

Morphology & ecology of House Sparrow species occurs in different areas of Province Sindh, Pakistan

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ABSTRACT: An investigation was led to watch the Morphology and Ecology of House Sparrow species caught from various areas of Sindh territory, Pakistan. An aggregate of 63 types of House Sparrow were recorded from four chose examining destinations i.e. Larkana, TandoAllahyar, Mirpurkhas and Jamshoro. The got comes about uncovered the among these 63 revealed types of House Sparrow from various areas of Sindh are first time recorded in Sindh region Pakistan. Accordingly, it had been presumed that Sindh region contain rich decent variety of House Sparrow species. The consequences of present examination likewise uncovered that most noteworthy density of House Sparrow was recorded during summer season, while their low density was noted amid the winter season. Along these lines, our present work will gives helpful data's respected to the dispersions, Morphology and Ecology of House Sparrow species that later could be important for birds sanctuary and Ornithologists of world.

Key words: Morphology; Ecology; Body parameters

INTRODUCTION

The spectator of today observes birds that have created from a long queue of proceeding with development, a long arrangement of occasions in which the means are unlabeled. [1] The fossil proof coming to back to Jurassic circumstances, around 150,000,000 years prior the two birds and warm blooded creatures developed from reptilian precursors [1]. The proof demonstrates, as one ought to legitimately assume, that cutting edge reptiles have changed less amid this period than have well evolved creatures and birds. Numerous components work to cloud our insight into the family line of birds. There are numerous holes in the fossil record. Bird bones are little and sensitive and are in this way more averse to be safeguarded

in fossilizing dregs than the overwhelming bones of different creatures. The way that birds fly makes them less inclined to kick the bucket where their remaining parts may be buried. We should recall likewise that birds are to a great extent arrive shapes today and presumably were so in the past too. Clearly, arrive creatures are more averse to be secured by fossil-framing muds than are water creatures.

The house sparrow has a place with the family Passeridae and most across the board and copious birds on the planet. Its common range incorporates substantial parts of the world, for example, Europe, North Africa, parts of Asia and the Indian subcontinent [1]. In the Indian subcontinent they are regularly found in India incorporating presented populaces in Andaman Islands; Pakistan, Bangladesh, Sri Lanka and Maldives. From these parts,

it has been presented by people, both purposefully and accidentally, to essentially whatever remains of the world. Over the vast majority of its rearing reach, the house sparrow happens just in artificial environments, for example, farmland and urban areas. In numerous parts of the world it has been portrayed as an irritation, and represents a danger to local birds. A couple of presentations have ceased to exist or been of restricted achievement, for example, those to Greenland and Cape Verde. The Sind sparrow is fundamentally the same as yet littler, with less dark on the male's throat and a particular pale super cilium on the female.

The house sparrow is one of the natural animal groups that has taken after man all over the place and is indistinguishable from human residences. The development of house sparrows has been genuinely later than people going back to around 25,000 to 15,000 years prior.[4] Maybe, the change of human social association affected and is impacting the appropriation of this species from numerous points of view. A portion of the environmentalists trust that said bird is a cooperative animal variety with human, consequently perceiving and recognized as bird species relied upon human situations.

It is a basic bird species as an equilibrant factors in biological communities which have instructive, recreational, conservative and stylish qualities. Since the house sparrow was related with human residences and was extremely touchy to change in nature, it was a standout amongst the most favored marker types of the urban biological system. They can assume crucial part in preservation of characteristic biological Communities wellbeing.

The house sparrow privately known as 'Choria' are monogamous and long haul combine bond is kept up all through and between rearing seasons. The species breed in little settlements or in free gatherings. It is omnivorous and bolsters on grains, organic product buds, blossom nectar, weed seeds, bugs and kitchen scrap, however chicks are sustained with aphids, weevils, grasshoppers, and caterpillars [4]. The home is worked in openings of structures, under the tiles or around rooftop region of houses. Sparrows are generally inactive birds and don't travel in excess of a kilometer or two looking for sustenance.

MATERIALS AND METHODS

A. Samples collection sites

In the present investigation, four sampling sites were selected namely Larkana, TandoAllahyar, Mirpurkhas and Jamshoro for the House sparrow sampling.

B. Sampling collection and measurement of body parameters

House Sparrow were collected from Larkana, TandoAllahyar, Mirpurkhas and Jamshoro during M.Phil study at four selected sites at sindh province, Pakistan by using different common methods like Clap traps, Funnel traps of capturing birds. House Sparrow samples were collected for both qualitative and quantitative sampling by using different common methods. Samples were brought to the laboratory for the study of variation in the species the various body parameters like measurements of beak, body length, fore limb, hind limb, tail. The weight of every captured specimen has been measured with scale balance.



Figure.1: Measuring the body parameters in the Laboratory.



Figure.2: Measurement of beak length



Figure.3: Measurement of Tail length

RESULTS AND DISCUSSION

In the present study, about 63 species of the House sparrow were first time recorded from these research sites I.e. TandoAllahyar, Larkana, Mirpurkhas, and Jamshoro. Maximum number of specimens belong to this gens were dertected at Mirpurkhas district where as other three sites also showed considerable numbers of the specimens. The first aim of this study was to investigate whether there are differences in shape and size between 63 Sparrow species; which taken from different areas of Sindh including TandoAllahyar, Larkana, Mirpurkhas, and Jamshoro. It is interesting to see whether these 63 bird species, which share the same overall ecological niche, differ in any way in shape and size morphology. Finally we discuss whether shape and size variation may play a role in reproductive isolation.

Statistical mean of different parameters of House Sparrow

Table no: 1

S.No:	Measurement of sparrow's Beak	
01.	Sparrows of TandoAllahyar	Male – 14mm, 14mm, 14mm, 14mm, 12mm, 13mm. Total mean = 13.5 Female – 12mm, 13mm, 14mm, 12mm, 13mm, 12mm, 11mm. Total mean = 12.42
02.	Sparrows of Larkana	Male – 15mm, 14mm, 14mm, 12mm, 14mm, 15mm, 14mm, 15mm. Total mean = 14.12 Female – 13mm, 14mm, 11mm, 11mm, 13mm, 11mm. Total mean = 12.16
03.	Sparrows of Mirpurkhas	Male – 13mm, 11mm, 11mm, 13mm, 14mm, 11mm, 12mm, 11mm, 12mm, 13mm, 12mm, 11mm. Total mean = 12 Female – 12mm, 12mm, 13mm, 13mm, 12mm, 13mm, 13mm, 12mm, 12mm. Total mean = 12.44
04.	Sparrows of Jamshoro	Male – 14mm, 12mm, 13mm, 11mm, 13mm, 12mm. total mean = 12.5 Female – 12mm, 11mm, 12mm, 11mm, 12mm, 14mm, 12mm, 11mm, 13mm. Total mean 12

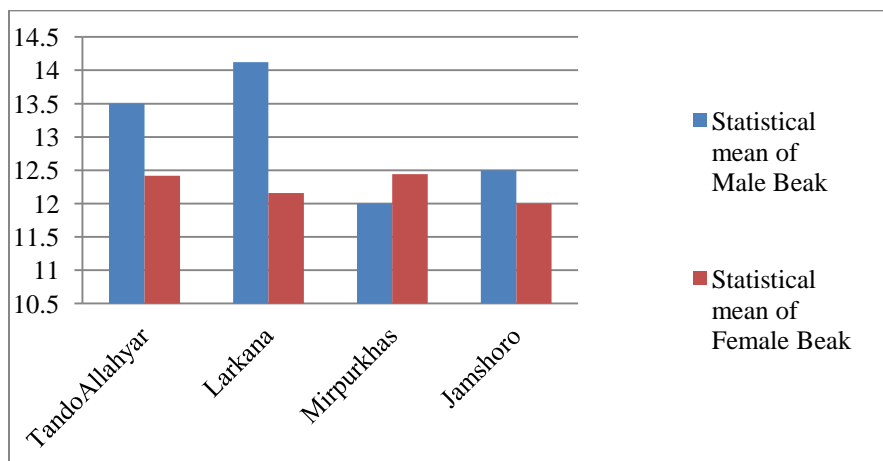


Table no: 2

S.No:	Measurement of sparrow's Head	
01.	Sparrows of TandoAllahyar	<p>Male – 25mm, 24mm, 24mm, 23mm, 25mm, 24mm. Total mean = 24.16</p> <p>Female – 25mm, 23mm, 25mm, 25mm, 25mm, 24mm, 25mm. Total mean = 24.57</p>
02.	Sparrows of Larkana	<p>Male – 24mm, 24mm, 23mm, 25mm, 24mm, 25mm, 22mm, 24mm. Total mean = 23.87</p> <p>Female – 22mm, 23mm, 23mm, 22mm, 24mm, 23mm. Total mean = 22.83</p>
03.	Sparrows of Mirpurkhas	<p>Male – 25mm, 25mm, 24mm, 24mm, 24mm, 25mm, 24mm, 25mm, 24mm, 25mm, 25mm, 25mm. Total mean = 24.58</p> <p>Female – 25mm, 25mm, 24mm, 25mm, 24mm, 24mm, 25mm, 25mm, 24mm. Total mean = 24.55</p>
04.	Sparrows of Jamshoro	<p>Male – 23mm, 23mm, 24mm, 22mm, 23mm, 23mm. Total mean = 23</p> <p>Female – 24mm, 25mm, 24mm, 23mm, 24mm, 24mm, 24mm, 24mm, 23mm. Total mean = 23.88</p>

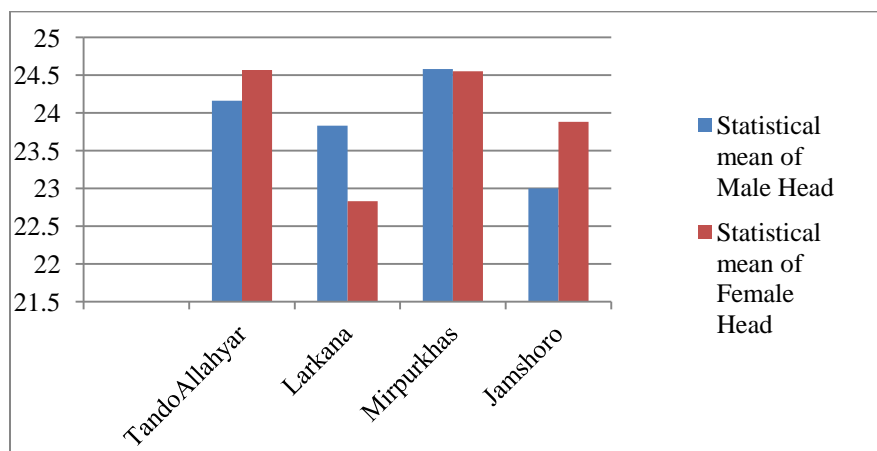


Table no: 3

S.No:	Measurement of sparrow's Fore limb	
01.	Sparrows of TandoAllahyar	Male – 90mm, 89mm, 90mm, 91mm, 90mm, 91mm. Total mean = 90.16 Female – 88mm, 90mm, 89mm, 88mm, 90mm, 90mm, 88mm. Total mean = 89
02.	Sparrows of Larkana	Male – 87mm, 89mm, 88mm, 89mm, 90mm, 90mm, 89mm, 89mm. Total mean = 88.87 Female – 88mm, 87mm, 90mm, 88mm, 88mm, 90mm. Total mean = 88.5
03.	Sparrows of Mirpurkhas	Male – 90mm, 90mm, 88mm, 87mm, 88mm, 88mm, 89mm, 90mm, 90mm, 88mm, 88mm, 88mm. Total mean = 81.16 Female – 88mm, 89mm, 88mm, 89mm, 88mm, 88mm, 87mm, 90mm, 88mm. Total mean = 88.33
04.	Sparrows of Jamshoro	Male – 89mm, 88mm, 90mm, 91mm, 91mm, 90mm. Total mean = 89.83 Female – 90mm, 88mm, 91mm, 90mm, 88mm, 87mm, 91mm, 91mm, 90mm. Total mean = 88.55

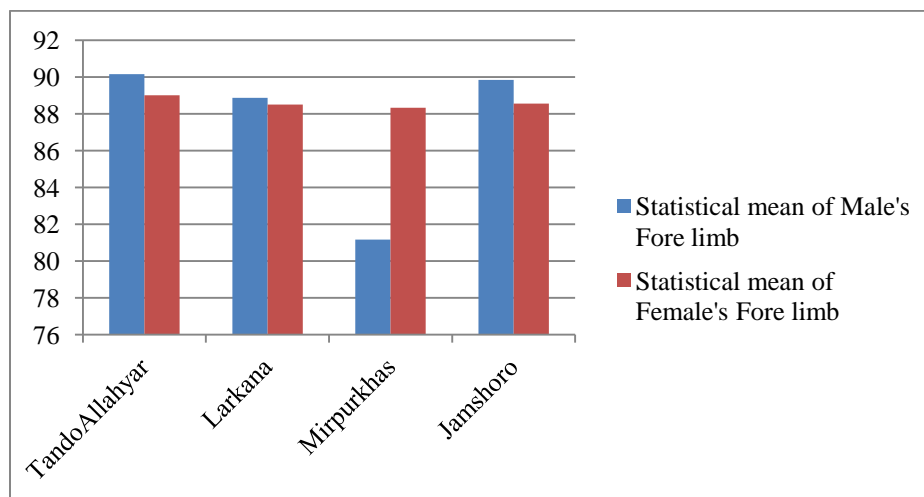


Table no: 4

S.No:	Measurement of sparrow's Hind limb	
01.	Sparrows of TandoAllahyar	Male – 31mm, 30mm, 29mm, 32mm, 31mm, 30mm. Total mean = 30.5 Female – 31mm, 29mm, 31mm, 30mm, 29mm, 31mm, 31mm. Total mean = 30.28
02.	Sparrows of Larkana	Male – 31mm, 31mm, 29mm, 31mm, 30mm, 30mm, 29mm, 29mm. Total mean = 30 Female – 29mm, 29mm, 30mm, 29mm, 29mm, 30mm. Total mean = 29.33
03.	Sparrows of Mirpurkhas	Male – 30mm, 30mm, 29mm, 29mm, 29mm, 29mm, 29mm, 30mm, 31mm, 29mm, 29mm, 29mm. Total mean = 29.41 Female – 29mm, 29mm, 30mm, 30mm, 29mm, 30mm, 29mm, 30mm, 29mm. Total mean = 29.44
04.	Sparrows of Jamshoro	Male – 29mm, 29mm, 30mm, 31mm, 31mm, 30mm. Total mean = 30 Female – 30mm, 29mm, 31mm, 30mm, 29mm, 29mm, 31mm, 31mm, 31mm. Total mean = 30.11

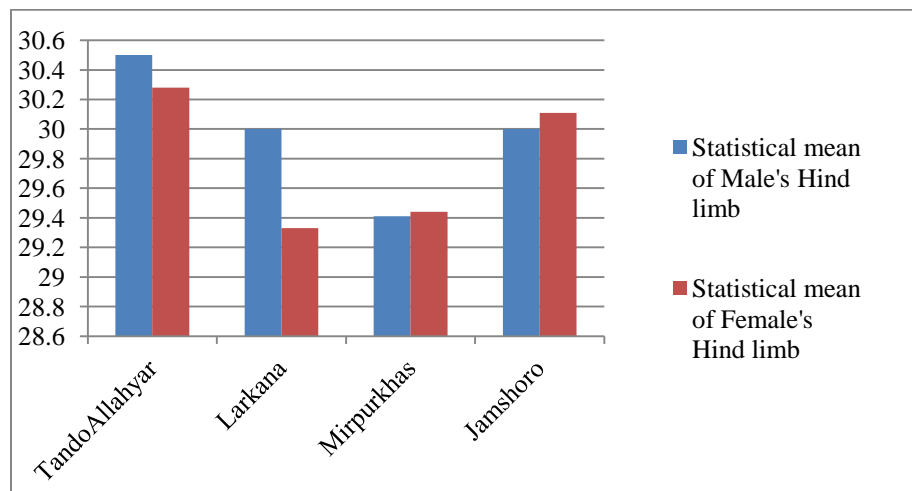


Table no: 5

S.No:	Measurement of sparrow's Tail	
01.	Sparrows of TandoAllahyar	<p>Male – 50mm, 51mm, 49mm, 50mm, 51mm, 51mm. Total mean = 50.33</p> <p>Female – 51mm, 50mm, 52mm, 50mm, 51mm, 50mm, 51mm. Total mean = 50.71</p>
02.	Sparrows of Larkana	<p>Male – 51mm, 50mm, 49mm, 49mm, 51mm, 51mm, 50mm, 49mm. Total mean = 50</p> <p>Female – 51mm, 50mm, 52mm, 50mm, 51mm, 50mm. Total mean = 50.66</p>
03.	Sparrows of Mirpurkhas	<p>Male – 50mm, 49mm, 48mm, 48mm, 50mm, 50mm, 49mm, 50mm, 50mm, 49mm, 51mm, 51mm. Total mean = 49.58</p> <p>Female – 50mm, 50mm, 51mm, 49mm, 50mm, 51mm, 50mm, 50mm, 49mm. Total mean = 50</p>
04.	Sparrows of Jamshoro	<p>Male – 50mm, 51mm, 50mm, 51mm, 51mm, 51mm. Total mean = 50.66</p> <p>Female – 50mm, 48mm, 51mm, 50mm, 48mm, 49mm, 51mm, 51mm, 50mm. Total mean = 49.77</p>

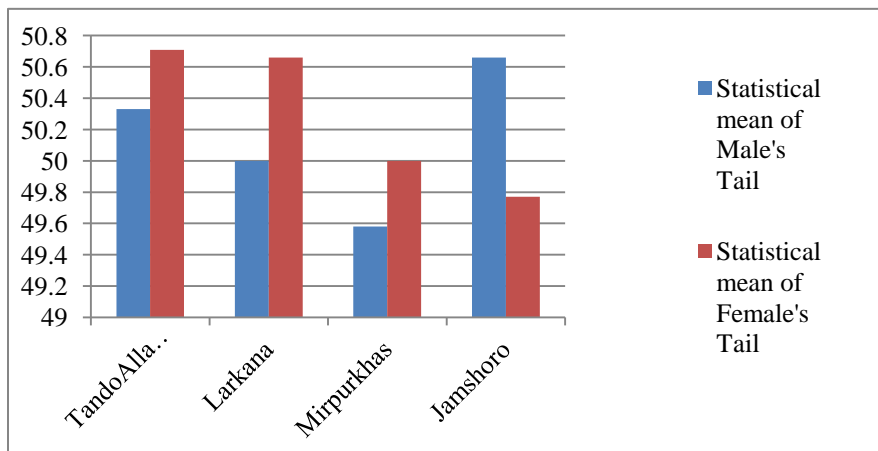


Table no: 6

S.No:	Measurement of sparrow's Body length	
01.	Sparrows of TandoAllahyar	Male – 80mm, 80mm, 79mm, 82mm, 81mm, 80mm. Total mean = 80.33 Female – 76mm, 77mm, 80mm, 77mm, 76mm, 76mm, 78mm. Total mean = 77.14
02.	Sparrows of Larkana	Male – 79mm, 81mm, 79mm, 81mm, 80mm, 80mm, 79mm, 79mm. Total mean = 79.75 Female – 77mm, 76mm, 76mm, 80mm, 79mm, 80mm. Total mean = 78
03.	Sparrows of Mirpurkhas	Male – 80mm, 80mm, 79mm, 79mm, 79mm, 79mm, 79mm, 80mm, 81mm, 79mm, 79mm, 79mm. Total mean = 79.41 Female – 77mm, 77mm, 80mm, 80mm, 78mm, 80mm, 76mm, 80mm, 77mm. Total mean = 78.33
04.	Sparrows of Jamshoro	Male – 79mm, 79mm, 80mm, 81mm, 81mm, 80mm. Total mean = 80 Female – 77mm, 76mm, 81mm, 80mm, 79mm, 79mm, 80mm, 81mm, 80mm. Total mean = 79.22

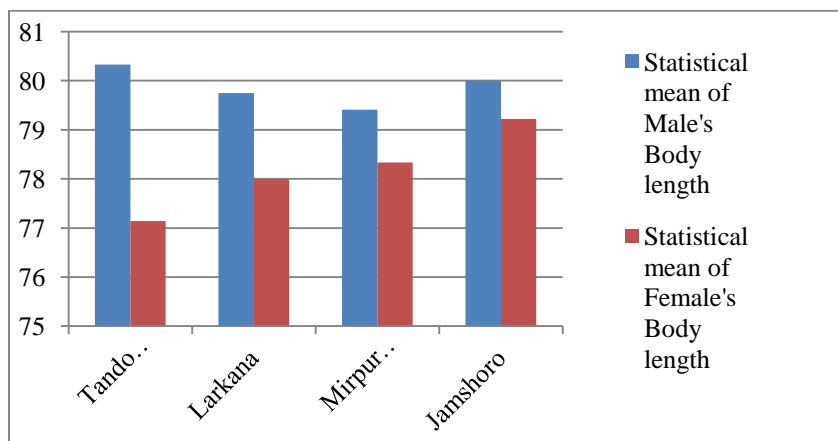
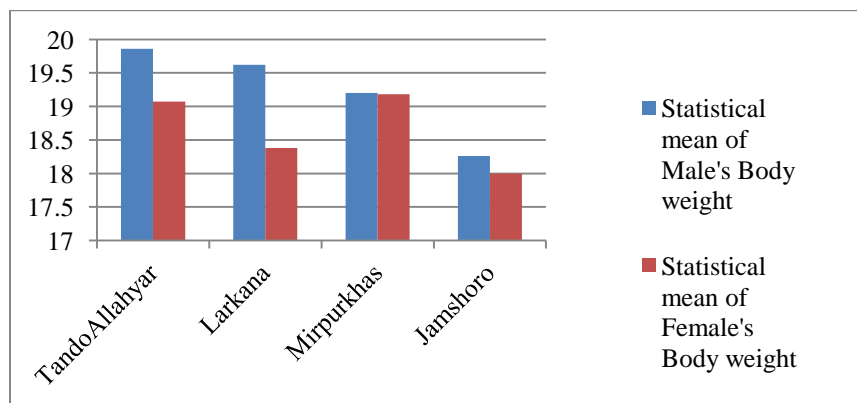


Table no: 7

S.No:	Measurement of sparrow's Body weight	
01.	Sparrows of TandoAllahyar	<p>Male – 19grams, 20grams, 20grams, 20grams, 19.5grams, 20.7grams. Total mean = 19.86</p> <p>Female – 18.9grams, 18.5grams, 20grams, 19.3grams, 19grams, 19.8grams, 18grams. Total mean = 19.07</p>
02.	Sparrows of Larkana	<p>Male – 19grams, 19.5grams, 19.5grams, 20.1grams, 20grams, 20.7grams, 19grams, 19.2grams. Total mean = 19.62</p> <p>Female – 17grams, 18.3grams, 17.9grams, 19grams, 18.1grams, 20grams. Total mean = 18.38</p>
03.	Sparrows of Mirpurkhas	<p>Male – 20grams, 20grams, 19grams, 19.3grams, 18grams, 17.9grams, 18.5grams, 20grams, 21grams, 19.9grams, 19grams, 17.9grams. Total mean = 19.20</p> <p>Female – 19grams, 17.8grams, 20.1grams, 20grams, 17.8grams, 20grams, 18.6grams, 19.5grams, 18.9grams. Total mean = 19.18</p>
04.	Sparrows of Jamshoro	<p>Male – 18.6grams, 18.1grams, 18grams, 18.1grams, 17.8grams, 19grams. Total mean = 18.26</p> <p>Female – 18grams, 17.8grams, 18.3grams, 18.1grams, 17.7grams, 18grams, 18.5grams, 17.9grams, 17.7grams. Total mean = 18</p>



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