



## Bird diversity of Lengteng Wildlife Sanctuary, Mizoram

Lalawmawia Sailo and H. Lalthanzara \*

*Department of Zoology, Pachhunga University College, Aizawl 796001, India*

Received 8 May 2015 | Accepted 20 June 2015

### ABSTRACT

This paper deals with the bird community of Lengteng Wildlife Sanctuary in eastern Mizoram recorded during two years of survey. A total of 126 species of birds belonging to 35 families were recorded by line transect method. The family Timaliidae top the list with 19 species followed by Sylviidae with 10 species and Turdidae with 9 species. The findings include rare and vulnerable Blyth's Tragopan, 4 near threatened species, viz. Mrs Hume's pheasant, great hornbill, brown hornbill and the white-cheeked hill partridge. A rare green-tailed sunbird of the sub-species *A. nipalensis victoriae* is also recorded during the study. Based on our observation, out of 126 species recorded, 8 species are considered as rare and 22 species being considered occasional with 2 species as winter visitor. It was observed that bird community survey could serve as an important tool for assessing its role as ecological indicator of an area. The comparison of avian diversity of Phawngpui National Park, Murlen National Park and Dampa Tiger Reserve with our result and the habitat of rare birds in the study area are discussed.

**Key words:** Bird; Lengteng Wildlife Sanctuary; species; diversity; Mizoram.

### INTRODUCTION

Mizoram has a great variety of wild flora and fauna. Bird community plays an important role in forest ecosystem. Although population studies can be used for monitoring the long term change in the ecosystem,<sup>1</sup> knowledge of the diversity of bird in a particular area is important for determining the health of the ecosystem. The requirement of bird's habitat is identified to be food, water, space and cover.<sup>2</sup> So, the study of the

avian community of a particular habitat can be a determinant of the health of that habitat.

India is a home for more than 1200 species of birds. Lepage (2015) recorded 642 species of bird from this hilly state of Mizoram including 26 globally threatened species.<sup>3</sup> Choudhury (2008) listed 479 species with an additional 140 uncertain species from Mizoram.<sup>4</sup> Meanwhile the Zoological Survey of India (2007) recorded 370 species,<sup>5</sup> and 317 species by BNHS-ENVIS.<sup>6</sup> Available literatures concerning the avian community of Mizoram includes the work of Rahman *et al.* (1998),<sup>7</sup> Ghose (1999),<sup>8</sup> Sen (2005),<sup>9</sup> Choudhury (2006),<sup>10</sup> Sawmliana (2013),<sup>11</sup>

Corresponding author: Lalthanzara  
 Phone:  
 E-mail: [hzara.puc@gmail.com](mailto:hzara.puc@gmail.com)

Vanlalsawmi *et al.* (2011),<sup>12</sup> Lalthanzara (2010),<sup>13</sup> Lalthanzara *et al.*<sup>14-18</sup> and Kasambe *et al.* (2014)<sup>19</sup> have a brief survey on avifauna of Lengteng Wildlife Sanctuary for two days in February 2014 along with Phawngpui National Park and recorded more than 130 species of bird.<sup>19</sup> 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 inadequate to show the picture 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 Lengteng Wildlife Sanctuary.

## MATERIALS AND METHOD

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, Bangla-

desh 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. Lengteng Wildlife Sanctuary (Mz-03) falls under A1 and A2 criteria of IBA. We confine our survey at Lengteng Wildlife Sanctuary (LWS) having an area of 60 km<sup>2</sup>, located in the north eastern part of the state of Mizoram (23°50'31.99"N 93°12'35.39"E). The forests comprise of tropical evergreen and sub-tropical broad-leaved hill forest which is fairly undisturbed. The elevation ranges from 400m to 2141m. This sanctuary is the habitat for some species of Indo-Malayan origin. The sanctuary lies close to the Indo-Myanmar border and is significant because of its proximity to the Chin Hills.

The bird survey was conducted inside the sanctuary and its adjacent forest by walking six line transects and patrolling path. Opportunistic

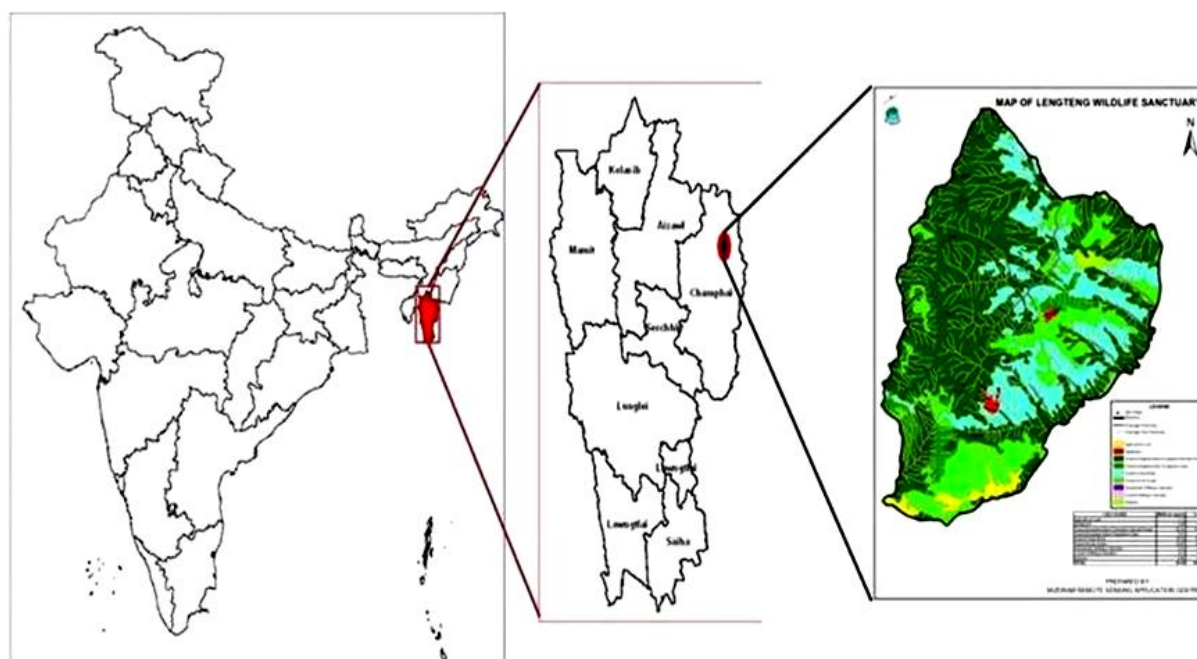


Figure1. Study site.

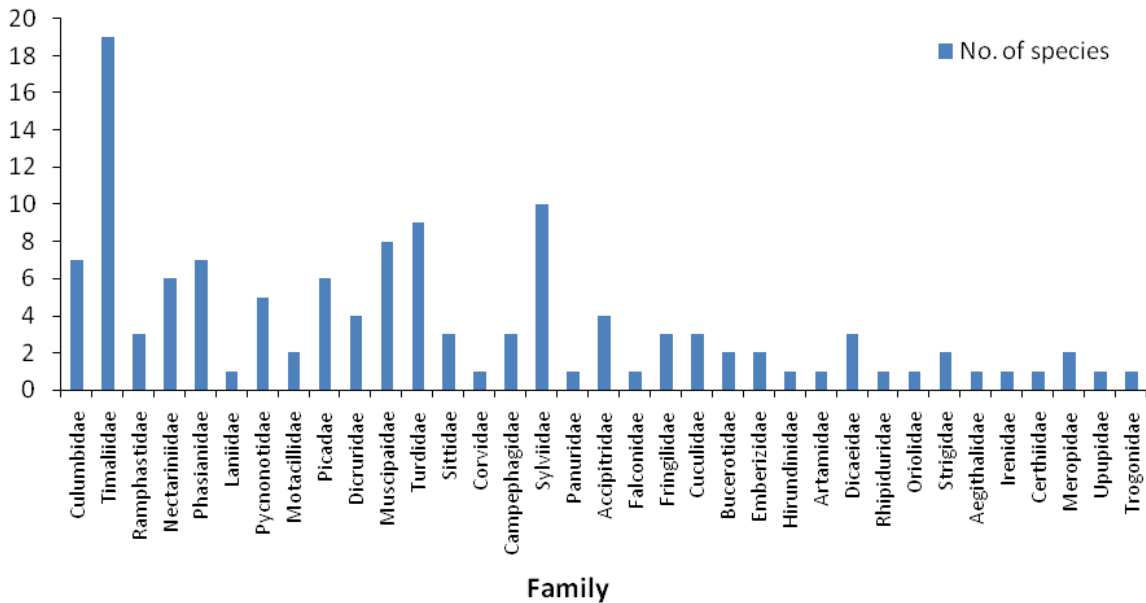


Figure 2. Number of bird species per family recorded in LWS.

sampling is also considered to know the species composition. The transects and trails were walked mostly in the morning (0500 - 0830hrs) and evening (1400 - 1700hrs) twice a month from March 2013 to February 2015. For each survey, SLR camera (Nikon D5100) was used for photography and for observation and identification of birds, binocular (Nikon Sporter EX 12x50) and the call of birds were used. For identification and field diagnosis of birds, colored plates of Grimmett *et al.* (2013),<sup>20</sup> Grewal *et al.* (2011),<sup>21</sup> Manakadan *et al.* (2011)<sup>22</sup> are used. Manakadan and Pittie (2004)<sup>23</sup> is followed for taxonomic classification and nomenclature of birds.

### OBSERVATIONS AND DISCUSSION

A total of 126 species of birds falling under 35 families were observed and recorded during the course of study (Table 1). The family Timaliidae with 19 species top the list followed by Sylviidae with 10 species and Turdidae with 9 species and 1 species representative from families – Laniidae, Corvidae, Panuridae, Hirundini-

dae, Artamidae, Rhipiduridae, Oriolidae, Aegithalidae, Certhiidae, Irenidae, Upupidae and Trogonidae (Figure 2). Seven species each from the families Columbidae and Phasianidae is a good record for a single site. The record of 126 species of birds in this rugged terrain shows the diversity of the area to be fairly high. The varying altitude of the sanctuary from 400m to more than 2100 m provides a heterogeneous habitat and micro-habitat for nesting, foraging and roosting of birds. On the basis of our field observation 8 species are considered as Rare and 22 species being considered Occasional with 2 species as winter visitor. There are many other species that were present in the study area as claimed by the nearby villagers and forest staffs, but we considered only those species we confirm their presence by way of direct sightings or their calls.

The present record of 126 species at LWS is less than the record of Dampa Tiger Reserve (DTR) where as many as 215 species have been recorded as indicated by the official website of environment and Forest department, govern-

Table 1. Family wise bird list of LWS, Mizoram.

Common Name	Scientific Name	Mizo Name	Status	
			IUCN	Local
<b>Accipitridae</b>				
Rufous-bellied Eagle	<i>Lophotriorchis kienerii</i> (E. Geoffroy, 1835)	Mu-ar-la	LC	C
Black Eagle	<i>Ictinaetus malayensis</i> (Temminck, 1822)	Lungdup	LC	C
Crested Serpent Eagle	<i>Spilornis cheela</i> (Latham, 1790)	Muvanlai	LC	C
Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i> (Temminck, 1821)	Khuai Mu	LC	C
<b>Falconidae</b>				
Common Kestrel	<i>Falco tinnunculus</i> Linnaeus, 1758	Mute senuk	LC	C
<b>Phasianidae</b>				
Kalij Pheasant	<i>Lophura leucomelanos</i> (Latham, 1790)	Vahrit	LC	C
Mountain Bamboo Partridge	<i>Bambusicola fytchii</i> Anderson, 1871	Vahlah	LC	C
Mrs Hume's Pheasant	<i>Syrnaticus humiae</i> (Hume, 1881)	Vavū	NT	R
Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i> (Linnaeus, 1758)	Varihaw	LC	O
Red Jungle Fowl	<i>Gallus gallus</i> (Linnaeus, 1758)	Ramâr	LC	O
White-cheeked Hill Partridge	<i>Arborophilla atrogularis</i> (Blyth, 1849)	Rungbekvar	NT	O
Blyth's Tragopan	<i>Tragopan blythii</i> (Jerdon, 1870)	Vangâ	VU	R
<b>Columbidae</b>				
Mountain Imperial Pigeon	<i>Ducula badia</i> (Raffles, 1822)	Bullut	LC	C
Barred Cuckoo Dove	<i>Macropygia unchall</i> (Wagler, 1827)	Thumi meisei /Mimsirikut/ Kawrdup	LC	O
Emerald Dove	<i>Chalcophaps indica</i> (Linnaeus, 1758)	Ramparva	LC	C
Thick-billed Green Pigeon	<i>Treron curvirostra</i> (Gmelin, 1789)	Vahui (Tualvungikotu)	LC	C
Orange-breasted Green Pigeon	<i>Treron bicincta</i> (Jerdon, 1840)	Vahui awm-eng	LC	C
Pin-tailed Green Pigeon	<i>Treron apicauda</i> Blyth, 1846	Huipui	LC	O
Wedge-tailed Green Pigeon	<i>Treron sphenura</i> (Vigors, 1832)	Huipui-thlakisen	LC	C
<b>Cuculidae</b>				
Large Green-billed Malkoha	<i>Rhopodytes tristis</i> (Lesson, 1830)	Va-zūn/Va-ūk	LC	C
Brain-fever Bird/Common Hawk Cuckoo	<i>Hierococcyx varius</i> (Vahl, 1797)	Kiltheihrawk	LC	C
Greater Coucal	<i>Centropus sinensis</i> (Stephens, 1815)	Lalruanga sehnawt	LC	C
<b>Strigidae</b>				
Collared Owlet	<i>Glaucidium brodiei</i> (Burton, 1836)	Hrângkir	LC	C
Asian Barred Owlet	<i>Glaucidium cuculoides</i> (Vigors, 1831)	Chhimbukte	LC	C
<b>Trogonidae</b>				
Red-headed Trogon	<i>Harpactes erythrocephalus</i> (Gould, 1834)	Varalthi	LC	R
<b>Meropidae</b>				
Chestnut-headed Bee-eater	<i>Merops leschenaulti</i> Vieillot, 1817	Fuanhawr	LC	C

*Bird diversity of Lengteng Wildlife Sanctuary, Mizoram*

Blue-bearded Bee eater	<i>Nyctornis athertoni</i> (Jardine & Selby, 1828)	Tlakawrh	LC	C
<b>Upupidae</b>				
Common Hoopoe	<i>Upupa epops</i> Linnaeus, 1758	Chhuangtuar/Va se-ek	LC	C
<b>Bucerotidae</b>				
Great Pied Hornbill	<i>Buceros bicornis</i> Linnaeus, 1758	Vapual	NT	W
Brown Hornbill	<i>Anorrhinus tickelii</i> (Blyth, 1855)	Vangai/Vakhawpui	NT	R
<b>Capitonidae</b>				
Golden-throated Barbet	<i>Megalaima franklinii</i> (Blyth, 1842)	Zotuklo	LC	C
Blue-throated Barbet	<i>Megalaima asiatica</i> (Latham, 1790)	Tuklo	LC	O
Great Barbet	<i>Megalaima virens</i> (Boddaert, 1783)	Tawllawt	LC	C
<b>Picadae</b>				
Small Yellownaped Woodpecker	<i>Picus chlorolophus</i> Vieillot, 1818	Thloh Lu-eng	LC	C
Fulvous-breasted Pied Woodpecker	<i>Dendrocopos macei</i> Vieillot, 1818	Thlohkawrha	LC	C
Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i> (Blyth, 1845)	Thlohte	LC	C
Rufous-bellied Pied Woodpecker	<i>Dendrocopos hyperythrus</i> (Vigors, 1831)		LC	C
Bay Woodpecker	<i>Blythipicus pyrrhotis</i> (Hodgson, 1837)	Thlohsen	LC	O
Rufous Piculet	<i>Sasia ochracea</i> Hodgson, 1836	Luangtubeuh	LC	C
<b>Hirundinidae</b>				
Striated Swallow	<i>Cecropis striolata</i> (Schlegel, 1844)	Vamur awmtial	LC	C
<b>Motacillidae</b>				
Eurasian Tree Pipit	<i>Anthus trivialis</i> (Linnaeus, 1758)	Chip	LC	C
Grey Wagtail	<i>Motacilla cinerea</i> Tunstall, 1771	Lailen eng	LC	W
<b>Campephagidae</b>				
Scarlet Minivet	<i>Pericrocotus (flammeus) speciosus</i> (Forster, 1781)	Báwng	LC	C
Large Woodshrike	<i>Tephrodornis virgatus</i> (Raffles, 1822)	Thlekbur/Tekbur/ Fanghmirva	LC	C
Large Cuckooshrike	<i>Coracina macei</i> (Lesson, 1830)	Irliak/Bawngpui	LC	O
<b>Pycnonotidae</b>				
Crested Finchbill	<i>Spizixos canifrons</i> Blyth, 1845	Buanarawirawi/Tawkpuih muival	LC	C
Red-vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus, 1766)	Tlaiberh	LC	C
Blyth's Bulbul	<i>Pycnonotus flavescens</i> Blyth, 1845	Setawt	LC	C
Black Bulbul	<i>Hypsipetes leucocephalus</i> (P.L.S. Muller, 1776)	Liandorit/Hmuisen/Kesen/ Vangek	LC	C
Red-whiskered Bulbul	<i>Pycnonotus jacosus</i> (Linnaeus, 1758)	Thlangvaberh/Phaitlaiberh	LC	C
<b>Irenidae</b>				
Orange-bellied Chloropsis/Leafbird	<i>Chloropsis hardwickii</i> Jardine & Selby, 1830	Chhawhkring awm-eng	LC	C
<b>Laniidae</b>				
Rufous-backed Shrike	<i>Lanius schach</i> Linnaeus, 1758	Chhemhur	LC	C

*Sailo and Lalthanzara*

<b>Turdidae</b>				
Blue Whistling Thrush	<i>Myophonus caeruleus</i> (Scopoli, 1786)	Thangfen	LC	C
Blue Rock-Thrush	<i>Monticola solitarius</i> (Linnaeus, 1758)	Vainronghak	LC	C
Chestnut-bellied Rockthrush	<i>Monticola rufiventris</i> (Jardine & Selby, 1833)	Vainronghak pa	LC	C
Green Cochoa	<i>Cochoa viridis</i> Hodgson, 1836	Zova chân	LC	R
Scaly Thrush	<i>Zoothera dauma</i> (Latham, 1790)	Ar chhâm / Ram Chippui	LC	R
Shortwing	<i>Brachypteryx</i> sp.		LC	O
White-capped Redstart	<i>Chaimarrornis leucocephalus</i> (Vigors, 1831)	Vachaldê	LC	O
Black-backed Forktail	<i>Enicurus immaculatus</i> (Hodgson, 1836)	Luidung Chinrang	LC	C
Spotted Forktail	<i>Enicurus maculatus</i> Vigors, 1831		LC	C
<b>Timaliidae</b>				
Rusty-fronted Barwing	<i>Actinodura egertoni</i> Gould, 1836		LC	C
Striped Laughingthrush	<i>Garrulax virgatus</i> (Godwin-Austen, 1874)	Zova	LC	C
Grey Sibia	<i>Heterophasia gracilis</i> (McClelland, 1840)	Vasir	LC	C
Rufous-backed Sibia	<i>Heterophasia annectens</i> (Blyth, 1847)	Vasir Hnungsenuk/ Sir-bawi	LC	C
Cutia (Himalayan)	<i>Cutia nipalensis</i> Hodgson, 1837		LC	C
Greater-necklaced Laughingthrush	<i>Garrulaxpectoralis</i> (Gould, 1836)	Zarpui-thi-awrh	LC	C
Blue-winged Laughingthrush	<i>Garrulaxsquamatus</i> (Gould, 1835)		LC	O
Spot-breasted Scimitar Babbler	<i>Pomatorhinus erythrocnemis</i> Gould, 1863	Ngalvapual awmtial	LC	C
Coral-billed Scimitar Babbler	<i>Pomatorhinus ferruginosus</i> Blyth, 1845	Ngalvapual	LC	C
Slender-billed Babbler	<i>Xiphirhynchus superciliaris</i> Blyth, 1842	Ngalvapual hmuisin	LC	R
Chestnut-throated Shrike Babbler	<i>Pteruthius melanotis</i> Hodgson, 1847		LC	O
Rufous fronted Babbler	<i>Stachyridopsis rufifrons</i> Hume, 1873		LC	R
Yellow-eyed Babbler	<i>Chrysomms sinense</i> (Gmelin, 1789)		LC	C
Lesser Scaly-breasted Wren Babbler	<i>Pnoepyga pussilla</i> Hodgson, 1845	Hmunchhe arpui	LC	O
Chin Hills Wren Babbler	<i>Spelaeornis oatesi</i>		LC	O
Yellow-naped (Whiskered) Yuhina	<i>Yuhina flavicollis</i> Hodgson, 1836	Ruallubuk	LC	C
Striated Yuhina	<i>Staphida castaniceps</i> (Moore, 1854)	Tehhek	LC	C
White-hooded Babbler	<i>Gampsorhynchus rufulus</i> Blyth, 1844		LC	O
White-naped Yuhina	<i>Yuhina bakeri</i> Rothschild, 1926		LC	O
<b>Panuridae</b>				
Grey-headed Parrotbill	<i>Psittiparus gularis</i> Gray, 1845	Vahnânghlai	LC	C
<b>Sylviidae</b>				
Nepal Fulvetta	<i>Alcipe nipalensis</i>	Ngawkâr mitval/Mitval rual	LC	C

*Bird diversity of Lengteng Wildlife Sanctuary, Mizoram*

Grey-headed Flycatcher Warbler	<i>Seicercus xanthoschistos</i> (G.R. Gray & J.E. Gray, 1846)		LC	C
Chestnut-crowned Flycatcher Warbler	<i>Seicercus castaniceps</i> (Blyth, 1845)		LC	C
Grey-crowned Flycatcher Warbler	<i>Seicercus tephrocephalus</i> (Anderson, 1871)		LC	C
Greenish Leaf-Warbler	<i>Phylloscopus trochiloides</i> (Sundevall, 1837)		LC	C
Brooks's Leaf-Warbler	<i>Phylloscopus subviridis</i> (Brooks, 1872)	<b>New report</b>	LC	C
Rufous-winged Fulvetta	<i>Pseudominla castaniceps</i>		LC	O
Beavans Prinia	<i>Prinia rufescens</i> Blyth, 1847	Zirziak	LC	C
Chestnut-headed Tesia	<i>Oligura castaneocoronata</i> (Burton, 1836)		LC	O
Slaty-bellied Tesia	<i>Tesia olivea</i> (McClelland, 1840)		LC	O
<b>Muscicapidae</b>				
Little Pied Flycatcher	<i>Ficedula westermanii</i> (Sharpe, 1888)	Têr	LC	C
Blue-throated Flycatcher	<i>Cyornis rubiculoides</i> (Vigors, 1831)	Vadumdeleng	LC	C
Verditer Flycatcher	<i>Eumyias thalassinus</i> (Swainson, 1838)	Va-pawl	LC	C
Slaty-backed Flycatcher	<i>Ficedula hodgsonii</i> (Verreaux, 1871)		LC	C
White-tailed Blue Flycatcher	<i>Cyornis concretus</i> (Muller, 1835)		LC	O
Grey Bushchat	<i>Saxicola ferrea</i> Gray, 1846	Têrzik	LC	C
Red-throated Flycatcher	<i>Ficedula parva</i> (Bechstein, 1792)	Têr-pa	LC	C
Grey-headed Flycatcher	<i>Culicicappa ceylonensis</i> (Swainson, 1820)	Mauhmunvate	LC	C
<b>Rhipiduridae</b>				
White-throated Fantail Flycatcher	<i>Rhipidura albicollis</i> (Vieillot, 1818)	Changparh	LC	C
<b>Aegithalidae</b>				
Red-headed Tit	<i>Aegithalos concinnus</i> (Gould, 1855)		LC	C
<b>Sittidae</b>				
Chestnut-vented Nuthatch	<i>Sitta nagaensis</i> Godwin-Austen, 1874	Suklet	LC	C
Velvet-fronted Nuthatch	<i>Sitta frontalis</i> Swainson, 1820	Suklet hmuisen	LC	C
White-tailed Nuthatch	<i>Sitta himalayensis</i> Jardine & Selby, 1835	Suklet meivar	LC	C
<b>Certhiidae</b>				
Humes Treecreeper	<i>Certhia manipurensis</i> Hume, 1881	Valimchho	LC	C
<b>Dicaeidae</b>				
Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i> (Blyth, 1843)	Tiktik-awmsen	LC	C
Yellow-vented Flowerpecker	<i>Dicaeum chrysorrheum</i> Temminck, 1829	Tiktik-dawkeng	LC	O
Plain flowerpecker	<i>Dicaeum (concolor) minullum</i> Jerdon, 1840	Tiktik	LC	C
<b>Emberizidae</b>				
Little Bunting	<i>Emberiza pusilla</i> Pallas, 1776	Ram Chawngzawng	LC	C

Sailo and Lalthanzara

<b>Emberizidae</b>				
Little Bunting	<i>Emberiza pusilla</i> Pallas, 1776	Ram Chawngzawng	LC	C
Chestnut Bunting	<i>Emberiza rutila</i> Pallas, 1776		LC	O
<b>Oriolidae</b>				
Maroon Oriole	<i>Oriolus trailii</i> (Vigors, 1832)	Changsen	LC	C
<b>Fringillidae</b>				
Common Rosefinch	<i>Carpodacus erythrinus</i> (Pallas, 1770)	Vasuih	LC	C
Spotted-winged Grosbeak	<i>Mycerobas melanozanthos</i> Hodgson, 1836	Va-ko/Ko-ko	LC	C
Green Finch	<i>Cardeulis sp.</i>	Têp	LC	C
<b>Dicruridae</b>				
Lesser Racket-tailed Drongo	<i>Dicrurus remifer</i> (Temminck, 1823)	Thlanthlachanghlawi	LC	C
Ashy Drongo	<i>Dicrurus leucophaeus</i> Vieillot, 1817	Thlanthla	LC	C
Black Drongo	<i>Dicrurus macrocerus</i> Vieillot, 1817	Changkak	LC	C
Bronze Drongo	<i>Dicrurus aeneus</i> Vieillot, 1817	Changkakte	LC	C
<b>Artamidae</b>				
Ashy Woodswallow	<i>Artamus fuscus</i> Vieillot, 1817	Lengder	LC	C
<b>Corvidae</b>				
Jungle Crow	<i>Corvus macrorhynchos</i> Wagler, 1827	Choak	LC	C
<b>Nectariniidae</b>				
Streaked Spiderhunter	<i>Arachnothera magna</i> (Hodgson, 1836)	Kireuh	LC	C
Little Spiderhunter	<i>Arachnothera longirostra</i> (Latham, 1790)	Kireuhte/Zetzet/Tumbuar/Lawizit	LC	C
Mrs Gould's Sunbird	<i>Aethopyga gouldiae</i> (Gould, 1831)	Dawithiama arpa-hluisen	LC	C
Green-tailed Sunbird	<i>Aethopyga nipalensis</i> (Hodgson, 1836)	Dawithiama arpa meihring	LC	O
Fire-tailed Sunbird	<i>Aethopyga ignicauda</i> (Hodgson, 1836)	Dawithiama arpa meisen	LC	O
Crimson Sunbird	<i>Aethopyga siparaja</i> (Raffles, 1822)	Dawithiama arpa senlar	LC	C

VU-Vulnerable; NT-Near Threatened; LC-Least Concern; C-Common; O-Occasional; R-Rare; W-Winter visitor

ment of Mizoram<sup>24</sup> and the famous Murlen National Park (MNP) is known to harbour more than 150 species of birds.<sup>25</sup> These records are higher than the present record of LWS. Meanwhile, Vanlalsawmi *et al.* (2011)<sup>12</sup> also reported 29 species of birds only from DTR. The avifaunal species diversity of LWS is higher than the Phawngpui National Park (PNP) where 108 species are recorded by Ghose (1999)<sup>8</sup>. It is obvious that a thorough survey of each site would reveal many more species from these sites.

The avian community of LWS includes one vulnerable species; four near-threatened species and the rest are least concerned species (Figure 3). Blyth's tragopan, *T. blythii* a vulnerable spe-

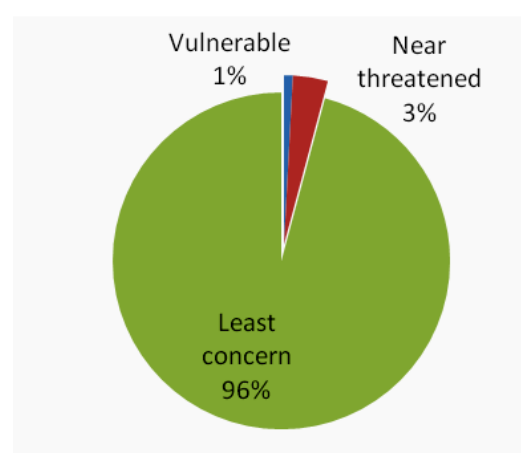


Figure 3. Threatened categories (%) of the birds of LWS.



cies is recorded based on vocalizations as their habitat is confined to the cliff which is inaccessible for the observers. The dawn calls of Blyth's tragopan were heard during the breeding season starting from late March to later part of May. The tragopan restricts themselves to the cliff and rugged terrain beneath the highest point of the peak. The area is dominated by rhododendron bush with little grass cover in the cliff. This species has been reported from PNP by Ghose *et al.* (2003).<sup>26</sup> Mrs Hume's pheasant, *S. humiae* a near threatened species as well as the state bird of Mizoram is recorded in the grassy patch in and outside the sanctuary at an elevation above 1500 m. Choudhury (2005) reported this bird from 7 sites<sup>27</sup> and recently Lalthanzara *et al.* (2013)<sup>15</sup> reported from 10 villages along eastern belt of Mizoram. They were found to prefer dry area with thick grass cover including the fallow land.

The grey peacock pheasant *P. bicalcaratum* were encountered only in the evergreen forest with thick undergrowth. Although the status of *P. bicalcaratum* is known to be stable, this beautiful ground bird can perish along with the dwindling virgin forest in near future. It was observed that there is a clear cut demarcation of territory between Kalij pheasant *L. leucomelanos* and *P. bicalcaratum* although no difference was observed in their altitudinal range but little variation in ground cover within the sanctuary. The *P. bicalcaratum* were more often heard than seen.

White-cheeked hill partridge, *Arborophilla atrogularis*, a near threatened species is found to be common in the study area based on vocalization in the early morning and in the late afternoon. They are mostly seen running underneath the small shrubs and bamboo thickets in the sanctuary irrespective of the altitude. It is found that they prefer the damp and shady area with thick leaf litter. The other rare birds such as slender-billed scimitar babbler, rufous-fronted babbler and scaly thrush are confined to the higher altitude with thick virgin forest where anthropogenic activities are minimal. From these observations it can be concluded that bird community survey could serve as an important tool for assessing its role as an ecological indicator of the

areas.

The mixed hunting party of small birds comprising the White-throated fantail, small babblers, warblers, minivets and flycatchers accompanied by lesser racket-tailed drongo were often encountered in this sanctuary. During the survey, a rare sub-species of green-tailed sunbird, *A. nipalensis victoriae* was photographed at the highest point of the peak at an elevation of 2141 m. This is supposed to be the first photographic documentation across India. Various hornbill species are said to be seen in large numbers few years back though the present study recorded only two near-threatened hornbill, viz. great hornbill *Buceros bicornis* and brown hornbill *Anorhynchus tickelii*. This may be attributed to the lost of large fruiting tree to illegal timber collection inside the sanctuary. *B. Bicornis* is a winter visitor as it visits the sanctuary during the fruiting period of *Ficus* sp. and *Phoebe* sp. Trees which coincides with winter season. The brown hornbill *A. tickelii* was recorded at the lower altitude near a small stream called 'Zawngkek Lui' and is considered as resident species.

Brooks's leaf-warbler, *Phylloscopus subviridis* (Brooks, 1872) under the family Sylviidae is recorded for the first time in Mizoram. But, the distribution range of the species given by the Grimmet *et al.* (2011).<sup>20</sup> Manakadan *et al.* (2011)<sup>22</sup> and Bird Life International (2015)<sup>25</sup> did not include Mizoram. However, the morphological characters from the photographic documents matched the species, thereby it is reported as new record. Leaf warblers are small greenish birds and are collectively called as chiai/chivit/chilim in Mizo. They are diverse in forms, little variation in colour and striped pattern makes it very difficult to identify and distinguish to species level. Therefore, it requires further investigation for confirmation, and therefore it is not highlighted in the title as well.

Knowledge on the basic needs and habitat requirements of each species will help in making the more effective conservation strategy. Therefore scientific studies and long term monitoring of the avian community of this sanctuary is recommended. The species diversity can be well

preserved providing that proper conservation measures are implemented by the concerned authority.

## ACKNOWLEDGEMENT

We convey our deepest gratitude to the Department of Science and Technology (SERB), New Delhi for financial support. We also thank the Chief Wildlife Warden, Mizoram and D.F.O Champhai Wildlife Division for permission to survey and all staff of E&F Dept. under Lengteng Range for help and support. We also thank the Principal, Pachhunga University College for the support.

## REFERENCES

1. Wiens JA (1989). *The Ecology of the Bird Communities Vol.1.Foundation and Pattern*. Cambridge University press.
2. US Fish and Wildlife Service (2002). The four essential Elements of Habitat, Lepage, D. (2015).
3. Checklists of Birds of Mizoram. Avibase, the world bird database. Retrieved from <http://avibase.bsc-eoc.org/avibaseP-D-F/checklist.pdf?region=innemz&list=obc&synlang=&lang=EN&format=1> on 01.06.2015.
4. Choudhury A (2008). *A Pocket Guide to the Birds of Mizoram*. Gibbon Books, Guwahati, Assam and The Rhino Foundation for Nature in NE India, Guwahati, Assam, India, pp 1-122.
5. Zoological Survey of India (2007). *Fauna of Mizoram. State Fauna Series 14*, pp 1-691.
6. Envis Centre on Avian Ecology – Statewise list of Birds of India [http://www.bnhsemvis.nic.in/Database/Statewise%20list%20of%20Birds%20of%20India\\_833.aspx](http://www.bnhsemvis.nic.in/Database/Statewise%20list%20of%20Birds%20of%20India_833.aspx) (26.6.2015)
7. Raman TRS, Rawat GS & Johnsingh AJT (1998). Recovery of tropical rainforest avifauna in relation to vegetation succession following shifting cultivation in Mizoram, north-east India. *J Appl Ecol*, **35**, 214–231.
8. Ghose D (1999). Birds recorded at Blue Mountain (Phawngpui) National Park, Mizoram Between February - May, 1997. *Twilight*, **1**, 16–18.
9. Sen S (2005). Mizoram trip. <http://www.kolkatabirds.com/Mizoram/mizoramtripreport.htm>
10. Choudhury A (2006). Notable bird record from Mizoram, North-east India. *Forktail*, **22** (10).
11. Sawmliana M (2013). *The Book of Mizoram Plants*. 2<sup>nd</sup> edn. P. Zakhuma, Aizawl, pp. 447–463.
12. Vanlalsawmi R, Solanki GS & Zakhuma (2011). Birds of Dampa Tiger Reserve in Mizoram, India. *Proceedings of Advances in Environmental Chemistry*, pp. 242–244.
13. Lalthanzara H (2010). Recent status of threatened birds of Mizoram. *Sci Vis*, **10**, 168–169.
14. Lalthanzara H, Sailo L, Solanki GS & Ramanujam SN (2014). Galliformes and their conservation issues in Mizoram, India. *Cibtech J Zool*, **3**, 42–48.
15. Lalthanzara H, Ramanujam SN, Solanki GS & Sailo L (2013). Survey on distribution of pheasants (Galliformes) in Mizoram, India. *Sci Vis* **13**, 90–95.
16. Lalthanzara H, Lalramliana, Vanramliana, Lalnunzira, Vanlalsiama & Liana JP (2011). Blyth's tragopan (*Tragopan blythii*) in Lengteng Wildlife Sanctuary, Mizoram, India. *Sci Vis*, **11**, 108–112.
17. Lalthanzara H, Vanramliana & Lalramliana (2011). Pheasants of Mizoram (India): Present status of diversity and distribution. *Sci Vis*, **11**, 218–223.
18. Lalthanzara H, Sailo L, Solanki GS, Ramanujam SN, Lalthananga RK & Lalbiakmawia (2014). Grey Peacock Pheasant (*Polyplectron bicalcaratum*) as probable candidate for Ecological Indicator in Tropical Montane Forest of Mizoram, Northeast India. (In: *Issues and Trends of Wildlife Conservation in Northeast India* (Lalnuntluanga *et al* eds.). pp. 233–239.
19. Kasambe R, Lalthanzara H & Sailo L (2014). Bird survey in Lengteng Wildlife Sanctuary and Blue Mountain (Phawngpui) National Park, Mizoram. *Buceros*, **18**, 6–13.
20. Grimmett R, Inskipp C & Inskipp T (2011). *Birds of the Indian Subcontinent* (Second Edition). Oxford University Press, India. pp.1–528.
21. Grewal B, Harvey B & Pfister O (2011). A Photographic Guide to the Birds of India. Timeless Books, New Delhi, India. pp. 1–512.
22. Manakadan R, Daniel JC & Bhopale N (2011). *Birds of the Indian Subcontinent*. Bombay Natural History Society, India. Pp.1–409.
23. Manakadan R & Pittie A (2004). Standardized English and scientific names of the birds of the Indian subcontinent.
24. Birds. <http://emformizo.in/forest/birds.htm>
25. BirdLife International (2015). Important Bird Areas fact-sheet: Murlen National Park. Downloaded from <http://www.birdlife.org> on 26/06/2015
26. Ghose D, Kaul R & Saha GK (2003). Status survey of the Blyth's tragopan in Blue Mountain National Park, Mizoram, India using call-count technique. *Curr Sci*, **84**, 95–97.
27. Choudhury A (2005). New sites for Mrs Hume's Pheasant *Syrnaticus bumiae* in north-east India based on hunters' specimens and local reports. *Forktail*, **21**, 183–186.