



## Pheasants of Mizoram (India): Present status of diversity and distribution

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### ABSTRACT

Preliminary survey on the diversity and distribution of pheasants (Phasianidae: Galliformes) was conducted for 20 months (May 2010 - December 2011) in the state of Mizoram, northeast India. **Field survey at important protected areas and collection of secondary information's indicated that six species of pheasants are present in Mizoram (i.e. 11.8% of the world pheasant species).** They are Green Peafowl (*Pavo muticus* Linnaeus, Mizo - *Ârawn*), **Hume's Pheasant (*Syrmaticus humiae* Hume, Mizo - *Vavu*)**, **Blyth's Tragopan (*Tragopan blythii* Jerdon, Mizo - *Vangã*)**, Red Junglefowl (*Gallus gallus* Linnaeus, Mizo - *Ramâr*), Kalij Pheasant (*Lophura leucomelanos* Latham, Mizo - *Vahrit*) and Grey Peacock Pheasant (*Polyplectron bicalcaratum* Linnaeus, Mizo - *Varihaw*). There is only one endangered species i.e. *P. muticus*, while the vulnerable species *T. blythii* is recorded at two protected areas. *S. humiae* is a near threatened species; population of this species is thinly distributed in eastern side of Mizoram along/near the Myanmar border. The three lower risk categories of pheasants (*G. gallus*, *L. leucomelanos* and *P. bicalcaratum*) are resident species, found in most parts of the state. *L. leucomelanos* is the most common species, found in all 11 protected areas followed by the *G. gallus* and *P. bicalcaratum*, both of them are found in 9 protected areas. *T. blythii* and *S. humiae* are concentrated within protected areas of high altitude eastern side of the state.

**Key words:** Pheasants; Mizoram; diversity; distribution; habitat.

### INTRODUCTION

Pheasants are regarded as the most distinctive bird family of the Himalaya, perhaps, due to their charismatic features and also their significant role in the high altitude ecosystem. They serve as useful indicator of habitat/environmental quality, as a major prey base

for predatory birds and mammals<sup>1</sup> and indicators of adverse human impacts on their ecosystems.<sup>2,3</sup> They are large bodied, brightly colored, ground dwelling birds, which belong to family Phasianidae and order Galliformes. These birds exhibit greater sexual dimorphism in both size and plumage.

51 species belonging to 16 genera have been recognized so far in the world.<sup>15</sup> Interestingly, 50 of them are Asian in origin, the lone exception being the Congo Peafowl (*Afropavo congensis*) confined to a small area in the vir-

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gin forests of east central Congo basin.<sup>4</sup> According to Sinha, India has over 45 species of Galliformes under two families (*viz.* Megapodiidae and Phasianidae).<sup>5</sup> Ramesh *et al.* are of the opinion that the Indian Himalaya is represented by 16 species, which occupy various vegetation and altitudinal gradients.<sup>1</sup> The status of Indian Himalaya remains the same as that of other regions with very few intensive ecological studies.<sup>3,5-9</sup> Recently, Miller published his survey of Western Tragopan, Koklass Pheasant and Himalayan Monal in the Himachal Pradesh.<sup>10</sup>

Works on pheasants of Mizoram have been done solely on Mrs. Hume's Pheasant by Choudhury<sup>11,12</sup> and Ghose,<sup>13</sup> and Blyth's Tragopan by Ghose *et al.* and Lalthanzara *et al.*<sup>14-17</sup> These works are merely spatial distribution and status survey of Hume's Pheasants and Blyth's Tragopan, respectively. Very little information is available on the pheasants of Mizoram. In view of this the present survey is taken up to provide brief information on the diversity and distribution of these beautiful birds.

## MATERIALS AND METHODS

### *Study site*

Mizoram (21,087 sq. km, 21°58'N to 24°35'N latitude and 92°15' to 93°29'E longitude) is located in northeast India. It is sandwiched by international borders, Bangladesh from the west (318 kms) and Myanmar from the east and south (404 kms). It has a state boundary in the north with Manipur, Assam and Tripura. It lies in the Indo-Myanmar Biodiversity Hotspot Area. Mizoram is rich in wild flora and fauna, both in variety and abundance. There are six important bird areas in Mizoram which fall under IBA criteria A1-A3. The dense natural forest covers 3158.57 sq. km. which is 14.98% of the total area and this is divided into tropical wet evergreen, tropical semi-evergreen and montane subtropical pine forests. The medium dense forest

accounts for 2628.08 sq. km (12.46%), less dense forest 3738.57 sq. km (17.73%) and bamboo forest accounts for 67-8.37 sq. km (31.81%).<sup>18</sup>

### *Survey*

Preliminary field survey was carried out in selected protected areas, *viz.* Phawngpui National Park (Lawngtlai district), Murlen National Park and Lengteng Wildlife Sanctuary (Champhai district) and Palak Wetland (Saiha district) during April, 2010 – December, 2011. Nine other protected areas were selected for close examination of their presence/absence. Call count technique<sup>19</sup> is applied to assess the population status of Blyth's tragopan. Line transect<sup>20</sup> and Encounter rate<sup>21</sup> are also applied as convenient. Survey was conducted using existing trails to determine the presence/absence and distribution of the pheasants in the intensive study areas.

Secondary information was collated from all over the state by interview with local people particularly hunters, identification from trophies, and historical data. Available literatures were thoroughly screened and evidences were also obtained from the wildlife division, environment and forest department, Govt. of Mizoram.

## RESULTS AND DISCUSSION

A total of six species of pheasants belonging to the family Phasianidae (Galliformes) have been recorded (table 1). That is 38% of the Indian Himalayan pheasants. Out of these six species, three species *viz.* *Gallus gallus* (Red Junglefowl), *Lophura leucomelanos* (Kalij Pheasant) and *Polyplectron bicalcaratum* (Grey Peacock Pheasant) are categorized as least concern and they are local residents. These three species are found in almost most part of the state. But *P. bicalcaratum* seems to be least in number. There are local reports on decreased in population trend of *G. gallus* and *P. bicalcaratum* due to massive bamboo flowering



Figure 1. Albino Kalij Pheasant.

prevalent in the study areas during 2006-2008. But their population seems to be re-established and stable. These two species are recorded in 82% protected areas. *L. leucomelanos* is the most common pheasant species in Mizoram. It is recorded in all 11 (100%) protected areas. It is widely distributed in the state irrespective of vegetation and altitudinal variations.

During the survey, a rare albino Kalij pheasant was sighted at N.E. Khawdungsei forest, north eastern part of the state (Fig. 1). The bird was first detected by local residents in the year 2006 among a flock of 5 numbers. Since then the bird was occasionally sighted every year. The foraging bird was watch stealthily during day time and it was finally photographed on 30<sup>th</sup> April 2011 at its roosting place at around 2130 hrs.

The other three species of pheasants are threatened and their population trend in the world is decreasing. The only record of *Pavo muticus* (Green peafowl), which is an endangered species (IUCN 2011),<sup>22</sup> in Mizoram is 2007 at Khawhri village paddy field, Lunglei district in the south east on Mizoram, near the Myanmar border line (Fig. 2).<sup>23</sup> According to Sathyakumar and Kaul *P. muticus* are recorded from eastern (West Bengal) and north-eastern India like Assam, Manipur and

Mizoram.<sup>24</sup> However, they are currently very rare and believed to be exterminated from the Indian subcontinent.<sup>25</sup> Liu *et al.* reported three sub-species, such as *P. m. spicifer* of northeast India which they believed to be extinct, *P. m. imperator*, found in China, Vietnam, Cambodia, Laos, Myanmar and Thailand, and *P. m. muticus*, found only on Java.<sup>26</sup> A single adult male Green peafowl is kept of Aizawl Zoo. However, more systematic accounts of this species in Mizoram are needed.

*T. blythii* is a vulnerable species (IUCN 2011)<sup>22</sup> and is recorded at Phawngpui National Park.<sup>16</sup> Recent study indicates the present of *T. blythii* at Lengteng WS.<sup>17</sup> In India, **Blyth's Tragopan is assumed to be distributed** in the eastern Himalaya and hills of north-east India (Assam, Manipur, Mizoram and Nagaland).<sup>27</sup> Since this bird is restricted to only two protected areas in Mizoram (Fig. 2) proper management of their habitat and more knowledge on its ecological status is necessary. *S. humiae* is a state bird of Mizoram. It belongs to a near threatened category (IUCN 2011).<sup>22</sup> It is recorded to be distributed at higher altitudes in east Mizoram, especially in Champhai and Saiha districts and possibly in Lunglei and Serchhip districts (Fig. 3).<sup>11</sup> There is a report of *S. humiae* presence at Khawnglung Wildlife sanctuary.<sup>28</sup> The present survey encounters one male *S. humiae* at Murlen village area in 2011 December.

Analysis of available information indicates that among the protected areas, Lengteng WS is the best site for pheasants; it harbours five species of Pheasants (i.e. except Green peafowl) (Table 2). Lengteng WS is followed by Murlen NP and Khawnglung WS both harbours 4 species of pheasants each (i.e. except **Green peafowl and Blyth's tragopan**). While Ngengpui WS and Tokalo WS could barely harbours two species each.<sup>28</sup> The rest of the protected areas have the three lower risk pheasants. *T. blythii* and *S. humiae* are restricted to higher altitude; therefore they are reported from the two highest peak of the state (Figure 1). *P. muticus* is not recorded

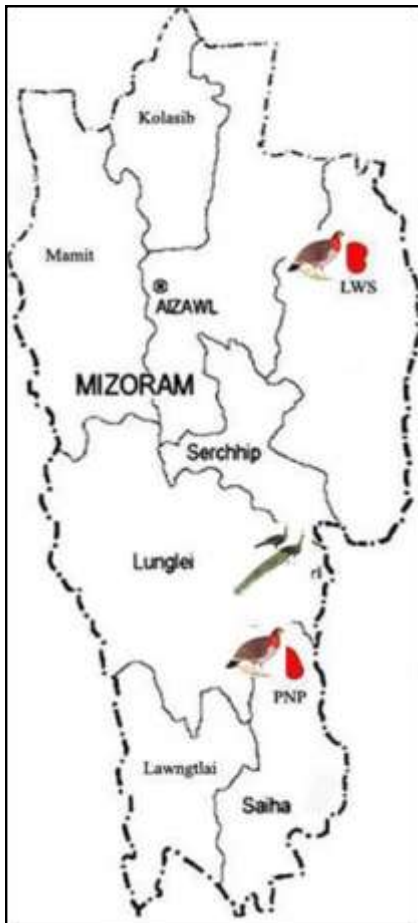


Figure 2. Distribution of Green Peafowl (Khawhri) and Blyth's Tragopan (PNP & LWS) in Mizoram.

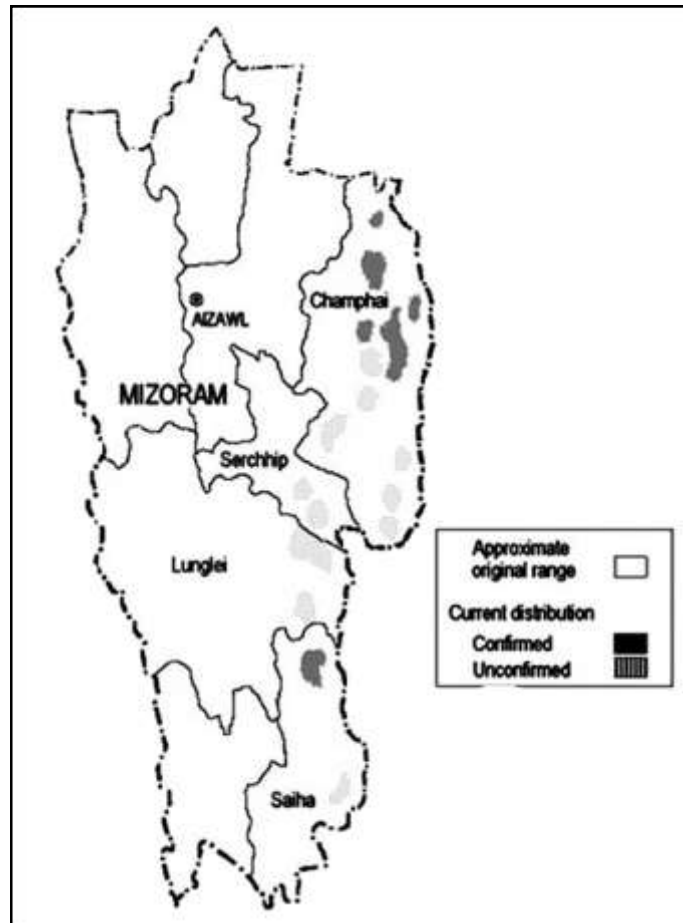


Figure 3. Distribution of Hume's Pheasant in Mizoram (after A. Choudhury, 2009).

Table 1. Species of pheasant found in Mizoram.

No.	Name	Zoological name	Local name	Status	Distribution
1.	Green Peafowl	<i>Pavo muticus</i> , Linnaeus 1766	Ārawn (hring)	Endangered	very rare
2.	Blyth's Tragopan	<i>Tragopan blythii</i> , Jerdon 1870	Vangā	Vulnerable	Rare, restricted range
3.	Mrs. Hume's Pheasant	<i>Syrnaticus humiae</i> , Hume 1881	Vavu	Nr. Threatened	Restricted range
4.	Kalij Pheasant	<i>Lophura leucomelanos</i> , Latham 1790	Vahrit	Least Count	Common
5.	Red Junglefowl	<i>Gallus gallus</i> , Linnaeus 1758	Ramar	Least Count	Common
6.	Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i> , Linnaeus 1758	Varihaw	Least Count	Fairly common

Table 2. Distribution of Pheasants in Protected areas of Mizoram.

No.	Name of P.A	Coordinate	Green Peafowl	Blyth's Tragopan	Hume's Pheasant	Grey Peacock Pheasant	Red Jungle Fowl	Kalij Pheasant
1.	Murlen NP (100 km <sup>2</sup> , 2003)	23°32'– 23° 42' N & 92° 13'–92°27' E	-	-	+	+	+	+
2.	Phawngpui NP (50 km <sup>2</sup> , 1997)	22°35'– 22° 40' N & 93° 03'–93°05' E	-	+	+	-	-	+
3.	Lengteng WS (60 km <sup>2</sup> )	22°21'– 22° 30' N & 92° 55'–92°50' E	-	+	+	+	+	+
4.	Dampa TR (500 km <sup>2</sup> )	23°32'42"– 23°41'36" N & 92°13'12"–92°27' E	-	-	-	+	+	+
5.	Thorangtlang WS, (50 km <sup>2</sup> ,1992)	23°15'– 23° 17' N & 92° 35'–92°36' E	-	-	-	+	+	+
6.	Tawi WS (35.75 km <sup>2</sup> )	23°30' N & 93° 00'E	-	-	-	+	+	+
7.	Ngengpui WS (110 km <sup>2</sup> )	23°30'– 22° 40' N & 93° 03'–93°05' E	-	-	-	+	-	+
8.	Khawnglung WS (35 km <sup>2</sup> , 2000)	23°07'– 23° 09' N & 92° 52'–92°54' E	-	-	+	+	+	+
9.	Pualreng WS (50 km <sup>2</sup> )	24°6'35"– 24° 14'16.21" N & 92° 50'17.6"–92°54'2.64" E	-	-	-	+	+	+
10.	Tokalo WS (250 km <sup>2</sup> , 2007)	21°56'37"– 22°06'40" N & 92° 50'53"–92° 55'57" E	-	-	-	-	+	+
11.	Palak Wetland	22°20.42'– 22° 40' N & 92° 56.55' E	-	-	-	+	+	+

from protected areas. The species may not be a resident species.

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