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## The status of diurnal raptor populations on La Gonâve, Haiti

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## The status of diurnal raptor populations on La Gonâve, Haiti

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**Abstract** La Gonâve, Haiti, is the largest Hispaniolan satellite island, yet it is rarely visited by birders. We searched for diurnal raptors on La Gonâve for seven days between 9 May and 1 June 2012. We observed American Kestrels (*Falco sparverius*), Red-tailed Hawks (*Buteo jamaicensis*), and Turkey Vultures (*Cathartes aura*), including evidence of active nesting attempts by American Kestrels and Red-tailed Hawks. We present a brief historical review of Haitian raptors and species records from La Gonâve. The island's habitats are currently suitable for these common generalist species, but less so for more specialized species.

**Keywords** American Kestrel, *Buteo jamaicensis*, *Cathartes aura*, *Falco sparverius*, Haiti, La Gonâve, raptor populations, Red-tailed Hawk, Turkey Vulture

**Resumen** El estatus de las poblaciones de rapaces diurnas en La Gonâve, Haití—La isla satélite de La Gonâve en Haití es la más grande de La Española, pero recibe muy pocas visitas de observadores de aves. Buscamos rapaces diurnos por siete días entre el 9 mayo y el 1 junio de 2012. Observamos el Cernícalo americano (*Falco sparverius*), el Guaraguao colirrojo (*Buteo jamaicensis*) y el Aura tiñosa (*Cathartes aura*), incluyendo evidencia de intentos activos de anidación por el Cernícalo americano y el Guaraguao colirrojo. También presentamos un breve resumen histórico sobre los rapaces haitianos y registros de especies en La Gonâve. Los hábitats de la isla actualmente son adecuados para estas especies generalistas comunes, pero no tanto para las especies más especializadas.

**Palabras clave** Aura tiñosa, *Buteo jamaicensis*, *Cathartes aura*, Cernícalo americano, *Falco sparverius*, Guaraguao colirrojo, Haití, La Gonâve, poblaciones de rapaces

**Résumé** Statut des populations de rapaces diurnes sur l'île de La Gonâve, Haïti—La Gonâve, Haïti est la plus grande île satellite d'Hispaniola, mais elle est rarement visitée par les ornithologues. Nous avons recherché des rapaces diurnes sur cette île pendant sept jours entre le 9 mai et le 1er juin 2012. Nous avons observé des Crécerelles d'Amérique (*Falco sparverius*), des Buses à queue rousse (*Buteo jamaicensis*) et des Urubus à tête rouge (*Cathartes aura*), ainsi que des preuves de tentatives de nidification actives de ces deux premières espèces. Nous présentons ici un bref historique des mentions indiquant la présence de rapaces et d'espèces d'Haïti sur La Gonâve. Les habitats de l'île conviennent actuellement à ces espèces généralistes communes, mais répondent moins aux besoins des espèces plus spécialisées.

**Mots clés** Buse à queue rousse, *Buteo jamaicensis*, *Cathartes aura*, Crécerelle d'Amérique, *Falco sparverius*, Haïti, La Gonâve, populations de rapaces, Urubu à tête rouge

Fourteen of the 22 West Indian raptor populations (comprising 13 species) reviewed by Wiley (1986) were reported *rare*, *declining*, or *extinct*, and three were *unknown*. Wetmore and Swales (1931), Bond (1945), and Wiley (1986) attributed the decline of regional raptor populations to habitat loss, introduced species (e.g., rats [*Rattus* spp.] and Asian mongooses [*Herpestes javanicus*]), and hunting by humans. Subsequently, Wiley (1986) cited a pressing need for raptor population monitoring in the

West Indies.

Haiti has experienced the most intense and sustained environmental degradation anywhere in the West Indies (Stevenson 1989, Dolisca *et al.* 2007, Vital 2008, White *et al.* 2013). Many of Haiti's ornithology collections have been lost or destroyed during periods of political instability over the last 200 yr (Keith *et al.* 2003, Latta *et al.* 2006). These factors have created an urgent need for population monitoring, particularly in Haiti. Rimmer *et al.* (2005, 2010) surveyed a total of four sites in two protected areas along the southern peninsula of Haiti and documented Red-tailed Hawks (*Buteo jamaicensis*), Sharp-shinned Hawks (*Accipiter striatus*), and American Kestrels (*Falco sparverius*). Aside from these studies, raptor records are lacking in Haiti, especially from the last century (Thorstrom *et al.* 2005, Latta *et al.* 2006).

La Gonâve, Haiti, the largest Hispaniolan satellite island

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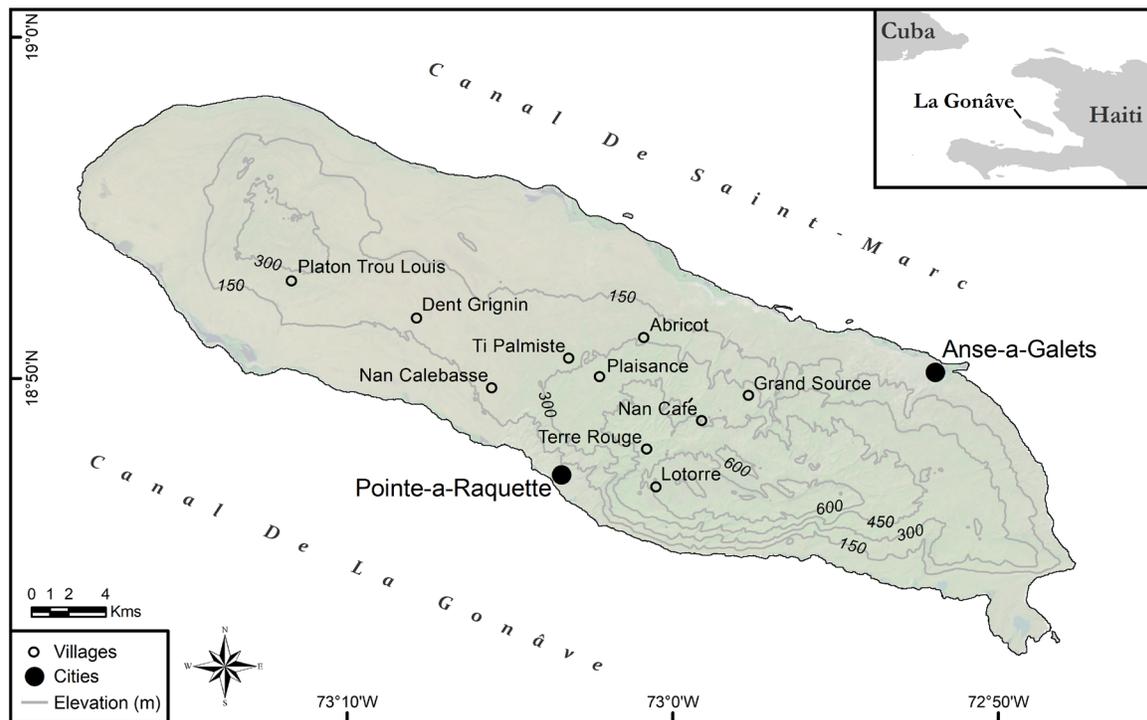


Fig. 1. Island of La Gonâve, Haiti (island center at  $18^{\circ}49'48.0''\text{N}$ ,  $73^{\circ}02'24.0''\text{W}$ ) on which we surveyed for diurnal raptors.

( $18^{\circ}49'48.0''\text{N}$ ,  $73^{\circ}02'24.0''\text{W}$ ; 778 m above sea level [asl]; 743 km<sup>2</sup>), is situated between the two western peninsulas of Haiti, and lies 20 km from the mainland and 160 km southeast of Cuba (Fig. 1). The island has historically sustained diurnal and nocturnal raptor populations (Keith *et al.* 2003, Latta *et al.* 2006), but is rarely visited by birders or environmental researchers. All habitat types on La Gonâve (exposed limestone flats, scrub vegetation, thorn forest, tropical dry forest patches, marsh, and mangrove forest) have been intensely disturbed by human activities. Most habitats are in early successional states (White *et al.* 2013). Research suggests that raptor populations on the island declined markedly during the 20th century (Euzen 1927, Wetmore and Swales 1931, Keith *et al.* 2003, Latta *et al.* 2006, White *et al.* 2017).

## Methods

During a 3-week period between 9 May and 1 June 2012, we surveyed for diurnal raptors on La Gonâve while conducting fieldwork for two related projects, one that examined human-raptor interactions (White *et al.* 2017), and another that studied land cover change (White *et al.* 2013). Raptor surveying locations were based on trails connecting 11 villages and areas within 150 m from the trail. The villages were in the mid-elevation (200–500 m asl) central plateau area of the island and included Abricot, Dent Grignin, Grand Source, Plaisance, Lotorre, Nan Café, Platon Trou Louis, Terre Rouge, Ti Palmiste, Nan Calebasse, and Pointe-a-Raquette (Fig. 1). We also surveyed along paths between Grande Source and Ansa-a-Galets in the northeast of the island, and into the south-central agricultural highlands east of Lotorre. The surveyed locations spanned from the coast to the highest points on La Gonâve and included all of the island habitat types delineated by Woodring *et al.* (1924) and White *et al.* (2013). We did not visit the far western or eastern ends of the

land, which are reportedly more remote, with potentially fewer human settlements and greater forest coverage. Our total effort equated to 148 hr surveying for raptors. Surveys were conducted from around 0800 to 1900. The species we sought were relatively easy to detect, especially given that the landscape was highly fragmented or devoid of trees (Fig. 2).

## Results and Observations

Here we present our survey findings and the most recent sightings from eBird.org for each species (Table 1). No bird sightings on La Gonâve were posted to eBird.org at the time of our research (eBird 2018). We also review the diurnal raptors of Haiti



Fig. 2. Deforested hilltop near the highest point on the island, 700 m asl (photographed by J.H. White in May 2012).

**Table 1.** Raptor presence by species on La Gonâve and the Haitian mainland. Historical records were compiled from Wetmore and Swales (1931), Keith *et al.* (2003), Rimmer *et al.* (2005, 2010), and Latta *et al.* (2006). No raptor sightings on La Gonâve were posted on eBird.org at the time of our research.

Species	Historically in Haiti	Historically on La Gonâve	Date of Most Recent Sighting Reported on eBird.org	Recorded on La Gonâve in This Study
Turkey Vulture ( <i>Cathartes aura</i> )	X		2018	X
Osprey ( <i>Pandion haliaetus</i> )	X		2018	
Northern Harrier ( <i>Circus hudsonius</i> )	X		2007	
Sharp-shinned Hawk ( <i>Accipiter striatus</i> )	X		2018	
Ridgway's Hawk ( <i>Buteo ridgwayi</i> )	X	X		
Red-tailed Hawk ( <i>B. jamaicensis</i> )	X	X	2018	X
American Kestrel ( <i>Falco sparverius</i> )	X	X	2018	X
Peregrine Falcon ( <i>F. peregrinus anatum</i> )	X		2018	

with a focus on their presence and potential on La Gonâve.

#### ***Cathartes aura* (Turkey Vulture: Western Hemisphere)**

Turkey Vultures mostly reside in the southwest and north-central Haitian mainland (Keith *et al.* 2003). It is unlikely that La Gonâve contains sufficient nesting habitat for Turkey Vultures. No historical records exist for La Gonâve; however, we observed two individuals soaring above Ti Palmiste on 29 May 2012.

#### ***Pandion haliaetus* (Osprey: worldwide)**

Osprey have been sighted and radio-tracked during their winter migration in Haiti (Keith *et al.* 2003), and eBird.org records exist for the Haitian mainland as of 2018. The rugged and remote terrain on the west coast of La Gonâve (an area of the island which we did not survey) is likely suitable habitat for this species. We recorded no Osprey sightings on La Gonâve.

#### ***Circus hudsonius* (Northern Harrier: Western Hemisphere)**

The only reports of Northern Harrier in Haiti from the formal literature are from 14 November 1961 and 14 January 1963 (Keith *et al.* 2003). We suggest that it is unlikely that harriers would be able to nest without being disturbed by humans in Haiti, although some potential habitat exists in the southeast portions of La Gonâve. One sighting was reported on eBird.org in southwestern Haiti in 2007. We recorded no Northern Harrier sightings on La Gonâve.

#### ***Accipiter striatus* (Sharp-shinned Hawk: Western Hemisphere)**

Specimens of Sharp-shinned Hawk have been collected in Haiti on multiple occasions (Keith *et al.* 2003) but the overall population appears to have declined because of habitat destruction (Dod 1978, Woods and Ottenwalder 1983). One sighting was recorded northeast of Port-au-Prince on eBird.org in 2017. We recorded no sightings of Sharp-shinned Hawks on La Gonâve.

#### ***Buteo ridgwayi* (Ridgway's Hawk: Hispaniola endemic)**

Ridgway's Hawks lived and bred on La Gonâve into the early 1900s (Wetmore and Swales 1931). Wiley (1986) expressed concern for the species' future in Haiti because of population decline and widespread deforestation during the early to mid-1900s.

Ridgway's Hawk is currently thought to have been extirpated in Haiti (Wiley 1986, Keith *et al.* 2003, Thorstrom *et al.* 2005, Woolaver 2011). We did not observe Ridgway's Hawk during our time on La Gonâve.

#### ***B. jamaicensis* (Red-tailed Hawk: North and Central America)**

Red-tailed Hawk specimens were collected from La Gonâve on at least three scientific expeditions in 1920, 1929, and 1930, but no records from La Gonâve exist after the mid-1900s (Keith *et al.* 2003, eBird 2018). Many records exist on eBird.org for the Haitian mainland but none for La Gonâve as of 2018, outside this research (eBird 2018).

We recorded seven Red-tailed Hawk sightings in flight over ground elevations of 400 m asl (two hawks southeast of Abri-cot on 15 May at 1100), 725 m asl (two hawks flying southeast of Lotorre on 18 May at 1600), and 200 m asl (three hawks flying together at shrub height soaring upwards near Dent Grignin on 21 May at 1200). We classified each of these birds as after-second-year. We identified one potential Red-tailed Hawk nest near Nan Café in one of the few remaining trees in the area. The tree was difficult to access, perched atop a rugged limestone outcrop densely covered by shrubs and an herbaceous layer with noticeable spines. The villagers noted that it was a Red-tailed Hawk nest, although we did not observe hawks visiting the nest during our fieldwork. Local villagers indicated that this nest was newly built, as the former nesting tree had been recently harvested for timber export to the mainland.

The Red-tailed Hawks we recorded on La Gonâve may have been individuals of the regional subspecies *B. j. jamaicensis* (Jamaica, Hispaniola, Puerto Rico, and northern Lesser Antilles) or *B. j. solitudinus* (Bahamas and Cuba; Keith *et al.* 2003, Latta *et al.* 2006).

#### ***Falco sparverius* (American Kestrel: Western Hemisphere)**

American Kestrels are common on mainland Hispaniola and La Gonâve (Wetmore and Swales 1931, Keith *et al.* 2003, Latta *et al.* 2006, eBird 2018). We observed at least eight individual American Kestrels, including some performing territorial displays. Most of the individuals were observed perching or flying near ravines or other areas near exposed limestone cliffs in the

vicinity of Terre Rouge. Though we could not view any nests, local residents stated that kestrels nest in the limestone cliffs, and we observed birds flying to and from cavities frequently (no prey deliveries were observed). Both sexes were observed from the coastlines to the highest points on the island near Lotorre, including in the few forested parts of the island. We observed multiple individuals feeding either on Hispaniolan khaki galliwasp (*Celestus curtissi*) or lizards of the genus *Ameiva* near Pointe-a-Raquette.

#### ***Falco peregrinus anatum* (Peregrine Falcon: North America)**

We found no historical records from La Gonave. Numerous sightings on mainland Haiti have been reported on eBird.org as of 2018. We recorded no sightings of Peregrine Falcons on La Gonave.

### **Conclusions**

Our records indicate that La Gonave currently sustains only a few raptor species despite its large size. Based on the lengths of our observations for each species and our understanding of the island's resources, we suggest that Red-tailed Hawks and American Kestrels are the most prevalent raptors on the island, but that abundance may be less than other areas of their Caribbean ranges (Wiley 1986, Keith et al. 2003, Latta et al. 2006). All species that we documented are common on the Haitian mainland, and elsewhere in the Caribbean and the Americas. The mid-elevation plateaus west of Dent Grignin contain thin patches of trees that could be attractive nesting, perching, and hunting habitat to many of Haiti's raptors; however, most of the trees were in close proximity to human settlements and would leave raptors exposed and vulnerable to human harassment. The extreme eastern and western ends of the island may contain more viable nesting habitat that is more removed from potential human interference but we were not able to survey these areas.

As is the case with many tropical raptors globally (Bildstein et al. 1998), habitat loss and sustained disturbance appear to be the greatest threats to raptors on La Gonave. Looking to the future, continued human disturbance and increased climatic variability will likely intensify the hindrances to La Gonave's raptor populations.

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