# BIRD SURVEY REPORT SUGUT FOREST RESERVE

2<sup>nd</sup> to 6<sup>th</sup> December 2014



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# **INTRODUCTION**

The Trusan Sugut Forest Reserve covering about 8,680 *ha* was gazetted as a Class I Protection Forest in November 2014. The Sabah Forestry Department in currently in the process of preparing a forest management plan (FMP) for Trusan Sugut. With the principal goal of management being biodiversity conservation, a bird survey was commissioned by the Sabah Forestry Department. The first part of the field survey was carried out over a 5-day period, from 2–6 December, 2014. Six persons were involved in this field survey (Plate 1).



Plate 1: Survey crew members (from left): Jabanus, Mirwan, Vivian, John, Gary, Lawrence.

### Survey crew:

John Bakar (Freelance Bird Guide) Gary Albert (Freelance Bird Guide) Mirwan Mustapha (Freelance Bird Guide) Lawrence Tingkoi (Sabah Forestry Department – FRC Sepilok) Jabanus Miun (Sabah Forestry Department – Kalabakan) Vivian Rudolf (Sabah Forestry Department – Menara Kayangan Lahad Datu)

# FIELD METHODS

# Sampling

Field sampling points were determined on a map based on forest type and then located on the ground with the use of a GPS. Field recording followed the protocol outlined in Appendix A. Species data for each point is recorded onto a datasheet (Appendix B). Recording of birds was also carried out while travelling between points (Appendix C).

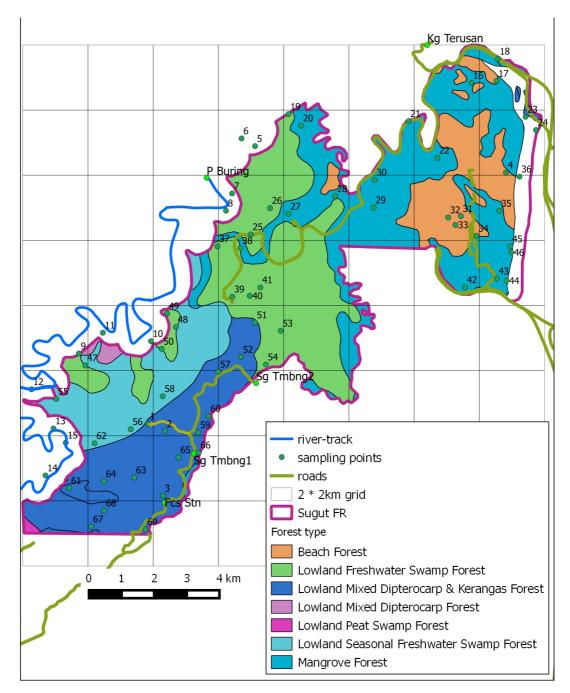


Figure 1: Sampling points spread across forest type

# Equipment used:

-Binoculars

- 3 Swarovski
- 1 Olympus
- 1 Bushnell
- 1 Nikon monarch

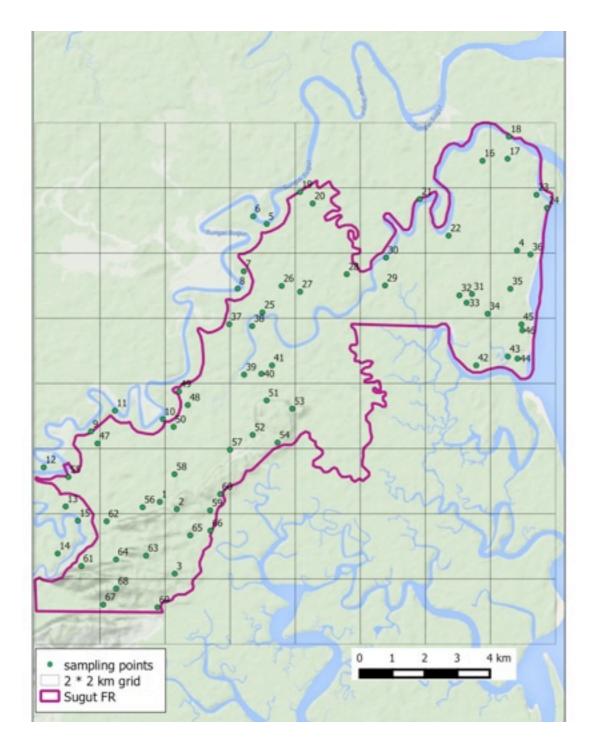
-Telesc	ope
1 Sware	ovski 65

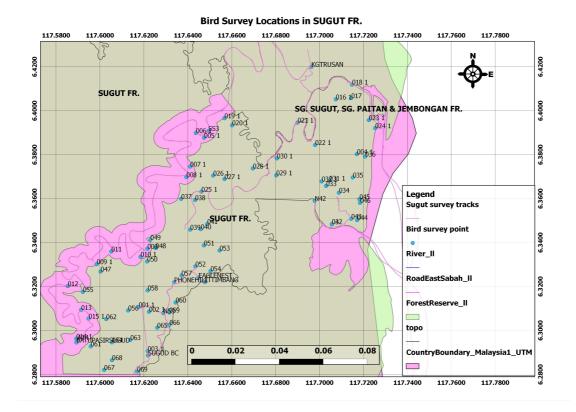
2 Nikon ED82

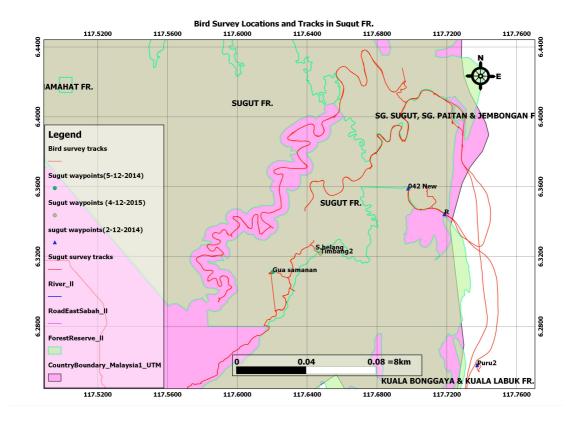
-3 units GPS Garmin -Compass

# -Cameras

Canon DSLR Nikon Digiscope P300 Nikon DSLR







Maps: Survey Tracks/Area Covered by 2 units GPS Garmin

### RESULTS

One hundred fifty nine (159) bird species were recorded over a 5-day period, nine of which were Bornean endemics.

# Endemics

1. Chestnut-necklaced Partridge	Arborophila graydoni
2. Banded Kingfisher	Lacedo melanops
3. Brown Barbet	Caloramphus fuliginosus
4. Blue-headed Pitta	Hydrornis baudii
5. Black-crowned Pitta	Erythropitta ussheri
6. Black Magpie	Platysmurus atterimus
7. Bold-striped Tit-Babbler	Macronus bornensis
8. White-crowned Shama	Copsychus stricklandii
9. Dusky Munia	Lonchura fuscans

Nine endemics in an area like Trusan Sugut is considered low. We were expecting about 20 species. But given more time, it is very likely that the list will be much longer. Below is a list of endemic birds that is are likely to be discovered with further surveys:

1. Crested fireback	Lophura ignita
2. Bornean Necklace Partidge	Arborophila graydoni
3. Bornean Falconet	Microhierax latifrons
4. Bornean Ground Cuckoo	Carpococcyx radiatus
5. Bornean Bristlehead	Pityriasisgymnocephala
6. Bornean Blue Flycatcher	Cyornis superbus
7. Yellow-rumped Flowerpecker	Prionochilus xanthopygius
8. Bornean Spiderhunter	Arachnotera everetti
9. Blue-banded Pitta	Pitta arquata
10. Bornean Wren-babbler	Ptilocichla leucogrammica
11. Black-throated Wren-babbler	Napothera artigularis

### Raptors

Four species of raptors were recorded:

### ACCIPITRIFORMES: Accipitridae

Brahminy Kite *Haliastur indus* (Sighted in 10 different point locations between 2<sup>nd</sup> to 4<sup>th</sup> December 2014)

White-bellied Sea EagleHaliaeetus leucogaster(Sighted in 4 point locations on the 2<sup>nd</sup> and 6<sup>th</sup> December 2014)

Lesser Fish Eagle (Zero sighting) Haliaeetus humilis

Grey-headed Fish Eagle (Zero sighting) Haliaeetus ichthyaetus

### (Please refer to data Sheet form for GPS Locations and details)

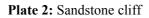
### Pulau Gusung (Sandbar)

Suitable for migratory waterbirds or waders observation during migration season via Austral Migrant and East Asia Island Flyway. Local bird enthusiasts hoping to see the Spoon-billed Sandpiper, Pulau Gusung sandbar can be a perfect spot for this reason. (refer to Phillips' Field Guide to Borneo page 37).

Below is the bird list recorded at Gusung Sandbar

	$\mathbf{J}$
1. Grey Plover	Pluvialis squatarola
2. Little Ringed Plover	Charadrius dubius
3. Kentish Plover	Charadrius alexandrinus
4. Lesser Sand Plover	Charadrius mongolus
5. Greater Sand Plover	Charadrius leschenaultii
6. Bar-tailed Godwit	Limosa lapponica
7. Whimbrel	Numenius phaeopus
8. Eurasian Curlew	Numenius arquata
9. Far Eastern Curlew	Numenius madagascariensis
10. Common Greenshank	Tringa nebularia
11. Grey-tailed Tattler	Tringa brevipes
12. Terek Sandpiper	Xenus cinereus
13. Common Sandpiper	Actitis hypoleucos
14. Red-necked Stint	Calidris ruficollis
15. Greater Crested Tern	Thalasseus bergii







### **Cliff and Karsification Area**

Mysterious rectangle formation cliff (picture above Plate 2) can be a very mind boggling mystery to visitors. Is it man made? Located about 2KM from the Sugut FR reception area via dirt road. However, the area is a heaven for Pitta bird and jungle flycatcher. Possibly the richest birdlife of Sugut Forest Reserve, as it mix type of forest between Swamp forest and lowland dipterocarp forest.

### **Scenic View Point**

Probably one of the scenic view points in Trusan Sugut (Plate 3). Overlooking Sugut Forest from Cliff top with Mount Kinabalu in the background at sunset is real treat to nature lovers. Observing birds at dusk and dawn at this point can be breathtaking with the sound of birds can be heard around the valley of almost endless jungle view of Sugut Reserve.

View point probably be good station to observe Raptor migration during the season as continuation observation done in the Japan, Philippines, Peninsula Malaysia and other south East Asia country by ASIAN RAPTOR RESEARCH CONSERVATION NETWORK (ARRCN). In general, Raptor and other migratory birds activities is still poorly studied in Sabah or Borneo.

Four (4) species of hornbill were identified at this very spot during survey. With the forest landscape comparable to Kinabatangan, all 8 species of hornbills found in Sabah may be found in th Trusan Sugut FR. (refer picture 1 and 2 page 24)

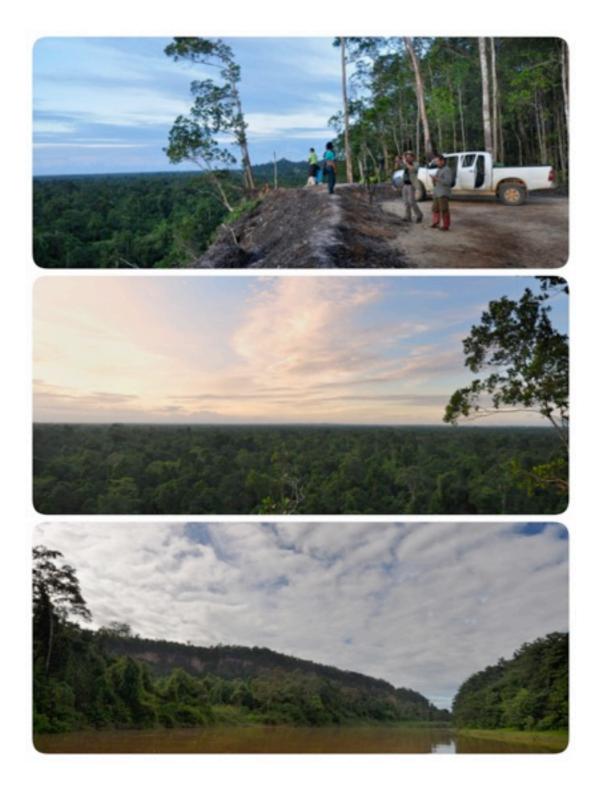


Plate 3:Picture 1 and 2- View PointPicture 3- Sugut River

# Conclusion

159 species of birds recorded including 9 Borneo endemic is a good representation for 5 days survey work, which covered river and terrestrial work and covering all type of forest of Sugut Forest Reserve. However, given more time spent on those areas that are particularly rich in birdlife, and perhaps a different sampling approach, we can expect at least 300 species of bird for Trusan Sugut. The 7 types of forest in the Reserve offer a wide range of habitats for both resident species, as well as migratory and vagrant species.

Trusan Sugut has potential for birding tourism, provided the appropriate infrastructure is in place, and accessibility is improved. However, it will have to compete with other more well established destinations, such as Kinabatangan, Danum, and Tabin. Therefore, birding may have to focus on birds that are not found or more difficult to see in the other places.

Birdwatching cruise along Sugut River ideally with small boat (6-8 person capacity) better equip with eletric motor can be a good activity in the river as quality of forest wildlife and birdlife comparable to Kinabatangan River.

Chinese Goshawk, Black-capped Kingfisher and Malaysian night heron are among highlight birds during survey.

Bornean ground-cuckoo, Bornean Falconet or Bornean Bristlehead yet to be discovered.

### **REFERENCES**

# Phillipps' Field Guide To The Birds Of Borneo

Sabah Sarawak Brunei And Kalimantan Third Edition Fully Revised Quentin Phillipps & Karen Phillipps John Beaufoy Publishing

### Field Guide To The Birds Of Borneo

Susan Myers Comprehensive Coverage Of All The Birds of Sabah, Sarawak, Brunei And Kalimantan New Holland Publisher

### A Field Guide To The Birds Of Borneo

Sumatra, Java And Bali John MacKinnon Karen Phillipps Oxford University Press

### Avibase

# Bird Checklists of the World

Island of Borneo International Ornithological Committee (IOC) Web: avibase.bsc-eoc.org

### **Raptors Of The World**

James Ferguson-Lees David A. Christie Princeton Field Guides

#### Wild Birds Of Japan

Takuya KANOUCHI Naoya ABE Hideo UEDA YAMA-KEI Publisher Co (Reference for Waders)

# APPENDIX A BIRD SURVEY FIELD PROTOCOL

- The standard method used for this bird survey will be the <u>'point count'</u> method; time spent at each point must be <u>10 minutes</u>.
- Please survey the points as indicated in the maps each point is given an ID code. The points have been placed so as to cover all the various habitat/forest types and the different parts of Sugut FR. Further, points have been laid out to avoid roadside 'edge' habitats.
- It is left to the team(s) how they want to cover the points, as long as it is systematically done to cover all the points, and that there is no overlap ('double count' of the same point) between the teams.
- During counts, species detected (seen or heard) are recorded in the datasheet. After 10 minutes time is up, the team should move to the next point.
- A fresh datasheet(s) must be used for each point (the point ID is to be recorded in the datasheet).
- 6. In the datasheet, please write down the date, survey start time, end time, GPS location (including datum), weather (sunny, cloudy, rainy, etc), names of team members, habitat description (Closed canopy / open canopy / tall trees / short trees / scrub / grassland / mangrove / nipah / swamp / riverine / coast / any other (please specify)).
- After a bird/ a group of birds have been sighted during the count, write down the species name, number seen or heard and the location the bird(s) was recorded (canopy, understory tree, undergrowth, ground, in flight, river bank, in water, etc.).
- Birds should be identified down to *species* level. If not possible, then to the *genus level*. If during the survey, the common name was recorded, please ensure that the scientific name is filled in after the survey. Please provide details of the bird guide that was used during the survey to ensure consistency.
- If some of the points cannot be reached for various reasons (flooding, too steep, etc), then a new point should be located as close as possible (within 100 – 200 metres) to the pre-prepared point, and the bird survey carried out. GPS location of the new point must be recorded in the datasheet.
- 10. Birds which are detected outside of the point counts (ad hoc, e.g., birds found when walking to points, driving along roads, night drives, during camping, etc) should be recorded in another datasheet provided for that purpose. Please write down date, time, GPS coordinate, species and number seen/ heard, and the location bird was recorded in that datasheet.
- 11. This systematic method of bird survey is expected to give information on population abundance and distribution status of birds in the survey area, which in turn will be useful for identifying HCV areas, long-term monitoring, etc. Completed datasheets should be submitted to <u>Dr. Robert Ong. FRC</u>. Data analysis and preparation of detailed report will be done by WWF-Malaysia team in coordination with FRC, and shared with the survey team.

# APPENDIX B POINT COUNT DATA SHEET

Team members:			Weather:
mangrove /			py / tall trees / short trees / scrub / grassland / ast / Others (please specify):
Species Name	No. Seen	No. Heard	Location recorded (canopy, understory tree undergrowth, ground, in flight, river bank, in water, etc.)
		_	
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Notes: 1 datasheet per point

# APPENDIX C NON-POINT COUNT DATASHEET

Date	Time	GPS Location (please mention datum used)	Species	No. Seen/ Heard	Location recorded (canopy understory tree, undergrowth, ground, in flight, river bank, in water, etc.)
			·		
			1		
			6		
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### Sugut Bird Survey: Datasheet for ad hoc surveys (not point-count)

<u>Notes</u>: For use to record birds found when walking to points, driving, night drives, during camping, etc. There is a separate datasheet for recording birds found during point-counts.

# APPENDIX D CHECKLIST OF BIRDS IN THE SUGUT FOREST RESERVE RECORDED From 2<sup>ND</sup> TO 6<sup>TH</sup> December 2014

Location: Sugut Forest Reserve Number of species: 159 Number of endemics: 9 Number of global endangered, vulnerable and near-threatened species: 34 Number of introduced species: 1

GALLIFORMES: Phasianidae		
1. Chestnut-necklaced Partridge	Arborophila graydoni	Endemic
2. Red Junglefowl Gallus gallus	Introduced species	
3. Great Argus	Argusianus argus	
CICONIIFORMES: Ciconiidae		
4. Storm's Stork	Ciconia stormi	Endangered
5. Lesser Adjutant	Leptoptilos javanicus	Vulnerable
PELECANIFORMES: Ardeidae	Luchanshur sime an on our	
6. Cinnamon Bittern	Ixobrychus cinnamomeus	
<ol> <li>Malayan Night Heron</li> <li>Striated Heron</li> </ol>	Gorsachius melanolophus Butorides striata	
9. Great-billed Heron	Ardea sumatrana	
10. Purple Heron	Ardea purpurea	
11. Great Egret	Ardea alba	
12. Little Egret	Egretta garzetta	
13. Pacific Reef Heron	Egretta sacra	
14. Chinese Egret	Egretta eulophotes	Vulnerable
		, ameraore
SULIFORMES: Anhingidae		
15. Oriental Darter	Anhinga melanogaster	Near-threatened
ACCIPITRIFORMES: Accipitridae		
16. Crested Serpent Eagle	Spilornis cheela	
17. Wallace's Hawk-Eagle	Nisaetus nanus	Vulnerable
18. Chinese Sparrowhawk	Accipiter soloensis	, ameraore
19. Brahminy Kite	Haliastur indus	
20. White-bellied Sea Eagle	Haliaeetus leucogaster	
·····		
GRUIFORMES: Rallidae		
21. White-breasted Waterhen	Amaurornis phoenicurus	

### CHARADRIIFORMES: Charadriidae

22. Grey Plover	Pluvialis squatarola
23. Little Ringed Plover	Charadrius dubius
24. Kentish Plover	Charadrius alexandrinus
25. Lesser Sand Plover	Charadrius mongolus
26. Greater Sand Plover	Charadrius leschenaultii

### CHARADRIIFORMES: Scolopacidae

27. Bar-tailed Godwit	Limosa lapponica	
28. Whimbrel	Numenius phaeopus	
29. Eurasian Curlew	Numenius arquata	Near-threatened
30. Far Eastern Curlew	Numenius madagascariensis	Vulnerable
31. Common Greenshank	Tringa nebularia	
32. Grey-tailed Tattler	Tringa brevipes	Near-threatened
33. Terek Sandpiper	Xenus cinereus	
34. Common Sandpiper	Actitis hypoleucos	
35. Red-necked Stint	Calidris ruficollis	

### CHARADRIIFORMES: Laridae

Thalasseus bergii	
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Spilopelia chinensis	
Chalcophaps indica	
Treron olax	
Treron vernans	
Ducula aenea	

### CUCULIFORMES: Cuculidae

42. Greater Coucal	Centropus sinensis
43. Raffles's Malkoha	Rhinortha chlorophaea
44. Red-billed Malkoha	Zanclostomus javanicus
45. Chestnut-breasted Malkoha	Phaenicophaeus curvirostris
46. Violet Cuckoo	Chrysococcyx xanthorhynchus
47. Plaintive Cuckoo	Cacomantis merulinus
48. Square-tailed Drongo-Cuckoo	Surniculus lugubris
49. Indian Cuckoo	Cuculus micropterus
50. Malaysian Hawk-Cuckoo	Hierococcyx Fugax
51. Moustached Hawk-Cuckoo	Hierococcyx Vagans Near-threatened
52. Banded Bay Cuckoo	Cacomantis sonneratii

#### CAPRIMULGIFORMES: Caprimulgidae 53. Large-tailed Nightjar Caprimulgus macrurus APODIFORMES: Apodidae 54. Black-nest Swiftlet Aerodramus maximus 55. Silver-rumped Spinetail Rhaphidura leucopygialis 56. Asian Palm Swift Cypsiurus balasiensis TROGONIFORMES: Trogonidae 57. Diard's Trogon Harpactes diardii Near-threatened **CORACIIFORMES:** Coraciidae 58. Oriental Dollarbird Eurystomus orientalis CORACIIFORMES: Alcedinidae 59. Banded Kingfisher Lacedo melanops Endemic 60. Stork-billed Kingfisher Pelargopsis capensis 61. Ruddy Kingfisher Halcyon coromanda 62. Black-capped Kingfisher Halcyon pileata 63. Collared Kingfisher Todiramphus chloris 64. Blue-eared Kingfisher Alcedo meninting 65. Oriental Dwarf Kingfisher Ceyx erithaca CORACIIFORMES: Meropidae 66. Red-bearded Bee-eater Nyctyornis amictus 67. Blue-throated Bee-eater Merops viridis BUCEROTIFORMES: Bucerotidae 68. Rhinoceros Hornbill Near-threatened Buceros rhinoceros 69. Oriental Pied Hornbill Anthracoceros albirostris 70. Black Hornbill Near-threatened Anthracoceros malayanus Anorrhinus galeritus 71. Bushy-crested Hornbill PICIFORMES: Megalaimidae 72. Red-throated Barbet Megalaima mystacophanos Near-threatened 73. Blue-eared Barbet Megalaima duvaucelii 74. Brown Barbet Caloramphus fuliginosus Endemic

### PICIFORMES: Picidae

100. Lesser Cuckooshrike

75. White-bellied Woodpecker	Dryocopus javensis	
76. Banded Woodpecker	Chrysophlegma miniaceu	m
77. Olive-backed Woodpecker	Dinopium rafflesii	Near-threatened
78. Maroon Woodpecker	Blythipicus rubiginosus	
79. Orange-backed Woodpecker	Reinwardtipicus validus	
80. Rufous Woodpecker	Micropternus brachyurus	
81. Buff-rumped Woodpecker	Meiglyptes tristis	
82. Great Slaty Woodpecker	Mulleripicus pulverulentu	us Vulnerable
83. Buff-necked Woodpecker	Meiglyptes tukki	Near-threatened
PSITTACIFORMES: Psittacidae		
84. Blue-crowned Hanging Parrot	Loriculus galgulus	
85. Blue-rumped Parrot	Psittinus cyanurus	
86. Long-tailed Parakeet	Psittacula longicauda	Near-threatened
PASSERIFORMES: Eurylaimidae		
87. Black-and-red Broadbill	Cymbirhynchus macrorhy	vnchos
88. Banded Broadbill	Eurylaimus javanicus	
89. Black-and-yellow Broadbill	Eurylaimus ochromalus	Near-threatened
90. Dusky Broadbill	Corydon sumatranus	
PASSERIFORMES: Pittidae		
91. Blue-headed Pitta	Hydrornis baudii	Endemic Vulnerable
92. Black-crowned Pitta	Erythropitta ussheri	EndemicNear-threatened
93. Hooded Pitta	Pitta sordida	
94. Mangrove Pitta	Pitta megarhyncha	Rare/Near-threatened
PASSERIFORMES: Tephrodornithida	e	
95. Rufous-winged Philentoma	Philentoma pyrhoptera	
PASSERIFORMES: Artamidae		
96. White-breasted Woodswallow	Artamus leucorynchus	
PASSERIFORMES: Aegithinidae		
97. Common Iora	Aegithina tiphia	
98. Green Iora	Aegithina viridissima	Near-threatened
PASSERIFORMES: Campephagidae		
99. Bar-bellied Cuckooshrike	Coracina striata	

Coracina fimbriata

101. Fiery Minivet

Pericrocotus igneus

Near-threatened

PASSERIFORMES: <b>Pachycephalidae</b> 102. Mangrove Whistler	Pachycephala cinerea	
PASSERIFORMES: Laniidae 103. Brown Shrike	Lanius cristatus	
PASSERIFORMES: <b>Oriolidae</b> 104. Dark-throated Oriole	Oriolus xanthonotus	Near-threatened
PASSERIFORMES: <b>Dicruridae</b> 105. Greater Racket-tailed Drongo	Dicrurus paradiseus	
PASSERIFORMES: <b>Rhipiduridae</b> 106. Pied Fantail	Rhipidura javanica	
PASSERIFORMES: Monarchidae		
107. Black-naped Monarch	Hypothymis azurea	
108. Asian Paradise Flycatcher	Terpsiphone paradisi	
PASSERIFORMES: Corvidae		
109. Black Magpie	Platysmurus atterimus	Endemic
110. Slender-billed Crow	Corvus enca	
PASSERIFORMES: Pycnonotidae		
111. Yellow-vented Bulbul	Pycnonotus goiavier	
112. Olive-winged Bulbul	Pycnonotus plumosus	
113. Cream-vented Bulbul	Pycnonotus simplex	
114. Asian Red-eyed Bulbul	Pycnonotus brunneus	
115. Spectacled Bulbul	Pycnonotus erythropthalmos	
116. Grey-cheeked Bulbul	Alophoixus bres	
117. Yellow-bellied Bulbul		
	Alophoixus phaeocephalus	
118. Streaked Bulbul	Alophoixus phaeocephalus Ixos malaccensis	Near-threatened
118. Streaked Bulbul PASSERIFORMES: <b>Hirundinidae</b>		Near-threatened
		Near-threatened
PASSERIFORMES: Hirundinidae	Ixos malaccensis	Near-threatened
PASSERIFORMES: <b>Hirundinidae</b> 119. Barn Swallow	Ixos malaccensis Hirundo rustica	Near-threatened
PASSERIFORMES: <b>Hirundinidae</b> 119. Barn Swallow 120. Pacific Swallow	Ixos malaccensis Hirundo rustica	Near-threatened

### PASSERIFORMES: Timaliidae

FASSERIFORMES. THIAHUAE		
124. Chestnut-rumped Babbler	Stachyris maculata	Near-threatened
125. Chestnut-winged Babbler	Stachyris erythroptera	
126. Bold-striped Tit-Babbler	Macronus bornensis	Endemic
127. Fluffy-backed Tit-Babbler	Macronus ptilosus	Near-threatened
PASSERIFORMES: Pellorneidae		
128. Black-throated Babbler	Stachyris nigricollis	Near-threatened
129. Short-tailed Babbler	Malacocincla malaccensis	Near-threatened
130. Sooty-capped Babbler	Malacopteron affine	Near-threatened
131. Rufous-crowned Babbler	Malacopteron magnum	Near-threatened
132. White-chested Babbler	Trichastoma rostratum	Near-threatened
133. Ferruginous Babbler	Trichastoma bicolor	
134. Black-capped Babbler	Pellorneum capistratum	
PASSERIFORMES: Irenidae	T 11	
135. Asian Fairy-bluebird	Irena puella	
PASSERIFORMES: Sturnidae		
136. Asian Glossy Starling	Aplonis panayensis	
137. Common Hill Myna	Gracula religiosa	
138. Javan Myna	Acridotheres javanicus	Introduced species
PASSERIFORMES: Turdidae		
139. Eyebrowed Thrush	Turdus obscurus	
139. Eyeolowed Thiush	Turaus obscurus	
PASSERIFORMES: Muscicapidae		
140. White-crowned Shama	Copsychus stricklandii	Endemic
141. Mangrove Blue Flycatcher	Cyornis rufigastra	
142. Fulvous-chested Jungle Flycatcher	Cyornis olivaceus	
143. Malaysian Blue Flycatcher	Cyornis turcosus	Near-threatened
DASCEDIEODMES, Champerides		
PASSERIFORMES: Chloropseidae	<i>C</i> 11 ·	
144. Lesser Green Leafbird	Chloropsis cyanopogon	Near-threatened
PASSERIFORMES: Dicaeidae		
145. Orange-bellied Flowerpecker	Dicaeum trigonostigma	
146. Scarlet-backed Flowerpecker	Dicaeum cruentatum	

### PASSERIFORMES: Nectariniidae

147. Ruby-cheeked Sunbird	Chalcoparia singalensis	
148. Plain Sunbird	Anthreptes simplex	
149. Purple-naped Sunbird	Hypogramma hypogrammicum	
150. Van Hasselt's Sunbird	Leptocoma brasiliana	
151. Crimson Sunbird	Aethopyga siparaja	
152. Little Spiderhunter	Arachnothera longirostra	
153. Spectacled Spiderhunter	Arachnothera flavigaster	
PASSERIFORMES: Passeridae		
154. Eurasian Tree Sparrow	Passer montanus	
PASSERIFORMES: Estrildidae		
155. Dusky Munia	Lonchura fuscans Endemic	
156. Chestnut Munia	Lonchura atricapilla	
PASSERIFORMES: Motacillidae		
157. Eastern Yellow Wagtail	Motacilla tschutschensis	

### PASSERIFORMES: Tephrodornithidae

# APODIFORMES: Hemiprocnidae

# *APPENDIX E* SATELLITE MAP OF TRUSAN SUGUT FOREST RESERVE

