

OBSERVATION ON THE BIRDS AND MAMMALS OF EAGLENEST AND SESSA ORCHID SANCTUARIES AND ADJACENT AREAS IN WESTERN ARUNACHAL PRADESH

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ABSTRACT

Western Arunachal Pradesh is a biodiversity hotspot. Two protected areas namely Eaglenest Wildlife Sanctuary and Sessa Orchid Sanctuary and adjacent localities were surveyed during March 2007 for the observations on birds and mammals. Total one hundred and thirty one species of birds belonging to 11 orders and 35 families, were observed and identified in the study area. On the basis of direct sightings, indirect evidences and interview with local people, occurrence of 22 species of mammals were recorded in the area. Evidences showed that the area is facing habitat degradation and anthropogenic pressure such as harvesting of fuel wood/ timber, foliage, medicinal plants and wildlife.

INTRODUCTION

Eaglenest Wildlife Sanctuary (EWS) and Sessa Orchid Sanctuary (SOS) are located in the western Arunachal Pradesh and notified as protected area in 1989 (Choudhury 2003a). This region is a part of global biodiversity hotspot and part of the Eastern Himalaya Endemic Bird Area (Myers 1988, 1991; Stattersfield *et al.* 1998). The adjacent areas of both sanctuaries such as forests of Bhalukpong, Tipi and Rupa area are equally important and undeclared abode of large number of wildlife species (Kumar 2013). The total area of both sanctuaries is about 317 km². Kameng is the main river of the area. The tributaries of Kameng such as Tipi and Sessa are the other valuable source of water in the area. Habitats are quite diverse most probably due to great altitudinal range 200 to 3200 m (Choudhury 2003a).

Southern parts of the both sanctuaries covered with tropical wet evergreen and semi evergreen forests. Coniferous temperate forest occurs specially in high altitude areas. The main forest species are *Tetrameles nudiflora*, *Terminalia myriocarpa*, *Amoora wallichii* and *Duabanga sonneratioides*. Broadleaved

subtropical forest and Coniferous subtropical forest represented by oak species and pinus species respectively. Coniferous temperate forest dominated by *Abies spectabilis*, *A. delavayi* and *Taxus baccata*, and occurred between 2,800 to 3,200 m elevation. Clumps of various species of bamboos such as *Arundinaria maling* (at 1,800-2,700 m), *Dendroclamus hamiltonii* and *Semiarundinaria pantlingi* (at 2,700-2,900 m), *Thamnoclamus aristatus* (above 2,700 m) and *T. spathiflorus* (above 3,000 m) are also occurred in the area (Choudhury 2003a).

The sanctuary areas support a large number of endangered and rare species of birds such as Blyth's Tragopan, *Tragopan blythii*, Satyr Tragopan, *T. satyra*, Marsh Babbler, *Pellorneum palustre*, Rufous-necked Hornbill, *Aceros nipalensis*, Rusty-bellied Shortwing, *Brachypteryx hyperythra*, Beautiful Nuthatch, *Sitta formosa*, Ward's Trogon, *Harpactes wardi* and Great Pied Hornbill, *Buceros bicornis* (Singh 1994; Choudhury 2003a; Mishra and Datta 2007). According to the available records, over 353 species of birds have been recorded from these sanctuaries and adjacent areas (Singh 1994; Choudhury 2003a; Greeshma 2011). Apart from the birds, both

sanctuaries and adjacent areas are the home of a many rare species of mammals such as Tiger *Panthera tigris*, Asian Elephant *Elephas maximus*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Takin *Budorcas taxicolor*, Serow *Naemorhedus sumatraensis* and Goral *N. goral* (Choudhury 2003b; Islam and Rahmani 2004). In connection with the ZSI programmes for the documentation of faunal wealth of Arunachal Pradesh present study was undertaken.

METHODOLOGY

Present study was mainly focused on documentation of avifauna and mammals of western Arunachal Pradesh. Localities such as Bhalukpong, Tipi, Sessa, and Lama Camp, Eaglenest pass, Sundarview and Ramalingam area in Eaglenest Wildlife Sanctuary and Sessa Orchid Sanctuary and adjacent areas were surveyed from 7-3-2007 to 23-3-2007. Observations were made almost whole day (5.00 am to 6.00 pm) with few exceptions. Faunal surveys were conducted with the help of prismatic field binocular (10x50) and still photography camera, and identification of species was carried out with the help of field guide of Birds of India (Kazmierczak and van Perlo 2000) and a pocket guide to the birds of the Indian Subcontinent (Grimmett *et. al.* 1999). Indirect evidences such as presence of feathers (fig. 1) and carcass was also considered. In case of inadequate sightings, I tried to identify the taxa up to genus or family level. Identification of mammals was done with the help of a field guide to Indian mammals (Menon 2003). Indirect evidences such as dung, carcass, skins etc. were also considered to infer the occurrence of a species. With the help of local field guide, some villagers were also interviewed.

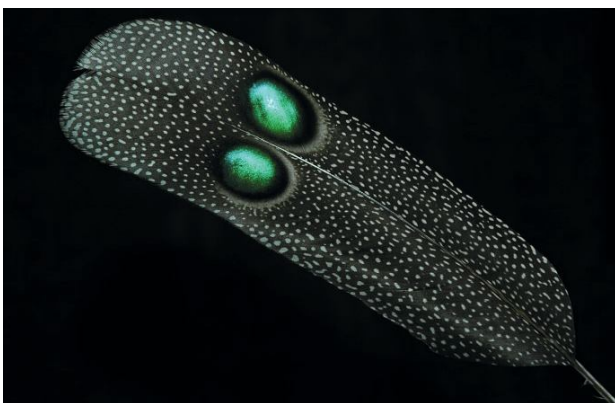


Figure 1: Feathers of birds are the indicator of occurrence and in most cases and identification till species level is possible with the help of colours and patterns, for example the feather shown in the figure indicating the occurrence Grey Peacock Pheasant, *Polyplectron bicalcaratum* in the study area.

RESULTS AND DISCUSSION

Total one hundred and thirty one species of birds belonging to 11 orders and 35 families, were observed and identified in the study area. Besides this, 14 species remained unidentified due to inadequate observations. However, I tried to identify them up to group level. Among them four species were warblers, three laughingthrushes/ babblers, two species of flucatchers, one swift, one aquatic bird (most probably sandpiper species), one species of fulvetta, one species of finch and one species of pipit. Most dominant family was sylviiidae. Twenty species belonging to 15 genera such as barwings, fulvetta, laughingthrushes, sibia, mesia, liocichla, minla, babblers, yuninas and warblers were identified. Family Corvidae (18 species belonging to 10 genera) was the second largest family. Family Muscipidae was represented by seventeen species belonging to 12 genera.

Sighting of Banded Bay Cuckoo, *Cacomantis sonneratii* was interesting. One bird was observed near Tipi. Song was also recorded. It is sighted second time from Arunachal Pradesh. Previously reported by Anwaruddin Choudhury near Shergaon at 2,000 m on 5 May 2000.

Three members if family Fringillidae were identified, these were Yellow-breasted Greenfinch, *Carduelis spinoides*, Godlewski's Bunting, *Emberiza godlewskii*, Scarlet Finch, *Haematospiza sipahi*. A flock of about 28 individuals of Yellow-breasted Greenfinch was seen on the bamboos clumps in the outskirts of Rupa town. Vocalizations were also recorded. About 12 individuals of same species were also observed at another locality in the same area. Presence of Godlewski's Bunting was also interesting. However, identification is not absolutely confirmed. It is a new record for the area. A flock of 9 individuals of Scarlet Finch were observed inside the entrance of Sessa

Orchid Sanctuary. Sighting of Beautiful Nuthatch, *Sitta Formosa* (fig. 2) near Sessa was also interesting.



Figure 2: Beautiful Nuthatch, *Sitta Formosa* was seen near Sessa.

On the basis of direct sightings, indirect evidences and interview with local people, occurrence of 22 species of mammals were recorded in the area except two unidentified species of bats. These were sighted during dusk in Tipi area. Asiatic elephant is common in the Tipi area. Five individuals were sighted, when they were crossing the Kameng River. The vocalizations were also heard in the night. It seems that area hold a good population of elephants. One troop of Assamese Macaque, *Macaca assamensis* and two troops of Rhesus Macaque, *Macaca mulatto* were also seen about 3 km. and 5 km. from Tipi (to words Sessa), respectively. During the interview, occurrence of Tiger and Leopard in Bhalukpong and Tipi area is also indicated by local people.



Figure 3: Hoary-bellied Himalayan Squirrel,

Callosciurus pygerytrus near Tipi.



Figure 4: Forest fire as seen quite commonly in the area cause habitat degradation severe loss to biodiversity.

Local people reported the presence of some species such as Chinese Pangolin, *Manis pentadactyla*, Asiatic Black Bear, *Ursus thibetanus* and Porcupine, *Hystrix* species. Three species of squirrels (Order: Rodentia; Family: Sciuridae) were also observed. Orange-bellied Himalayan Squirrel, *Dremomys lokriah* was observed near road side close to Tipi. This was a medium sized, brownish coloured and arboreal species. This species produced some vocalizations also. Fortunately, the recorder was on and I got a small cut of recording. Hoary-bellied Himalayan Squirrel, *Callosciurus pygerytrus* (fig. 3) was also observed. When we were coming back from Eaglenest WL sanctuary, two individuals were seen at different places. Himalayan Striped Squirrel, *Tamiops maccllellandi* was also seen near Sessa Orchid Sanctuary. This was a small smoky brown coloured species.

Present survey revealed that Western Arunachal is an import bird area due to the occurrence of a large number of avian species. Apart from the area support the occurrence of a sizable number of mammals and many invertebrates also. Habitat degradation (fig. 4) in sanctuary areas was limited. However, in the surrounding areas like Rupa and Bhalukpong anthropogenic pressure in terms of harvesting of fuel wood, timber, foliage and medicinal plants was seen. Indirect evidences indicate that some local people also involved in wildlife hunting. The duration

of present study was not sufficient to document whole avifauna and mammals of this area. Further systematic exploration/ intensive surveys are required to document faunal resources of the area.

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Appendix-1

Systematic list of birds observed and identified in and around Eaglenest Wildlife Sanctuary and Sessa Orchid Sanctuary

Order : Bucerotiformes

Family : Bucerotidae

1. Wreathed Hornbill, *Aceros undulatus*
2. Great Hornbill, *Buceros bicornis*

Order : Ciconiiformes

Family : Accipitridae

3. Besra, *Accipiter virgatus*

4. Black Eagle, *Ictinaetus malayensis*
5. Black Kite, *Milvus migrans*
6. Crested Serpent-Eagle, *Spilornis cheela*

Family : Ardeidae

7. Cattle Egret, *Bubulcus ibis*
8. Little Heron, *Butorides striatus*

Family : Charadriidae

9. River Lapwing, *Vanellus duvaucelii*

Family : Falconidae

10. Common Kestrel, *Falco tinnunculus*

Family : Laridae

11. River Tern,
- Sterna aurantia*

Family : Phalacrocoracidae

12. Great Cormorant,
- Phalacrocorax carbo*
-
13. Little Cormorant,
- Phalacrocorax niger*

Order : Columbiformes

Family : Columbidae

14. Emerald Dove,
- Chalcophaps indica*
-
15. Rock Pigeon,
- Columba livia*
-
16. Spotted Dove,
- Streptopelia chinensis*
-
17. Oriental Turtle-Dove,
- Streptopelia orientalis*
-
18. Pin-tailed Green-Pigeon,
- Treron apicauda*
-
19. Wedge-tailed Green-Pigeon,
- Treron sphenura*

Order : Coraciiformes

Family : Alcedinidae

20. Common Kingfisher,
- Alcedo atthis*

Family : Cerylidae

21. Pied Kingfisher,
- Ceryle rudis*

Family : Coraciidae

22. Indian Roller,
- Coracias benghalensis*

Family : Dacelonidae

23. White-throated Kingfisher,
- Alcyon smyrnensis*

Family : Meropidae

24. Blue-bearded Bee-eater,
- Nyctyornis athertoni*

Order : Cuculiformes

Family : Cuculidae

25. Plaintive Cuckoo,
- Cacomantis merulinus*
-
26. Banded Bay Cuckoo,
- Cacomantis sonneratii*
-
27. Indian Cuckoo,
- Cuculus micropterus*

Order : Galliformes

Family : Phasianidae

28. Hill Partridge,
- Arborophila torqueola*
-
29. Red Junglefowl,
- Gallus gallus*
-
30. Grey Peacock-Pheasant,
- Polyplectron bicalcaratum*

Order : Passeriformes

Family : Cinclidae

31. Brown Dipper,
- Cinclus pallasi*

Family : Corvidae

32. Common Green Magpie,
- Cissa chinensis*
-
33. Large Cuckooshrike,
- Coracina macei*
-
34. Large-billed Crow,
- Corvus macrorhynchos*
-
35. House Crow,
- Corvus splendens*
-
36. Grey Treepie,
- Dendrocitta formosae*
-
37. Bronzed Drongo,
- Dicrurus aeneus*
-
38. Spangled Drongo,
- Dicrurus hottentottus*
-
39. Ashy Drongo,
- Dicrurus leucophaeus*
-
40. Greater Racket-tailed Drongo,
- Dicrurus para-diseus*
-
41. Lesser Racket-tailed Drongo,
- Dicrurus remifer*
-
42. Black-naped Monarch,
- Hypothymis azurea*
-
43. Spotted Nutcracker,
- Nucifraga caryocatactes*
-
44. Maroon Oriole,
- Oriolus traillii*
-
45. Black-hooded Oriole,
- Oriolus xanthornus*
-
46. Scarlet Minivet,
- Pericrocotus flammeus*
-
47. Grey-chinned Minivet,
- Pericrocotus solaris*
-
48. White-throated Fantail,
- Rhipidura albicollis*
-
49. Yellow-bellied Fantail,
- Rhipidura hypoxantha*

Family : Fringillidae

50. Yellow-breasted Greenfinch,
- Carduelis spinoides*
-
51. Godlewski's Bunting,
- Emberiza godlewskii*
-
52. Scarlet Finch,
- Haematospiza sipahi*

Family : Irenidae

53. Orange-bellied Leafbird,
- Chloropsis hardwickii*
-
54. Asian Fairy-bluebird,
- Irena puella*

Family : Laniidae

55. Brown Shrike,
- Lanius cristatus*
-
56. Long-tailed Shrike,
- Lanius schach*
-
57. Grey-backed Shrike,
- Lanius tephronotus*

Family : Muscicapidae

58. White-browed Shortwing,
- Brachypteryx montana*
-
59. White-capped Water-Redstart,
- Chaimarrornis leucocephalus*
-
60. Oriental Magpie-Robin,
- Copsychus saularis*
-
61. Grey-headed Canary-Flycatcher,
- Culicicapa ceylonensis*
-
62. Pale Blue-Flycatcher,
- Cyornis unicolor*
-
63. Black-backed Forktail,
- Enicurus immaculatus*

64. Spotted Forktail, *Enicurus maculatus*
 65. Little Forktail, *Enicurus scouleri*
 66. Verditer Flycatcher, *Eumyias thalassina*
 67. Rufous-gorgeted Flycatcher, *Ficedula strophciata*
 68. Little Pied Flycatcher, *Ficedula westermanni*
 69. Chestnut-bellied Rock-Thrush, *Monticola rufiventris*
 70. Blue Rock-Thrush, *Monticola solitarius*
 71. Blue Whistling-Thrush, *Myiophonus caeruleus*
 72. Small Niltava, *Niltava macgrigoriae*
 73. Plumbeous Water-Redstart, *Rhyacornis fuliginosus*
 74. Common Stonechat, *Saxicola torquata*

Family : Nectariniidae

75. Black-throated Sunbird, *Aethopyga saturata*
 76. Crimson Sunbird, *Aethopyga siparaja*
 77. Streaked Spiderhunter, *Arachnothera magna*

Family : Paridae

78. Sultan Tit, *Melanochlora sultanea*
 79. Great Tit, *Parus major*
 80. Green-backed Tit, *Parus monticolus*
 81. Yellow-browed Tit, *Sylviparus modestus*

Family : Passeridae

82. Olive-backed Pipit, *Anthus hodgsoni*
 83. Paddyfield Pipit, *Anthus rufulus*
 84. Scaly-breasted Munia, *Lonchurapunctulata*
 85. White Wagtail, *Motacilla alba*
 86. White-browed Wagtail, *Motacilla madaraspatensis*
 87. Eurasian Tree Sparrow, *Passer montanus*

Family : Pycnonotidae

88. White-throated Bulbul, *Alophoixus flaveolus*
 89. Ashy Bulbul, *Hemixos flavala*
 90. Black Bulbul, *Hypsipetes leucocephalus*
 91. Mountain Bulbul, *Hypsipetes mcclllandii*
 92. Red-vented Bulbul, *Pycnonotus cafer*
 93. Red-whiskered Bulbul, *Pycnonotus jocosus*
 94. Black-crested Bulbul, *Pycnonotus melanicterus*
 95. Striated Bulbul, *Pycnonotus striatus*

Family : Sittidae

96. Chestnut-bellied Nuthatch, *Sitta castanea*

97. Beautiful Nuthatch, *Sitta formosa*

Family : Sturnidae

98. Jungle Myna, *Acridotheres fuscus*
 99. Common Myna, *Acridotheres tristis*
 100. Hill Myna, *Gracula religiosa*

Family : Sylviidae

101. Rusty-fronted Barwing, *Actinodura egertoni*
 102. Hoary-throated Barwing, *Actinodura nipalensis*
 103. Nepal Fulvetta, *Alcippe nipalensis*
 104. Cutia, *Cutia nipalensis*
 105. Lesser Necklaced Laughingthrush, *Garrulax monileger*
 106. Greater Necklaced Laughingthrush, *Garrulax pectoralis*
 107. Long-tailed Sibia, *Heterophasia picaoides*
 108. Silver-eared Mesia, *Leiothrix argentauris*
 109. Bugun Liocichla, *Liocichla bugunorum*
 110. Red-tailed Minla, *Minla ignotincta*
 111. Chestnut-tailed Minla, *Minla strigula*
 112. Common Tailorbird, *Orthotomus sutorius*
 113. Puff-throated Babbler, *Pellorneum ruficeps*
 114. Blyth's Leaf-Warbler, *Phylloscopus reguloides*
 115. Pygmy Wren-Babbler, *Pnoepyga pusilla*
 116. Streak-breasted Scimitar-Babbler, *Pomatorhinus ruficollis*
 117. Grey-hooded Warbler, *Seicercus xanthoschistos*
 118. White-naped Yuhina, *Yuhina bakeri*
 119. Whiskered Yuhina, *Yuhina flavicollis*
 120. Stripe-throated Yuhina, *Yuhina gularis*

Family : Zosteropidae

121. Oriental White-eye, *Zosterops palpebrosus*

Order : Piciformes**Family : Megalaimidae**

122. Blue-throated Barbet, *Megalaima asiatica*
 123. Lineated Barbet, *Megalaima lineata*
 124. Great Barbet, *Megalaima virens*

Family : Picidae

125. Bay Woodpecker, *Blythipicus pyrrhotis*
 126. Darjeeling Woodpecker, *Dendrocopos darjelingensis*
 127. Rufous-bellied Woodpecker, *Dendrocopos hyperythrus*

Order : Psittaciformes

Family : Psittacidae

128. Vernal Hanging-Parrot, *Loriculus vernalis*

Order : Strigiformes

Family : Caprimulgidae

129. Grey Nightjar, *Caprimulgus indicus*

Family : Strigidae

130. Asian Barred Owlet, *Glaucidium cuculoides*

Order : Trogoniformes

Family : Trogonidae

131. Ward's Trogon, *Harpactes wardi*

Appendix 2: List of mammals identified in and around Eaglenest Wildlife Sanctuary (EWS) and Sessa Orchid Sanctuary, on the basis of direct and indirect evidences.

Order : Primates

Family : Cercopithecidae

1. Assamese Macaque, *Macaca assamensis* (Direct sightings)
2. Rhesus Macaque, *Macaca mulatta* (Direct sightings)

Order : Proboscidae

Family : Elephantidae

3. Asian Elephant, *Elephas maximus* (Direct sightings)

Order : Artiodactyla

Family : Cervidae

4. Sambar, *Cervus unicolor* (Indirect evidence)

Family : Bovidae

5. Takin, *Budorcas taxicolor* (Indirect evidence)
6. Mainland Serow, *Naemorhedus sumatraensis* (Indirect evidence)
7. Goral, *N. goral* (Indirect evidence)
8. Mithun, *Bos grunniens* (Direct sighting)

Family : Suidae

9. Wild Pig, *Sus scrofa* (Indirect evidence)

Order : Carnivora

Family : Ursidae

10. Red Panda, *Ailurus fulgens* (Indirect evidence)
11. Asiatic Black Bear, *Ursus thibetanus* (Indirect evidence)

Family : Canidae

12. Jackal, *Canis aureus* (Indirect evidence)
13. Wild Dog, *Cuon alpinus* (Indirect evidence)

Order : Carnivora

Family : Felidae

14. Tiger, *Panthera tigris* (Indirect evidence)
15. Common Leopard, *Panthera pardus* (Indirect evidence)
16. Marbled Cat, *Pardofelis marmorata* (Indirect evidence)
17. Jungle Cat, *Felis chaus* (Indirect evidence)

Order : Pholidota

Family : Manidae

18. Chinese Pangolin, *Manis pentadactyla* (Indirect evidence)

Order : Rodentia

Family : Sciuridae

19. Himalayan Striped Squirrel, *Tamiops macclerlandi* (Direct sightings)
20. Orange-bellied Himalayan Squirrel, *Dremomys lokriah* (Direct sightings)
21. Hoary-bellied Himalayan Squirrel, *Callosciurus pygerytrus* (Direct sightings)

Family : Hystricidae

22. Porcupine, *Hystrix* sp. (Indirect evidence)

Order : Chiroptera

(Two species were seen during evening hours, but could not be identified)