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Beak abnormality in *Coturnixcoturnix japonica*

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Abstract

A reporting of an abnormality in the beak in a male Japanese quail, *Coturnixcoturnix japonica*, has been discussed in this paper. During the behavioral study of Japanese quails, a male differed markedly from the others due to its comparatively longer beak. The maxilla was abnormally elongated and curved over the mandible, which made it difficult to feed and drink.Beak deformities has been previously reported in the Antarctic Cormorant,*Phalacrocoraxbransfieldensis*chick; White winged Becard,*Pachyramphuspolychopterus*; Passerines (Craves); Brown headed Cowbird; Black Wheatears, *Oenantheleucura*; Southern Giant Petrel, *Macronectesgiganteus* chick. But no such record of beak deformity in japanese quail has been studied. The reason behind this anomaly can be a subject of research.

Keywords:*Beak abnormality, Japanese quail, Coturnixcoturnix japonica*.

Introduction

Craves (1994) considered abnormal bills to be 'noticeably different from the normal'. Normally, the maxilla (upper jaw) and the mandible (lower jaw) of the bird's beak have a bony base with a horny keratin covering at the tip, which grows continuously, and is called the rhamphotheca. The constant contact between the maxilla and the mandible mutually inhibit the growth of rhamphotheca (Rintoul, 2005). Indeed deformities like overgrowth in either mandible or maxilla or both, crossed mandible and maxilla, curvature in the maxilla on either side of the mandible, torsion in the maxilla or mandible have been reported because of injury, poor nutrition, genetic or developmental diseases and chemical pollutants (Vasconcelos and Rodrigues, 2006), or parasites (Marti *et al* 2008).

Materials and method

Here we report a male Japanese quail (*Coturnixcoturnix japonica*) with a deformed bill for the first time, during their behavioral study, at Nagpur (21.07°N, 79.27°E), central India. Out of a total 100 birds one male was strikingly different than the rest in the structure of the beak. The maxilla was elongated and curved downwards overlapping the mandible.

Results and Discussion

The measurements of the deformed bird were compared with that of other normal males without deformity (Table 1).

The deformed bird fed by tilting the head on its side. But still, morphologically the bird appeared to be normal.

Also, the comparison between the data does not shows any significant difference between the body mass, body length, tarsus length, mandibular length and bill width and bill depth of both deformed and the non deformed birds.

Only the beak length differed due to the extension of the maxilla by 1.28 times the normal length (mean=18.44). This shows that, inspite of the abnormality in the beak, the bird behaved normally.

The present study concludes that in nature beak deformities do occur and they are very rarely noticed and reported.

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Fig1. Male Japanese quail (*Coturnixcoturnix japonica*) with a deformed beak (on the left), and other male with a normal beak.

Table1. A comparison between the male Japanese quail (*Coturnix coturnix japonica*) with beak deformity and the other males without beak deformity. For comparison, the averages are taken from 20 males without deformity, represented as 'Mean+SD' with their ranges Units are presented as mass in gm; lengths in mm.

S.N.	Trait	Male with bill deformity	Males without bill deformity (n=20)
1.	Beak length	23.66	18.447+0.96 (16.94-20.04)
2.	Maxillary length	23.66	18.447+0.96 (16.94-20.04)
3.	Mandibular length	17.75	18.447+0.96 (16.94-20.04)
4.	Bill width	5.76	6.256+0.48 (5.34-6.83)
5.	Bill depth	6.79	7.875+0.41 (7.11-8.47)
6.	Body mass	210	193.66+31.32 (166.8-250.4)
7.	Body length	215	211.8+17.49 (185-250)
8.	Tarsus length	39	39+1.76 (35-40)

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