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THE CROW-PHEASANT, *CENTROPUS SINENSIS* (STEPHENS) (AVES : CULCULIDAE) OF CENTRAL AND EASTERN MADHYA PRADESH.

By

H. KHAJURIA

C/o, Zoological Survey of India, (HASFS), Rajgarh Road, Mohinder Bhawan, Solan (H. P.).

(With 1 Plate and 1 Text-figure)

INTRODUCTION

Whistler and Kinnear (1934) noted the presence of some sooty wash on wings in some specimens of the Crow-pheasant, *Centropus sinensis* (Stephens), and considered it to be an 'individual variation'. They, however, remarked "it appears to be to some extent sub-specific in character in that it is more frequently found in *parroti* than in *sinensis*". After a study of the collection of the Bombay Natural History Society, Humayun Abdulali (1956) noted that except for slight traces of sootiness in two juvenile females from Nepal (*C. S. sinensis*) and Prome, Burma (*C. s. intermedius* Hume), the other two subspecies recognized by Ripley (1961), only winter females of *C. s. parroti* (Stresemann) collected from Ambala, Punjab (1), Delhi (1), Bombay (2), Orissa and Bastar, M. P. (4) show the character. In a recent study (Abdulali, 1972, p. 770) based on a much larger collection, he remarked "of 18 dusky birds examined including specimens borrowed from Zoological Survey of India only 4 are males. The birds are from Ambala (1), (Delhi (1), Kutch (1), Surat (1), Nasik (1), Thana (1), Bombay (2), Madhya Pradesh (6), Baster (1), and Orissa (3), the character being found throughout the year and most pronounced in Bastar and Orissa. Except that the duskiness appears to be more frequent in the females, it is not possible to indicate what it signifies". Since the majority of specimens from Eastern Madhya Pradesh and adjoining areas are Sooty, Mr. Abdulali had earlier suggested that I might collect a series of specimens from that area. Accordingly a series of 23 specimens was collected in different seasons during 1963-70 from central and eastern Madhya Pradesh but mostly from Jabalpur District.

A study of this interesting variation is presented here particularly with regard to its geographical significance. The population inhabiting

the area under study appears to represent an undescribed subspecies but has not been named pending collection of more data for some characters.

My sincere thanks are due to Dr. B. Biswas, Mr. Humayun Abdulali and statistical section, Jawaharlal Agricultural University, Jabalpur, for their criticism.

Observations

Materials studied : Madhya Pradesh, Sehore Distt : Bagwara : 1♂, 1 unsexed (28 Dec. 1964) ; Hoshangabad Distt : Joga Forest 1♂, 1♀ (12, 19 Dec. 1965) ; Narsinghpur Distt : Barmanghat 1 ♀ (13 Dec. (1964) ; Jabalpur Distt : Richhai, Panagar, Maharajpur, Amkhas, Pachpedi Road, Jabalpur : 4 ♂, 6 ♀, 2 unsexed (14 Feb. 1964, 19 Mar. 1963, 29 Apr. 1964, 7, 17 May 1963, 6 Jun. 1963, 7 Jun. 1967, 16 Aug. 1963, 18 Nov. 1963, 29 Nov. 1967, 24 Dec. 1963) ; Mandla Distt : Deogaon, Manot Patpura, 2♂, 1♀ (12, 17, 18 Nov. 1963) ; Balaghat Distt : Supkhar : 1♂ 31 Mar. 1965). All these specimens were collected by Zoological Survey of India field parties. Four adults in the collection of the Zoological Survey of India, Calcutta, from Rewa and Balaghat District (Jan., March, Sept., Nov.) were also examined.

Measurements

9 ♂ : Wing 177-198 (186.7) ; tail 270-306 (283.3) ; tarsus 47-53.5 (51.5) ; bill 37-43 (39-2) mm. ; wt. 205-260 (236.4) g.

11 ♀ : Wing 176-206 (195.9) ; tail 278-324 (298.3) ; Tarsus 49-56 (53.5) ; bill 38-44.5 (41) mm. ; wt. 252-305 (168.1) g.

3 unsexed : Wing 187, 179, 189 ; tail, 290, 283 ; tarsus, 53.5, 54, 55 ; bill, 35, 38.5, 39.5 ; wt. 225, 240.9, 230.

Colour variations : One of the darkest specimens is a ♀ taken on 19th March from Amkhas villagar, Jabalpur District. It has the whole of the dorsal parts of the wings (including wing coverts and inner secondaries) conspicuously dusky sharply contrasting with the lateral parts of the wing which are chestnut. On the outer secondaries, the duskiness is restricted to the outer fringes and/or to tips. Underwing coverts are predominently sooty. Other parts are varying shades of black. The crown, the sides of the head and particularly the throat are paler. There is a slight gloss of bluish green here and there especially more marked on the ventro-lateral rectrices. Among the female specimens, the most brightly coloured and has been taken on 19th December. In this specimen the duskiness is confined practically

In some freshly killed specimens there was a neatly defined transverse chestnut band on the underwing coverts. The band was separated from the distal portion of the underwing coverts by a broad black band of varying width. The frequency of the occurrence of this character could not be studied in detail. The character is not clearly seen in made-up skins.

An effort was made to collect immature specimens but without success, field observations were also made on the colouration of a number of specimens. The population probably represent an undescribed subspecies but is not being named till all necessary data is available.

Habits : Nothing has so far been recorded about the habits of this crow pheasant (*vide* Baker, 1926 ; Ali and Ripley, 1969) which is common around Jabalpur city. The following observation will, therefore, be of interest.

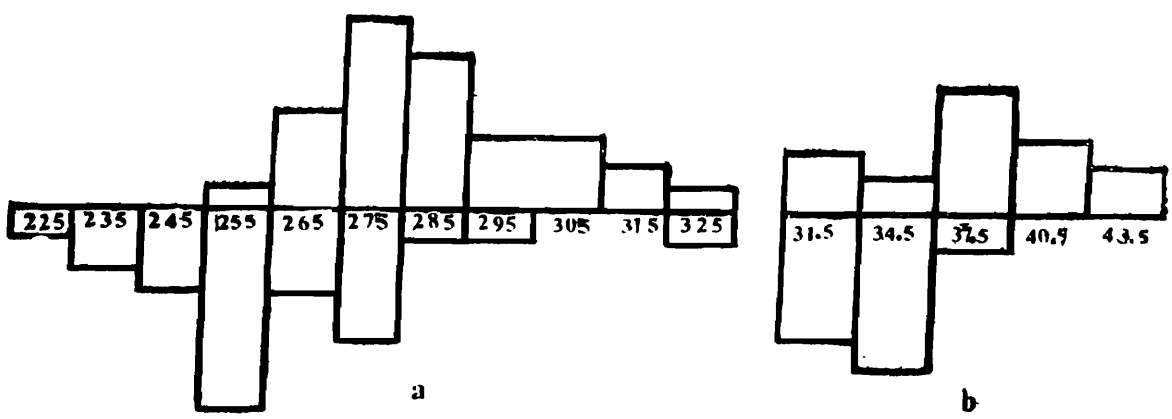
The author observed two specimens fighting during rains with their plumage much smeared with mud. Specimens were also seen moving up and down the branches of trees very playfully in the season. Two adult females, taken on 23.11.63 and 29.11.67, had the gonads in breeding condition.

However, a grown-up young was observed following its mother on 9.11.74. The young had more or less atained the size and the colouration of mother but its behaviour was very different. It frequently gave out sounds resembling *kren-kren* with drooping and quivering wings possibly begging for food. The mother appeared busy searching for food and replied to the sounds of the young with a sound resembling *kuff-kuff*, from a distance of about 10 m. the neck feathers of the young appeared shorter and brighter than those of the mother. Other subspecies are reported to breed from spring to autumn but mainly during rains. The usual sound of several birds were heard during the later half of November, 67 in Jabalpur city. While giving but its usual sound, a bird was observed, at close range, to bend its head downward with bill pointed downward and inward. The throat was inflated and there is quivering of plumage.

Some peculiar low sounds were heard in a thick bush in the beginning of September. On approach, four birds came out of it and each gave out a different sound. These sounds do not appear to be recorded for the genus *Centropus*. These are low melodius *shren-shren*, harsh, *kren-kren*, resembling that of the Blue Jay, *kuff-kuff* and *kuff kuff-kren-kren*. After coming out of the bush, all the birds perched on a nearby tree. One of them chased the others. Similar sounds were also heard later on a couple of occasions. In one case, they were given out by a pair

to tips of the secondaries and to a very few wing coverts with bluish green gloss much more pronounced on other parts of the body particularly on the shoulders.

The darkest male taken on 17th May in Jabalpur District differs from the darkest female described above in being slightly brighter on the posterior lateral parts of the wings, more darker on the shoulders and in having the crown and the throat paler. The brightest male collected on 16th August, has duskiness confined to the tips of primaries and secondaries particularly the outer feathers and extending slightly to wing coverts and in having more blue on the shoulders. Other specimens intergrade between these extremes. It, thus, appears that duskiness, traces of which may very rarely appear in some other subspecies of the species, has become more or less an established character in this population. The duskiness in dorsal aspects appears more pronounced in made-up skins. The character does not appear to be seasonal or age-dependent. Out of 29 specimens examined including 4 adult ♀ from Bastar and Orissa mentioned by Abdulali (1956), 15 approach the condition of the darkest specimens, 5 to that described for the brightest speci-



Text-fig. 1. a. Twin histograms comparing the tail length of 28 adults of *Centropus sinensis* of central and eastern Madhya Pradesh with 24 specimens of *C. sinensis parroti.*

b. The same comparing the bill length of 27 and 25 adults of the above two populations. Upper histograims are for studied population and lower ones for *C. sinensis parroti* Number in histograms indicate millimetres. There is no sexual dimorphism in size.

mens and other integrade between these extremes. Out of 29 specimens 24 are dusky. Out of 28 specimens of *C. s. parroti* examined 3 are dusky. Applying Chi-square test, recommended by Mayr *et el* (1953) for such cases, a highly significant value of 29.65 is obtained. The tail and the bill appear to be comparatively longer in these specimens than those of *C. s. parroti* and these differences are shown in twin histograms (Text-fig. 1).

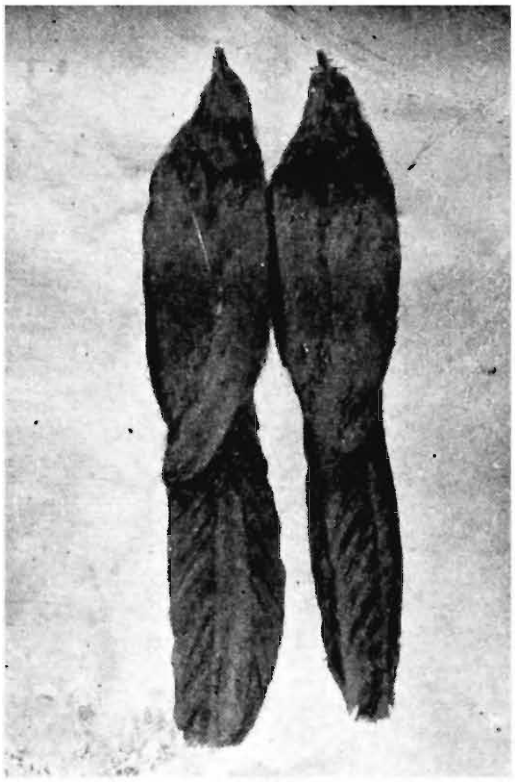


Fig. 1. A sooty and a normal coloured specimen of *Centropus sinensis* from central and eastern Madhya Pradesh.