

Avifauna Survey of The Greater Juru Area, Seberang Perai Tengah, Penang

Produced by the Malaysian Nature Society, Penang Branch

Introduction and Objectives:

The Malaysian Nature Society (MNS) Penang Branch was commissioned by Golden Highway Auto-City Sdn Bhd to carry out a survey and produce a checklist of birds in the Greater Juru Area. The Malaysian Nature Society (MNS) Penang Branch (MNS-Pg) was commissioned by Golden Highway Auto-City Sdn Bhd (Auto-City) to carry out a survey and produce a checklist of birds and photographic and video record of birds and their habitat in the Greater Juru Area.

The new and “historical” records uses a “cut-off “ date of before 31st Dec 2023 / 1st Jan 2024 as old/historical and after as “new record” to the Area.

Survey Area and Description:

The survey area comprised the Bukit Juru Forest Reserve and the secondary forest, the coastal and riverine mangrove and coastal mudflats, abandoned and active rice fields (considered as wetlands), ditches and irrigation channels. And for Sungai Juru, from the rivermouth and estuary area upstream to Auto-City Penang, Juru, to Desa Titi Panjang, Taman Sri Rambai, till Woodhaven Park in Bukit Mertajam. The riverine area consists of Mangroves from the rivermouth till Auto-City Penang, and further upstream of riparian zone plants and vegetation till the remnant freshwater swamp at the Woodhaven area.

Methodology:

The surveys were organized as a group survey and individual surveys, the surveys were carried out during daylight hours and nocturnal hours, the nocturnal surveys were conducted to capture data on night birds. The data collection techniques that were used were, surveys that included, point counts, transects counts, use of boat along the Juru River and the estuary, drone footage and historical data. Equipment used were binoculars, bird field guides, audio recorder, telephoto cameras, spotting scope and a drone. The drone was for aerial surveys of inaccessible locations, where birds congregate, especially shorebird and waterbirds

The bird data collection surveys were carried out on 6 full Days main survey, over a period of 3 months. During this period 6 camera traps were installed at 3 locations, to capture images of mammal including birds and other fauna. This incidental capture of birds were included here. The bird surveys were carried out by 4 main MNS bird experts and 3 MNS volunteers.

A weekly survey was also carried out for a duration of 6 months, This weekly survey, usually for period of about 2 hours either in the morning or late afternoon, or at a time depending on tide conditions for shorebirds and wader observation and count. This weekly survey may coincide with the dates of checking of the camera traps.

Findings and Analysis

Population Estimates: Due to the short period of time for this survey, reliable estimates were not possible. Rough estimates are stated as 'abundant' 'common' 'uncommon' and 'rare'. However, for some species a reliable estimate can be provided.

The number bird species recorded was 168 (including one species which was overlooked after completion of Checklist, ie 167 plus 1) from 55 families and 4 taxa that were in the genera *Hierococcyx*, *Egretta* and *Ardeola*. The number of globally threatened and near threatened species recorded was 5 species. The conservation status of these species under the International Union for the Conservation of Nature (IUCN Red List), which is part of the United Nations of organization were Vulnerable (VU) and Near Threatened (NT). These 5 species are: **Black-capped Kingfisher *Halcyon pileate* (VU)**, **Eurasian Curlew *Numenius arquata* (NT)**, **Curlew Sandpiper ((VU)**, **Lesser Adjutant *Leptoptilos javanicus* (NT)**, **Mangrove Pitta *Pitta megarhyncha* (NT)**.

The number of migratory species recorded was 45, the number of resident species was 122, a number of species are both migratory and residents. It needs to be noted that during the Northern Hemisphere's winter period, some of the migrating bird species that migrate to Peninsular Malaysia, supplement the resident species. There are no known studies that have been conducted to indicate similar migrant species have adverse effects on the same resident species.

During the survey period, breeding activities were recorded for the following species the Olive-backed Sunbird *Pycnonotus goiavier*, Changeable Hawk Eagle *Spizaetus cirrhatu*s, Green-billed Malkoha *Phaenicophaeus tristis*, Copper-throated Sunbird *Nectarinia calcostetha*, Coppersmith Barbet *Megalaima haemacephala*, Yellow-vented Bulbul *Pycnonotus goiavier*, Eurasian Tree-sparrow *Passer montanus*, Eastern Spotted Dove *Streptopelia chinensis*, Zebra Dove *Geopelia striata*, Jungle Myna *Acridotheres fuscus* and Baya Weaver *Ploceus philippinus*, Pin Striped Tit-Babbler *Macronous gularis*

This survey resulted in 17 new bird species being recorded for the first time in the Juru area, these include: Laced Woodpecker *Picus vittatus*, Chestnut-winged Cuckoo *Clamator coromandus*, Hawk Cuckoo spp *Hierococcyx spp*, Red-legged Crake *Rallina fasciata*, Slatty-legged Crake *Gallirallus striatus*, Eurasian Curlew *Numenius arquata*, Terek Sandpiper *Xenus cinereus*, Curlew Sandpiper *Calidris ferruginea*, Red-necked Stint *Calidris ruficollis*, Crested Goshawk *Accipiter trivirgatus*, Peregrine Falcon *Falco peregrinus*, Oriental Darter *Anhinga melanogaster*, Blue winged pitta *Pitta moluccensis*, Eyebrowed thrush *Turdus obscurus*, Siberian Blue Robin *Luscinia cyane*, Thai Pied Starling *Gracupica floweri*, Black-browed Reed-warbler *Acrocephalus bistrigiceps*, and Little Spiderhunter *Arachnothera longirostra*.

Bird families that had a high number of individual species were: Cuculidae (cuckoos) 12 species, Ardeidae (egrets and herons) 12 species, Picidae (woodpeckers) 10 species, Scolopacidae (shorebirds) 10 species and Accipitridae (eagles) 10 species.

In forested area, the most common species in the Bukit Juru Forest Reserve was the Striped Tit Babbler *Macronous gularis*, Yellow-vent Bulbul *Pycnonotus goiavier*, Olive-winged Bulbul *Pycnonotus plumosus*, Dark-necked Tailorbird *Orthotomus atrogularis*, and the Common Tailorbird *Orthotomus sutorius*, and the Sunda Pied Fantail *Rhipidura javanica*, was fairly common.

As it is common in coastal mangrove ecosystems in most parts of Penang, so it was for the Juru area. The shorebirds and waterbirds utilised the coastal mudflats, the river banks, irrigation channels and flooded/wet rice fields. The egrets and herons used the mangroves as nighttime roosts.

In the mangrove other than the shore birds and waterbirds, the species encountered often were the Collared Kingfisher *Todiramphus chloris*, Sunda Pied Fantail *Rhipidura javanica*, Ashy Tailorbird *Orthotomus ruficeps*, Swinhoe's White-eyes *Zosterops simplex*, and the Golden-bellied Gerygone *Gerygone sulphurea*, Brown-throated Sunbird *Anthreptes malacensis* and Olive-backed Sunbird *Nectarinia jugularis*. In the fringes of the mangroves, the Jungle Mynah *Acridotheres fuscus*, Common Mynah *Acridotheres tristis* and Asian Glossy Starling *Aplonis panayensis* were fairly common.

In the built up and home garden areas the commonly encountered species were: Eurasian Tree-sparrow *Passer montanus*, Brown-throated Sunbird *Anthreptes malacensis*, Olive-backed Sunbird *Nectarinia jugularis*, Jungle Mynah *Acridotheres fuscus*, Common Mynah *Acridotheres tristis*, and Asian Glossy Starling *Aplonis panayensis*, Yellow-vented Bulbul *Pycnonotus goiavier*, House Crow *Corvus splendens*, Black-naped Oriole *Oriolus chinensis*. Species of birds that most often in the area are often found in most area of the survey sites that include eagles, swallows, swifts and bee-eaters.

Conservation and Recommendations

The Forest Reserve is protected by law but need better monitoring to prevent excessive intrusion by the general public and introduction of nonnative plant species that could spread and compete with native flora that are a food source for birds by way of their nectar in the flowers, fruits and seeds for the birds and other animals.

If possible one or two of the abandoned rice fields in the study area could be set aside as special conservation area as a high tide roost for shorebirds and other waterbirds. This would need the assistance and cooperation of MPSP.

In 20/02/2022, at about 7.30pm, Bee-eaters species, of over 400 individual birds in a large flock were observed flying in from the direction of Penang Island and thermaling over southern part of Bukit Juru (Sg Sembilang), before flying inland in a southerly direction. On other occasions small isolated flocks of Bee-eaters, Swift and Swallow species were also flying into the coastal areas of Juru and continue on south inland. All indications are that these species were flying from the land mass of Penang Island to their roosting sites in Seberang Perai Tengah or further.

From historical data and observations, there seems to be an indication that there is a wide corridor flyway between Seberang Tengah and southern coastline of eastern coast of Penang Island, being used by migrating birds and also being used during local movement, from roosting sites and feeding sites. More research and observations are

required to ascertain this theory in reference to the current situation of global warming and climate change.

Conclusion

In our view this area of Greater Juru has potential to be a successful nature and eco-tourism destination, taking into consideration of the number of bird species occurring in this area and the different ecosystems currently existing there. The existing infrastructure and other amenities are another plus point. A visitors Information Centre in this area at the boat boarding and disembarking area, will be an added attraction and would benefit both the visitors and the operators if souvenirs are made available at this proposed Information Centre.

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