

Ornithological surveys in Serranía de los Churumbelos, southern Colombia

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Se realizó un inventario de la comunidad de aves de la Serranía de los Churumbelos, Cauca (Colombia), en el marco de dos expediciones Anglo-Colombianas, durante julio y agosto de 1998 y julio de 1999. Se muestrearon siete localidades entre los 350 y 2,500 m, en las que se registraron 421 especies. Presentamos un resumen de las especies más destacadas para cada sitio, incluyendo los reportes más significativos de extensión de distribución. Los resultados indican fuertemente que la Serranía de los Churumbelos debe ser una prioridad para la conservación en Colombia, en tanto que estamos trabajando junto a las autoridades ambientales locales para establecer mecanismos que permitan la protección del macizo.

During 14 July–17 August 1998 and 3–22 July 1999, ornithological surveys were undertaken in Serranía de los Churumbelos, Department of Cauca, by two

Anglo-Colombian conservation expeditions—'Colombia '98' and the 'Colombian EBA Project'. Seven study sites were investigated using non-systematic observations and standardised mist-netting techniques by the three authors, with Dan Davison and Liliana Dávalos in 1998. Each study site was situated along an altitudinal transect at c.300 m-elevational steps, from 350–2,500 m on the Amazonian slope of the Serranía. Our principal aim was to allow comparisons to be made between sites and with other biological groups (mammals, herptiles, insects and plants), and, incorporating geographical and anthropological information, to produce a conservation assessment of the region (full results in Salaman *et al.*⁴). A sizeable part of eastern Cauca—the Bota Caucana—including the 80 km-long Serranía de los Churumbelos had never been subject to faunal surveys.

The Churumbelos massif of southern Colombia encompasses c.50,000 ha of primary forest, a pristine wilderness that rises from the Amazon basin to over 3,000 m. It forms the southernmost spur of the 1,200 km-long Cordillera Oriental or East Andes (Fig. 1). The Churumbelos mountains have a remarkable geology of sedimentary sequences which form several large 'mesetas' (table mountains).

We recorded a total of 421 bird species during the 44 days of fieldwork, including two Threatened and nine Near-threatened species. Over 100 notable new distributional and altitudinal extensions were recorded and will be published in detail in forthcoming papers and the final report⁴. At sites from 350–1,450 m. elevation, six EBA (Endemic Bird Area) species were recorded⁷. Most originated from the Ecuador–Peru East Andes EBA (044) suggesting a northerly range extension of that EBA⁴. Above 1,600 m, all four endemics recorded originated from the Colombian Inter-Andean Slopes EBA (040).

For each of the seven Study Sites (SS) in the Serranía de los

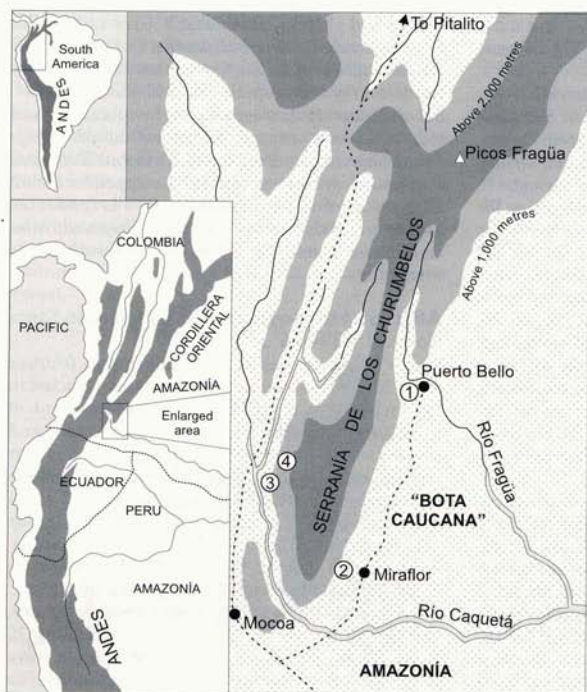


Figure 1: Map of Serranía de los Churumbelos, southern Colombia.

Churumbelos, we have provided a brief summary of the location and habitat, followed by a description of the avifauna, with the principal elements described and attention drawn to poorly known and rare species.

Puerto Bello (SS1), Municipio Piamonte,
01°08'N 76°16'W; 350 m

A 26 km-road has been constructed within the last five years through lowland humid forest beside the steep eastern wall of the Serranía, from the Río Caquetá to Puerto Bello on the banks of the Río Fragua. A 1,200 m-transect was established, 300 m west of Puerto Bello, leading from the forest edge through a transition from tall selectively logged secondary forest to primary forest with a canopy level of c.30 m.

SS1 was the most diverse site for birds, which was reflected in other groups such as bats and herptiles. A total of 165 species was recorded, but when non-forest species are excluded, a total of 120 forest-dependent species is comparable with that of other study sites. The site was characterised by a wide diversity of Ramphastidae (six species), Thamnophilidae (12 species) and Pipridae (seven species). In almost all groups, birds were representative of an Amazonian avifauna, with Andean Solitaire *Myadestes ralloides* the most notable exception, representing a significant downslope elevational extension.

Lined Forest-falcon *Micrastur gilvicollis* was regularly heard in dawn surveys (and at SS2), but was replaced at SS3 and SS4 by Barred Forest-falcon *M. ruficollis*. The elusive Cinnamon Tyrant *Neopipo (Myiophobus) cinnamomea* was caught in primary forest, only the second known location for the species in Colombia. Other rare species with a poorly known distribution recorded here included Gould's Jewelfront *Heliodoxa aurescens*, White-shouldered Antshrike *Thamnophilus aethiops* and Swainson's Flycatcher *Myiarchus swainsoni*. No threatened or endemic species were registered, but, nonetheless, the site is of much interest with several poorly known species, several range extensions and a probable new species of *Myrmeciza* antbird.

Río Nabueno (SS2), Municipio Piamonte,
01°06'N 76°24'W; 700 m

From the town of Miraflores, 14 km south-west of SS1, a trail follows the Río Nabueno for 4 km as the Churumbelos climbs steeply to over 1,500 m from the Amazonian plains. The steep terrain has largely deterred human activity, and an extensive tract of tropical foothill and premontane (subtropical) humid forest exists on the eastern flank of the Serranía. Hunting apart, the study site encompassed pristine forest, characteristic of lower premontane humid forest, despite the low elevation, with a vegetation physiognomy influenced by high

levels of rainfall (estimated at c.4,000 mm). The steep terrain and ridge-top effects resulted in reduced canopy level (c.20 m) and high understory vegetation density.

Of the 137 species recorded, 37 were not recorded at other study sites. Mist-netting proved immensely successful with 85 species caught. Thamnophilidae (11 species) and Pipridae (eight species) continued to dominate, although more species of Thraupidae (12 species) were recorded than at SS1. Hummingbird diversity and abundance appeared to be much increased on the basis of mist-net captures. The site was also most notable with 16 elevational range extensions, largely new high records of Amazonian species.

Two Near-threatened species were recorded: Lanceolated Monklet *Micromonacha lanceolata* and Pink-throated Brilliant *Heliodoxa gularis*. *H. gularis* is known in Colombia from just one specimen, collected in 1971 in Putumayo⁹ and was found to be sympatric with Black-throated Brilliant *H. schreibersii*. Band-bellied Owl *Pulsatrix melanota* was previously known in Colombia from one specimen of undetermined location or date⁹ and a recent sight record by PGWS. Individuals and pairs were regularly heard and tape-recorded in primary forest at SS2 and SS3, with one adult caught and photographed at SS2. Grey-tailed Piha *Lipaugus subularis* is well-known in Ecuador, but a recent addition to the Colombian list, following the discovery of two specimens taken in the 1960s⁹. Several individuals were seen in the subcanopy and four birds were trapped. Additional notable range extensions include Buff-tailed Sicklebill *Eutoxeres condamini* (sympatric with White-tipped Sicklebill *E. aquila*), Striped Treehunter *Thripadectes holosticus*, Hairy-crested Antbird *Rhegmatorhina melanosticta* and Olive Tanager *Chlorothraupis carmioli*.

Alto Río Hornoyaco (SS3), Municipio Santa Rosa,
01°13'N 76°31'W; 1,100 m

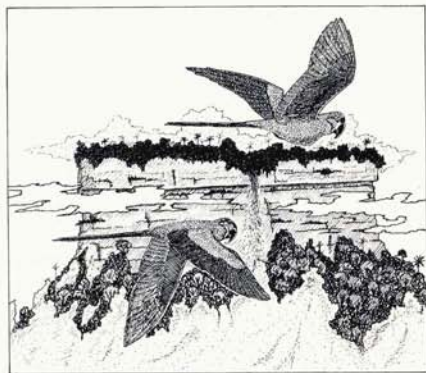
A new highway linking the Amazonian frontier town, Mocoa, directly to Bogotá was constructed in the early 1990s. It cuts across the western flank of the Serranía and has facilitated colonisation and associated deforestation. Following helicopter reconnaissance, a 10 km-trail was followed from the highway bridge over the Río Caquetá to the base of the topographically unique table mountains or 'mesetas', 18 km north of SS2. This premontane, very humid forest was similar in floristic composition and stratification to montane forest.

A total of 114 species was recorded here, principally Andean in composition, including 15 Thraupidae. Two Near-threatened species were recorded: Ecuadorian Piedtail *Phlogophilus hemileucurus* (previously known in Colombia from just one location in Putumayo⁹) and Fiery-throated

Fruiteater *Pipreola chlorolepidota*. Napo Sabrewing *Campylopterus villaviscensio*, caught several times here and at SS4, was unknown in Colombia prior to 1998⁵. A Scaled Piculet *Picumnus squamulatus*, a species typically restricted to dry open woodland in the Orinoco basin³, was captured in an isolated patch of secondary growth within a vast forest wilderness at SS3, representing a significant range extension. Foothill Antwren *Myrmotherula spodiopoda*—with observations and 10 mist-net captures in both primary and secondary forest at SS3—was previously known only from sight records in Colombia⁶. Blue-rumped Manakin *Pipra isidorei*—with a total of 27 mist-net captures at SS1–3 (of which 20 were at SS3)—was previously known from just one Colombian record³. Among other significant distributional records at this site, Golden-winged Tody-flycatcher *Todirostrum calopteryx* is an Upper Amazon / Napo lowlands EBA 066 endemic. Colombia's first individual of the nominate subspecies of Orange-crested Flycatcher *Myiophobus p. phoenicomitra* was photographed. A pair of White-winged Tanagers *Piranga leucoptera* observed on the forest edge represents the first east slope record for Colombia.

Villa Iguala (SS4), Municipio Santa Rosa, 01°14'N 76°31'W; 1,450 m

Following a newly cut trail from the clearing at SS3, a large plateau was surveyed at 1,450 m, located 2 km north of SS3 between two 'mesetas'. A transect was cut to the base of the largest 'meseta', Alto Cagadero (1,600 m), which we ascended and studied briefly. The character and composition of SS4 were remarkable in containing many elements typical of a forest over 600 m higher in altitude. A very high abundance and diversity of arboreal and terrestrial epiphytes, and a low canopy level (c.12 m) characterise the forests as montane humid (cloud) forest.



Military Macaws *Ara militaris* (Paul G. W. Salaman)

A total of 106 species was recorded here. The avifauna was almost entirely Andean in composition, with, e.g. just four Formicariidae, but 16 Thraupidae. There were some notable exceptions. For example, Golden-headed Manakin *Pipra erythrocephala* was recorded at its highest known elevation to date.

One threatened species—Military Macaw *Ara militaris*, considered Vulnerable¹—was observed daily in flocks of up to 12 birds around the 'mesetas', at SS3 and SS4 from 4–17 August 1998. Their considerable activity, particularly in forests adjacent to the large limestone cliffs of Alto Cagadero, suggests that the Churumbelos are an important area for the species. Yellow-throated Tanager *Iridosornis analis*, a recent addition to the Colombian list, was observed several times in the forest canopy. Other highlights included White-tipped Swift *Aeronautes montivagus*, Lyre-tailed Nightjar *Uropsalis lyra*, Rufous-vented Whitetip *Urosticte ruficrisa*, Violet-fronted Brilliant *Heliodoxa leadbeateri*, Black-billed Treehunter *Thripadectes melanorhynchus*, Rufous-tailed Tyrant *Knipolegus poecilurus* and Vermilion Tanager *Calochaetes coccineus*.

Nabú (SS5), Municipio Santa Rosa, 01°36'N 76°16'W; 1,900 m

From La Petrolera at km 90 along the Mocoa-Pitalito road, a trail crosses the Río Villalobos and provides access to the north-west edge of the Serranía. A transect was studied through primary lower montane humid forest characterised by a canopy level of c.20–25 m with a high abundance of white oak (*Quercus* spp.), a dense understorey (10–12 m high) and dense arboreal epiphytes.

A total of 109 species was recorded, with Thraupidae (14 species) predictably diverse, but with surprisingly high diversity in Tyrannidae (16 species) and Furnariidae (10 species). Two individuals of the Vulnerable¹ Hooded Antpitta *Grallariola cucullata* were captured and photographed at this site. Other poorly known species and important range extensions included Red-billed Parrot *Pionus sordidus*, Spectacled Prickletail *Siptornis striatocollis*, Scalloped Anthrush *Chamaeza turdina* and White-capped Tanager *Sericossypha albocristata*.

Tatauí (SS6), Municipio Santa Rosa, 01°37'N 76°16'W; 2,200 m

The same ridge of SS5 was ascended a further 2 km to a flat ridge line at 2,250 m. The stunted physiognomy of SS6 was similar to montane very humid (cloud) elfin forest, influenced by perpetual mists and strong lateral winds. The physiognomy is characterised by a dense low understorey (c.3 m high) dominated by terrestrial bromeliads and mosses and a canopy level of c.7 m.

A significantly reduced avian richness was recorded (59 species), with few arboreal insectivores e.g. Furnariidae and Dendrocolaptidae. However, the ridge-top physiognomy facilitated improved canopy observations, and an greater number of supercanopy species, e.g. Psittacidae and Accipiteridae, were recorded. Nectarivorous birds were encouraged by the high density of flowering bromeliads, with hummingbirds the most dominant family. *Diglossa* flowerpiercers (four species) dominated mixed-species foraging flocks.

The Near-threatened Black-and-chestnut Eagle *Oroaetus isidori* was observed soaring over the forest. Other notable range extensions included Andean Potoo *Nyctibius maculosus* and Flammulated Treehunter *Thripadectes flammulatus*. A male Purple Honeycreeper observed foraging on bromeliads on an exposed summit peak at 2,300 m represents a substantial elevation extension from 1,400 m³.

El Dorón (SS7), Municipio Santa Rosa, 01°40'N 76°14'W; 2500 m

Situated on the Cauca / Huila department border, SS7 was located above two telecommunication towers at km 100 along the Mocoa-Pitalito road, where a ridge formed the watershed of the Río Villalobos and tributaries of the Río Magdalena. A transect was established from an abandoned military installation through primary montane humid (cloud) forest with some signs of selective logging. The forest physiognomy was dominated by stunted white oak (*Quercus* spp.) to 15–20 m in height with large canopy epiphyte burdens, and an understorey to 10 m dominated by flowering Ericaceae, epiphytes and bushes.

A total of 112 species was recorded, despite observations being hampered by several days of military-guerrilla combat at 10 km distance. Trochilidae were extremely abundant and diverse with 15 species recorded, including the poorly known Gorgeted Woodstar *Acestrura heliodor* and Rufous-vented Whitetip *Urostitte ruficrissa*, endemic to EBA 044.

Three Galliformes, especially vulnerable to human settlement, were recorded: Wattled Guan *Aburria aburri* (Near-threatened), Chestnut Wood-quail *Odontophorus hyperythrus* (Near-threatened), and Sickle-winged Guan *Chamaepetes goudotii*. Dusky-headed Brush-finch *Atlapetes fuscolivaceus* (Near-threatened) was observed briefly on several occasions in scrub growth around the communication installations, in mixed-species foraging flocks. Other interesting range extensions included Ashy-tailed Swift *Chaetura andrei*, Stygian Owl *Asio stygius* and Ocellated Tapaculo *Acropternis orthonyx*.

Our ornithological assessment provides the first insight into avifaunal altitudinal distribution

patterns at the Amazonian / Andean interface in Colombia. While far from complete, this study will serve as a benchmark from which future, more detailed, surveys can be launched. Full details and analysis of the ornithological surveys, and other taxa as well as a general conservation assessment, will appear elsewhere⁴ and can be viewed on the Internet: <http://www.proaxis.com/~salaman>.

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Appendix 1: Systematic inventory of all birds recorded in Serranía de los Churumbelos.

Taxonomy and nomenclature largely follows Stotz *et al.*?. Sequence follows Hilty & Brown¹.

Key: Species observed / caught at each site:

- | | | | |
|---|---|---|-------------------------------------|
| 1 | Study Site 1; Puerto Bello, 300 m | 2 | Study Site 2; Rio Nabueno, 700 m |
| 3 | Study Site 3; Alto Rio Hornoyaco, 1,100 m | 4 | Study Site 4; Villa Iguaña, 1,450 m |
| 5 | Study Site 5; Nabú, 1,900 m | 6 | Study Site 6; Tataui, 2,200 m |
| 7 | Study Site 7; El Doron, 2,500 m | | |

Species	1	2	3	4	5	6	7
Great Tinamou <i>Tinamus major</i>	x						
Little Tinamou <i>Crypturellus soui</i>	x	x					
Undulated Tinamou <i>Crypturellus undulatus</i>	x						
Snowy Egret <i>Egretta thula</i>		x					
Turkey Vulture <i>Cathartes aura</i>	x	x					
Greater Yellow-headed Vulture <i>Cathartes melambrotus</i>		x	x	x			
Black Vulture <i>Coragyps atratus</i>	x	x	x		x	x	x
Osprey <i>Pandion haliaetus</i>	x						
American Swallow-tailed Kite <i>Elanoides forficatus</i>	x		x	x	x		
White-tailed Kite <i>Elanus leucurus</i>	x						
Plumbeous Kite <i>Ictinia plumbea</i>	x			x		x	x
Sharp-shinned Hawk <i>Accipiter striatus</i>					1		
Tiny Hawk <i>Accipiter superciliosus</i>		1					
Roadside Hawk <i>Buteo magnirostris</i>	x		x		x	x	x
Black Hawk-eagle <i>Spizaetus tyrannus</i>		x					
Black-and-chestnut Eagle <i>Oraetus isidori</i>						x	
Laughing Falcon <i>Herpetotheres cachinnans</i>	x	x					x
Barred Forest-falcon <i>Micrastur ruficollis</i>			1	x			
Lined Forest-falcon <i>Micrastur gilvicollis</i>	x	1					
Collared Forest-falcon <i>Micrastur semitorquatus</i>		x					
Wattled Guan <i>Aburria aburri</i>							x
Sickle-winged Guan <i>Chamaepetes goudotii</i>							1
Marbled Wood-quail <i>Odontophorus gujanensis</i>	x	2					
Chestnut Wood-quail <i>Odontophorus hyperythrus</i>					x		x
Grey-necked Wood-rail <i>Aramides cajanea</i>	x						x
Purple Gallinule <i>Porphyrio martinica</i>	x						
Wattled Jacana <i>Jacana jacana</i>	x						
Band-tailed Pigeon <i>Columba fasciata</i>						x	x
Pale-vented Pigeon <i>Columba cayennensis</i>		x					
Ruddy Pigeon <i>Columba subvinacea</i>				x	x		x
Ruddy Ground-dove <i>Columbina talpacoti</i>	x						
Ruddy Quail-dove <i>Geotrygon montana</i>	1	6					
White-throated Quail-dove <i>Geotrygon frenata</i>			4		x		
Military Macaw <i>Ara militaris</i>			x	x			
Dusky-headed Parakeet <i>Aratinga weddellii</i>	x						
Maroon-tailed Parakeet <i>Pyrhura melanura</i>	x	x			x		
Barred Parakeet <i>Bolborhynchus lineola</i>						x	x
Blue-headed Parrot <i>Pionus menstruus</i>	x						
Red-billed Parrot <i>Pionus sordidus</i>					x	x	x
Scaly-naped Parrot <i>Amazona mercenaria</i>						x	x
Mealy Parrot <i>Amazona farinosa</i>	x		x				
Squirrel Cuckoo <i>Piaya cayana</i>	x	x	x		x		x

