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AVIAN DIVERSITY IN AND AROUND LUNGLENG-I, MIZORAM, INDIA

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ABSTRACT

Bird community of a particular area serve as an indicator of ecosystem and could be used for monitoring long term change in the ecosystem. Survey on Avian diversity was carried out in and around Lungleng I village, Mizoram, northeast India by intensive field study, opportunistic sampling as well as collation of secondary information during April 2016-March 2017. A total of 114 species of birds belonging to 40 families, including 4 locally extinct species and 5 winter visitors were recorded. The list contains two near-threatened species. Family-wise species composition indicated that muscipidae is the largest family with 13 species, followed by sylviidae with 8 species, phasianidae and picidae with 7 species each and columbidae with 6 species. And 19 families are represented by one species each. It was observed that the study site harbours such a good avian diversity, but the relative abundance is notably thin. This might be attributed to loss of habitat requirement due to various anthropogenic activities.

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INTRODUCTION

Mizoram is known for its diverse flora and fauna. In forest ecosystem, bird community occupy an important place. Population studies of a particular area can be used for monitoring the long term change in that ecosystem (Wiens, 1989). Studies on the diversity of bird in a particular area are important for determining the health of the ecosystem (Wiens, 1989). Lepage (2017) recorded 653 species of bird from the state of Mizoram which include 28 globally threatened species. Choudhury (2008) listed 479 species with an additional 140 uncertain species from Mizoram. Zoological Survey of India (2007) recorded 370 species, and another records 317 species (Anonymous-a, 2017). Works on diversity of birds of Mizoram includes Rahman *et al.* (1998), Ghose (1999), Sen (2005), Choudhury (2006), Sawmliana (2013), Vanlalsawmi *et al.* (2011), Lalthanzara (2010), Lalthanzara *et al.* (2011a,b; 2014a,b) and Lalthanzara and Kasambe (2015). Kasambe *et al.* (2014) surveyed Lengteng Wildlife Sanctuary in February 2014 along with Phawngpui National Park, Mizoram and recorded more than 130 species of bird. Though Mizoram lies at the Indo-Myanmar biodiversity hotspot, works on avian community is very scanty. Despite a few existing literature deals with pheasants and birds of a particular protected area, these are insufficient to show the image of the Mizoram avian community. Keeping in view of the above points, the present study was carried out to add baseline information on avian

species diversity of Lungleng-I village, Aizawl district, Mizoram.

MATERIALS AND METHOD

Study site

Mizoram (21,087 sq. km, 21°58'N to 24° 35'N latitude and 92°15 to 93°29'E longitude) is a hilly state, located in northeast India. It is sandwiched by international borders, Bangladesh from the west (318 km) and Myanmar from the east and south (404 km). It has a state boundary in the north with Manipur, Assam and Tripura. It lies in the Indo-Myanmar biodiversity hotspot Area. There are six important bird areas in Mizoram which fall under IBA criteria A1- A3. Lungleng I is a small, but historically important village near Aizawl in Mizoram. It is the village of the famous Chief of the Mizo, Mr.Khamliana Sailo S/o Lalngura Sailo, who is one of the first literate Chief among the Mizo Chiefs and he is the one who wrote the first official message amongst Mizo's. The village is located at 23°39'57" N and 92°39'41" E, south of Aizawl city at an altitude of 1011m above sea level. The village is situated on the hill top surrounded by a narrow line of dense community reserve forest of sub-tropical broadleaved evergreen mixed forest and a secondary forest outside the reserve forest. Average annual rainfall is about 2500 mm.

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METHOD

Intensive survey of avian diversity was conducted in an around Lungleng I village by line transect method, collection of secondary information by interview with eminent local senior citizens, village heads, teachers and senior hunters as well as young hunters. Opportunistic sampling was also done whenever application. The data of the birds those commonly seen in the past but not recorded nor reported in the present survey were also noted. In addition to avian fauna, status of other animals such as mammals, reptiles and fishes were also recorded.

For each survey, SLR camera (Nikon D5100) was used for photography and for observation and identification of birds, binocular (Nikon A111 16x50) and the call of birds were used. For identification and field diagnosis and naming of birds, coloured plates of [Grimmett et al. \(2013\)](#) and [Grewal et al. \(2011\)](#) are mainly used.

OBSERVATION AND DISCUSSION

Intensive field survey was conducted in and around Lungleng I village and secondary information gathered the presence of 114 species of birds that belongs to 40 families (table 1).

The family-wise species composition indicated that muscipidae is the largest family with 13 species, followed by sylviidae with 8 species, and phasianidae and picidae with 7 species each (graph 1). Columbidae family is represented by 6 species. Three families such as dicuridae, pycnonotidae and timaliidae were represented by 5 species each. Bucerotidae, cuculidae and corvidae families comprised of 4 species each. Seven families are represented by 3 species each, such as accipitridae, strigidae, megalaimidae, campephagidae, cisticolidae, necteriidae and passerinidae. Three families' viz. laniidae, sturnidae and motacidae are represented by 2 species each. Nineteen families were represented by one species each. This result of 114 species is less than the report of [Sailo and Lalthanzara \(2015\)](#), who reported 126 species from Lengtung Wildlife Sanctuary (LWS), a protected reserve forest in Mizoram, but good numbers compared to combine species composition from Phawngpui National Park and LWS ([Kasambe et al., 2014](#)). Surprisingly, the number of family (40) is higher in this human habitation area as compared to LWS whereby 36 families are recorded ([Sailo and Lalthanzara, 2015](#)), but the abundance is found to be relatively thin. The largest family in species composition, muscipidae family is one of the largest families; birds under this family are seems to be more

Table 1 Family wise bird list of Lungleng I, Mizoram

| Sl. No | Scientific name | Common name | Mizo name | Local Status |
|-----------------------|----------------------------------|--------------------------------|------------------------------|--------------|
| Phasianidae | | | | |
| 1 | <i>Gallus gallus</i> | Red Jungle Fowl | Ramar | R |
| 2 | <i>Lophura leucomelanos</i> | Kalij Pheasant | Vahrit | R |
| 3 | <i>Arborophila rufogularis</i> | Rufous-throated Hill-Partridge | Varung | R |
| 4 | <i>Arborophila atrogularis</i> | White-cheeked Hill-Partridge | Rung Bekvar | R |
| 5 | <i>Bambusicola fytchii</i> | Mountain Bamboo Partridge | Vahlah | R |
| 6 | <i>Coturnix coturnix</i> | Common Quail | Vahmim | R |
| 7 | <i>Polyplectron bicalcaratum</i> | Grey Peacock Pheasant | Varihaw | LE |
| Dendrocygnidae | | | | |
| 8 | <i>Dendrocygna javanica</i> | Lesser Whistling Duck | Tuivarak | VR |
| Accipitridae | | | | |
| 9 | <i>Spilornis cheela</i> | Crested Serpent Eagle | Muvanlai | FC |
| 10 | <i>Accipiter badius</i> | Shikra | Mute | C |
| 11 | <i>Lophotriorchis kienerii</i> | Rufous-bellied Eagle | Mu Arla | FC |
| Rallidae | | | | |
| 12 | <i>Gallinula chloropus</i> | Common Moorhen | Rihar | M |
| Columbidae | | | | |
| 13 | <i>Chalcophaps indica</i> | Emerald Dove | Ramparva | FC |
| 14 | <i>Treron curvirostra</i> | Thick-billed Green Pigeon | Vahui (Tualvungikotu) | FC |
| 15 | <i>Treron sphenura</i> | Wedge-tailed Green Pigeon | HuipuiThlakisen | R |
| 16 | <i>Streptopelia chinensis</i> | Spotted Dove | Thuro / Chukchurikuri Nu | C |
| 17 | <i>Streptopelia orientalis</i> | Oriental Turtle-Dove | Thumi | C |
| 18 | <i>Macropygia unchall</i> | Barred Cuckoo-Dove | Mimsirikut | R |
| Psittacidae | | | | |
| 19 | <i>Psittacula alexandri</i> | Red-breasted Parakeet | Vaki | FC |
| Cuculidae | | | | |
| 20 | <i>Rhopodytes tristis</i> | Green-billed Malkoha | Vazun/Va-ûk | R |
| 21 | <i>Hierococcyx sparveroides</i> | Large Hawk-Cuckoo | Kiltheihrawk / Baik-bai-rawk | FC |
| 22 | <i>Hierococcyx varius</i> | Common Hawk-Cuckoo | Kiltheihrawk | FC |
| 23 | <i>Cacomantis sonneratii</i> | Banded Bay-Cuckoo | Thangfen Pa Bawp | FC |
| Centropodidae | | | | |
| 24 | <i>Centropus sinensis</i> | Greater Coucal | LalruangaSehnawt | FC |
| Sittidae | | | | |
| 25 | <i>Sitta frontalis</i> | Velvet-fronted Nuthatch | Suklet | C |
| Strigidae | | | | |
| 26 | <i>Strix leptogrammica</i> | Brown Wood Owl | Chingpirinu | R |
| 27 | <i>Otus bakkamoena (lettia)</i> | Collared Scops Owl | Chhimbuk | R |
| 28 | <i>Glaucidium brodiei</i> | Collared Owlet | Hrangkir | FC |
| Caprimulgidae | | | | |
| 29 | <i>Caprimulgus jotaka</i> | Grey Nightjar | Vabak | R |
| Apodidae | | | | |
| 30 | <i>Apus affinis</i> | House Swift | Vamur | C |

Table 1 Family wise bird list of Lungleng I, Mizoram

| | | | | |
|----|------------------------------------|-------------------------------------|---------------------------|----|
| | | Upupidae | | |
| 31 | <i>Upupa epops</i> | Common Hoopoe | Chhuanqtuar | R |
| | | Trogonidae | | |
| 32 | <i>Harpactes erythrocephalus</i> | Red-headed Trogon | Varalthi | R |
| | | Coraciidae | | |
| 33 | <i>Coracias bengalensis</i> | Indian Roller | Vapui | R |
| | | Meropidae | | |
| 34 | <i>Merops orientalis</i> | Green Bee-eater | Fuanhawr | FC |
| | | Bucerotidae | | |
| 35 | <i>Anthraceros albirostris</i> | Oriental Pied-Hornbill | Vahai | FC |
| 36 | <i>Rhyticeros undulatus</i> | Wreathed Hornbill | Kawlhawk | LE |
| 37 | <i>Buceros bicornis</i> | Great Hornbill | Vapual | LE |
| 38 | <i>Aceros nipalensis</i> | Rufous-necked Hornbill | Va-awk | LE |
| | | Megalaimidae | | |
| 39 | <i>Megalaima virens</i> | Great Barbet | Tawllawt | FC |
| 40 | <i>Megalaima asiatica</i> | Blue-throated Barbet | Tuklo | C |
| 41 | <i>Megalaima australis</i> | Blue-eared Barbet | TukloBengngawng | C |
| | | Picidae | | |
| 42 | <i>Sasia ochracea</i> | White-browed (Rufous) Piculet | Luangtubeuh | C |
| 43 | <i>Mulleripicus pulverulentus</i> | Great Slaty Woodpecker | Thloh sai | R |
| 44 | <i>Chrysocolaptes lucidus</i> | Greater Golden-back Woodpecker | Thloh pui | C |
| 45 | <i>Dendrocopos canicapillus</i> | Grey-capped Pygmy Woodpecker | Thlohte | C |
| 46 | <i>Picus flavinucha</i> | Greater Yellownappe Woodpecker | Thloh Lu-eng | C |
| 47 | <i>Picus chlorolophus</i> | Lesser Yellownappe Woodpecker | Thloh Lu-par | C |
| 48 | <i>Blythipicus pyrrhotis</i> | Bay Woodpecker | Thloh sen | FC |
| | | Eurylaimidae | | |
| 49 | <i>Psarismus dalhousiae</i> | Long-tailed Broadbill | Thizil | FC |
| | | Pittidae | | |
| 50 | <i>Pitta sordida</i> | Hooded Pitta | Buarchawm Lu-uk | FC |
| | | Campephagidae | | |
| 51 | <i>Coracina macei</i> | Large Cuckooshrike | Irliak/Bawngpui | FC |
| 52 | <i>Coracina melaschistos</i> | Black-winged Cuckooshrike | Irliak Thla-dum | FC |
| 53 | <i>Pericrocotus ethologus</i> | Long-tailed Minivet | Bawng | C |
| | | Laniidae | | |
| 54 | <i>Lanias schach</i> | Long-tailed Shrike | Chhemhur | FC |
| 55 | <i>Lanias tephronotus</i> | Grey-backed Shrike | Chhemhurhngpaw | FC |
| | | Dicruridae | | |
| 56 | <i>Dicruru spardiseus</i> | Greater Racket-tailed Drongo | Vakul / Kulchanghlawi | FC |
| 57 | <i>Dicrurus hottentottus</i> | Spangled Drongo/Hair-crested Drongo | Kulherh | FC |
| 58 | <i>Dicrurus macrocerus</i> | Black Drongo | Changkak | C |
| 59 | <i>Dicruru saeneus</i> | Bronzed Drongo | Changkakte | C |
| 60 | <i>Dicrurus leucophaeus</i> | Ashy Drongo | Thlanthla | C |
| | | Oriolidae | | |
| 61 | <i>Oriolus trailii</i> | Maroon Oriole | Changsen | FC |
| | | Rhipiduridae | | |
| 62 | <i>Rhipidura albicollis</i> | White-throated Fantail | Changparh/Changarh | C |
| | | Corvidae | | |
| 63 | <i>Dendrocitta vagabunda</i> | Rufous Treepie | Bemkawng | FC |
| 64 | <i>Cissa chinensis</i> | Common Green Magpie | Dawntliang | FC |
| 65 | <i>Hypothymis azurea</i> | Black-naped Monarch | Thangthlengral / Zumzek | C |
| 66 | <i>Corvus macrorhynchos</i> | Jungle Crow | Choak | FC |
| | | Pycnonotidae | | |
| 67 | <i>Alophoixus flaveolus</i> | White-throated Bulbul | Dawkek | FC |
| 68 | <i>Pycnonotus flaviventris</i> | Black-crested Bulbul | Tukkhumvilik | C |
| 69 | <i>Hemixos flava</i> | Ashy Bulbul | Kawlrut | C |
| 70 | <i>Hypsipetes leucocephalus</i> | Black Bulbul | Liandorit/Hmuisen/Vangek | C |
| 71 | <i>Pycnonotu scafer</i> | Red-Vented Bulbul | Tlaiberh | A |
| | | Cisticolidae | | |
| 72 | <i>Prinia rufescens</i> | Rufescent Prinia | Zirziak | C |
| 73 | <i>Prinia crinigera</i> | Brown (Striated) Prinia | Changdawt | FC |
| 74 | <i>Orthotomus sutorius</i> | Common Tailorbird | Daikat | A |
| | | Sylviidae | | |
| 75 | <i>Stachyris ruficeps</i> | Rufous-capped Babbler | Bablarlu-uk | FC |
| 76 | <i>Garrulax leucolophus</i> | White-crested Laughingthrush | Koro | FC |
| 77 | <i>Pomatorhinus erythrocnemis</i> | Spot-breasted Scimitar Babbler | Ngalvapual | FC |
| 78 | <i>Alcippepoioicephala</i> | Brown-cheeked Fulvetta | Mauva | FC |
| 79 | <i>Alcippe nipalensis</i> | Nepal Fulvetta | Mitvalrual/Ngaw-karMitval | FC |
| 80 | <i>Phylloscopus chloronotus</i> | Lemon Rumped- Warbler | Chiai/Chivit/Chilim | A |
| 81 | <i>Phylloscopus inornatus</i> | Yellow-browed Warbler | VateMitko-eng | C |
| 82 | <i>Phylloscopus xanthoschistos</i> | Grey-hooded Warbler | Vate-eng/Warbler lu-paw | C |

Table 1 Family wise bird list of Lungleng I, Mizoram

| | | | | |
|-----|-----------------------------------|-------------------------------------|--|----|
| | | Timaliidae | | |
| 83 | <i>Yuhinacastaniceps</i> | Striated Yuhina | Tehhek | C |
| 84 | <i>Yuhinaflavicollis</i> | Yellow-naped (Whiskered) Yuhina | Ruallubuk | C |
| 85 | <i>Garrulaxpectoralis</i> | Greater-necklaced Laughing thrush | Vazar | FC |
| 86 | <i>Pellorneumruficeps</i> | Puff-throated Babbler | Valeisawt-Awrvor | FC |
| 87 | <i>Pnoepygaalbiventer</i> | Greater Scaly-breasted Wren-Babbler | Valeisawt | FC |
| | | Zosteropidae | | |
| 88 | <i>Zosteropsalpebrosus</i> | Oriental White-eye | Mitval | A |
| | | Sturnidae | | |
| 89 | <i>Sturniamalabaricus</i> | Chestnut-tailed Starling | Vapaw | FC |
| 90 | <i>Graculareligiosa</i> | Hill Myna | Vaiva | M |
| | | Muscicapidae | | |
| 91 | <i>Zootheradauma</i> | Scaly Thrush | Chippui/Ram Chippui/ Archhang/Archham | R |
| 92 | <i>Myophonuscaeruleus</i> | Blue-whistling Thrush | Thangfen | FC |
| 93 | <i>Enicurusimmaculatus</i> | Black-backed Forktail | Chinrang (hnung-dum) | C |
| 94 | <i>Enicurusmaculatus</i> | Spotted Forktail | Chinranghnung-dethek | C |
| 95 | <i>Terpsiphonpardisi</i> | Asian Paradise Flycatcher | Thlehnhnar / Pialralva | FC |
| 96 | <i>Cyornisrubeculoides</i> | Blue-throated Flycatcher | Vadumdelen | C |
| 97 | <i>Culicicapaceyloensis</i> | Grey-headed Canary Flycatcher | Mauhmun Vate | C |
| 98 | <i>Ficedulaalbicilla</i> | Taiga Flycatcher | Ter | C |
| 99 | <i>Monticolasolitaris</i> | Blue Rock Thrush | Vainronghak | C |
| 100 | <i>Myiomelaleucura</i> | White-tailed Robin | Ka-Pi Tuibur-kei-ve | FC |
| 101 | <i>Capsychussaularis</i> | Oriental Magpie-Robin | KhawmualChinrang | C |
| 102 | <i>Chaimarrornisleucocephalus</i> | White-capped Redstart (River-Chat) | Vachalde/Vatuihengkhum | FC |
| 103 | <i>Copsychusmalabaricus</i> | White-rumped Shama | VateLal | FC |
| | | Irenidae | | |
| 104 | <i>Chloropsisaurifrons</i> | Golden-fronted Leafbird | Chhawlhring | C |
| | | Dicaeidae | | |
| 105 | <i>Dicaeumminullum</i> | Plain Flowerpecker | Tektek/Tiktik | C |
| | | Nectariniidae | | |
| 106 | <i>Arachnothera magna</i> | Streaked Spiderhunter | Kireuh | C |
| 107 | <i>Arachnotheralongirostra</i> | Little Spiderhunter | Lawzhit/Zetzet/TumbuAr/ Kireuchte chi | C |
| 108 | <i>Aethopygagouldiae</i> | Mrs. Gould's Sunbird | DawthiamaArpa | R |
| | | Passeridae | | |
| 109 | <i>Lonchurastrata</i> | White-rumped Munia | Pit (Ngumvar) | C |
| 110 | <i>Motacillacinerea</i> | Grey Wagtail | Lailen | C |
| 111 | <i>Passer montanus</i> | Tree Sparrow | Chawngzawng | A |
| | | Motacillidae | | |
| 112 | <i>Anthustrivialis</i> | Pipit | Chipte | C |
| 113 | <i>Anthusrichardi</i> | Richard's Pipit | Tiau (Chip) | FC |
| | | Fringillidae | | |
| 114 | <i>Carpodacuserythrinus</i> | Common Rosefinch | Vasuih | FC |

A-abundant, C- common, FC- fairly common, R- rare, LE-locally extinct, M- migratory

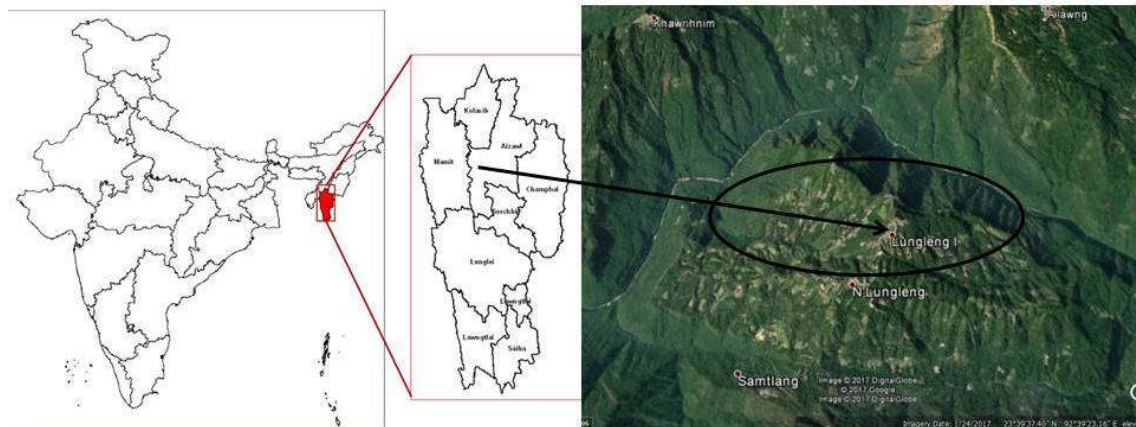


Figure 1 Location of study site

adaptable to anthropogenic interference. This result is different from previous record from Lengteng Wildlife Sanctuary where timaliidae family top the list with 19 species (Sailo and Lalthanzara, 2015). LWS is a protected, undisturbed evergreen forest. It is obvious from the result that population abundance has been dwindled in the recent past but still the diversity is

maintained, but they are under very threatened condition since as many as 19 families are represented by single species.

The famous Murlen National Park (MNP) of Mizoram is known to harbour more than 150 species of birds (Anonymous b, 2015).

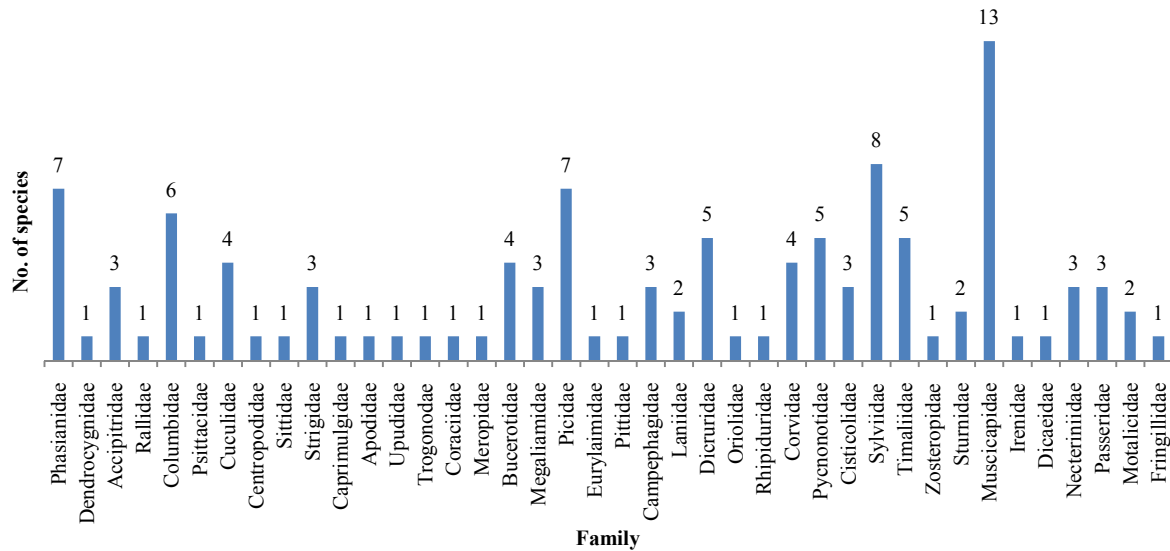


Figure 2 Family-wise bird record of Lungleng I, Mizoram

While Lengtung Wildlife Sanctuary and Dampa Tiger Reserve of Mizoram are known to be home for 126 species (Sailo and Lalthanzara, 2015) and 215 species (Anonymous c, 2016) of birds respectively. Ghose (1999) recorded 108 species of birds from Phawngpui National Park which is expected to increase with more field observation. The record of 114 species of birds from a small area which is not a government protected area clearly indicates the avifaunal richness of the area.

It was observed that 4 species were locally extinct in recent past and 5 species are migratory *i.e.* winter visitors. The local extinction of Grey Peacock pheasant (*Polyplectronbicalcaratum*) may be attributed to increase in human interference and deforestation due to agricultural land expansion and uncontrolled forest fire during the dry season which devastated the pristine forest. The Grey Peacock Pheasant is said to be easily trapped compared to the other pheasant and the myth that passed down from ancestors that the meat of grey Peacock Pheasant taste best amongst the pheasant may also be a very big contributing factor to its present status. *P. bicalcaratum* is an ecological indicator, as reported by Lalthanzara *et al.* (2014b) disappearance of this bird indicates the absence of thick undisturbed forests in the area. Similarly, the disappearance of three hornbill species (*Bucerosbicornis*, *Acerosnipalensis* and *Rhyticeros undulates*), the winter visitors; is due to deforestation. The large evergreen fruit bearing trees like *Phoebe* sp. and *Ficus* sp. were felled for timbers and slashed and burn cultivation. Out of the total 114 species, only two species *viz.* White-cheeked Partridge and Great Hornbill falls to Near-threatened category under IUCN Red List of Threatened Taxa. Birds of threatened category generally avoid human interference, thus it is not astonishing to have only two threatened taxa in the present study area. The most common bird during our study is Red-vented Bulbul (*Pycnonotuscafer*) and a small Common Tailor bird (*Orthotomussutorius*). These birds are highly adapted near human habitation anywhere else in India. Mizoram in known for its rich faunal and floral diversity. This is a true statement since long time back. Mizoram is occupied by tribal people, who depend on forest products for their livelihood.

And hunting of animals and birds is a tradition to sustain their food requirements. Traditional traps e.g. Sahdal, Be-ai and Thangthleng; and killing tools like Mizoslingslot (made of bamboo), slingslots, airgun, mistnet and poisoning are used for killing birds. Recent infrastructural developments and other human activities in the study area are devastating the habitats and foods of the birds. And also the abundance of the birds greatly decline recently as reported by inhabitants of Lungleng I, and is true from our observation.

CONCLUSION

A good avian diversity is observed in and around Lungleng I village of Mizoram, northeast India, but poor in abundance. This dwindling abundance of birds is a major concern. The recent anthropogenic activities had driven away certain birds and the number has been diminished. The rich flora and fauna, especially the avifaunal community of this village and their habitat needs to be preserved by preventing hunting or killing of birds and initiating habitat restoration. Educating the village community by showing scope of eco-tourism and the role of birds in maintaining ecological balance is also an immediate need.

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