

A SEARCH FOR BREEDING SEABIRDS IN THE BAY OF ROXAS MUNICIPALITY, PALAWAN

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Background

Green Island Bay, Roxas Municipality, Palawan is mentioned in the literature as an indicative breeding area for Roseate Tern *Sterna dougallii* as the species was found on a sandy islet on 13 July 1910 in a breeding colony of Black-naped Tern *Sterna sumatrana* (Worcester 1911). Aside from Roseate Tern and Black-naped Tern, uninhabited islets and sandbars in the Bay of Roxas Municipality, represent potential breeding and roosting habitats for two other tern species, namely, Great Crested Tern *Thalasseus bergii* and Little Tern *Sternula albifrons*.

Objective

The objective of the rapid avifauna inventory conducted in the Bay of Roxas Municipality was to identify possible breeding and roosting populations of tern species (Sternidae) considered to be seabirds.

Field survey and methodology

From 26 to 27 May 2022, 11 sand islets, sandbars, and sand coves were visited from around 7:00 in the morning and onwards by a team composed of representatives of the Tubbataha Management Office (TMO), Palawan Council for Sustainable Development Staff (PCSDS), DENR CENRO-Roxas, and Wild Bird Club of the Philippines. Each islet and surrounding tidal flats were scanned with binoculars and a spottelescope. In addition, birds at a very large sandy tidal flats south of Johnson Island was also counted during low tide. High tide occurred in the morning around 9:00.

Characteristics and location of islands and islets in Roxas Bay

There are nine islands situated in three clusters, hereafter named Green Island, Pagbo Island, and Santa Cruz (Stanlake) Island Clusters. These islands are inhabited while several other smaller mainly unvegetated sandy islets and sandbars are not. For location of islands and islets, see Figure 1. Each location visited was given a number listed in brackets on the map and the same numbers are used as reference in this description.

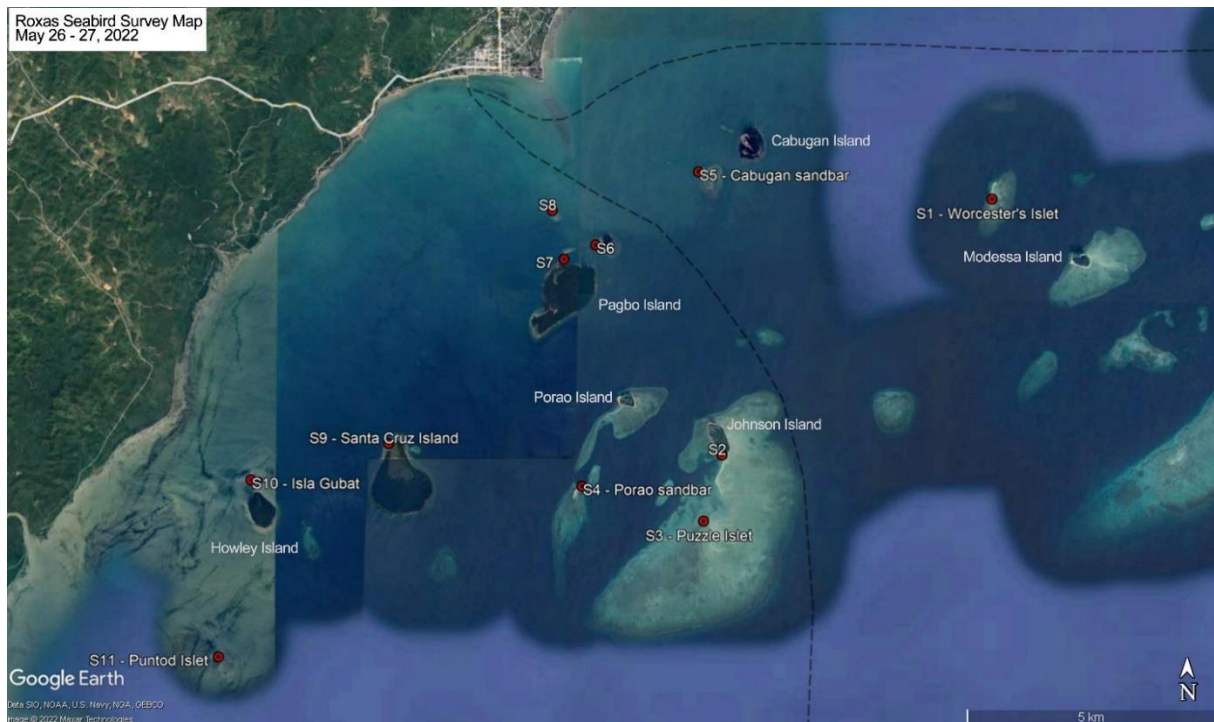


Figure 1. Map of islets and sandbars assessed in Roxas Bay.

Green Island cluster

The four largest islands, Cabugan Island, Modessa Island, Green Island, and Banwa Island are all inhabited with sizable human populations or with resorts (Modessa and Banwa). Southwest of Cabugan Island is a very small barren sandbar (S5), about 15 square meters (North 10 17.939', East 119 22. 871') at high tide. Another unvegetated sandbar (S1) located two km northwest of Modessa Island (North 10 17.804', East 119 26. 102)', here named Worcester's Islet, approximately measuring 100 meters x 15 meters and rising about one meter above sea-level at high tide is the islet where Dean C. Worcester observed breeding Black-naped Terns and collected Roseate Tern on 13 July 1910 (Worcester 1911). We found no breeding birds but found evidence of the islet being used as a recreational destination, Figure 2.



Figure 2. Worcester Island, Roxas Bay

Pagbo Island cluster

The Pagbo Island cluster includes Pagbo Island, Porao Island, and Johnson Island. Johnson Island includes a long sandspit (North 10 14.877', East 119 23. 156') and a very large sand flat (S2) which connect to a similar large sand flat at Puzzle Islet (S3). Puzzle Islet consists of two very small twin islets

partially covered with short grass species, some Purslane (*Portulacata sp.*) and two bushes, and measuring approximately 170 meters x 25 meters (North 10 14.162', East 119 22. 958'), Figure 3 and Figure 4.

This large tidal flat area is known to host relatively large congregations of migratory waterbirds including shorebirds and terns such as Great Crested Tern, e.g., 2,247 individuals in January 2021 and 1,597 individuals in January 2022 (DENR- BMB AWC 2021 and 2022).



Figure 3. Johnson Island sandspit

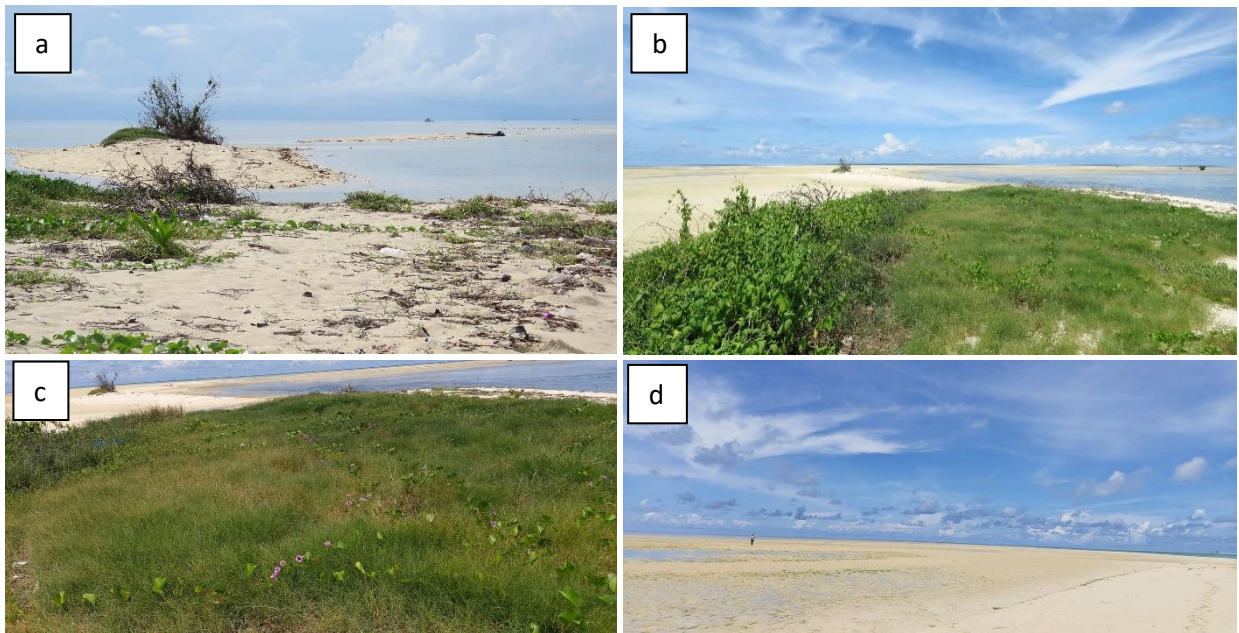


Figure 4. Puzzle Islet, Roxas Bay

Northeast of the mangrove covered Pagbo Island is a sandy cove located on a small circular vegetated islet (S6) at North 10 17.138', East 119 21.748, Figure 5. Just north of the island is a sandy islet (S7) (North 10 16.980', East 119 21. 401'). Further one km to the north of Pagbo Island a small sandbar (S8) which can be found at North 10 17.506', East 119 21. 268', Figure 6.



Figure 5. Pagbo Island northeast islet



Figure 6. Pagbo Island northwest sandbar

Santa Cruz (Stanlake) Island cluster

The cluster consists of two islands, Santa Cruz Island or Stanlake Island and Howley Island. Santa Cruz Island is fully vegetated with mangroves except for a small sandy cove (S9) at the north tip of the island (Figure 7) (North 10 14.970', East 119 19. 493'). The second largest island in the cluster, Howley Island (North 10 14.564', East 119 17. 985'), located two kms west-southwest of Santa Cruz Island, has a substantial sandbar to the north at the tiny islet of Isla Gubat (S10). Further, 2.5 km to the south southwest of Howley Island is a large denuded dropshaped sand islet (S11) at a reef in Barangay Rizal, Puntod Islet (Figure 8) (North 10 12.650', East 119 17. 646'). This denuded islet measures approximately 150 meters x 60 meters.



Figure 7. Sandy cove in Sta. Cruz Island



Figure 8. Sand islet in Bgy. Rizal, Puntod Islet

Results

A total of 29 waterbird species were identified. There were six species of terns, four species of egrets and herons, and 19 shorebird species. Five are resident species or species with both resident and migrant population. Among these were the Vulnerable Malaysian Plover *Charadrius peronii* and Great Crested Tern. Other Vulnerable Species observed included Asian Dowitcher *Limnodromus semipalmatus*, the Endangered Far Eastern Curlew *Numenius madagascariensis*, and Great Knot *Calidris tenuirostris*. The waterbirds represented 535 individuals of which 297 individuals were shorebirds, 169 individuals were terns, and 37 individuals were egrets and herons. In addition, species other than waterbirds were present - one species each of pigeon, kingfisher and, eagle. Details of all avifauna observed are found in Annex 1.

No birds were found on the islets and sandbars numbered S6 to S9 on the map. Of the uninhabited sandy islets and sandbars in Roxas Bay only Worcester's Islet, Puzzle Islet, and Puntod Islet, together representing a land area of approximately 1.5 hectares, have enough habitat to support breeding populations of terns and shorebirds. Only Puzzle Islet appeared free of anthropogenic disturbances although occasionally people from Johnson Island reportedly visit this islet as it serves as their temporary resting area after gleaning for shells and other marine resources from the tidal flats. However, as an indication of relatively low disturbance level, a territorial pair of Malaysian Plover was

found here. All other islets visited had evidence of being used frequently as recreational destinations and consequently no breeding birds were found.

Seabirds (Terns)

Six species of terns were identified and none of them were breeding, although a juvenile Great Crested Tern was fed by an adult on the Cabugan Sandbar, Figure 9. Bird and South Islet of the Tubbataha Reefs Natural Park, hosting the Philippines' only known breeding population, is located only 158 km from Roxas Bay. The subspecies occurring in the Philippines mostly stays within 400 km from its breeding area although some birds wander up to around 1,000 km (Carrey *et al* 1957). However, data from the Tubbataha Management Office shows that at end of April 2022 there were only pulli birds and no fledged juvenile birds in the Tubbataha breeding colonies. It takes about 40 days for the species to fledge and even then the juveniles remain dependent on the parents after leaving the colony until they are about four months old (Cooper 2006). It is unlikely that the birds in Cabugan originated from the Tubbataha breeding colonies. The tidal flats between Johnson Island and Puzzle Islet are known to host more than 900 Greater Crested Terns in the month of January (DENR-BMB 2022) but no terns of this species was observed during the survey at this location.

Of the other assumed Philippine breeding tern species, Little Tern *Sternula albifrons* was the most numerous tern species observed: 96 individuals of which 85 individuals were at the Johnson Island and Puzzle Islet sandbars. Puzzle Islet represents an ideal breeding habitat for the species, but it was not found there. In the waters around the Cabugan Sandbar, 11 individuals were observed and at least one at Porao Island. It should be noted that there is no breeding evidence from the Philippines since 1888 and the current status of the Little Tern is unclear (Dickinson *et al* 1991, Allen 2020).



Figure 9. Juvenile Great Crested Terns with adults, Cabugan Sandbar, 26 May 2022

We did not find Black-naped Terns in Roxas Bay although Worcester found it breeding in Green Island Bay on an islet northwest of Modessa Island (Worcester's Islet) in 1910. This islet consists only of sand, though the more typical breeding habitat in the Philippines is rocky islets of which none exist in Roxas Bay. Of the other tern species, a total of 54 Common Terns *Sterna hirundo*, all but two second year juvenile birds, were found at the Johnson – Puzzle Islet tidal flats. In this flock of roosting terns were also two adult Roseate Terns.

Other than Roxas Bay, records of Roseate Tern from within the possible breeding season of May to July are from Culion Island, Palawan (15 June 1913) and Corregidor Island, Manila Bay (4 July 1958) (Dickinson *et al* 1991). More recent records within the breeding season are from Apo Reef, Mindoro in 2013 and Cloud 9 Island, Surigao del Norte in 2018 (eBird 2022). However, nests and eggs have never been found in the Philippines and it is assumed that the species is a passing migrant (Allen 2020).

Egrets and Herons

The most numerous species observed was the Vulnerable Chinese Egret *Egretta eulophotes* with 17 individuals found at the Johnson Island Sandspit and the tidal flats at Puzzle Islet. A single bird was

located at Worcester's Islet. All birds were in breeding plumage. Chinese Egret is known to overwinter in relative high numbers at the tidal areas south of Johnson Island, e.g., 73 individuals in January 2022 (DENR-BMB AWC 2022).

The resident Pacific Reef Heron *Egretta sacra* was observed at Worcester's Islet (six individuals), at Johnson Island Sandspit (one individual), and at Isla Gubat (one individual). Of these birds, five were dark morph individuals. One Striated Heron *Butorides striata* was observed at Isla Gubat. It is assumed though that it is a common bird at the mangrove-covered islands which was not included in the inventory. Of other species in this family a single Intermediate Egret *Ardea intermedia* was present at the tidal flat of Puzzle Islet.

Shorebirds

Although the migratory season is assumed to end in May, a total of 270 shorebirds of 19 species were identified, primarily at the Johnson Island – Puzzle Islet tidal flats. Nearly all birds were in non-breeding plumage. Among the species were three Far Eastern Curlew and 12 Great Knot classified by IUCN and by DENR as Endangered species (IUCN 2022, DENR 2019). In addition, eight Vulnerable Asian Dowitcher was found at the same location (IUCN status Near Threatened).

The Johnson Island – Puzzle Islet tidal flats are part of the Asian Waterbird Census sites in the Philippines and are known to host relatively large numbers of waterbirds, e.g., 2,247 individuals in January 2021 and 1,577 individuals in January 2022.

References

Allen 2020. Birds of the Philippines. Lynx and BirdLife International Field Guides Collection. Lynx Editions

Brinkman, J.J., van der Ven, W., Allen, D., Hutchinson, R., Jensen, A.E., Perez, C. (2021): Checklist of birds of the Philippines. Wild Bird Club of the Philippines. www.birdwatch.ph

Carrick, R.; Wheeler, W. R. and Murray, M. D. (1957). Seasonal dispersal and mortality in the Silver Gull, *Larus novaehollandiae* Stephens, and Crested tern, *Sterna bergii* Lichstein, in Australia". Wildlife Research. 2 (2): 116–144.

Cooper, J. 2006. Potential impacts of marine fisheries on migratory waterbirds of the Afrotropical Region: A study in progress.

DENR Administrative Order No 2019 – 09. Updated National List of Threatened Philippine Fauna and Their Categories

DENR-BMB Asian Waterbird Census (AWC) 2022.

Dickinson, E.C., Kennedy, R.S. and Parkes, K.C 1991. The Birds of the Philippines: An Annotated Check-list. BOU Checklist No 12, British Ornithologists' Union

eBird 2022. The Cornell Laboratory of Ornithology.

IUCN 2021. The IUCN Red List of threatened species, Version 2021-3

Worcester, D.C. 1911. Newly Discovered Breeding Place of Philippine seabirds. Philippines Journal of Science 6: 167-177.

ANNEX

Annex 1. Checklist of Birds Observed During Rapid Seabird Assessment in Green Island Bay, Roxas, Palawan from 26 to 27 May 2022

Sites: S1 - Modessa Sandbar (Worcester's Islet), S2 - Johnson Island Sandbar, S3 - Puzzle Islet and Sandbar, S4 – Porao Sandbar, S5 - Cabugan Sandbar, S6 – Pagbo Island NE Islet, S7 – Pagbo Island Sandbar, S8 - Pagbo Island NW Sandbar, S9 – Santa Cruz Island North Sandcove, S10 – Isla Gubat, S11- (submerged), S12 - Rizal Puntod Islet

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Annex Table 1, continued

No.	FAMILY	ENGLISH NAME	SCIENTIFIC NAME	RESIDENCE STATUS	NO. OF INDIVIDUALS PER SITE											TOTAL			
		(IOC v 11.1)	(IOC v 11.1)		IUCN	DENR-AO	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	
19	<i>Scolopacidae</i>	Common Redshank	<i>Tringa totanus</i>	M	LC				1										1
20	<i>Scolopacidae</i>	Common Greenshank	<i>Tringa nebularia</i>	M	LC			5											5
	<i>Charadriidae</i>	Shorebird sp.							35	1									36
21	<i>Laridae</i>	Gull-billed Tern	<i>Gelochelidon nilotica</i>	M	LC			5	2+1***										8
22	<i>Laridae</i>	Caspian Tern	<i>Hydroprogne caspia</i>	M	LC				1										1
23	<i>Laridae</i>	Greater Crested Tern	<i>Thalasseus bergii</i>	R	LC	VU					8								8
24	<i>Laridae</i>	Little Tern	<i>Sternula albifrons</i>	R,M	LC			46	39		11								96
25	<i>Laridae</i>	Roseate Tern	<i>Sterna dougallii</i>	M (R?)	LC				2										2
26	<i>Laridae</i>	Common Tern	<i>Sterna hirundo</i>	M	LC			15+2**	37 juv										54
27	<i>Ardeidae</i>	Striated Heron	<i>Butorides striata</i>	R,M	LC	OWS										1			1
28	<i>Ardeidae</i>	Intermediate Egret	<i>Ardea intermedia</i>	R,M	LC	OWS			1										1
29	<i>Ardeidae</i>	Pacific Reef Heron	<i>Egretta sacra</i>	R	LC	OWS	3+3*	1								1			8
30	<i>Ardeidae</i>	Chinese Egret	<i>Egretta eulophotes</i>	M	VU	VU	1	5	12										18
	<i>Ardeidae</i>	White egret sp.						4	5										9
31	<i>Accipitridae</i>	White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	R	LC	OWS		1 juv near island											1
32	<i>Alcedinidae</i>	Collared Kingfisher	<i>Todiramphus chloris</i>	R	LC	OWS		1	1										2
	TOTAL						13	294	204	0	19	0	5	0	0	2	0	166	556

* Both white phase and dark phase were present with three individuals each
**15 juvenile individuals and two adult individuals
***Two individuals in breeding plumage and one individual in non-breeding plumage

Summary:

Number of species	32
Number of introduced species	0
Number of endemic species	0
Number of migratory species	27

Conservation StatusIUCNDENR

Number of threatened species		
Critically Endangered	0	0
Endangered	2	2
Vulnerable	1	4
Near Threatened / Other Threatened Species	8	3
Data Deficient	0	
Not Evaluated	0	