

An annotated list of the birds of the Cerro Tamacuarí region, Serranía de Tapirapecó, Federal Territory of Amazonas, Venezuela

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The avifaunas of the major tablelands, or tepuis, of southern and eastern Venezuela and adjacent areas of Brazil and the Guianas are fairly well known. The history of collecting and aspects of the biogeography of these areas have been reviewed by Mayr & Phelps (1967). Nevertheless, smaller tepuis, ranges, and isolated remnants of the Guiana shield exist that have not received adequate attention due to their isolation, steepness, and restricted size (Dickerman & Phelps 1982, Barrowclough & Escalante-Pliego 1990). Some of these may ultimately prove of considerable interest in studies of biogeography because they may act as 'stepping-stones' between major tepuis; they may also be informative concerning species-area relationships.

During the winters of 1988 and 1989, the Fundación para el Desarrollo de las Ciencias Físicas, Matemáticas y Naturales (FUDECI) of Venezuela organized a series of two short expeditions to the areas of extreme southern Venezuela drained by the Mavaca and Siapa rivers. As part of those expeditions, members of the Ornithology Department of the American Museum of Natural History and of the Colección Ornitológica Phelps observed and collected birds for the periods 26-27 March 1988 and 21-25 January and 12-17 March 1989 in the vicinity of a camp at 1270 m on a ridge just north of Cerro Tamacuarí in the Serranía de Tapirapecó (1°13'N, 64°42'W). This range of eroded mountains comprises part of the border between Venezuela and Brazil and, prior to this expedition, had not been sampled by ornithologists. These areas in southern Amazonas remain quite remote from airfields, nor are they easily reached by river; our work and the length of our stay were dependent on the availability of helicopter support provided by the Venezuelan air force. These mountains were found to possess an avifauna that is more or less typical of the tepuis of southern and eastern Venezuela; consequently our observations provide new information concerning the distribution and biogeography of the biota of the pantepui. Some general details of the expedition have been reported elsewhere (de Bellard-Pietri 1989); here we present the ornithological results of the work at this locality.

The habitat at the Tamacuarí site consisted largely of relatively tall, moist forest in ravines and north-facing slopes with some open patches of grass with shrubs and bromeliads on ridges. Permanent streams (with small fish) were present in the ravines. Specimens were obtained using mistnets and shotguns between approximately 1100 and 1400 m. Cerro Tamacuarí, itself, is an exposed volcanic neck that reaches

2340 m, but is shear and without vegetation above approximately 1400 m.

Following is a list of birds seen or collected during our stay. The specimens are deposited in the collections of the American Museum of Natural History, New York, the Colección Ornitológica Phelps, Caracas, and the Museo de Biología, Universidad Central de Venezuela, Caracas. Our descriptions of gonad sizes follow the guidelines used by Willard *et al.* (1991). Specimens preserved in formalin were not sexed and so are not reported with regard to gonadal condition. An asterisk designates species considered primarily montane by most authors (e.g. Mayr & Phelps 1967, Meyer de Schauensee & Phelps 1978, Dickerman & Phelps 1982, Ridgely & Tudor 1989, 1994, Willard *et al.* 1991). The closest major tepuis to Cerro Tamacuarí are Cerro de la Neblina 150 km to the southwest and Duida 250 km to the northwest; in our species accounts, we compare our collections to the known avifaunas of those two tepuis as Tamacuarí provides a potential island of suitable habitat between those well known, much larger, localities. The stated presence or absence of a species at Duida or Neblina is based on the summaries of Chapman (1931), Phelps & Phelps (1958, 1963), and Willard *et al.* (1991).

Distribution

Of the approximately 100 upper elevation pantepui species of birds (Willard *et al.* 1991), only 29 were found at Tapirapecó during our short stay. However, as documented by Dickerman & Phelps (1982), because of complementary and restricted distributions, only a subset of these taxa are likely at any one tepui. A reasonable expected avifauna for southern Amazonas might be the 62 species known from Neblina. A series of broken ranges extend north and east from Cerro de la Neblina; the Serranía de Tapirapecó is one of these. It seems probable that at various times during the Pleistocene, vegetation levels were lower than at present and continuous subtropical habitat may have been extensive and connected these ranges. Consequently, a common avifauna may have been present throughout the highlands of southern Amazonas. Now, however, there is not continuous habitat connecting these ranges with each other and with Neblina; just west of our camp was a wide gulf a thousand metres deep between Tamacuarí and the adjacent mountains of the range. Thus, at present the habitat forms a 'stepping-stone' pattern of habitat patches, and birds that are reluctant to fly across several kilometres of unsuitable habitat must have relatively small, isolated populations on these ranges. For example, it seems unlikely that a montane antpitta such as *Myrmothera simplex* would disperse across such a gulf, whereas a montane pigeon like *Columba fasciata* might well do so. Consequently, some taxa that are widespread in the pantepui might not be present at Tamacuarí due to extinction, facilitated by small population sizes in the limited habitat, combined with a lack of sufficient dispersal capability to reoccupy the range. For other taxa, such as *Zonotrichia capensis*, there appears to be insufficient open habitat. Finally, although the documentation of species occurrences for these smaller tepuis is quite important, our

sampling, with only 163 specimens and a few additional sight records, is too limited to draw conclusions about numbers of species. If anything, our results raise doubts about the adequacy of sampling at even the best known tepuis.

One upper elevation species collected at Tamacuari, *Chlorophonia cyanea*, is known from Duida but not Neblina. The absence of this species from the latter, in spite of its presence at Tamacuari, would be surprising; but the lack of any record may simply reflect a continuing absence of adequate work at mid-elevations at Neblina. An additional six species collected at Tamacuari are known from Neblina but not Duida. Some of these may actually be absent from that tepui; for example, *Rupicola* seems generally not to be present north of the Orinoco. Over a thousand specimens are available from Duida: the collecting there has not been limited. Nevertheless, mistnets were not used in early expeditions to the tepuis; further fieldwork is indicated before analyses such as that of Cook (1974) can be assumed to be free of a substantial component of sampling error.

Annual cycle

For males, most species of permanent residents were noted to have moderate or large testes. However, in the Neotropics, it is not unusual for males to be in breeding condition through much of the year (Foster 1975); female data may be more informative. For those resident species for which we had female specimens, 15 of 21 (71%) species had moderate to large ova and ovaries. At Cerro de la Neblina, Willard *et al.* (1991) reported large gonads in females of many species from November through mid-February, followed by a rapid reduction in breeding status in late February and March. Our data are generally consistent with that pattern.

Specimens of 14 of 31 (45%) permanent resident species were noted to have wing or tail moult. For Cerro de la Neblina, Willard *et al.* (1991) noted a pattern in montane species that included a peak of wing/tail moult in November and December followed by a decline in frequency until it reached zero in May.

Our field work in March occurred at the very beginning of the rainy season, following the November to March relatively dry season. As with the results from Neblina, our data are consistent with a pattern of breeding occurring during this dry season, overlapping with (e.g. Foster 1975) or followed by moult before or at the beginning of the wet season. This generalization does not, of course, necessarily apply to every species; many more data and temporal sampling are needed to investigate such patterns.

Species accounts

LITTLE CHACHALACA *Ortalis motmot*

This species was heard calling daily at dawn on brushy hillsides near camp. One male specimen was taken; it had large testes and was in wing and body moult. This species occurs over a wide elevational and

geographical range in Amazonia; but has not been noted at either Duida or Neblina.

***BAND-TAILED PIGEON** *Columba fasciata*

This species was commonly seen as single birds and in small flocks. One male specimen had large testes and was in light body moult. The species has a wide distribution in North, Central, and South America, and is known from both Neblina and Duida.

WHITE-COLLARD SWIFT *Streptoprocne zonaris*

This species was commonly seen in flocks of dozens of birds.

***TEPUI SWIFT** *Cypseloides phelpsi*

This tepui endemic was commonly seen, sometimes in mixed flocks with *Streptoprocne*. It is known from both Duida and Neblina.

***BLUE-FRONTED LANCEBILL** *Doryfera johannae*

A single male specimen was collected; it had small testes and was in light body moult. The species is widespread throughout the pantepui, is known from Neblina and Duida, and also occurs in the Andes; it is usually found at lower elevations than this (e.g. Willard *et al.* 1990).

***GREY-CHINNED HERMIT** *Phaethornis griseogularis*

A single female, with a large ovary, was collected. In the pantepui, this species apparently is only known from Neblina and Roraima; it also occurs in the central and northern Andes.

***SPARKLING VIOLETEAR** *Colibri coruscans*

One female specimen with a small ovary and in wing moult was collected. It is known from the better sampled tepuis, including Neblina and Duida; elsewhere it occurs in the Andes from Colombia to Argentina.

***BUFF-BREASTED SABREWING** *Campylopterus duidae*

This species was abundant; it is endemic to the pantepui and is found on most tepuis west of the Río Caroní, including Duida and Neblina. Of five male specimens examined, all had large testes; three of four female specimens had enlarged ovaries. Half of the specimens were in wing or tail moult.

WHITE-NECKED JACOBIN *Florisuga mellivora*

Two specimens were collected: a male with moderately enlarged testes and a female with enlarged ovary; neither of these was in moult. This species has a wide elevational and geographical range.

***GREEN-BILLED HUMMINGBIRD** *Amazilia viridigaster*

This species was common at Tamacuari. Three male specimens all had small testes; two females had moderately enlarged ovaries. Three of the five birds were in wing moult, one was in body moult. The birds from this population have been described as an endemic subspecies,

A. v. laireti, by Phelps & Avelledo-Hostos (1988). The species occurs at tropical and subtropical elevations patchily in the pantepui, including Duida and Neblina, and in the northern Andes.

***VELVET-BROWED BRILLIANT** *Heliodoxa xanthogonys*

This widespread pantepui endemic was found to be common. It is known from Neblina and Duida. Three of four male specimens had enlarged testes; a single female specimen had a large ovary. Two specimens were in light body moult.

***MASKED TROGON** *Trogon personatus*

This species was found in moist forest in ravines; it is widespread in the pantepui and Andes and occurs at Neblina and Duida. Two male specimens had small testes; one was in body and one in wing moult.

BLACK-SPOTTED BARBET *Capito niger*

This species has a wide elevational range. Three specimens were collected; two males had large or moderate-sized testes, respectively; a female had a small ovary. None was in moult, but all had fresh plumage.

***CHESTNUT-TIPPED TOUCANET** *Aulacorhynchus derbianus*

This species was seen occasionally. It is known from Neblina, Duida, and most other tepuis; it is also present on the eastern slopes of the Andes. Specimens of both sexes had small gonads; none was in moult, but all were in fresh plumage.

***GOLDEN-OLIVE WOODPECKER** *Piculus rubiginosus*

This species is widespread in the pantepui; it occurs on both Cerros Duida and Neblina. We treat it as a montane species, but it occurs at sea level in parts of its range outside the pantepui. Two female specimens were collected, both with enlarged ovaries; neither was in moult.

WEDGE-BILLED WOODCREEPER *Glyphorhynchus spirurus*

A single female, with yolking egg and no moult, was taken in a net in dense forest; it was our only record of this lowland species.

***DUSKY SPINETAIL** *Synallaxis macconnelli*

Following Vaurie (1980) and Ridgely & Tudor (1994), we treat the tepui birds as a separate species. The same taxon apparently also occurs at low elevations in the Guianas. The species has a patchy geographical distribution in the pantepui: a single specimen is known from Cerro de la Neblina, and the bird is unknown from Duida. We commonly heard these birds in brushy thickets. Three male specimens had moderate to large testes; one had wing moult, one body moult, and one had no moult.

***PLAIN ANTVIREO** *Dysithamnus mentalis*

Two specimens were taken; one female had a small ovary and body moult; an unsexed anatomical specimen had no moult. The species is

widespread in the pantepui, known from Neblina but not Duida, and elsewhere occurs from Mexico to Paraguay and Argentina.

***TEPUI ANTPITTA** *Myrmothera simplex*

This species was commonly heard calling in forest. One male specimen had moderately enlarged testes and was in body moult. This is a pantepui endemic and is known from all the major tepuis, including Duida and Neblina. We agree with Ridgely & Tudor (1994) that Tepui Antpitta is a better English name for this species than Brown-breasted Antpitta.

***GUIANAN COCK-OF-THE-ROCK** *Rupicola rupicola*

This lekking species was commonly seen and heard. Two specimens were collected; one male had large testes and no moult; one female had a large ovary and no moult. The species is geographically widespread in the tepuis and Guianas; it occurs at Cerro Neblina, but is not recorded from Duida.

***SIERRAN ELAENIA** *Elaenia pallatangae*

This common species is widespread in the pantepui, including both Neblina and Duida; elsewhere it is found in the Andes south to Bolivia. Four male specimens had moderate to large testes and a single female had a small ovary; two of the specimens were in wing moult and another two were in body moult.

***MCCONNELL'S FLYCATCHER** *Mionectes macconnelli*

Two females were collected; both had large ovaries, neither was in moult. The species is widespread in the pantepui and is known from both Neblina and Duida; elsewhere it is found in the lowlands of the Guianas, northern Brazil, and western Amazonia.

***BLUE AND WHITE SWALLOW** *Notiochelidon cyanoleuca*

This species was seen on several occasions. It is a widespread breeding bird in temperate and sub-tropical regions of South America and is known from all the tepuis; these February birds could be either residents or Austral migrants.

BARN SWALLOW *Hirundo rustica*

A single specimen of this migrant was taken.

***FLUTIST WREN** *Microcerculus ustulatus*

This species commonly was heard in the dense understory of forested ravines; it is a widespread pantepui endemic known from Neblina and Duida. Two males had moderate-sized testes and no moult; one unsexed specimen was in wing moult.

***PALE-EYED THRUSH** *Platycichla leucops*

This species was common. It is known from Neblina but not Duida; elsewhere it is patchily distributed in the pantepui and at subtropical

elevations in the Andes. Three males had enlarged testes; none was in moult.

***BLACK-HOODED THRUSH** *Turdus olivater*

This species was common; it occurs at upper elevations throughout the pantepui, including Neblina and Duida, and at scattered localities in the Venezuelan and Colombian Andes. Eight males had moderate to large testes; four females had moderate to large ovaries and one of these had an egg in oviduct. One male was in tail moult; the other specimens were not in moult.

***BLACK-BILLED THRUSH** *Turdus ignobilis*

This thrush was also common; it is known from most tepuis, including Neblina and Duida. We treat it as a montane species, following Willard *et al.* (1990); however, elsewhere in South America it occurs in lowland forest (e.g. Meyer de Schauensee & Phelps 1978, Ridgely & Tudor 1994). Three males and three females had enlarged gonads; two specimens were in tail and body moult, one was in body moult only; the others were in fresh plumage.

BLACKBURNIAN WARBLER *Dendroica fusca*

A single male was our only record of this migrant from North America; it is widespread as a wintering bird at higher elevations in the pantepui and Andes.

AMERICAN REDSTART *Setophaga ruticilla*

This species, also a migrant from North America, was common to abundant in brushy habitat. Three specimens were taken.

***SLATE-THROATED REDSTART** *Myioborus miniatus*

A male, netted in dense forest, had large testes and no moult. The species is widespread at subtropical elevations in the pantepui, including Cerros de la Neblina and Duida; elsewhere it occurs from Mexico to the central Andes.

***TWO-BANDED WARBLER** *Basileuterus bivittatus*

This species was occasionally seen in the understory of tall forest. Geographically, it is widespread at mid-elevations in the pantepui, is known from Neblina and Duida, and also occurs in the Andes of southern Peru, Bolivia, and northern Argentina. One male had small testes; two females had moderately enlarged ovaries. One specimen was in wing and body moult and a second was in body moult only.

***SCALED FLOWER-PIERCER** *Diglossa duidae*

This species was seen on several occasions. A male specimen had large testes and was in body moult. The species is known from most of the western tepuis, including Duida and Neblina.

***SPECKLED TANAGER** *Tangara guttata*

This species was common in taller brush and thickets. It is widespread in the tepuis, occurring at Neblina but not Duida;

elsewhere it occurs in the northern Andes. Two male and three female specimens had moderate-to-large gonads; three additional males had reduced testes. Three specimens were in body moult.

***BLUE-NAPED CHLOROPHONIA** *Chlorophonia cyanea*

This species was common in low canopy and brush. It is widespread in the pantepui, including Cerro Duida, but has not been seen or taken at Neblina; elsewhere it has a wide geographical distribution at subtropical elevations in South America. Four males had moderate to large testes; four females had large ovaries. One female from January was in wing moult; four additional specimens from January were in worn plumage while two from March were in fresh plumage.

***HEPATIC TANAGER** *Piranga flava*

A single male was taken of the resident pantepui form *haemalea*. It had small testes and was in tail moult. The species is known from both Duida and Neblina.

SUMMER TANAGER *Piranga rubra*

A single male was collected of this migrant from North America.

RED-SHOULDERED TANAGER *Tachyphonus phoenicius*

This species was seen in low scrub on several occasions. Two males had moderately enlarged testes; a female had a small ovary; none was in moult.

***TEPUI BRUSH-FINCH** *Atlapetes personatus*

This abundant species is a widespread pantepui endemic, known from Cerro de la Neblina and Duida. Seven male and five female specimens all had enlarged gonads; one female was in tail moult, and a second female in body moult. The population at Tamacuari belongs to the *duidae* group of subspecies (Barrowclough, unpubl. data.).

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