

SOME CALLS AND DISPLAYS OF THE PICAZURO PIGEON

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For the past two years I have made occasional observations at the London Zoo on a captive Picazuro Pigeon (*Columba picazuro*) from Argentina. In March, 1962, I spent four days at the Chester Zoo and devoted some time each day to watching several Picazuro Pigeons in a large aviary. One pair of these birds was beginning to nest. My observations are, obviously, very incomplete but seem worth recording as I can find no detailed descriptions of the calls or behavior patterns of this pigeon in the literature, apart from various renderings of the advertising *coo* and a description of the display flight as being like that of the Rock Dove, *Columba livia* (Wetmore, 1926). I have used the same terminology (Goodwin, 1956a) that I previously employed when discussing some Old World species of pigeons, as they seem equally useful for the Picazuro Pigeon.

GENERAL APPEARANCE AND GAIT

Columba picazuro walks on the ground with a more agile and less waddling manner than does the Wood Pigeon (*Columba palumbus*). It appears to me closer in this respect to such ground feeding species as the Rock Dove or Stock Dove (*C. oenas*). It has been described (Hudson, 1920:154–155) as being extremely like the Wood Pigeon in all respects except color. Wetmore (1926), however, gives a fuller description of its gait, flight, and appearance in the wild which suggests that, as species of *Columba* go, it does not in the least resemble the Wood Pigeon. This confirms the impression I have from captive individuals. I have not been able to observe living Picazuro Pigeons and Spotted Pigeons (*Columba maculosa*) together, but a male of the latter species that I observed in the New York Zoo in May and June, 1961, struck me as being far more like the Picazuro Pigeon in gait and movements than I had expected from Hudson's (1920) descriptions.

When making the "aiming" flight-intention movements that are shown in some form by most, and possibly all pigeons, the Picazuro Pigeon pulls its head far back onto its shoulders and then throws it forward with a rather circular motion. The whole movement has a very "clockwork-like" appearance and is very similar to the homologous movement of the Jamaican Dove (*Leptotila jamaicensis*) and is relatively unlike the flight-intention movements of those Old World species of *Columba* known to me.

VOICE

The advertising coo.—The advertising coo of two males at the Chester Zoo, which were heard scores of times over the four-day period, began with a very soft, muffled sound which gradually increased in loudness and changed into a *coo*. This peculiar long-drawn-out utterance was followed by a very clear, emphatic *coo* and then a series of three *coos* of which the first was shortest and the middle one strongly accented. The cooing phrase was repeated from two to five times, but the long-drawn moaning introductory note was only uttered once. The first phrase could perhaps be written *uuraaaaoo*; *cōō*! *cōō*—*cōō*—*ōō*. The cooing notes have a very clear, sad, human-sounding quality, suggestive in tone of the advertising coo of the Mourning Dove (*Zenaidura macroura*). The bird at the London Zoo has a slightly different advertising coo in which he runs together the first and second *coos* so that, in his case, the cooing phrase which follows the moaning introductory note could better be written *cōō*—*cōō*, *cōō*—*ōō*. This difference is not greater than that often heard between the advertising coos of individual male Wood Pigeons breeding in the same street or copse.

The snoring call.—The lone bird at the London Zoo often utters a loud, rather long-

drawn but monosyllabic snoring *corr.* The sound is very suggestive of the snoring coo of the Diamond Dove (*Geopelia cuneata*) but is louder and harsher. It sounds to me much more like the harsh croak of some frog than the cooing of a pigeon. This call is often given shortly after the bird has given the advertising coo. Up to five calls may be given but always with a short pause after each. The bird utters it in the same posture as that used to give the advertising coo although the snoring call involves slightly less inflation of the neck. It would appear to be an alternative form of advertising coo as is the somewhat similar sounding call of the Diamond Dove (see Goodwin, 1960). Since, however, it has been heard from only a single and isolated individual, further observations are desirable.

The display coo.—The display coo (data from three males) is a muffled, indistinct *croō-ōō* or *croōō*, not particularly loud and quite lacking the sad, melodious tone of the advertising coo.

SOME BEHAVIOR PATTERNS

The bowing display.—This was seen closely five times. It was given by the male of the nesting pair at Chester and once by another male there. On four occasions the birds were on perches, and twice they were on the ground. From a rather upright posture, similar to that in which the advertising coo is given, the male turned slightly away from the female and made a series of quick, bobbing bows of the head with little or no corresponding movement of the body. At each bob the display coo was uttered and the display plumage on the nape and hind neck appeared to expand and “bulge out” so that it became strikingly prominent. Between every two or three bows the bird held its only slightly unfolded wings out from its body and made a quick vibrating move-

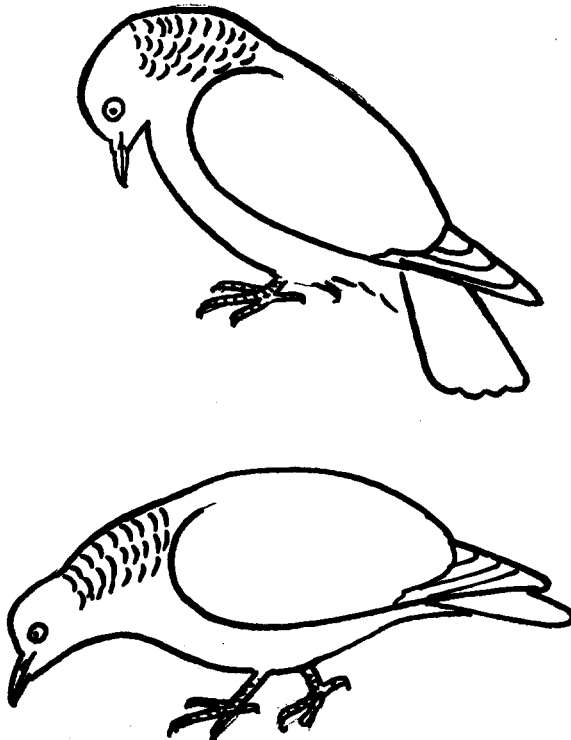


Fig. 1. Postures of Picazuro Pigeon. Above, bowing display, position at lowest point of bow; below, “parading” with lowered head.

ment with them which produced a loud, sharp, rustling sound. This sound was not like that normally produced by a pigeon when it holds out its folded wings and "ruffles" them although the movement appeared similar. This wing movement was incorporated in four of the six bowing displays witnessed. The other two displays were similar except that no wing-vibrating movements punctuated the bows.

It seems likely that the bowing display is normally given, as described here, with the displaying bird alongside but turned slightly away from the bird to which it is displaying, since this position serves to exhibit fully the display plumage. Further observations are needed, however, in view of the fact that in other species of *Columba*, for which this aspect of behavior has been described, the bowing display is typically frontal (Goodwin, 1956a).

The wing clapping display.—A male walking or running after a female, his mate, or another in which he is sexually interested often jumps into the air, flies up two or three feet, gives a loud wing clap and drops just behind or beside the female. The performance is very similar to that so common in male Rock Doves except that only a single wing clap is given at each jump into the air. The clap, although loud, sounds quite different from that made by any of the European species of *Columba*, and the male Picazuro Pigeon does not give the bowing display immediately after alighting as does the Rock Dove in the same situation.

Parading.—When sexually or aggressively motivated, perhaps more particularly when sex and aggression are in conflict, the Picazuro Pigeon often walks in a very deliberate manner with lowered head and rather arched back. This posture exhibits the display plumage on the hind neck and upper mantle to any bird that it approaches.

Driving.—Driving was seen by the male of the nesting pair at the Chester Zoo when his mate approached or was approached by another male. It is evidently shown by the Picazuro Pigeon in the same situations as in other species (Goodwin, 1956b; 1963).

COMPARISONS WITH SOME OTHER SPECIES

The advertising coo of the Picazuro Pigeon bears no very close resemblance to the call of any other pigeon known to me, although in tone it is reminiscent of the call of the Mourning Dove. In sound it is quite unlike the advertising coo of a male of the "white-winged" race of the Spotted Pigeon (*Columba maculosa albipennis*). This consisted of a few low, soft, coos followed by a very loud, harsh and guttural, almost explosive, *oō, oō-oōr*; or *crōō, crōō-oōr!*, repeated two to six times. The advertising coo of the nominate form of *maculosa*, as described by Russel (1913), is apparently very similar to that of *albipennis*. Since the advertising coo probably functions as a species-specific isolating mechanism, one would expect to find different sounding advertising coos in related and sympatric species of American pigeons which are rather similar in coloring, as one does, for example, in the sympatric and closely allied African ring-necked doves of the genus *Streptopelia*.

The bowing display of the Spotted Pigeon has been described by Russel (1913:127) as "a deep, quick bow . . . followed by a shiver of the wings." It would thus appear to be similar to that of *picazuro* and to involve the same peculiar wing movements. This resemblance suggests close relationship between the Picazuro and Spotted pigeons as do their morphological characters (Goodwin, 1959). In this connection it should, perhaps, be mentioned that the movements and postures of the bowing displays of pigeons seem to have little or no species-isolating function (although the color patterns exhibited by them almost certainly do), since they are commonly most similar between

closely related species, whether these are sympatric or allopatric. For example, the bowing displays of the Wood Pigeon and the Stock Dove are identical in form, and those of the three African ring-necked doves, *Streptopelia semitorquata*, *S. decipiens* and *S. roseogrisea*, resemble each other very closely.

In his detailed study of the Band-tailed Pigeon (*Columba fasciata*) Peeters (1962) does not record any bowing display. He does, however (p. 457), describe the male as cooing with inflated neck and his description and sketch (p. 456, fig. 4D) show a posture very similar to although slightly more erect than that from which the Picazuro Pigeon gives its bowing display. In the Picazuro Pigeon I only observed a very slight degree of tail spreading in the bowing display, the very full tail spread of the Band-tailed Pigeon being, probably, correlated with its conspicuous tail markings. If the Band-tail lacks a bowing display in which there is a definite head movement, this would suggest a behavioral link between the American species of *Columba* and *Zenaida*. In the Mourning Dove and the Eared Dove (*Zenaida auriculata*) the homologue of the bowing display is to coo at the other bird from a standing posture without any appreciable head movement. I have not seen any form of bowing display, or homologous behavior, from two male White-crowned Pigeons (*Columba leucocephala*) which have been kept at the London Zoo for about 12 years. I did, however, once see one of them vibrate its wings in a similar manner to that shown by the Picazuro Pigeon. It did this in apparent conflict or frustration immediately after having been rebuffed in an attempt to mount the other. Thus it appears that at least three species of American *Columba* have this wing movement in their display repertoire.

The wing clapping display of the Picazuro Pigeon may seem to have some affinities with that of *C. livia* but I think the resemblance is either due to convergence or else that this behavior pattern will be found to be extremely widespread in the Columbidae. This leaping into the air, wing clapping and dropping down by the female probably represents a "compressed" version of the display flight. It would, therefore, be interesting to learn if the wing claps made by the Picazuro Pigeon in its display flight sound the same as those made in the wing clapping display. The two are similar in the Rock Dove and the Wood Pigeon. It may be mentioned here that the threshold for the wing clapping display appears to be very low in the Rock Dove but is extremely high in the Wood Pigeon. In this latter species one sees hundreds, possibly thousands, of leaps toward another bird in which no wing clap is made. Indeed for a long time I thought the Wood Pigeon did not perform this wing-clapping display and Cramp (1958) does not mention it in his detailed study of the breeding behavior of this species. This is, perhaps, correlated with the fact that the Wood Pigeon does not audibly clap its wings in low intensity versions of its display flight although the loud wing claps, which sound differently from those of *livia*, are a striking feature of its display flight when this is performed at high intensity.

The parading of the Picazuro Pigeon with lowered head and arched back is a very widespread pattern. It is shown by several species of the American genus *Geotrygon* (*sensu lato*) as well as by such Old World forms as *Streptopelia*.

SUMMARY

Some calls and displays of the Picazuro Pigeon (*Columba picazuro*) are described and compared with those of other species of pigeons. Some points of behavior confirm the morphological evidence of close relationship between this species and the Spotted Pigeon (*Columba maculosa*).

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