

A BRIEF STUDY OF BIRD FAUNA AT SAYAP-KINABALU PARK, SABAH

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INTRODUCTION

The Sayap-Kinabalu Expedition was jointly organised by the Sabah Parks and the Natural Product Research Group, Universiti Kebangsaan Malaysia (UKM). This expedition managed to gather more than 70 researchers and nature lovers to convene at one place with the aims of collecting data for the purpose of (1) monitoring, servicing and keeping continuous check of the flora and fauna, (2) understanding the processes and interactions occurring amongst the species in the area, and (3) providing accurate information of the interpretative services for the park ecotourism programmes.

The idea of organising this expedition was mooted due to the recognition of the importance of Kinabalu Park among the international scientific community. More than 300 research projects have been completed and their findings are published in scientific. Nevertheless, large portions of the Kinabalu Parks area are still untouched. The opportunity to uncover the hidden potentials of Kinabalu Parks is opened wide through this expedition.

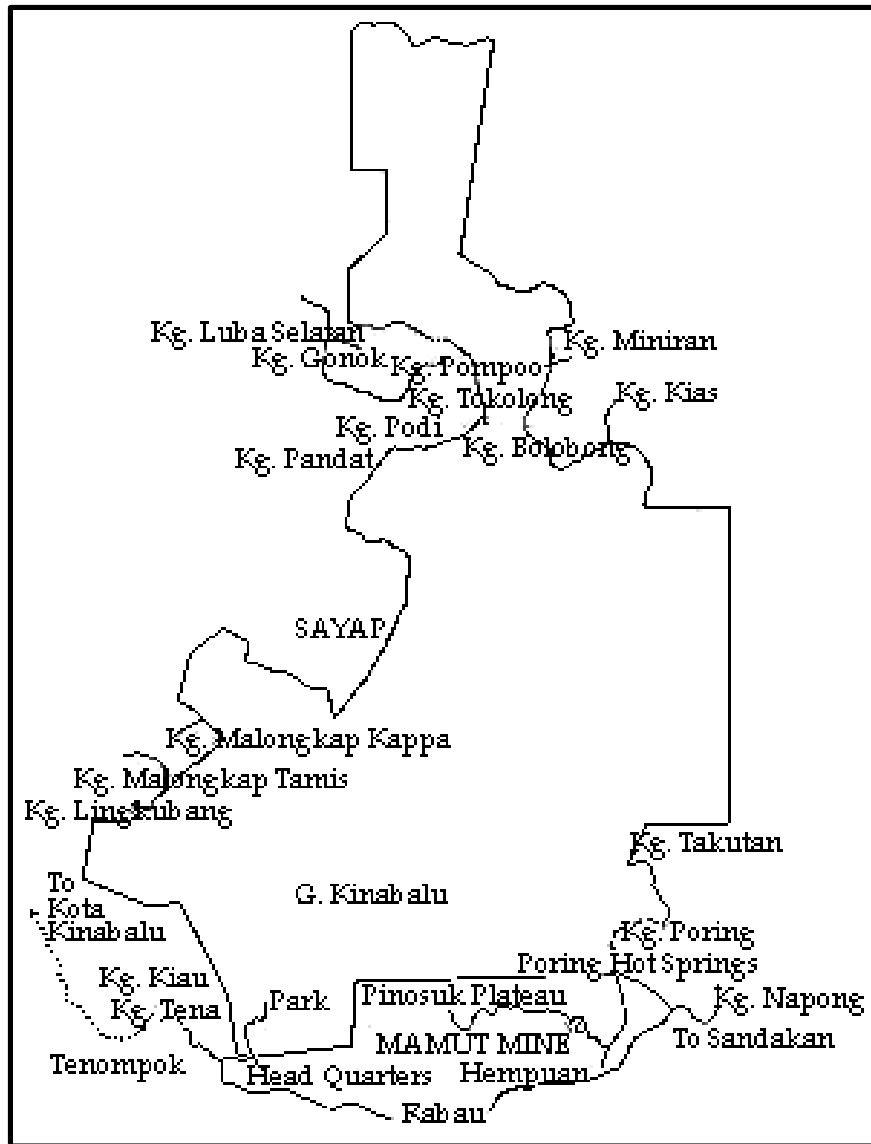
The purpose of the four-day study on birds was to determine the density of birds, behaviour and to come up with a list on the species of birds presence in the area. This information can be used as baseline data for future studies and it also provides information to manage and monitor the birds species in the area.

STUDY AREA

Kinabalu Park covers an area of approximately 75,370 hectares comprising of lowland dipterocarp, hill dipterocarps, upper hill dipterocarp and montane oak forests. The altitude of the park range between 150 meters above sea level to slightly more than 4,000 meters above sea level.

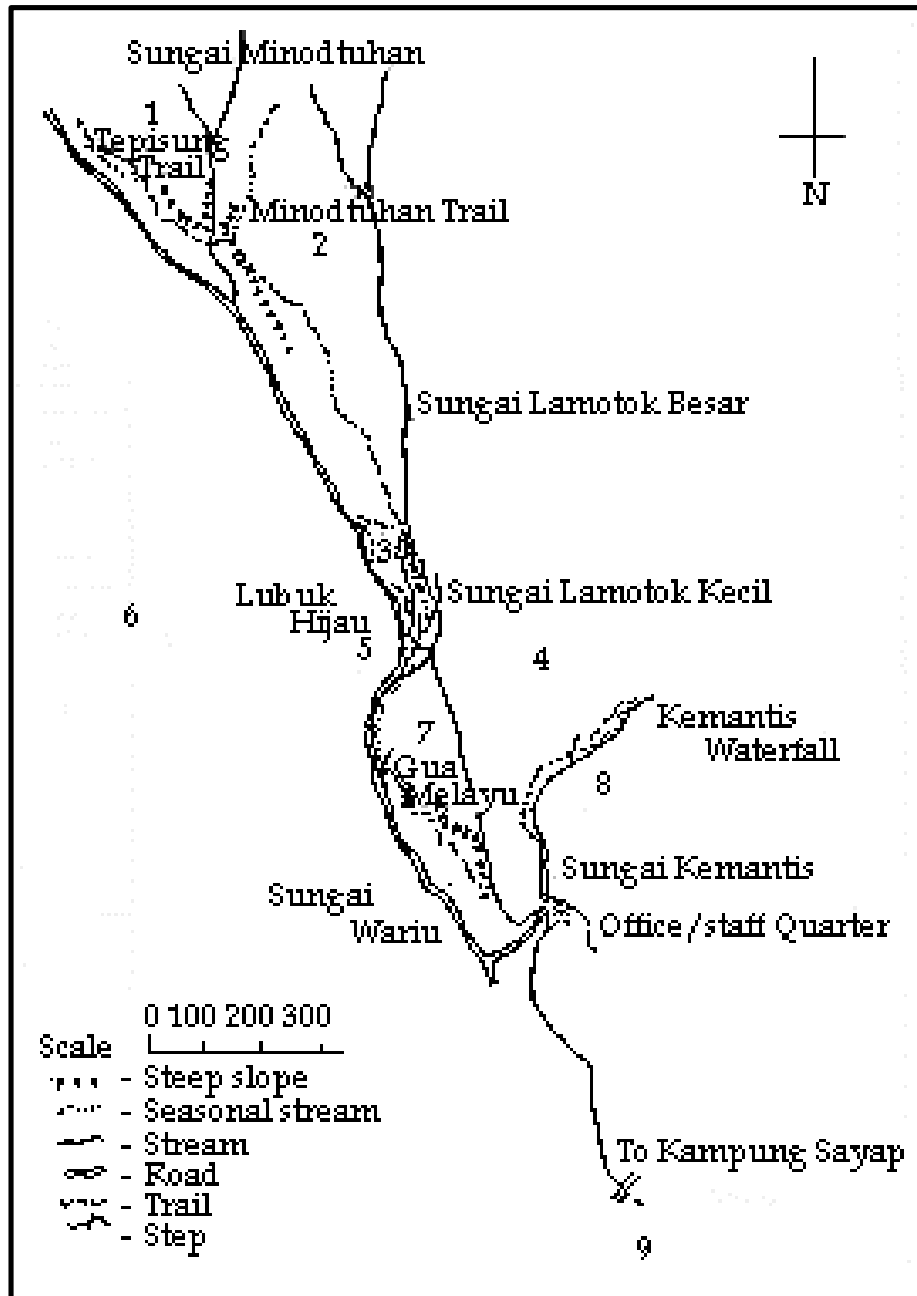
The study area, known as Sayap is located on the northwestern part of Kinabalu Park. The area is accessible by dirt road from Kota Belud passing through several kampongs (see Map 1). A small river, Sungai Wariu flows through the base camp constructed for the participants of the Sayap expedition towards the north (see Map 2). The vegetation in the study area consists of mostly hill dipterocarp species. Several jungle trails have been constructed leading to a few picnic spots and the nearby residents frequent these places on the weekends.

Map 1. Map of Kinabalu Park and Sayap



Note: Drawn Not to Scale

Map 2. Map of the Study Area



METHODOLOGY

A total of five nylon mist nets were set up along the road and trails. The size of the mist nets was 10 meters x 4 meters with 3 pockets. The height of the mist nets above the ground was about 0.5 meter and each mist net was supported by two wooden poles.

The mist nets were opened every morning at 0600 hours and closed at 1800 hours in the evening. They were checked every two hours and the birds caught in the mist nets were identified using King et. al. (1975) and released.

Four transect lines of about one kilometers each were established in the study area. Line transect number one was the trail at the upper Sungai Wariu. Line transect number two was the trail along Sungai Wariu from the base camp to Lubuk Hijau. Line transect number three was the trail along Sungai Kemantis. Line transect number four was the access road from Camp A to about one kilometer north of the camp site. The location of the transect lines are shown in Map 1. The line transect surveys were conducted in the morning when the birds were active. The observer recorded species of birds observed and estimated perpendicular distances to the individual birds from the transect. Concurrently, the observers also recorded the behaviour of the birds and the four major activities recorded were feeding, perching, singing and flying. The bird density was calculated using Frye, Balph and Emlen methods.

RESULTS AND DISCUSSION

A total of 50 species from 21 families were captured and observed. Pycnonotidae (bulbul), Capitonidae (barbet) and Columbidae (dove and pigeon) were among the families which had the most number of species captured/observed. List of bird species captured/observed at Sayap is shown in Table 1.

The density of birds for the four transect lines is presented in Table 2. Line transect number one shows the highest density among the four transect lines (11- 19 birds/hectare). This was probably due to less habitat disturbance in the higher elevation area. Another transect line which gave a reasonably high density of birds was line transect number four (6.2-10.0 birds/hectare). As this transect line was along the road, the observer had more chances of sighting the birds because of the open area compared to the transect line of the jungle trails. In addition, the vegetation along the road side comprised of shrubs and bushes which provide food and cover for many birds species.

The frequency of behaviour of birds along the transect lines is shown in Table 3. The catalogue of activities is divided into five, namely feeding, perching, singing and flying. It is interesting to note that feeding activity scored the highest (61-95%) among the other three activities. One of the reasons why feeding activity was the highest can be correlated with the time of the survey where birds usually feed in the morning. Among the four transect lines, line transect number two showed the highest frequency of feeding activity. Perhaps this transect line had more available food than the other transects.

CONCLUSION

This brief study of birds population at Sayap showed that the density of birds in the area was about similar to the density of birds in Taman Negara National Parks, Peninsular Malaysia (Emlen's Method 9.75 birds/hectare, Balph's Method 17 birds/hectare and Frye's Methods 19.75 birds/hectare) and Wildlife Training Centre, Bukit Rengit, Pahang, Malaysia (Emlen's Method 14.75 birds/hectare, Balph's Method 20 birds/hectare and Frye's Methods 20 birds/hectare) (Corpuz and Sukigara 1991 - unpublished report). The similarity and the high density of birds in these areas showed that these areas are good habitats for birds.

Table 1
List of bird species observed in Sayap-Kinabalu Park, Sabah

Family	Species	Common Name
Picadae	Blythipicus rubiginous	Maroon woodpecker
	Picus puniceus	Crimson-winged woodpecker
Turdidae	Garulax mitratus	Chestnut-capped laughing trush
	Enicurus leschenaulti	White-crowned forktail
	Garulax palliatus	Grey-and-brown laughingtrush
	Garulax lugubris	Black lugubris
Apodidae	Collacalia esculenta	White-bellied swiftlet
Dicruridae	Dicrurus leucophaeus	Ashy drongo
	Dicrurus hottentotus	Spangled drongo
Chloropsidae	Chloropsis sonnerrati	Greater green leafbird
	Chloropsis cyanopogon	Lesser green leafbird
Eurylaimidae	Calytomena whiteheadi	Whiteheads broadbill
	Psarisomus dalhousiae	Long-tailed broadbill
Bucerotidae	Annorhinus galeritus	Bushy-crested hornbill
Campephagidae	Pericrocotus solari	Grey-chinned minivet
Timalidae	Yuhina zantholeuca	White-bellied yuhina
	Yuhina everetti	Chestnut-crested babbler
	Napothera crassa	Mountain wren-babbler
Phasianidae	Haematortyx sanguiniceps	Crimson-headed partridge
	Arborophila hyperythra	Red-breasted partridge
Pycnonotidae	Hypsipetes flava	Ashy bulbul
	Pycnonotus flavescens	Flavescens bulbul
	Pycnonotus atriceps	Black-headed bulbul
	Criniger bres	Grey-cheeked bulbul
	Criniger ochraceus	Ochraceous bulbul
	Pycnonotus goiavier	Yellow-vented bulbul

Sylviidae	Cettin montanus	Mountain bush warbler
	Orthotomus cuculatus	Mountain tailorbird
Columbidae	Dacula badia	Mountain imperial pigeon
	Macropygia unchall	Barred cuckoo dove
	Macropygia ruficeps	Little dove
	Chalcophaps indica	Emerald dove
	Macropygia phasianella	Red cuckoo dove
Muscicoidae		Indigo flycatcher
	Muscicapa indigo	Snowy-browed flycatcher
	Ficedula	White-throated fantail flycatcher hyperrythra
		Rhipidura perlata
Corvidae	Cissa chinensis	Green magpie
Trogonidae	Harpectes whiteheadi	Whiteheads trogon
Nectariniidae	Arachnothera longirostra	Little spiderhunter
	Arachnothera affinis	Grey-breasted spiderhunter
	Aethopyga mystacalis	Scarlet sunbird
Capitonidae	Megalaima pulcherrima	Golden-naped barbet
	Megalaima australis	Blue-eared barbet
	Megalaima henricii	Yellow-crowned barbet
	Megalaima monticola	Mountain barbet
	Megalaima mystacophanos	Red-throated barbet
Accipitridae	Spilornis cheela	Crested serpent-eagle
	Ictinaetus malayensis	Black eagle
Zosteropidae	Zosterops artcapilla	Everette white-eye
Corvidae	Dendrocitta occipitalis	Malaysian treepie

Table 2

Transect, habitat types and bird density estimates (birds/hectare) in Sayap-Kinabalu, Sabah

Transect no. (TR)	Locality & habitat type	Frye Method	Balgh Method	Enlem Method
TR 1	Forest trail, hill dipterocarp forest	13.30	19.00	11.00
TR 2	Forest trail, riparian	3.00	4.00	3.80
TR 3	Forest trail, Hill dipterocarp forest	1.30	1.10	1.20
TR 4	Road side, secondary forest, scrub and bushes	7.70	10.00	6.20

Table 3
Frequency of behaviour of birds in Sayap-Kinabalu, Sabah

Transect no.(TR)	Feeding	Perching	Singing	Flying
TR 1	61.00	30.00	9.00	0
TR 2	95.00	5.00	0	0
TR 3	74.00	1.00	0	21.00
TR 4	75.00	6.00	19.00	0

REFERENCES

- Corpuz and Sukigara, [1991] Bird Population Study at Launchang and Taman Negara, Pahang, Malaysia. Unpublished report, DWNP, Kuala Lumpur.
- King, B., M. Woodcock and E.C. Dickinson, [1975] A Field Guide to the Birds of Southeast Asia. Collins. London
- Sayap Kinabalu Expedition, [1992] The Sabah Parks and the Natural Product Research Group, Universiti Kebangsaan Malaysia, Bangi.