabito in Costa Rica (M. Restani pers. comm. 2018). Taking this into account, our results suggest that this individual shows strong migratory connectivity and high site fidelity with the wintering area in Costa Rica. This pattern coincides with that published by Washburn et al. (2014), who reported strong site

fidelity and restricted area movements in North American Osprey during the wintering period in South America. The observations presented in this work represent the first time that citizen science has been used as a source of information to monitor Osprey in Costa Rica. Finally, other records of banded individuals that are being analyzed will allow us to learn more about fine-scale movements during the wintering period in Costa Rica (Carazo-Salazar 2019).

Acknowledgments

To Dr. Marco Restani of the Yellowstone Valley Audubon Society in Montana, who banded this individual and shared his information. To Oscar

Figure 2. Distance in a straight line and location of banding site and obseravtion point of the Osprey (*Pandion haliaetus*).



Legend

- Banding Point
- ★ Observation Point
- Distance between both points

Source: Bing road, 2021 (WGS84)
By: Alexa Morales, 2022

Table 1. Observation records of an individual Osprey in San José, Costa Rica.

Record Number	Date	Location	Type of Record	Source
1	11/5/2017	Parque La Sabana	Fotografía	facebook AOCR
2	11/17/2019	Parque La Sabana	Fotografía	facebook AOCR
3	11/24/2019	Parque La Sabana	Fotografía	facebook AOCR
4	11/24/2019	Parque La Sabana	Fotografía	facebook AOCR
5	11/24/2019	Parque La Sabana	Avistamiento	eBird
6	12/8/2019	Parque La Sabana	Fotografía	facebook AOCR
7	12/8/2019	Parque La Sabana	Fotografía	eBird
8	12/10/2019	Parque La Sabana	Avistamiento	eBird
9	12/14/2019	Parque La Sabana	Fotografía	facebook AOCR
10	12/14/2019	Parque La Sabana	Fotografía	facebook AOCR
11	12/15/2019	Parque La Sabana	Avistamiento	Observación propia
12	12/15/2019	Parque La Sabana	Avistamiento	eBird
13	12/20/2019	Parque La Sabana	Avistamiento	eBird
14	12/20/2019	Parque La Sabana	Avistamiento	eBird
15	12/21/2019	Parque La Sabana	Fotografía	eBird
16	12/22/2019	Parque La Sabana	Avistamiento	eBird
17	12/25/2019	Parque La Sabana	Avistamiento	eBird
18	12/28/2019	Parque La Sabana	Avistamiento	eBird
19	12/31/2019	Parque La Sabana	Fotografía	eBird
20	1/1/2020	Parque La Sabana	Fotografía	facebook AOCR
21	1/1/2020	Parque La Sabana	Fotografía	eBird
22	1/5/2020	Parque La Sabana	Fotografía	facebook AOCR
23	1/5/2020	Parque La Sabana	Avistamiento	eBird
24	1/8/2020	Parque La Sabana	Fotografía	facebook AOCR
25	1/11/2020	Parque La Sabana	Fotografía	facebook AOCR
26	1/15/2020	Parque La Sabana	Avistamiento	eBird
27	1/18/2020	Parque La Sabana	Fotografía	eBird
28	1/19/2020	Parque La Sabana	Avistamiento	eBird
29	1/19/2020	Parque La Sabana	Avistamiento	eBird
30	1/21/2020	Parque La Sabana	Fotografía	facebook AOCR
31	1/25/2020	Parque La Sabana	Avistamiento	eBird
32	1/26/2020	Parque La Sabana	Avistamiento	eBird
33	2/9/2020	Parque La Sabana	Avistamiento	eBird
34	2/9/2020	Parque La Sabana	Fotografía	facebook AOCR
35	2/14/2020	Parque La Sabana	Avistamiento	eBird
36	10/9/2020	Parque La Sabana	Fotografía	facebook AOCR
37	10/17/2020	Parque La Sabana	Avistamiento	eBird
38	11/13/2020	Parque La Sabana	Fotografía	facebook AOCR
39	12/2/2020	Parque La Sabana	Fotografía	facebook AOCR
40	11/22/2021	Parque de la Paz	Fotografía	facebook AOCR

Borbón who published the first photograph in the Facebook group of the Ornithological Association of Costa Rica. To the photographers and bird watchers who reported their observations and shared the information, especially Pablo Cabrera, Marco Durán, Camilo Artavia, Tomás Pacheco Koucky, Víctor Villalobos Carranza, Giovanni Cubillo Solano, and Luis José Venegas. To Alexa Morales for the collaboration with the map.

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OF INTEREST...

Grants

EUROPEAN OUTDOOR CONSERVATION ASSOCIATION

<https://www.eoca.de/project-info.cfm?pageid=20>

EOCA looks for projects that benefit biodiversity and natural landscapes. Projects must conserve, protect, enhance, restore and/or connect habitats in a landscape given that they are particularly important for biodiversity.

Projects must ensure that habitats conserved are those that remove carbon, reduce emissions, enable adaptation to climate change, and/or protect against further loss of habitat and biodiversity. It is also important that the projects benefit the local communities that live in or near these habitat areas.

MOHAMED BIN ZAYED SPECIES CONSERVATION FUND

<https://www.speciesconservation.org/grants/>

The Fund was established to provide targeted grants for individual species conservation initiatives, recognize leaders in the field, and elevate the importance of species in the broader conservation debate. Its focus is global and eligibility for grants will extend to all conservation efforts of species of plants, animals and fungi, without discrimination by region or selected species.

However, it is very competitive, with only around 12% of applicants in 2019 receiving a grant.

Grants will be awarded based on your ability to meet predetermined criteria by the Species Fund and are capped at \$25,000 for each project.

NEOTROPICAL BIRD CLUB

<http://www.neotropicalbirdclub.org/conservation/conservation-fund/conservation-fund-guidelines/>

The NBC Conservation Awards Program invites applications for one of three categories:

1) Small Grants - up to \$1,500: available for projects implementing direct conservation action or research, 2) Medium Grants - up to \$3,000, and 3) Juan Mazar Barnett Award - up to \$5,000: seeks to encourage neotropical bird conservationists and researchers.



Neotropical Raptor Network
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