

A STUDY ON THE BIRDS OF SMALL ISLANDS OFF THE COAST OF CEBU ISLAND, PHILIPPINES

Lisa Marie J. Paguntalan, Philip Godfrey C. Jakosalem,
Marisol dG. Pedregosa, and Mery Jean G. Catacutan

ABSTRACT

The bird composition of the small islands of Carnaza, Camotes (Poro and San Francisco), Gato, Pescador and Sumilon in Central Visayas was studied by deliberate search, mist-netting, and point counting. A total of 67 species of birds were recorded on all five islands. Forty-three species observed were breeding residents, 14 were migratory, and 2 were either residents or migrants; 8 species were Philippine endemics. The presence of Black-crowned Night-Heron *Nycticorax nycticorax* and the Caspian Tern *Hydroprogne caspia* provided new records for Gato Island. Glossy Starling *Aplonis panayensis* and the Pied Triller *Lalage nigra* were the most frequently netted birds. The island of Camotes, the largest of the five islands visited, had the highest number of species recorded followed by Carnaza, Sumilon, Pescador, and Gato Island. The study did not record any subspecies or species endemic to Cebu.

Hunting of birds and large species of mammals mainly for the pet trade, food, and sports is still practiced. Native species of tree and mangroves are illegally cut mainly for firewood, and household use. The conservation efforts on these islands are concentrated on marine resources with less attention to terrestrial wildlife.

Introduction

Located in the central region of the Philippines, Cebu is the third largest island in the West Visayas Faunal Region. It has more than a dozen satellite islets, most of which are inhabited. This includes the Camotes group of islands, Malapascua, Carnaza, Bantayan, and the smaller islets in the north, and Pescador, Badian, and Sumilon in the southwest portion. Among these islands, only

the Camotes group of islands was not connected to Cebu or to the greater Pleistocene Islands more than ten thousand years ago. Thus Camotes is considered an oceanic island.

Not much information on the status of the biological diversity of the smaller islands of Cebu is currently available. Among the islands visited, only Carnaza Island has been visited for bird surveys in the past (Mapalo, 1991). Although there are no known Cebu endemic taxa on the small satellite islands, many regionally endemic species may have been present. However, very little is known about their remaining populations and it is even feared that many of these have already become extinct long before their population had been determined. Thus, this survey aimed to assess the status of biodiversity of the smaller islands surrounding Cebu.

Habitat Description of each Islands

Camotes Islands

The Camotes group is located between the islands of Cebu and the Leyte group of islands. Camotes is part of the province of Cebu and is made up of three islands with four municipalities (San Francisco, Poro, Pilar, and Tudela). The total land area is 17, 541 hectares.

The island's topography is hilly with the highest point at 386 m above sea level. Second growth vegetation of about five hectares is limited to portions near ravine, cliffs, and inaccessible areas. In Tambis, Monte Alegre, scrub and second growth areas are dominated by molave (*Vitex parviflora*). The average canopy height is about three meters. Coconuts and other agricultural products are planted at the edges of patches of natural vegetation. Humus cover is almost absent, and substrate is very dry and basically made up of limestone. Trails frequently used by locals in going from one farm to the other have been observed.

In Cansingit, Cansabusab in Poro, second growth vegetation of about three hectares is limited on steep portions of riverbanks. *Ficus* species, molave (*Vitex parviflora*), bamboo (*Bambusa* sp.), and coconuts are among those identified in the

area. The average canopy height is about four meters. A total of 6 days (February 2-7, 2002) were spent for bird surveys in Camotes.

Fig. 1. Map of Cebu showing the locations of the islands visited during the survey. Map was taken from the Geographic Atlas of Cebu (2000).



Carnaza Island

Carnaza Island has a total land area of 173.5 hectares (Mapalo, 1991) and is located between the islands of Masbate in the northeast, Cebu Island in the south, and Biliran Island in the east ($11^{\circ} 30'$ and $11^{\circ} 32'$ North and $124^{\circ} 4'$ and $124^{\circ} 6'$ East). The highest point is 55 meters above sea level.

The area surveyed is located in the northwest of the island. The dominant vegetation is ipil-ipil (*Leucaena leucocephala*), which is utilized by the locals for fuelwood. Molave (*Vitex parviflora*), *Ficus* species, talisay (*Terminalia* sp.), and other mangrove-associated plants have also been observed. The average canopy height is about four meters. Some species of mangroves and *Ficus* trees were fruiting at the time of the survey. Trails criss-cross the island, often leading to isolated communities. People rely heavily on fishery resources as a source of livelihood. Trees are mainly harvested for fuelwood, charcoal, and for house or furniture building. The island was visited for 5 days (February 11- 15, 2002).

Pescador Island

Pescador lies in the Tañon Strait, located in between Negros and Cebu. The island is very small (1.3 ha) and is uninhabited. However, divers and fishermen visit the surrounding coral reefs for diving sport and fishing activities.

The dominant plant is ipil-ipil (*Leucaena leucocephala*), covering three-quarters of the island. Humus cover is almost absent and limited to portions with vegetation. Plants are stunted in growth while some species are low lying or creeping on limestone substrate. The average canopy height is four meters. Some beach species of plants were observed growing in the western cliff portion clinging to the rocky substrate. The island was only visited for a day (February 22, 2004).

Sumilon

Sumilon, a disc-shaped island with a bean-shaped lagoon, is located between the islands of Cebu in the north, Siquijor in the south, and Negros in the western portion. It has a total land area of about three hectares. Several structures in the northern part of the island were under construction at the time of the visit.

As in Pescador Island, the dominant vegetation is ipil-ipil (*Leucaena leucocephala*). In the eastern portion of the island, mangrove species (*Sonneratia*, *Avicennia*) were observed growing around the lagoon. Newly-planted coconuts were observed as well as some species of ornamental plants. Trails were observed leading to the construction site in the northeastern portion of the island, continuing to the western portion, where the sand bar and the docking area are located. The island was only visited for a day (February 23, 2002).

Gato Island

A conical-shaped island made up of limestone, Gato is located northwest of Cebu, northeast of Bantayan Island, and west of Malapascua Island. It is the smallest among the islands visited with a land area of only a hectare. It is a declared protected area due to the presence of sea snakes and other important marine species. A "safehouse" is located east of the island.

Very little vegetation was observed on the eastern side of the Island. Humus cover is absent, and dry, undecayed leaves are limited to areas with vegetation. In these portions, *Ficus* species were observed bearing fruits at the time of the survey. Most trees have massive buttresses but are stunted in growth. In larger species of trees, Flying foxes (*Pteropus* species) were observed roosting in colonies. Gato Island was only visited for a day (February 15, 2002)

Methods

Study sites were pre-selected and were biased towards areas with vegetation. Three days of field sampling was done in most of the study areas. Islets with land areas less than 1,000 sq m were sampled only for a day. In areas with very little vegetation, point counts and deliberate search for species were conducted. Established trails in vegetated areas were followed and bird species observed were recorded.

Because the rest of the islands were very small, mist netting was only conducted on the islands of Camotes and Carnaza. Mist-nets measuring 6 meters long by 4 meters wide were set along flyways and near feeding trees at least a meter above the ground and at the level of the canopy. These nets were checked regularly, at least every hour. Birds captured were identified and standard biometrical measurements were taken. A total of 45 mist-netting hours were spent for the two islands. Interviews with the community were also conducted to determine resource use, ascertain the attitudes and perceptions of the locals towards wildlife, as well as solicit historical information on the area.

Results and Discussion

Bird Species Composition

A total of 67 species of birds were observed on all six islands, 8 (12%) are endemic to the Philippines, 43 (64%) of which are breeding residents, 14 (21%) are migratory, and 2 (3%) are either residents or migrants. Subspecies endemic to Cebu were not observed on the islands. Of the six islands visited, Camotes Island recorded the highest number of species followed by Carnaza, Sumilon, Gato, and Pescador Island.

Table 1. Bird species composition of the six sampling sites. Number represents species observed, and — represents not observed.

Category	Carnaza	Camotes	Gato	Sumilon	Pescador
Philippine Endemic	3	8	1	2	1
Residents	24	38	6	19	9
Migratory	7	7	5	4	1
Resident/Migratory	---	1	---	1	---
Total species	34	54	12	26	11
Observation hours	16	16	4	4	4
Land area (ha.)	173.5	14,509.5	1	3	1.3

On Carnaza a total of 34 species of birds were recorded, 3 of which are Philippine endemic (*Centropus viridis*, *Caprimulgus manillensis*, and *Collocalia troglodytes*). The Tabon Scrubfowl was only reported on Carnaza where locals reported collecting eggs for domestic consumption.

Camotes has the highest number of species observed. A total of 54 species were observed on Poro while a total of 51 species were recorded on San Francisco. Most of the species observed are resident species, including eight Philippine endemics (*Phapitreron leucotis*, *Centropus viridis*, *Caprimulgus manillensis*, *Collocalia mearnsi*, *Collocalia troglodytes*, *Hypsipetes philippinus*, *Sarcops calvus*, and *Dicaeum australe*).

The majority of the birds recorded on Gato Island were migratory species and bird associated with water. The birds observed included the Black-crowned Night-Heron *Nycticorax nycticorax*, and the Caspian Tern *Hydroprogne caspia*, new to the Cebu islands (Kennedy *et al.*, 2000). The former was observed in the rocky portion in the island, while the single Caspian Tern *Hydroprogne caspia*, with its huge size compared to other terns, and its red orange with black line near the tip of its bill, was observed on Gato Island (February 15, 2004). A total of 26 species were recorded on Sumilon and 11 on Pescador Island. *Collocalia troglodytes* was the only Philippine endemic species observed on these three islands.

Netting Results

Table 2. List of bird species netted during the survey. Numbers refer to individuals caught; — means the species was not netted.

Scientific Name	Common Name	Camotes	Carnaza
<i>Caprimulgus manillensis</i>	Philippine Nightjar	1	---
<i>Halcyon chloris</i>	White-collared Kingfisher	---	1
<i>Oriolus chinensis</i>	Black-naped Oriole	---	2
<i>Lalage nigra</i>	Pied Triller	---	4
<i>Copsychus saularis</i>	Magpie Robin	---	1
<i>Lanius cristatus</i>	Brown Shrike	---	2
<i>Aplonis panayensis</i>	Philippine Starling	---	5
<i>Motacilla cinerea</i>	Grey Wagtail	1	---
<i>Hypothymis azurea</i>	Black-naped Monarch	2	---
<i>Nectarinia jugularis</i>	Olive-backed Sunbird	2	1
Total number of individuals		4	16
Net hours		22.5	22.5

A total of ten bird species were mist-netted, species associated with agricultural habitats and disturbed areas (Dickinson *et al.*, 1991; Kennedy *et al.*, 2000). The Glossy Starling was the most frequently caught bird, followed by the Pied Triller *Lalage nigra*; the rest of the species were represented by one or two individuals.

It should be noted that the figures and species caught do not reflect the true nature of the bird composition of the island; rather, they present a supplementary information on the bird species identified during transects.

Threats and conservation

On all islands visited, hunting/targeting large species of doves, Coletos, Koels, and Orioles, appears to be a prevalent practice. A number of households were observed keeping these birds in cages, usually crowding a 2 x 2 meter square cage with up to 20 individuals of four to five species. These birds are sometimes sold to local tourists visiting the island.

Gathering of eggs of Tabon Scrubfowl for trade in nearby towns was rampant in Carnaza. This should be addressed to conserve the remaining population of Tabon Scrubfowl in the island.

Because much of the conservation efforts on the islands are geared towards marine and fishery products (thresher sharks, manta rays, marine mammals, coral reefs, and mangroves), little information has been disseminated on the importance and composition of land animals on the islands. On the other hand, the ecotourism projects only address natural cave formations and second growth vegetation. Given the dearth of crucial baseline information on the species composition, the information generated from this survey may help in the protection and conservation of terrestrial wildlife.

Conclusions

Among the islands visited, Camotes, the largest of the island, ranks first in terms of number of species observed. This is followed by Carnaza, the second largest island, and by Sumilon, and Gato Island. Pescador, the smallest island, recorded the lowest number of bird species.

The surveys conducted did not record species of birds that are of high conservation importance. The islands have poor avifauna and most of the bird species are shared with the nearby islands of Leyte and Cebu. The habitats on the island are also too small to support a larger population of birds. Thick vegetation could only be found on scrubland and vegetated areas in gullies and river banks. Even these areas are highly disturbed, with larger trees poached for timber and smaller trees either for fuelwood or charcoal production.

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APPENDIX A. Comparison of birds observed per island during the survey (February 2-15 and 22-23, 2002). Presence is indicated by X; Not observed is indicated as -. E means Philippine endemic; R means resident species; M means migratory.

Scientific name	Common name	Carnaza	Poro	San Fran	Gato	Sumilon	Pescador	
<i>Egretta sacra</i>	Eastern Reef-Egret	—	—	—	X	—	—	M
<i>Egretta garzetta</i>	Little Egret	X	X	X	—	—	—	M
<i>Butorides striatus</i>	Little Heron	—	—	—	—	—	—	RM
<i>Bubulcus ibis</i>	Cattle Egret	—	X	X	—	X	—	RM
<i>Nycticorax nycticorax</i>	Black-Crowned Night-Heron	—	—	—	X	—	—	M
<i>Nycticorax caledonicus</i>	Rufous Night-Heron	X	—	—	—	X	—	M
<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	—	—	—	—	X	—	R
<i>Dendrocygna arcuata</i>	Wandering Whistling Duck	—	X	—	—	—	—	R
Haliastur indus	Brahminy Kite	—	X	X	—	—	—	R
Megapodius cumingii	Tabon Scrubfowl	X	—	—	—	—	—	R
Gallirallus torquatus	Barred Rail	X	X	X	—	—	X	R
Rallina eurizonoides	Slaty-legged Crane	X	X	X	—	—	—	R
<i>Actitis hypoleucos</i>	Common Sandpiper	X	X	X	—	—	—	M
<i>Hydroprogne caspia</i>	Caspian Tern	—	—	—	X	—	—	M
<i>Gelochelidon nilotica</i>	Gull-billed Tern	—	—	—	X	X	—	M
<i>Sterna hirundo</i>	Common Tern	X	—	—	X	X	—	M
<i>Treron vernans</i>	Pink-necked Green-Pigeon	X	X	X	—	—	—	R

