

Notes on the Masked Saltator, *Saltator cinctus*, in Peru

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In 1943 John T. Zimmer described the Masked Saltator (*Saltator cinctus*) from a single adult female collected on 28 December 1940 at Cutucú near Macas, Ecuador. The species was not collected again until 1973, when field workers from the Louisiana State University Museum of Zoology took three specimens in the Carpish region, Department of Huánuco, in central Peru, more than 800 km south of the type locality. Three additional specimens have been collected in the Carpish area, and in 1978 two were collected on the east slope of Cerro Chinguela (05°07'S, 79°25'W), Department of Cajamarca, and one near the summit of the Cordillera Colán (ca. 05°30'S, 78°18'W), Department of Amazonas.

O'Neill compared the type specimen, housed in the American Museum of Natural History in New York, with several of the Carpish birds and found no obvious differences. The examples now in the LSUMZ, collected over a north-south distance of approximately 600 km, show little variation in measurements (Table 1), color, or pattern. There are no differences great enough to warrant recognition of subspecies.

The most obvious variation in the species is the amount of red on the bill. Adults usually have at least some of this color on the maxilla, and some show a small amount on the mandible. The greatest amount of red is present in adult females, but this is perhaps only a bias of the specimens presently available for study. Younger birds also tend to have less red, and thus it is possible that the amount of this color on the bill is a factor of both age and sex.

The LSUMZ specimens were taken in June, July, August, September, and November. Although generally in fresh plumage, all but one, taken in June, show signs of molt. This is evident mainly in the tail but is present to some extent in the remiges and on the body. The bird from the Cordillera Colán with an unossified skull is still in its first basic plumage, especially noticeable in the thinner and more pointed rectrices. It is perhaps not quite as bright as full adult birds, but its pattern and color are otherwise identical. We suspect that the species breeds, at least in Peru, during the November–April rainy season and that all of the LSUMZ adults are post-breeding birds.

The color of the iris is quite variable but always pale (Table 1). The pupil is sometimes surrounded by a ring of yellow or gold that is paler than the rest of the iris. The three birds with skulls noted as unossified all have the darkest irises, but the individual from the Cordillera Colán had a gold ring around the pupil. Perhaps the iris is always bicolored, but collectors have not been careful in describing this pattern.

In his "Guide to the Birds of South America," Meyer de Schauensee (1970) gives the elevational preference for *Saltator cinctus* as "tropical zone," but in his 1966 work he gives this as "subtropical zone." The original description gives the type locality at 2,000 m, definitely not in the tropical zone. The nine LSUMZ specimens were collected at elevations between 2,165 and 2,940 m. In 1978 J. W. Eley saw a bird at Playón (05°03'S, 79°22'W) approximately 2 km S of Carmen, Department of Cajamarca, at an elevation of approximately 1,670 m. This is the lowest reported occurrence that we know of for the species. If the Playón individual was not just an elevational vagrant, the vertical range of this species, nearly 1,300 m, must be one of the greatest of any Neotropical montane forest bird.

All of the birds collected or seen by LSUMZ personnel have been in areas where *Chusquea* bamboo was present, and we strongly suspect that this plant is an integral part of the species' required habitat. This saltator is fairly shy and does not often pause in situations that lend themselves to observation. O'Neill has seen it 3 times; 2 of the observations were of birds that flew from one bamboo thicket to another, and 1 was of a bird that perched briefly at the edge of a bamboo thicket bordering a trail in subtropical forest.

O'Neill first observed this saltator in the Carpish area in 1968, and François Vuilleumier observed it there in 1965, but neither of them was able to identify it. On 30 May 1965, while studying flocking of birds in that region, Vuilleumier got a good look at an individual perched in a tree in the open for a moment before the bird disappeared in low vegetation. He recorded the bill and iris colors as "pink" and heard a call note that he wrote as "tzip." In his paper on the organization of bird flocks in central Peru (1970), he reported this bird as perhaps an unidentified species of *Arremon*. O'Neill also thought that the bird he saw was possibly an *Arremon*, but he really had no idea what species. After he had seen a specimen of *Saltator cinctus*, he was sure that it was of the same species as the bird he had seen in 1968. Upon discussing this with O'Neill, Vuilleumier agreed that the bird he saw in 1965 was also that species.

This poorly known saltator does not seem to be a common bird, but because of its shyness and its

TABLE 1. Data and measurements (in mm) from specimens of *Saltator cinctus*.

Locality	LSUMZ specimens										AMNH holotype
	80951	74754	87029	87031	87030	79378	74755	80952	75398	748391	
Elevation (m)	2,380	2,380	2,895	2,940	2,895	—	2,165	2,440	2,350	2,000	
Sex	male	male	male	?	female	female	female	female	female	female	
Date	25 June 1975	4 Aug. 1973	6 June 1978	3 Sept. 1978	25 June 1978	3 July 1974	3 Aug. 1973	29 June 1975	22 Nov. 1973	28 Dec. 1940	
Weight (g)	43.0	—	49.0	53.0	51.0	—	49.0	45.0	50.0	—	
Wing chord	101.5	103.5	96.0	97.7	101.6	97.7	94.7	97.8	94.5	98.0	
Tail	—	117.3	114.6	112.9	112.3	115.2	117.4	112.0	117.7	108.0	
Culmen from base	21.2	21.8	22.0	21.8	22.9	21.9	20.5	21.3	21.9	21.0	
Exposed culmen	17.7	18.4	18.4	18.6	19.3	18.1	18.5	18.3	18.6	18.0	
% red on maxilla	50	5	40	25	90	40	none	80	10	—	
Iris color	yellow with orange rim	golden brown	orange-red	brown with gold ring around pupil	yellowish orange	—	orange-brown	red with yellow ring around pupil	chestnut	—	
Skull	ossified	unossified	ossified	unossified	ossified	—	ossified	ossified	unossified	—	

TABLE 2. Mean culmen/tarsus and bill depth/length ratios (taken according to Ridgway 1901) for selected forms of *Saltator* and *Pitylus*.

	n	culmen/ tarsus		n	depth/ length
<i>Saltator rufiventris</i>	1	0.65	<i>S. maximus</i>	10	0.89
<i>S. atricollis</i>	5	0.76	<i>S. atripennis</i>	4	0.94
<i>S. aurantiirostris</i>	10	0.82	<i>S. orenocensis</i>	1	0.94
<i>S. nigriceps</i>	3	0.85	<i>S. albicollis</i>	10	0.96
<i>S. cinctus</i>	9	0.85	<i>S. atriceps</i>	10	0.97
<i>S. similis</i>	10	0.86	<i>S. coerulescens</i>	12	0.97
<i>S. albicollis</i>	10	0.92	<i>S. nigriceps</i>	3	1.04
<i>S. coerulescens</i>	12	0.94	<i>S. similis</i>	10	1.07
<i>S. maximus</i>	10	0.95	<i>S. aurantiirostris</i>	10	1.13
<i>S. atripennis</i>	4	0.96	<i>S. atricollis</i>	5	1.21
<i>Pitylus grossus</i>	12	0.97	<i>P. fuliginosus</i>	2	1.23
<i>S. atriceps</i>	10	0.99	<i>P. grossus</i>	12	1.24
<i>P. fuliginosus</i>	2	1.00	<i>S. cinctus</i>	9	1.26

propensity for inhabiting mainly the impenetrable thickets of *Chusquea* bamboo its population numbers would be difficult to estimate. It does, however, have an extensive geographical range and should be looked for in the eastern Andes of northern Ecuador and southern Colombia, as well as in other areas on the east slope of the Andes in Peru. Whether it occurs south of the upper Huallaga River in central Peru is questionable, as the canyon of this river seems to be a major barrier to birds of the high elevations of the east-Peruvian Andes.

Certain plumage characteristics of *Saltator cinctus* are unique within the genus. Several species, including *cinctus*, have a white throat bordered below by a black pectoral band, but only in *cinctus* are the chin and upper throat also black. Also, no other congener has the same pattern of coloration in which the color of the flanks (gray) contrasts strikingly with that of the belly (white). Furthermore, *S. cinctus* is one of only two species in the genus which does not have any brown or buff in the plumage (the other is *S. albicollis*, to which *cinctus* otherwise shows no similarity). Finally, *S. cinctus* is also unique in having a strongly graduated tail, a feature mentioned by Zimmer (1943).

Zimmer, in describing *S. cinctus*, noted a resemblance to *Pitylus grossus* in sharing the dark bluish slate coloration of the upperparts. *Saltator cinctus* does not perfectly match this color, although the upperparts are more bluish than in any other *Saltator*. Zimmer nonetheless placed *cinctus* with the saltators, based on the absence of a tooth on the maxillary tomium and on tarsal length (longer than culmen measured from the base).

In view of the distinctive features of *cinctus*, which seem to set it apart from other saltators, and the at least superficial resemblance to *Pitylus*, we reviewed the characters that separate these two genera. Ridgway (1901) diagnosed *Pitylus* as having the maxillary tomium distinctly lobed or toothed (lobe not distinct, if present, in *Saltator*); the basal depth of the bill "decidedly greater" than the distance from the nostril to the tip of the maxilla (basal depth less than this distance in *Saltator*); and with the tarsus a little longer than the culmen from base ("decidedly shorter" in *Saltator*). We examined specimens of all species in the *Pitylus*-*Saltator* group except *S. maxillosus*, and found that these characters cannot reliably be used to separate these two genera. The culmen/tarsus ratios show a smooth gradation within this assemblage and clearly are not diagnostic (Table 2). Furthermore, several species of *Saltator* (e.g. *atricollis*, *aurantiirrostris*) approach *Pitylus* in the relative depth of the bill. The bill in *S. cinctus* is actually relatively deeper than the bill of either species of *Pitylus* (Table 2). (In this respect the bill of *Saltator cinctus* resembles the bill of *Catamblyrhynchus diadema*, another species associated with bamboo, but the condition in *Catamblyrhynchus* is extreme.) Most saltators lack the tooth on the maxillary tomium, but occasional individuals of some species (*S. aurantiirrostris*, *S. similis*) show a weakly developed tooth, and this character is probably sufficiently "plastic" evolutionarily that its use as a generic character is questionable.

Only two additional characters, not mentioned by Ridgway, can be used to characterize these two genera. One is sexual dimorphism, which is present in *Pitylus* but lacking in all species of *Saltator* except *S. maxillosus*. In addition, no species of *Pitylus* has white tips to the rectrices, but several species of *Saltator*, including *S. cinctus*, the species most similar to *Pitylus*, have white-tipped tail feathers.

Based on our findings, one might be tempted to combine *Pitylus* with *Saltator* in a single genus, but we feel such action would be premature. Hellack and Schnell (1977) in their phenetic analysis of skeletal and plumage characters of the Cardinalinae suggested that some *Saltator* did not belong in the genus.

These authors pointed out that Ridgway (1901) had also expressed reservations about the inclusion of some species currently classified in *Saltator*. There is only partial concordance, however, between the species that Ridgway (1901) and Hellack and Schnell (1977) considered incompatible within the genus. *Saltator* is the largest genus within the subfamily, and its very size and diversity may make it a tempting target for dismemberment.

Conceivably, one could segregate *S. cinctus* in a genus separate from both *Pitylus* and *Saltator* on the basis of the unique color pattern of the plumage and its deep bill. This is clearly an extreme view and one we do not necessarily advocate; we only wish to emphasize that, in our view, *S. cinctus* has no obvious close relative. The relationships of all species within the *Pitylus-Saltator* assemblage await further investigation.

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Is Displacement a Sign of Female Dominance or Only a Response to Close Following by Males Trying to Avoid Being Cuckolded?

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Frequent observation of females supplanting or displacing males from perches has led some ornithologists (e.g. Hinde 1955-56, Thompson 1960) to conclude that female passerines in species with high male parental care "dominate" their mates during breeding. Hinde explained female dominance as due to sexual differences in the schedule of seasonal changes in the relative strengths of what he hypothesized are opposing tendencies in birds toward aggression and sexual behavior. His explanation implicitly views behavior as merely a passive manifestation of physiological condition rather than as a means by which birds actively play the formal genetic game we call evolution.

By contrast, Brown (1975: 85) views dominance in functional evolutionary terms, arguing that "dominance" is more than just the result of successful aggression, that it is a social condition made adaptive by providing the successfully aggressive animal with access to some critical resource. Following Brown's reasoning, I believe it is inappropriate to conclude that females dominate males during the breeding season unless it can be shown that females thereby deprive males of valuable resources (such as food) for which they both compete. I have found no evidence of such deprivation in nine field seasons of study of Mountain Bluebirds (*Sialia currucoides*). Instead, I have discerned a pattern of male-female association that suggests that males' attempts to avoid being cuckolded inadvertently lead to females' aggressiveness. Cuckoldry can make a genetic slave (or altruist) of a male by compelling him to promote the spread of