

Morphometric study of common Myna (*Acridotheres tristis*) in tehsil Havelian, district Abbottabad, KP Pakistan

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ABSTRACT

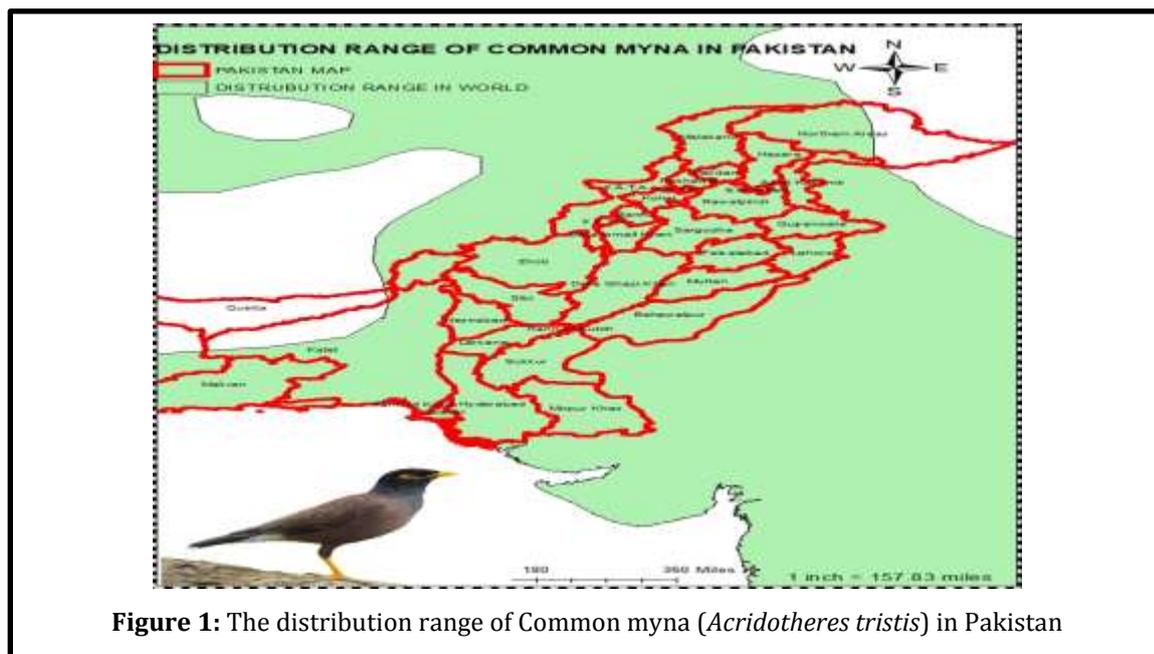
Common myna (*Acridotheres tristis*) is native Asian omnivorous bird which is majorly found in southern Asia and is very common in Pakistan. It is listed in the least count (LC) species in International Union for Conservation of Nature (IUCN). Study of morphometric measure of characters of common myna is very rare in Pakistan. Usually, common myna prefers an artificial cage over the natural nesting site. This research was carried out to study the morphometric characters of common myna in Pakistan from January to August, 2020. Two methods mist nets and capturing by hand is used for collection. 41 birds were captured randomly in which 25 were males and 16 were females. For a morphometric measure of Common myna (*Acridotheres tristis*), vernier calliper was used, tape measure, hand gloves, face mask, small cage for carrying the birds and digital balance. Out of seven, six morphometric characters of male and female's Common myna (*Acridotheres tristis*) (Body length bill, wing length, tarsus length, middle toe and tail length) illustrated that females were smaller than the male except in weight, in which female is dominated over a male. In the breeding season, these characters were easily notice.

Keywords: morphometric, Myna, *Acridotheres tristis*, Passeriformes, havelian, IUCN

1. INTRODUCTION

God has gifted us many beautiful, valuable and fascinating creatures and birds are one of them [1]. *Acridotheres tristis* commonly called Mynas are classified in order Passeriformes from Family Sturnidae class Aves and Genus *Acridotheres* [2-6]. *Acridotheres tristis* is native from southern and central Asia. It's presence majorly reported from Pakistan, Iran, India, Bhutan, Sri Lanka, Bangladesh, Uzbekistan,

Nepal, Tajikistan, Afghanistan and Turkman (figure 1). *Acridotheres tristis* are also called mynah as some species are found in India [8]. In the International Union for Conservation of Nature (IUCN) species list, the common myna is LC, Least Count species. Having 1,000,000 to 10,000,000 km² global extent of its occurrence they are black head and throat, yellow skin behind the eyes, a yellowish beak and having yellow thin legs [5]. It is characterized by a stocky large body with a black hood. The



plumage of the body is chocolate-brown in colour but under tail wing patches are white at the tip of the upper tail [3]. Outside of its native range due to accidental introductions by humans, the *Acridotheres tristis* is now spread in many parts of the world [10-11]. In some part of the world, it is popular as the cage birds due to its mimicking abilities [6]. In Iran, the *Acridotheres tristis* is commonly maintained as a pet [5]. *Acridotheres tristis* have a relatively lower price as compared to exotic psittacine species due to its adaption to captive breeding in cages [12] and even it is also called the world's worst invasive species [11]. Its living is common with access to water Common mynas (*Acridotheres tristis*) occupy a wide range of habitats [9]. Commonly myna is seen in an urban area because myna prefers urban area for its habitat and influenced by tree density. There are no negative associations in total species abundance and richness of other species and myna abundance [11]. Common Myna preferred artificial nests than the Bank Myna and Brahminy Myna [2]. Very few types of research have been done on *Acridotheres tristis* in

Pakistan [6] with rare genetic data [9]. The measures shown in this research is very helpful for future researches especially for the comparison of morphometric characteristic.

2. METHODS AND MATERIALS

2.1. Study area

The area of collection was Havelian from district Abbottabad in Pakistan (34.0454853 N, 73.1606355 E). Havelian is the second largest municipality of the district Abbottabad, Hazara division, Khyber Pkhtunkhwa province of Pakistan.

2.2. Method

The study was conducted by following the Ali and Ripley (2001-Vol.1)[7] methods suggested for morphometric studies. The birds were collected from January to August 2020. There were two methods that are used in this study, the 1st method was mist netting, in which a mist of nylon nets are attached with long poles and suspended near the nest of *Acridotheres*

tristis. Many shelves are technically made by strung lines which makes loose small pocket shaped bags. The mist was invisible so when a bird hit this mist net, it caught into these pockets and become trapped. Another method was relatively easier than mist nesting. In this method, collection of birds was done by hand using ladder or any support. The opening or the holes of the nest was closed with the flat object when the bird enters his nest for feeding or incubation. By wearing hand gloves, birds were collected very carefully by avoiding all types of injuries (internal or external) to the birds. 41 birds were capture is six months, 25 were male and 16 were female. 41 birds were collected at randomly roosting site of myna. Two collected per month, one collection at the start of month and the other collection done at the end of month. In June, maximum numbers of myna of about 15 numbers were collected. The least collection was observed in the month of February.

3. RESULTS AND DISCUSSION

Mean and standard deviation were applied on these six morphometric characters of male and females of *Acridotheres tristis* (Table 1).

The value of morphometric among these two sexes of *Acridotheres tristis* indicates that

females were significantly smaller than male for all the characters, except the weight. Range and mean of some characters of this species given by Brook (1976) and Baker & Moeed (1980) indicate that males are larger than females [13-14]. Counsilman *et al.* (1994) indicate that in *Acridotheres tristis*, males were on average, larger than females for the discriminating characters. The present study also showed a similar pattern.

The weight of the female is between 116 to 139 grams, which is measured with the help of the digital balance. The male weight is 107 to 110.5 gram, which is less than the female body weight. This is the only difference we have noticed in our findings in which female is larger than the male. The average weight of these two sexes is 118 gm which is also notified by the [16] which illustrate the weight of common myna is 82 to 143 gram. A similar result was noticed in Common Quail (*Coturnix coturnix*) in which female has more weight than the male [17]. Body length of female common myna is 228.6 (± 05.5), and male body length is 235.0 (± 01.5), this shows that the body length of the male is slightly larger than the female. Same case in the length of tail, in which male *Acridotheres tristis* tail length is 89.3 (± 00.5) and 81.5 (± 01.5) is the tail length of female. The

Table 1. Details of Myna collection

Months	Collection Of Common Myna (<i>Acridotheres Tristis</i>)		Total Number Of birds Collecting In Months.
	Male	Female	
January	4	2	6
February	2	1	3
March	1	3	4
April	4	1	5
May	5	3	8
June	9	6	15
Total males and females	25	16	41

Table 2. Shows morphometric characters of male and females of Common myna (*Acridotheres tristis*)

Character	Male		Female	
Body length	235.0	±01.5	228.6	±05.5
Bill (mm)	27.4	±00.5	26.5	±02.2
Wing (mm)	150.5	±01.6	146.2	± 01.8
Tarsus(mm)	41.1	± 01.0	38.0	± 02.5
Middle Toe (mm)	30.2	± 01.0	28.5	± 01.9
Tail(mm)	89.3	± 00.5	81.5	± 01.5
Weight (g)	107-110.5		116-139	

tail length in male is larger than the female. These results of morphometric character of body and tail length were observed in earlier studies [13-15].

The value regarding Tarsus, Bill and Middle Toe variation of the male and female myna mention that the average tarsus length of male birds was 41.1 (±01.0) high than the female 38.0 (±02.5) which is similar to other results [15]. Tsachalidis *et al.* (2007) reported that bill lengths of male and female bobwhite quail were similar, the same case in our study the male and female *Acridotheres tristis* has somewhat same bill length with slight difference which is 26.5 (±02.2) in female and 27.4 (±00.5) is in male [18]. Some more findings who worked on three species of myna in India, illustrate that the middle toe variation of the male is high than the female, same case with our findings. Middle Toe variation is 30.2 (±01.0) and 28.5 (±01.9) in male and in female [3].

4. CONCLUSION

Out of seven, six characters (wings, middle toe, tarsus, bill, tail and body length) of Common myna (*Acridotheres tristis*) indicates that female was smaller than the male except for the weight. The weight of the male is less than the female body weight. In the breeding season, one can

easily notice these morphometric characters difference among Myna sexes. These characters are easily studied or indicated in the field during the breeding season. The result of this research shows that the difference of many characteristics among the two sexes of common myna. This will be useful for sexual dimorphism if any. The geographic variation in common myna may also be noticed by comparing their body size.

5. ACKNOWLEDGEMENT

NA

6. CONFLICT OF INTEREST

The authors have declared that there is no conflict of interest.

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