

Observations from the Tumbes Reserved Zone, dpto. Tumbes, with notes on some new taxa for Peru and a checklist of the area

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La Reserva de Biosfera Noreste es una de las unidades de conservación más importantes del Perú. En este artículo se presentan nuevos datos de la Zona Reservada de Tumbes, principalmente sobre la base de observaciones hechas entre el 6–16 de abril de 2000. También se usan como referencias otras visitas (en diciembre de 1988, mayo de 1996, junio de 1999 y enero de 2001), y la bibliografía existente. Se presentan datos sobre especies nuevas para el Perú, y la primera documentación para otras—*Penelope purpurascens*, *Leptotila pallida*, *Pteroglossus erythrogygius*, *Picumnus olivaceus*, *Thamnophilus atrinucha* y *Tangara icterocephala*—y se discuten asuntos de conservación. Se hacen recomendaciones para continuar con la protección de los bosques y se hacen comparaciones con el territorio vecino ecuatoriano, fuertemente alterado. En un apéndice se presenta una lista completa de las especies de aves registradas para la zona reservada.

Introduction

The Northwest Biosphere Reserve of Peru covers 231,402 ha and comprises the contiguous conservation units of Tumbes Reserved Zone, formerly known as Tumbes National Forest but now elevated to reserved zone status (75,103 ha), Cerros de Amotape National Park (91,300 ha) and El Angulo Hunting Preserve (65,000 ha). The importance and significance of these conservation units has long been recognised. Here I add to existing avifaunal knowledge (including the first records for Peru of Crested Guan *Penelope purpurascens*, Pallid Dove *Leptotila pallida*, Pale-mandibled Aracari *Pteroglossus erythrogygius*, Western Slaty-antshrike *Thamnophilus atrinucha*, Pale-vented Thrush *Turdus obsoletus* and Silver-throated Tanager *Tangara icterocephala*) with data principally obtained from field work in Tumbes Reserved Zone (TRZ) on 6–16 April 2000, with camps at Quebrada Faical at 450 m (three nights), Pozo del Pato at 820 m (two nights), El Cruce at 950 m (two nights) and Campo Verde at 820 m (three nights). BW and David Michael (DM), with Aurelio Huaman, Alan Fejos and Vladimir Jara, made observations and recorded vocalisations during this 11-day period. A subsequent trip by BW and Kevin J. Zimmer (KJZ) in January 2001 produced some new data on species that were presumably overlooked on previous visits because they were not vocalising.

The most complete publication on this area is Parker *et al.*³. Data presented here are compared to those in the latter. In the checklist I mention certain records by other observers of species not recorded by Parker *et al.*, myself, and DM or KJZ, some of which are of importance. In particular I cite some observations made by Mark Whiffin (MW), of Manchester Metropolitan University, in April–May 2000. I have not included unconfirmed records that I feel require clarification, but many species that reach as far south as dpto. El Oro, Ecuador, could yet be recorded in Peru. Information concerning

some of the new and confirmed records for Peru were mentioned, in brief, by Clements & Shany², but full details have not previously appeared in the literature.

Conservation

Parker *et al.*³ cover in detail the conservation issues facing the area. My observations and conversations with people in the TRZ revealed some changes. One of the most important events that has influenced conservation issues in the TRZ was the peace accord between Peru and Ecuador, signed in October 1998. This momentous event has had both positive and negative effects.

Parker *et al.*³ stated that Rufous-headed Chachalaca *Ortalis erythroptera* was 'inexplicably scarce'. This was not my experience. Many groups were heard, and several seen, on various days, mostly in wetter forest around El Cruce, the trail to Figueroa and the Campo Verde area. Additionally I heard reports of, and observed well on one occasion, Crested Guan, which was calling from the same area the following day at dawn. Local people admit that hunting has declined by 95% because of the withdrawal of Peruvian troops as a result of the Peru/Ecuador peace accord. Before this agreement, large numbers of troops were based at El Caucho near Quebrada Faical, Campo Verde and Cotrina. Rations supplied were basic, in many cases insufficient, and hunting was the norm to supplement diet. As a result, 'game' such as Rufous-headed Chachalaca and Crested Guan, along with Mantled Howler Monkey *Alouatta palliata* and White-fronted Capuchin *Cebus albifrons*, Red-brocket Deer *Mazama americana*, White-tailed Deer *Odocoileus virginianus* and Collared Peccary *Tayassu tajacu*, was hunted extensively and extirpated locally in many areas. Even now guans, howler monkeys, deer and peccaries are mostly restricted to deeper, more inaccessible valleys, and these species seldom approach ridge-top trails. All

indications, however, are that wildlife is returning as a result of the reduction in hunting. The former military posts are now manned by two Peruvian border police at each post. They freely admit to hunting to supplement their diet and have established small trails that enter the valleys to facilitate this. They complain that it is necessary because supplies are so basic that, without hunting, it would be impossible to live on the rations provided (most do not admit that they actually enjoy hunting, which is evidently the case, providing relief from what is a rather tedious tour of duty).

Peruvians and Ecuadorians freely cross the border in small numbers, at present mostly a one-way traffic of Ecuadorians entering Peru with the permission of Peruvian border police. They mostly enter to re-supply Peruvian police posts, as access from Ecuadorian settlements is easier than from the nearest Peruvian towns. At one time access by road was possible to Figueroa and Cotrina, but these roads were eliminated by the El Niño rains of 1997–1998 and will not be re-built, as they were initially constructed for reasons of national security. Given the peace agreement, re-building these roads is now considered a very low priority. The (bad) road now terminates at El Caucho police post.

The Reserved Zone of Tumbes is well preserved and the forest intact, as outlined by Parker *et al.*³, and it is important to stress that the forest harbours much wildlife and that visitors are seldom seen, including park guards and illegal trespassers. Conversely, on the Ecuadorian side scarcely a tree remains. From the Cotrina police post it is possible to view this stark contrast: intact forest within Peru and pasture, cattle and towns in Ecuador. This underlines the importance of the Tumbes Reserved Zone for Tumbesian endemic birds and may be the cause of possible vagrancy of species such as Silver-throated Tanager *Tangara icterocephala*.

One negative result of the peace accord between Peru and Ecuador, accentuated by the economic crisis in the latter, where products are also cheaper, is the petty contraband business and the almost total elimination of natural resources on the Ecuadorian side of the border. This encourages clandestine incursions by Ecuadorian nationals to hunt, traffic products, cut wood and, in some cases, even establish small farms and cultivated lots within Peruvian territory. In January 2001 two Ecuadorian nationals on horseback were observed by BW and KJZ on what was obviously a hunting trip, with a pack of hunting dogs and using semi-clandestine trails. Border police are indifferent to or unwilling to prevent such activities, as the Ecuadorians supplement their meagre rations with gifts of fruit and other foodstuffs. Successful hunters presumably also leave some of their game with border police. On the other hand, border police complain of non-intervention and non-presence of Instituto Nacional de Recursos

Naturales (INRENA) park guards, who are based at Quebrada Faical. All of the border police at Cotrina, Campo Verde and Figueroa claimed not to have seen an INRENA guard near their posts and complained that INRENA, through their lack of presence on the border, did not assist in controlling illegal hunting. My recent experiences are similar: INRENA personnel were present only one night of the three I stayed at Quebrada Faical and admitted that they rarely went further into the Reserved Zone. On a subsequent trip by BW in May 2001, park guards were seen on patrol in the border areas, but in January 2001 none was encountered.

Possible solutions

Illegal incursions by Ecuadorian nationals could be reduced by the greater and more obvious presence of INRENA in the immediate vicinity of the border, and collaboration with border police. One solution might be for INRENA to finance additional food supplies for border police, who could then act as *de facto* park guards, as well as patrolling the border. This would require national-level consultation in Lima and would be dependent on available funding. Coordination at such levels between the national police and INRENA would be a significant step forward.

Birds

Parker *et al.*³ noted records of 176 species made during three separate visits, by Weidenfeld *et al.*⁶ in June–July 1979, Michael Kessler on 25 February–3 March 1986 and Parker and Wust on 23–27 July 1988. My co-observers and I recorded 172 species. Those species recorded by BW and DM, observations by BW on three brief earlier visits, by and BW and KJZ, and those cited by Parker *et al.*³, as well as several observations by other observers, have been compiled, as the appendix to this paper, to present an updated list of birds for the TRZ. Also included are additional species recorded from the access road between Pampas del Hospital and El Caucho. There follows comments on some of the more unusual and threatened species and, in particular, those that represent additions to the Peruvian avifauna. During our visit in April 2000, most birds appeared to be in a post-breeding lull: many immatures were observed, some nesting activity recorded and song was limited. Some species, such as Chapman's Antshrike *Thamnophilus zarumae* and Scrub Antpitta *Grallaria watkinsi*, were calling only infrequently, whereas Grey-headed Antbird *Myrmeciza griseiceps* and Blackish-headed Spinetail *Synallaxis tithys* were spontaneously vocal. Black-and-white Tanager *Conothraupis speculigera* was not recorded. On a subsequent visit, by BW and KJZ in January 2001, much more vocalisation activity was encountered. The strong seasonal fluctuation in song explains

why some, otherwise conspicuous species, went unnoticed for many years.

Little Tinamou *Crypturellus soui*

One seen and several heard (tape-recorded) in 2000. Also tape-recorded by BW and KJZ in January 2001. These, and unpublished records by W. Wust and M. Pyhala, represent the first records for Peru on the western slope. In nearby Ecuador, recorded from El Oro and El Limo, south-west Loja⁴.

Magnificent Frigatebird *Fregata magnificens*

One at distance over Quebrada la Angostura on 16 April 2000 appears to be the first sighting for the TRZ.

Hook-billed Kite *Chondrohierax uncinatus*

A pair near Quebrada la Angostura on 16 April 2000 is the first record for the TRZ and was recorded on subsequent visits to the area.

Grey-backed Hawk *Leucopternis occidentalis*

An immature on 8 April 2000, while MW recorded it as 'regular' at El Caucho and Campo Verde, and in January 2001 BW and KJZ noted two individuals, one of which was videotaped by KJZ.

Barred Forest-falcon *Micrastur ruficollis*

Fairly common at various localities, mostly calling at dawn.

Collared Forest-falcon *Micrastur semitorquatus*

An immature near Pozo del Pato on 9 April 2000.

Rufous-headed Chachalaca *Ortalis erythroptera*

Two groups seen and six others heard early on 10 April 2000 along the trail from El Cruce to Figueroa (tape-recorded). Four seen 11 April 2000 and two other groups heard on the trail from El Cruce to Campo Verde. Two seen 13 April 2000 on the trail from Campo Verde to Cotrina. One group heard at Campo Verde on 14 April 2000. Three seen and one other group heard on 15 April 2000 on the trail from Pozo del Pato to Quebrada Faical (tape-recorded). On subsequent visits, eight birds (in two groups) were seen on 9 May 2000 and heard the following day. In January 2001 this species was equally common and heard daily in wetter parts of the reserved zone, with a maximum of eight groups on 20 January.

Crested Guan *Penelope purpurascens*

One in the late afternoon of 11 April 2000 at Campo Verde. A pair at Campo Verde on 13 April was seen well and tape-recorded (copies will be deposited at the Library of Natural Sounds, Cornell University), and presumably the same birds were heard in the same area the following day. It has been known since the late 1980s that a *Penelope* occurred in the area³

but it was unclear if these reports referred to Crested Guan or to White-winged Guan *Penelope albipennis*. The distinguishing features of *purpurascens* were clearly seen, particularly the chestnut rump and undertail-coverts, and the lack of any white in the flight feathers. BW is also very familiar with the calls of White-winged Guan, which differ significantly from those recorded here. This is the second (and first confirmed) record in Peru, there being a previous and unpublished sight record by Kristof Zyschowski (pers. comm.), but all records of guans reported by local inhabitants presumably refer to this species. Seen subsequently near Pozo del Pato by BW and DM on 9 May 2000. Also recorded by MW as follows: 'a pair on three consecutive dates (30 April–2 May) near Pozo del Pato. On two dates, the birds were accompanied by Rufous-headed Chachalaca *Ortalis erythroptera*.' Also heard on 18 January 2001 at Pozo del Pato by BW and KJZ. The species is known from Alamor and El Limo in El Oro in Ecuador⁴.

Ochre-bellied Dove *Leptotila ochraceiventris*

Inexplicably scarce in April 2000: one heard near Quebrada la Angostura on 6 April and one between El Cruce and Pozo del Pato on 14 April. In January 2001 Ochre-bellied Dove was noted to be extremely common, with 20 plus daily, in stark contrast to April 2000, while in May 2001 numbers were low and no song was heard.

Pallid Dove *Leptotila pallida*

Not recorded in April 2000 and it was certainly not singing. However, on two occasions we did observe a non-*ochraceiventris* dove which in retrospect must have been this taxon. In January 2001, in wetter forest between Mango and El Cruce, 10–20 *Leptotila* were noted daily making a one-note call similar to Grey-fronted Dove *L. rufaxilla*, and very unlike White-tipped Dove *L. verreauxi* which was commonly singing in drier forest between Quebrada Faical and Pampas del Hospital. Once a singing bird was seen extremely well for ten minutes and tape-recorded as it sang from a perch in the understorey c.2 m off the ground. Forecrown whitish and rest of crown blue-grey. Upperparts warm brown. Eyes straw-coloured. Mostly whitish below with little or no buff. Broad white tips to tail feathers much like *L. verreauxi*. This is the first record in Peru. Known from El Oro at Santa Rosa and La Avanzada in neighbouring Ecuador⁴.

Grey-cheeked Parakeet *Brotogeris pyrrhopterus*

Common: groups of 5–30 seen and heard (tape-recorded) daily.

Bronze-winged Parrot *Pionus chalcopterus*

Pairs recorded on 8–9 April 2000 near Pozo del Pato. I found it much commoner on previous visits, and

in January 2001 20–50 were recorded daily (being tape-recorded and videotaped).

Black-billed Cuckoo *Coccyzus erythrophthalmus*

One on 7 April 2000 at El Caucho is the first record for the TRZ.

Grey-capped Cuckoo *Coccyzus lansbergi*

One on 21 January 2001 at El Caucho appears to be the second record for the TRZ.

Black-and-white Owl *Ciccaba nigrolineata*

A pair calling distantly at Campo Verde on 12–13 April 2000.

Green-crowned Woodnymph *Thalurania fannyi*

Fairly common in the more humid forest understorey in the El Cruce, Campo Verde and Figueroa areas with two males and seven females recorded. Recorded on 19–20 January 2001 in the Pozo del Pato area.

White-vented Plumeteer *Chalybura buffoni*

The blue-tailed *intermedia* race was common and seen daily in the more humid forest. A female nest-building on 13 April 2000 was bringing fine fibres to a nest placed on an exposed horizontal branch, c.6 m above the trail to Cotrina.

Pale-mandibled Aracari *Pteroglossus erythropygius*

MW recorded this species for the first time in Peru on four dates. Singles seen on 4–5 May 2000 (the latter tape-recorded for c.45 seconds), two together on 7 May 2000 and a group of five on 9 May 2000. All sightings were on the first 400 m of trail between Campo Verde and El Cruce. Recording deposited at the British Library Natural Sound Archive (London). The species is known from localities in nearby Ecuador, in El Oro, but surprisingly not in west Loja⁴.

Olivaceous Piculet *Picumnus olivaceus*

A previous sight record for Peru, at Cotrina, by Parker. KJZ observed this species, which was spontaneously singing, on 19 January 2001, between Pozo del Pato and El Cruce, with a mixed-species flock. Several phrases were tape-recorded and KJZ clearly saw its olive back and unmarked underparts while it was perched for c.30 seconds, these features being quite different from Ecuadorian Piculet *P. sclateri*, which also occurs in the area. The sound-recordings are the first obtained in Peru and therefore this constitutes the first confirmed record. KJZ heard another the following day near El Cruce. Recorded from neighbouring Ecuador in El Oro⁴.

Blackish-headed Spinetail *Synallaxis tithys*

Fairly common in drier woodland, seemingly replaced to some extent by Slaty Spinetail *S.*

brachyura in moister woodland. Less vocal in January 2001 when only one pair was noted, near Pozo del Pato.

Rufous-necked Foliage-gleaner *Syndactyla ruficollis*

Inexplicably scarce in April 2000: one heard in response to playback near El Faical on 16 April. I recorded it as 'fairly common' on previous visits and indeed, in January 2001, 5–6 were seen daily between Quebrada Faical and El Cruce, almost exclusively with mixed insectivore flocks.

Henna-hooded Foliage-gleaner *Hylocryptus erythrocephalus*

Common.

Western Slaty-antshrike *Thamnophilus atrinucha*

MW encountered this species for the first time in Peru on three occasions in the TRZ. The first observation involved a pair, on 16 April 2000, with an understorey flock between Quebrada Faical and Pozo del Pato. What was presumably the same pair was observed in the same area on 23 April 2000. A lone male was observed and tape-recorded on 8 May 2000 on the trail between Campo Verde and Cotrina (recording deposited at the British Library Natural Sound Archive, London). This is the first confirmed record for Peru (a possible sighting by BW in June 1999 was at the same locality as MW's two records of a pair). On 18 and 20 January 2001 multiple pairs were seen and tape-recorded between El Faical and El Cruce, and KJZ obtained videotape of two pairs. The birds were very vocal in comparison to April 2000 when none was heard. They appeared to inhabit a depauperate, stunted, low dense forest on ridges above the dry *Bombax* forest within lower parts of the reserve, and were absent from wetter, more diverse forest beyond Pozo del Pato. Also noted singing and three pairs seen in May 2001 (same territories). The species is known from old records in neighbouring Ecuador at Las Piñas, 60–70 km to the north⁴.

Grey-headed Antbird *Myrmeciza griseiceps*

Only recorded in wetter forest around El Cruce and Campo Verde, where spontaneously vocal. We recorded c.20 individuals. Very vocal and conspicuous in January 2001 in wetter, higher forest between Pozo del Pato and the El Cruce area.

Scaled Antpitta *Grallaria guatemalensis*

Common by voice in the highest, wettest areas with up to 20 singing at dawn on 10 April 2000.

Grey-breasted Flycatcher *Lathrotriccus griseipectus*

Common throughout with up to six recorded almost daily.

Olive-sided Flycatcher *Contopus cooperi*

One between Pozo del Pato and El Cruce on 20 January appears to be the first record for the TRZ and the west Peruvian slope.

Ochraceous Attila *Attila torridus*

One seen well and tape-recorded at Pozo del Pato at dawn on 9 April 2000 was the only record. At dawn on 15 April 2000 at the same locality it was not found, despite extensive use of playback, but was subsequently present there on 9–10 May 2000 and 19–21 January 2001.

Social Flycatcher *Myiozetetes similis*

A pair at El Caucho on 7 April 2000 appears to be the second record for the TRZ.

Slaty Becard *Pachyramphus spodiurus*

Not recorded in April 2000 but several records on previous and subsequent visits. Outnumbered by *P. homochrous*.

One-coloured Becard *Pachyramphus homochrous*

A male on 6 April 2000 and a female on 16 April 2000 near El Caucho. Two on 7 May and one on 10 May 2000 on the access road. Seen daily in January 2001.

Pale-vented Thrush *Turdus obsoletus*

A female feeding a fully grown young on the nest at Quebrada Faical on 7 April 2001. The nest was situated at 2.5 m in the fork of a sapling. The young had presumably fledged by 16 April as the birds were not seen. Separation from the commoner Ecuadorian Thrush *T. maculirostris*, which also occurs in the area, was based on prolonged views of an adult attending the nest. Mostly warm brown above, slightly duller below, with contrasting white lower belly and vent. Throat slightly streaked dusky and bill brownish-black. Any eye-ring present was indistinct. In contrast, Ecuadorian Thrush in the area have quite a pronounced orange-buff eye-ring, a more contrastingly streaked throat, always some yellow on the bill and more olive-brown upper- and underparts, and the contrast between the pale belly and vent is less striking. This is the second sight record of the species for Peru and the first proof of breeding. The first was near Pozo del Pato on 27 June 1999 (BW). In addition, there is an earlier record by Richard Webster (pers. comm.) of a bird matching this species, seen briefly through a spotting scope, on 12 September 1997 near El Cruce. Pale-vented Thrush was previously known from adjacent Ecuador at Piñas, dpto. El Oro, c.60–70 km north-east of Pozo del Pato⁵.

Saffron Siskin *Carduelis siemiradzkii*

Ten plus on the access road from Pampas del Hospital on 17 January 2001 and one the following day near Quebrada Faical.

Yellow-bellied Siskin *Carduelis xanthogastra*

Three female-plumaged birds and a male feeding on seedpods at the forest edge, on 9 April 2000, on the trail between Pozo del Pato and El Cruce. The only other species of siskin recorded from the TRZ is Saffron Siskin *C. siemiradzkii*. The two are quite distinct, particularly in male plumage, *xanthogastra* being mostly black with a sharply contrasting yellow breast and belly, while *siemiradzkii* resembles the more familiar Hooded Siskin *C. magellanica*, which is mostly yellow with a contrasting black hood. This constitutes the first record of this species for northern Peru and the TRZ, although it has been recorded in adjacent Ecuador at Piñas, dpto. El Oro, c.60–70 km north-east of the TRZ⁵. These presumably represent the nominate subspecies, previously unrecorded in Peru. One seen by KJZ on 20 January 2001 at El Cruce.

Blackburnian Warbler *Dendroica fusca*

One with a mixed flock on 8 April 2000 near Pozo del Pato appears to be the first record for the TRZ and I am unaware of any previous records on the west Peruvian slope.

Orange-crowned Euphonia *Euphonia saturata*

A pair in the clearing at the Campo Verde police post, perched on an isolated bush at dawn on 14 April 2000, and a pair feeding two fully fledged young between Quebrada Faical and Pozo del Pato on 18 January 2001. These are the first records for the TRZ and some of the few for Peru.

Silver-throated Tanager *Tangara icterocephala*

One between Campo Verde and El Cruce, on 14 April 2000, with a loose mixed flock of Hepatic Piranga *Piranga flava*, Blue-grey *Thraupis episcopus*, White-shouldered *Tachyphonus luctuosus* and Bay-headed Tanagers *Tangara gyrola*, and Thick-billed Euphonia *Euphonia laniirostris*. It was observed 'hitching' along large mossy branches and was easily identified by its mostly yellow plumage, contrasting with a clear silvery throat and collar, and black-streaked mantle. This is the first Peruvian record and a minor southerly range extension, it being previously known from Ecuador at Alamo and Piñas^{1,5}.

Ash-breasted Sierra-finch *Phrygilus plebejus*

A male and a female tape-recorded on the access road from Pampas del Hospital, near El Mirador, and recorded at the same locality in January 2001.

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Appendix. Birds of the Tumbes Reserved Zone and vicinity

	1	2	3	4	5
Little Tinamou <i>Crypturellus soui</i>			X	X	
Pale-browed Tinamou <i>Crypturellus transfasciatus</i>		X	X	X	
Magnificent Frigatebird <i>Fregata magnificens</i>			X		
Neotropic Cormorant <i>Phalacrocorax brasilianus</i>		X			
White-necked Heron <i>Ardea cocoi</i>		X			
Great Egret <i>Casmerodius albus</i>		X	A	A	
Snowy Egret <i>Egretta thula</i>		X	A	A	
Cattle Egret <i>Bubulcus ibis</i>			A	A	
Black-crowned Night-heron <i>Nycticorax nycticorax</i>					HN
Wood Stork <i>Mycteria americana</i>		X	X	X	
Black Vulture <i>Coragyps atratus</i>		X	X	X	
Turkey Vulture <i>Cathartes aura</i>		X	X	X	X
King Vulture <i>Sarcoramphus papa</i>		X	X	X	
Osprey <i>Pandion haliaetus</i>		X			
Hook-billed Kite <i>Chondrohierax uncinatus</i>			X	X	
Swallow-tailed Kite <i>Elaenoides forficatus</i>		X	X	X	X
Plumbeous Kite <i>Ictinia plumbea</i>			X	X	X
Rufous-thighed Hawk <i>Accipiter erythronemius</i>		X			
Bicoloured Hawk <i>Accipiter bicolor</i>		X	X		
Crane Hawk <i>Geranospiza caerulescens</i>		X	X	X	
Plumbeous Hawk <i>Leucopternis plumbea</i>					WW
Grey-backed Hawk <i>Leucopternis occidentalis</i>		X	X	X	X
Savannah Hawk <i>Heterospizus meridionalis</i>			X		
Great Black-hawk <i>Buteogallus urubitinga</i>		X	X	X	
Bay-winged Hawk <i>Parabuteo unicinctus</i>		X	X		
Roadside Hawk <i>Buteo magnirostris</i>		X	X	X	
Short-tailed Hawk <i>Buteo brachyurus</i>		X	X		

Zone-tailed Hawk <i>Buteo albonotatus</i>	X	X	X	X	
Black Hawk-eagle <i>Spizaetus tyrannus</i>	X	X	X	X	
Northern Crested Caracara <i>Caracara cheriway</i>	X	X			
Laughing Falcon <i>Herpotheres cachinnans</i>	X	X	X	X	
Barred Forest-falcon <i>Micrastur ruficollis</i>	X	X	X	X	
Collared Forest-falcon <i>Micrastur semitorquatus</i>	X	X	X		
Bat Falcon <i>Falco rufogularis</i>	X		X		
Rufous-headed Chachalaca <i>Ortalis erythroptera</i>	X	X	X	X	
Crested Guan <i>Penelope purpurascens</i>	X	X	X	X	
Rufous-necked Wood-rail <i>Aramides axillaris</i>	X			X	
Scaled Pigeon <i>Columba speciosa</i>	X	X		X	
Plumbeous Pigeon <i>Columba plumbea</i>	X	X	X	X	
Ruddy Pigeon <i>Columba subinaceae</i>	X	X	X	X	
Eared Dove <i>Zenaida auriculata</i>	X	X	X	A	
Ecuadorian Ground-dove <i>Columbina buckleyi</i>	X	X	X	X	
Croaking Ground-dove <i>Columbina cruziana</i>	X	A	A	A	
Blue Ground-dove <i>Claravis pretiosa</i>	X	X	A		
White-tipped Dove <i>Leptotila verreauxi</i>	X	X	X	X	
Ochre-bellied Dove <i>Leptotila ochraceiventris</i>	X	X	X	X	
Pallid Dove <i>Leptotila pallida</i>				X	
Red-masked Parakeet <i>Aratinga erythrogenys</i>	X	X	X	X	
Pacific Parrotlet <i>Forpus coelestis</i>		X	A	X	
Grey-cheeked Parakeet <i>Brotogeris pyrropterus</i>	X	X	X	X	
Bronze-winged Parrot <i>Pionus chalcopterus</i>	X	X	X	X	
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>				X	
Grey-capped Cuckoo <i>Coccyzus lansbergi</i>	X			X	
Squirrel Cuckoo <i>Piaya cayana</i>	X	X	X	X	
Groove-billed Ani <i>Crotophaga sulcirostris</i>	X	X	X	X	
Striped Cuckoo <i>Tapera naevia</i>		A	A	X	
Peruvian Screech-owl <i>Otus roboratus</i>	X	X	X		
Black-and-white Owl <i>Strix nigrolineata</i>	X		X		
Spectacled Owl <i>Pulsatrix perspicillata</i>	X	X	X	X	
Peruvian Pygmy-owl <i>Glaucidium peruanum</i>	X	A		A	
Burrowing Owl <i>Athene cucularia</i>			A		
Lesser Nighthawk <i>Chordeiles acutipennis</i>			A		
Pauraque <i>Nyctidromus albigollis</i>	X	X	X	X	
Scrub Nightjar <i>Caprimulgus anthonyi</i>					RW
White-collared Swift <i>Streptoprocne zonaris</i>	X	X	X	X	
Grey-rumped Swift <i>Chaetura cinereiventris</i>	X	X	X	X	
Chimney Swift <i>Chaetura pelagica</i>				X	
Tumbes Swift <i>Chaetura ocybetes</i>	X	X	X	X	
Lesser Swallow-tailed Swift <i>Panyptila cayennensis</i>	X	X			
Baron's Hermit <i>Phaethornis baroni</i>	X	X	X	X	
Grey-chinned Hermit <i>Phaethornis griseogularis</i>	X	X	X		
Green-breasted Mango <i>Anthracothorax prevostii</i>			X		
Green-crowned Woodnymph <i>Thalaurania fannyi</i>	X	X	X	X	
Tumbes Hummingbird <i>Leucippus baeri</i>			X		
White-vented Plumeteer <i>Chalybura buffoni</i>	X	X	X	X	
Violet-bellied Hummingbird <i>Damophila julie</i>	X	X	X	X	
Amazonian Hummingbird <i>Amazilia amazilia</i>	X	X	X	X	
Long-billed Starthroat <i>Heliomaster longirostris</i>	X	X	X	X	
woodstar sp. <i>Chaetocercus</i> sp.					MP
Ecuadorian Trogon <i>Trogon mesurus</i>	X	X	X	X	
Northern Violaceous Trogon <i>Trogon caligatus</i>	X	X	X		
Ringed Kingfisher <i>Ceryle torquata</i>	X	X	X	X	
Green Kingfisher <i>Ceryle americana</i>	X	X	X		
Blue-crowned Motmot <i>Momotus momota</i>	X	X	X	X	
Pale-mandibled Aracari <i>Pteroglossus erythrogygius</i>					MW
Olivaceous Piculet <i>Picumnus olivaceus</i>	X				
Ecuadorian Piculet <i>Picumnus sclateri</i>	X	X	X	X	
Scarlet-backed Woodpecker <i>Veniliornis callanotus</i>	X	X	X	X	
Red-rumped Woodpecker <i>Veniliornis kirkii</i>	X	X	X	X	
Golden-olive Woodpecker <i>Piculus rubiginosus</i>	X	X		X	
Lineated Woodpecker <i>Dryocopus lineatus</i>	X	X	X	X	
Guayaquil Woodpecker <i>Campophilus गयाquilensis</i>	X	X	X	X	
Plain-brown Woodcreeper <i>Dendrocincla fuliginosa</i>	X	X	X		
Olivaceous Woodcreeper <i>Sittasomus griseicapillus</i>	X	X	X	X	
Strong-billed Woodcreeper					
<i>Xiphocolaptes prumeropirhynchus</i>	X	X	X	X	
Streak-headed Woodcreeper					
<i>Lepidocolaptes souleyetii</i>	X	X	X	X	
Red-billed Scythebill <i>Campylorhamphus trochilirostris</i>	X	X	X	X	
Pacific Hornero <i>Furnarius cinnamomeus</i>	X	X	X	X	
Azara's Spinetail <i>Synallaxis azarae</i>	X				

Slaty Spinetail <i>Synallaxis brachyura</i>	X	X	X	X	Long-billed Gnatwren <i>Ramphococcus melanurus</i>	X	X	X	X
Ruddy Foliage-gleaner <i>Automolus rubiginosus</i>				X	Tropical Gnatcatcher <i>Polioptila plumbea</i>	X	X	X	X
Henna-hooded Foliage-gleaner <i>Hylodyptes erythrocephalus</i>	X	X	X	X	Grey-breasted Martin <i>Progne chalybea</i>	X	X	X	
Streaked Xenops <i>Xenops rutilans</i>	X	X	X	X	Blue-and-white Swallow <i>Natiochelidon cyanoleuca</i>				WW
Plain Xenops <i>Xenops minutus</i>	X	X	X		Tumbes Swallow <i>Tachycineta stolzmanni</i>				HN
Great Antshrike <i>Taraba major</i>	X	X	X	X	Southern Rough-winged Swallow <i>Steigodopteryx ruficollis</i>				WW
Collared Antshrike <i>Sakesphorus bernardi</i>	X	X	X	X	Saffron Siskin <i>Carduelis siemradzkii</i>	X	X	X	
Chapman's Antshrike <i>Thamnophilus zarumae</i>	X	X	X	X	Yellow-bellied Siskin <i>Carduelis xanthogastra</i>			X	X
Western Slaty-antshrike <i>Thamnophilus atrinucha</i>				X	Lesser Goldfinch <i>Carduelis psaltria</i>		X		
Plain Antvireo <i>Dysithamnus mentalis</i>	X	X	X	X	Tropical Parula <i>Parula pitayumi</i>	X	X	X	X
Pacific Fire-eye <i>Pyrglana pacifica</i>	X	X	X	X	Blackburnian Warbler <i>Dendroica fusca</i>			X	
Grey-headed Antbird <i>Myrmeciza griseiceps</i>	X	X	X	X	Canada Warbler <i>Wilsonia canadensis</i>		X		
Scaled Antpitta <i>Grallaria guatemalensis</i>	X	X	X	X	Black-lored Yellowthroat <i>Geothlypis auricularis</i>	X	X	X	X
Scrub Antpitta <i>Grallaria watkinsi</i>	X	X	X	X	Slate-throated Redstart <i>Myioborus miniatus</i>	X	X	X	
Elegant Crescentchest <i>Melanopareia elegans</i>	X	X	X	X	Grey-and-gold Warbler <i>Basileuterus fraseri</i>	X	X	X	X
White-bearded Manakin <i>Manacus manacus</i>	X	X	X		Three-banded Warbler <i>Basileuterus trifasciatus</i>	X	X	X	X
Ochre-bellied Flycatcher <i>Mionectes olivaceus</i>	X	X	X	X	Orange-billed Sparrow <i>Arremon aurantiostris</i>	X	X		
Slaty-capped Flycatcher <i>Leptopogon superciliosus</i>	X	X		X	Black-capped Sparrow <i>Arremon abeillei</i>	X	X	X	X
Loja Tyrannulet <i>Zimmerius flavidifrons</i>	X		X	X	Black-striped Sparrow <i>Arremonops conirostris</i>	X			
Sooty-headed Tyrannulet <i>Phyllomyias griseiceps</i>				WW	White-winged Brush-finch <i>Atlapetes leucopterus</i>	X	X	X	
Southern Beardless-tyrannulet <i>Camptostoma obsoletum</i>	X	X	X	X	White-headed Brush-finch <i>Atlapetes albiceps</i>	X	X	X	
Tumbesian Tyrannulet <i>Phaenomyias tumbesana</i>				X	Stripe-headed Brush-finch <i>Atlapetes torquatus</i>	X	X	X	X
Pacific Elaenia <i>Myiopagis subplacens</i>	X	X	X	X	Bananaquit <i>Coereba flaveola</i>	X	X	X	X
Greenish Elaenia <i>Myiopagis viridicata implascens</i>				X	Black-and-white Tanager <i>Conothraupis speculigera</i>	X			
Rufous-winged Tyrannulet <i>Mecocerculus calopterus</i>	X	X	X	X	Ash-throated Bush-tanager <i>Chlorospingus canigularis</i>	X	X	X	X
Grey-and-white Tyrannulet <i>Pseudelaenia leucospodia</i>		A		X	White-shouldered Tanager <i>Tachyphonus luctuosus</i>	X	X	X	X
Tawny-crowned Pygmy-tyrant <i>Euscarthmus melorhyphus</i>	X	X	X	X	Hepatic Tanager <i>Piranga flava</i>	X	X	X	X
Scale-crested Pygmy-tyrant <i>Lophotriccus pileatus</i>	X	X	X	X	Summer Tanager <i>Piranga rubra</i>				X
Common Tody-flycatcher <i>Todirostrum cinereum</i>	X	X	X	X	Scarlet Tanager <i>Piranga olivacea</i>				MP
Yellow-olive Flycatcher <i>Tolmomyias sulphureus</i>	X	X	X	X	White-winged Tanager <i>Piranga leucoptera</i>				GC
White-throated Spadebill <i>Platyrinchus mystaceus</i>	X		X		Blue-grey Tanager <i>Thraupis episcopus</i>	X	X	X	X
Pacific Royal Flycatcher <i>Onychorhynchus occidentalis</i>	X	X	X	X	Fawn-breasted Tanager <i>Pipraeidea melanonota</i>	X	X		
Bran-coloured Flycatcher <i>Myiophobus fasciatus</i>	X	X	X	X	Orange-crowned Euphonia <i>Euphonia saturata</i>			X	X
Black-tailed Flycatcher <i>Myiobius atricaudus</i>	X	X	X	X	Thick-billed Euphonia <i>Euphonia laniirostris</i>	X	X	X	
Grey-breasted Flycatcher <i>Lathrotriccus griseipectus</i>	X	X	X	X	Orange-bellied Euphonia <i>Euphonia xanthogaster</i>	X	X		
Alder Flycatcher <i>Empidonax alarum</i>				WW	Bay-headed Tanager <i>Tangara gryola</i>	X	X	X	X
Olive-sided Flycatcher <i>Contopus cooperi</i>				X	Silver-throated Tanager <i>Tangara icterocephala</i>			X	
Smoke-coloured Pewee <i>Contopus fumigatus</i>	X	X			Golden-naped Tanager <i>Tangara rufivertex</i>				MP
Tumbes Pewee <i>Contopus punensis</i>	X	X	X	X	Crimson Finch-tanager <i>Rhodospingus cruentus</i>	X	X	X	X
Black Phoebe <i>Sayornis nigricans</i>		X	X		Ash-breasted Sierra-finch <i>Phrygilus plebejus</i>	X	X	X	X
Vermilion Flycatcher <i>Pyrocephalus rubinus</i>	X	X	X	X	Collared Warbling-finch <i>Poozpiza hispaniolensis</i>	X			
Ochraceous Attila <i>Attila torridus</i>	X	X	X	X	Saffron Finch <i>Sicalis flaveola</i>	X	X	X	X
Dusky-capped Flycatcher <i>Myiarchus tuberculifer</i>	X	X		X	Sulphur-throated Finch <i>Sicalis taczanowskii</i>	X	X		
Sooty-crowned Flycatcher <i>Myiarchus phaeocephalus</i>	X	X	X	X	Blue-black Grassquit <i>Volatinia jacarina</i>	X	X	X	
Eastern Kingbird <i>Tyrannus tyrannus</i>				WW	Variable Seedeater <i>Sporophila americana</i>	X	X	X	X
Tropical Kingbird <i>Tyrannus melancholicus</i>			A		Black-and-white Seedeater <i>Sporophila luctuosa</i>			X	
Snowy-throated Kingbird <i>Tyrannus niveigularis</i>		X		A	Yellow-bellied Seedeater <i>Sporophila nigricollis</i>	X	X		
Boat-billed Flycatcher <i>Megarynchus pitangua</i>	X	X	X	X	Parrot-billed Seedeater <i>Sporophila peruviana</i>	X	X	X	
Baird's Flycatcher <i>Myiodynastes bairdii</i>	X	X	X	X	Chestnut-throated Seedeater <i>Sporophila telasco</i>	X	X	X	
Streaked Flycatcher <i>Myiodynastes maculatus</i>	X	X	X	X	Lesser Seed-finch <i>Oryzoborus angolensis</i>				GC
Piratic Flycatcher <i>Legatus leucophaeus</i>				MP	Dull-coloured Grassquit <i>Tiaris obscura</i>	X	X	X	X
Social Flycatcher <i>Myiozetetes similis</i>		X	X	X	Golden-bellied Grosbeak <i>Phenacurus chrysogaster</i>	X	X	X	X
Thrush-like Schiffornis <i>Schiffornis turdinus</i>	X	X	X	X	Buff-throated Saltator <i>Saltator maximus</i>	X	X	X	X
Black-and-white Becard <i>Pachyrhamphus albogriseus</i>	X	X	X		Streaked Saltator <i>Saltator albicollis</i>	X	X	X	X
Yellow-cheeked Becard <i>Pachyrhamphus xanthogenys</i>				X	Blue-black Grosbeak <i>Cyanocompsa cyanooides</i>	X	X	X	X
Slaty Becard <i>Pachyrhamphus spodiurus</i>	X	X			Yellow-rumped Cacique <i>Cacicus cela</i>	X	X	X	X
One-coloured Becard <i>Pachyrhamphus homochrous</i>	X	X	X	X	Yellow-billed Cacique <i>Amblycercus holosericeus</i>	X	X	X	X
White-tailed Jay <i>Cyanocorax mystacalis</i>	X	X	X	X	Yellow-tailed Oriole <i>Icterus mesomelas</i>	X	X	X	X
Rufous-browed Peppershrike <i>Cyclarhis gujanensis</i>	X	X	X	X	White-edged Oriole <i>Icterus graccanae</i>	X	X	X	X
Red-eyed (Chivi) Vireo <i>Vireo (chivi) olivaceus</i>	X	X	X	X	Peruvian Meadowlark <i>Sturnella bellicosa</i>		A	A	A
Lesser Greenlet <i>Hylophilus decurtatus</i>	X	X	X	X	Scrub Blackbird <i>Dives warszewiczi</i>	X	X	X	X
Spotted Nightingale-thrush <i>Catharus dryas</i>	X	X	X	X	Shiny Cowbird <i>Molothrus bonariensis</i>		A	A	A
Swainson's Thrush <i>Catharus ustulatus</i>				X	Giant Cowbird <i>Scaphidura oryzivora</i>				A
Plumbeous-backed Thrush <i>Turdus reevei</i>	X	X	X	X					
Pale-vented Thrush <i>Turdus obsoletus</i>		X	X						
Ecuadorian Thrush <i>Turdus maculirostris</i>	X	X	X	X					
Long-tailed Mockingbird <i>Mimus longicaudatus</i>	X	X	X						
Fasciated Wren <i>Campylorhynchus fasciatus</i>	X	X	X	X					
Speckle-breasted Wren <i>Thryothorus sclateri</i>	X	X	X	X					
Superciliated Wren <i>Thryothorus superciliosus</i>		X	X	X					
House Wren <i>Troglodytes aedon</i>	X	X	X	X					
Grey-breasted Wood-wren <i>Henicorhina leucophrys</i>	X	X	X	X					

1. Parker et al.³

2. BW: 1–3 December 1988, 10–11 May 1996 and 26–28 June 1999

3. BW and DM: 6–16 April 2000

4. BW and KJZ: 17–21 January 2001

5. Others: RW (Richard Webster), WW (Walter Wust), MP (Mikko Pyhäälä), GC (Gaylon Cook), HN (Hugo Noblecilla) and MW (Mark Whiffin).

A = Access road from Pampas del Hospital to El Caucho