

NOTES ON BRAZILIAN CRACIDAE

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With comments by D. Amadon

The author sent extensive notes on Cracidae to D. Amadon for use in a forthcoming volume on that family by J. Delacour and Amadon. These notes contain the only field observations on the Red-billed Curassow, *Crax blumenbachii*, except for a few, largely anecdotal comments by Prince Maximilian of Wied (1825:33) and other early naturalists. The scarcity of the east Brazilian *Crax blumenbachii* is reflected in the fact that, with the exception of two specimens, ex zoo, in New York, there were apparently no specimens in North American museums and only two or three in Europe. We thought that Dr. Sick's unique observations should be published under his own name. The manuscript has been edited by Amadon.—D. A.

RED-BILLED CURASSOW

This nearly extinct eastern Brazilian species is sometimes confused with the Wattled Curassow, *Crax globulosa*, of upper Amazonia. In August 1939 I encountered *Crax blumenbachii* during my first trip to Espírito Santo, in the service of the Berlin Museum, accompanied by Herr A. Schneider. We wished to learn if *Crax blumenbachii* still existed. At that time extensive virgin forests still were to be found in northern Espírito Santo. We stayed for some weeks at the Cupido River, 60 km N of Linhares on the Rio Doce. The woods were at that time still beautiful. We obtained three specimens of *Crax blumenbachii*, all males, and all brought to us by native Brazilian hunters, who obtained the birds in traps. The traps, called "mundeos," consist of a heavy log, hung above the ground over maize and manioc. The food attracted various kinds of animals, including the curassows. The "mutums," as they are called, are valued as food because of their size, although the flesh is quite dry.

At that time we had no opportunity to observe these curassows in life. According to the local people they were then not rare in that region. The word "mutum" appears in the names of several settlements in Espírito Santo, e.g., Mutum do Norte.

In 1941 I made two trips by myself to the north of the Rio Doce, first in April and May and then at the end of that year and in January 1942. On the second of these trips I was successful in observing Blumenbach's Curassow. I worked along the Rio São José, which enters the large Lagoa Juparanã from the north. The area is nearly contiguous with the above mentioned Rio Cupido. My first priority was to learn something about the life history of the ground cuckoo, *Neomorphus geoffroyi* (see Sick 1949; in that paper I give further details on the habitat and the fauna of the area).

Finally, in February and March 1954, and again during the same months in 1961, I stayed for some days at a refuge called "Sooretama," founded in September 1943 through the initiative of Mr. Alvaro Aguirre of the Divisão de Caza e Pesca, Rio de Janeiro, and of Dr. A. Ruschi, the well known Brazilian naturalist. This refuge is situated on the north bank of the Cupido River. At this refuge the curassows were fed and up to one dozen would appear, or, in

an earlier year, once even 25 together. During recent years, however, this refuge has been nearly abandoned. Lacking the necessary policing, protection of the curassows and other animals is practically nonexistent, but *Crax blumenbachii* may still exist there very locally. The cutting of forest in the vicinity of the refuge is progressing very rapidly, and the São José area is said to be now completely cultivated.

At the Rio São José and at "Sooretama" I learned the following facts about the Red-billed Curassow. High virgin forest is indispensable for its existence. The region near São José is quite hilly and cut through-out by small forest streams. There the curassows liked to visit small areas with lower vegetation, as on the banks of the large rivers, small floodplains, and steep banks (all, however, covered by woods). They were especially found at windfalls, which were quite common. In such a place I flushed a single bird from a dense viny thicket which covered some fallen trees. Upon this thicket, at a height of scarcely 2 m, there was a rough structure of a nest, probably an old curassow nest. With this exception, I always met *Crax blumenbachii* in pairs, although once in January, I encountered an adult with two juveniles, the latter of the same color as the female but considerably smaller.

Crax blumenbachii feeds on the ground in high forests with rich undergrowth and deep shadow. The food consists of fallen fruits such as bicuiba (*Virola bicuiba*), sapacaia (*Lecythis pisonis*), murici (*Byrbcuiba*) and Aricanga palm (*Geonoma*). This habit of feeding on the ground makes it possible to use deadfalls. Two other cracids in that area like the same fruits, the Jacu (*Penelope superciliaris*) and the local Piping Guan (*Pipile jacutinga*), though they generally do not come to the ground. Other species attracted are the wood-quail (*Odontophorus capueira*), the tinamou (*Tinamus solitarius*), and various rodents like the cotia (*Dasyprocta aguti*) and the paca (*Cuniculus paca*).

The curassows also walk over thin branches of bushes and trees, seizing several twigs with their long toes, and pick berries and other small fruits. Larger fruit, which they pull off the branches and cannot swallow whole, they carry to the ground where they eat it in pieces. Sometimes they leap from the ground to get a fruit hanging above. Like other curassows, they also eat tender leaves and buds and, occasionally, insects. Crit is always found in their stomach. The curassows like to drink, and walk to the nearest watering-places. After heavy rain, they take water as it drips from the leaves.

Flushed by some danger, the curassows fly steeply to a tangle of vines or to branches, 3–4m high, calling "ök ök ök." From there they look at the intruder a moment, and then go quickly, more hopping than flying, and silently to higher branches, in a direction not so steep as before, up to the canopy, passing immediately out of sight. From there they fly noiselessly away to more distant places. It is then usually impossible to locate them again. While an undisturbed curassow holds its crest feathers flat, an excited one moves the crest to and fro, until the foremost part of the crest points in the direction of the beak. The crest is the best indication of the mood of the bird.

The song of the male is a deep booming which, although not loud, can be heard at quite a distance. I do not have special notes about the rhythm as compared with that of other species of curassows. In December and January I heard *Crax blumenbachii*

rarely; the main calling time seems to be from the middle of September to October. Mr. A. Schneider, who observed a calling *Crax blumenbachii* in a park in Niteroi, Rio de Janeiro, wrote: "The bird pushed the head forward and then drew it back so that the neck became very short and the beak pointed downwards; the bird making a sort of bow. At the same time tail and wings sink and then the bird delivers the boom, ruffling a little bit the feathers of the breast. Sometimes the boom is louder but the pitch is not altered."

There are several other calls that are more or less independent of courtship and which can be heard during the whole year. A low dovelike "gu-gu-gu" is sometimes delivered by females while feeding on the ground. A loud harsh "kjack-kjack-kjack" is given by subdued males when chased by a dominant male. The same call is heard from females when pursued by a dominant female. The already mentioned "ök" is delivered by frightened birds in varying strengths when taking off and, after that, in the trees. Another common call is a hollow "wup" (male and female) which passes over into a sharp whistling "fhuh" which varies considerably in strength; this is the main alarm call.

Chasing is important during courtship. After rapidly running around and between small trees, the female, followed immediately by the male, flies to the nearest low branches and then ascends quickly to higher elevation, even to the canopy. Copulation may occur in the trees; it was never seen on the ground. Similar chasing occurs between rival males. Occasionally such males perform standing on the ground. With body erect, the feathers of the neck ruffled, they face one another and hop three or four times, beating the wings strongly. Certain adult males are very pugnacious towards younger males.

The young are said to hatch in October. Commonly there are two chicks, sometimes only one. They remain with the mother several months following her closely the whole day. The groups of curassows seen during the winter are seldom composed of more than four birds. Surely they are mostly family units.

For extensive preening, for resting, and for sleeping, the curassows stay in trees. They prefer relatively thin branches. Preening is very common and conspicuous.

As I have also observed of other birds in Brazil, the curassows become nervous when a fly buzzes around their heads, as if they anticipate instinctively the danger which such an insect so often represents in the tropics. Most curassows in the Amazon are infected by nematodes living in the eyelids; the nematodes, I would guess, are carried by mosquitos.

There seem to be more females than males in *Crax blumenbachii*. On 28 February 1961 I counted seven males and 12 females that came to eat at "Sooretama"; three of them, two males and a female, were smaller than the others and were probably 1960 birds; the rest were older. On another occasion I counted two males together with nine females. [But since the booming of the male may lead the hunter to it, the sex ratio may thus be affected.—D. A.]

NOCTURNAL CURASSOW, *CRAX* [*NOTHOCRAX*] *URUMUTUM*

In order to learn the extent to which this curassow is nocturnal, I studied a male in the Rio de Janeiro Zoo, particularly with reference to movements and calling activity. The bird was captured in 1952 near

the upper Rio Negro, Amazonas, Brazil. It was kept alone in a small aviary and was in good health, as shown by its perfect plumage and its prolonged calling. I was aided in my investigations by the late Sr. L. de Melo Barreto, Director of the Zoo, and one of the keepers who was on duty at night. I myself made many checks, remaining parts of a night or entire nights in the Zoo.

Movements at night. None of us saw any movements by the bird at night except those necessary for calling. At dusk the curassow flew to its perch, a simple pole traversing the aviary from the lattice in the front to the wall behind. The curassow sometimes walked to and fro on the perch and then sat down near the lattice. There it remained the whole night without moving. This was the rule, without exception.

In the day the curassow flew only occasionally to this perch which was the only one in the pen. Usually it walked around on the ground, even during the sunniest and hottest hours. While walking, it often delivered a delicate "u-ö," similar to that of other curassows when feeding or walking on the ground together. Lacking a companion, the "Urumutum" seemed to direct that call to the human visitor; the bird was quite tame.

Calling activity at night. We checked the song activity of this bird from October 1961 to April 1962, the period in which it was calling regularly. The song or territorial call of *Crax urumutum* is very similar to that of the other curassows known to me, viz., *Crax mitu*, *Crax fasciolata*, and *Crax blumenbachii*. The boom of *urumutum* is, however, a little hollower, fuller, clearer, more melodious, and also somewhat stronger than that of the other species. The pitch is much like that of a large pigeon, as is true of other curassows. The song is composed of two phrases, separated by a short but typical break. Its most striking characteristic is a long and deep downward groan at the end of the second phrase. The full song is: "hm-hm-hm hm-hm-hm-uh." When the bird is vigorous, the next song follows after 13-16 sec. A few such songs comprise a "song-period," which may last 15 min, exceptionally up to half an hour or even longer, as noted in January. The posture during singing is not unusual. The bird merely stretches itself forward a bit. I paid considerable attention to the size of the eye of the living *urumutum*; it did not appear larger than in other curassows.

Crax urumutum sang only in complete darkness. Singing was heard at all hours of the night, but never in the daytime. From October to April we counted a total of 58 song-periods, totalling 935 min. The singing tended to be concentrated in three periods of the night. These, with the total number of minutes recorded for each, are as follows: (1) 20:00-22:00 (310 min of song, of which 185 min were in the earlier hour), (2) 24:00-01:00 (105 min), and (3) 03:00-05:00 (170 min). The greatest activity clearly occurs in the early part of the night. The weakest activity occurs between 02:00 and 03:00, just before the last (weakest) peak, shortly before dawn.

In any one night there were from one to six song-periods, making a total of 5-75 min. On several nights no singing occurred at all. The bird was not observed every night, so the account given here is very rough.

[Delacour, too, finds that a "Nocturnal" Curassow now in his aviary in France is, except for singing, active only in the daytime. Other curassows often

sing on moonlit nights, or so early in the morning that it is still pitch-dark, as I recently observed in Venezuela with Mr. Paul Schwartz, as regards *Crax alector* and *C. tomentosa*. But they often continue to sing until 09:00 or so, or even at odd times during the day. Therefore, *Crax urumutum* apparently sings only in darkness; it is more nocturnal than the others as regards this activity, but in other respects is diurnal. I rather suspect, however, that if it is studied in nature, it will be found to sing at other times also, at least at the height of the season. Dr. Sick believes that if *Mitu* and *Pauxi* are merged with *Crax*, as seems

advisable, then *Nothocrax* should be also. I reserve judgment on this difficult question.—D. A.]

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THE GREAT SWALLOW-TAILED SWIFT (*PANYPTILA SANCTIHIERONYMI*) FROM THE STATE OF GUERRERO, MÉXICO

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Del Toro (Condor 54:113, 1952) reported the Great Swallow-tailed Swift for the first time from México. This record was from the state of Chiapas. Selander (Condor 57:123, 1955) reported the first record for the species north of the Isthmus of Tehuantepec, which was also the first record for the state of Michoacán. We know of no other records for México.

While checking specimens of swifts in the Texas Cooperative Wildlife Collection, we located a female *Panyptila sanctihieronymi* (TCWC No. 6321) collected near Acahuzotla, Guerrero, on 10 July 1958 by Sostenes Romero. Unfortunately, no information is recorded concerning the condition of the gonads.

New feathers are apparent on the specimen in the abdominal tracts and the lower back. The remiges show moderate wear. Measurements (mm) for the bird are: wing, 195.5; tail, 94.8; exposed culmen, 7.7, and culmen from nostril, 4.8. The weight (64g) is significantly higher than that reported by Selander (op. cit.).

According to W. B. Davis (pers. comm.), Acahuzotla is located near the head of a valley in an ecotonal situation between pine and deciduous oak forests.

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COMMON TEAL AND TUFTED DUCK IN NORTHWESTERN CALIFORNIA

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A Common Teal (*Anas crecca*) was observed on the sewage oxidation pond of the city of Arcata, Humboldt County, California, on 4 January 1968. The bird was a male in good plumage. It was subsequently observed by numerous persons and was photographed by the senior author, but the photographs were of poor quality. The latest observation we have of it was 21 January 1968. In early February a record of a second individual came to light when a specimen of a Common Teal was donated to the Humboldt State College Collection by Frank Shultz of Bayside, California. The specimen, a male, had been shot on 6 January 1968 on North Humboldt Bay, approximately 1 mi. S of the Arcata oxidation pond at a time when the first bird was still present. Although there are three previous sight records of Common Teal for California (Audubon Field Notes 16:364, 1962; 17:353, 1963; 21:453, 1967), there appears to be no previous California specimen.

On 10 April 1968 a male Tufted Duck (*Aythya fuligula*) was observed on the same oxidation pond. The bird was in full breeding plumage and was observed under good conditions with binoculars and 25× spotting scopes by over 100 observers, several

of whom are experienced field ornithologists. It was observed repeatedly by the authors and others until 17 May when it apparently left the area. It accompanied Greater and Lesser Scaup (*Aythya marila* and *A. affinis*) during the time that it was present. In early May, it was photographed by the senior author and, although the quality of the photographs is poor, they do establish the identity of the bird beyond any doubt. On 28 July 1968, what is assumed to be the same Tufted Duck was again observed on the same pond. It was beginning its summer molt, and again accompanied several scaup. Both the scaup and the Tufted Duck molted on the pond and passed their flightless stage there. We have 10 observations of the bird on the pond between 28 July and 4 November 1968.

Except for the period when it was in molt, the Tufted Duck was in good plumage, flew on and off the pond at will, usually accompanied by scaup. Several times it was observed loafing on boards in the pond where its feet and legs were visible and no bands or other kinds of markings were ever seen on the bird. The plumage showed no indication of any irregularities, such as might be expected on an escaped captive. This apparently represents the second California record of a Tufted Duck. Orr (Condor 52:140, 1950; Auk 79:482, 1962) reported a specimen of a Tufted Duck shot in Alameda County in late 1948 or early 1949. We are aware of only two other sight records of this species for the Pacific Coast south of Alaska, one from Portland, Oregon (Olson, Auk 78:638, 1961), and one from Vancouver, British Columbia (Audubon Field Notes 16:87, 1962).

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