

Updated Assessment of Several Avian Species from Peru in the Context of their Elevational Extents, Reproductive Period and Taxonomy

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Abstract: Reported here are primary avian geographical records for the nation of Peru and for the western declivity of the Peruvian Andes. Not previously encountered anywhere in Peru is *Myrmeciza exsul* (Chestnut-backed Antbird), a periorbitally blue thamnophilid possessing apically maculate tectrices. This species was observed on the western inclination of the Andean Mountains in Peru. Recorded primarily on the occidental Andean declivity of Peru were (1) a representative of *Myiodynastes* manifesting a flavous coronal vitta that is centrally ardent (Golden-crowned Flycatcher); (2) an emberizid (*Chlorospingus*) exhibiting a flavous throat and flavescent crissum (Yellow-throated Bush-Tanager); (3) a small cardinalid (*Piranga leucoptera*, White-winged Tanager) possessing fasciate alae; and (4) examples of a congener of the Ivory-billed Woodpecker (*Campephilus principalis*), the females of which possess a nigrous pileum. The geographic distribution of *M. exsul* and the ranges of the other four species on the occidental Andean inclination are extended australly. In addition, the distribution of the races of *Myiodynastes chrysocephalus* (Golden-crowned Flycatcher) is clarified. Observations of the picid and the tyrannid occurred at elevations below those that had been recorded for these taxa. I differentiate each of the five taxa from related taxa in Ecuador and Peru, and delineate their geographic distributions, elevational extents, vagility, and reproductive periods.

Keywords: Updated assessment, new records, birds, Tumbes, Peru, systematics, biogeography.

INTRODUCTION

This study was conducted in SE Tumbes Department (hereafter, Tumbes), which is situated on the Pacific declivity of the Andes where endemism is high and where the number of threatened avian species exceeds that of any other Latin American “endemic bird area” with the exception of the lowland Atlantic forest of Brazil [1-3].

Previous avifaunal surveys in SE Tumbes endured for three weeks (14 June to 5 July 1979) [4], six days (25 February to 3 March 1986) and four days (23-27 July 1988) [5] during the foliate period for deciduous trees. Six species and 15 subspecies that were observed in the 1979 study had never been reported in Peru. Many species had not been recorded in extreme NW Peru. Among the 165 avian species observed in the 1986 and 1988 intervals were five species that had not been recorded in Peru [5] (the investigators claimed six, but the Saffron Siskin *Carduelis siemiradzkii* had previously been observed and collected in Peru) [1]. Not recorded in these surveys was the Crested Guan *Penelope purpurascens aequatorialis*, which has also been detected in SE Tumbes [6, 7].

Because avian endemism and endangerment in extreme NW Peru (Tumbes) are near maximum among avian endemic regions in Latin America [3], avifaunal assessments there are of particular importance and interest.

A prolonged avifaunal investigation involving both foliate and defoliate arboreal periods (see Methods) in Tumbes needed to be conducted. This survey fulfills that need.

METHODS

Surveys

Avian surveys were conducted in the now defunct Reserved Zone of Tumbes (Fig. 1) [superseded by Cerro de Amotape National Park] from 25 June to 9 October 1994. Avian observations were made throughout the day but those that were vespertine or made from 0600 to 1100 were the most intensive and extensive.

Notes on avian observations were made immediately following the observations. No photographs were taken of the five species treated in this paper.

In contrast to other avian investigations in Tumbes, birds were assessed during both foliate and defoliate arboreal periods. In the latter interval, most trees were in the process of abscising or had already abscised leaves.

The effort exerted in viewing birds was grossly equivalent during the foliate period, which comprehended avian observations from 25 June to 28 August, and the defoliate period, which continued from 7 September to 9 October. The period during which the avian survey was most intensive was from 7–18 September.

Quebradas (creeks) and roads served as observational routes (Fig. 2). Because of dense vegetation, other viae had to be blazed using machetes.

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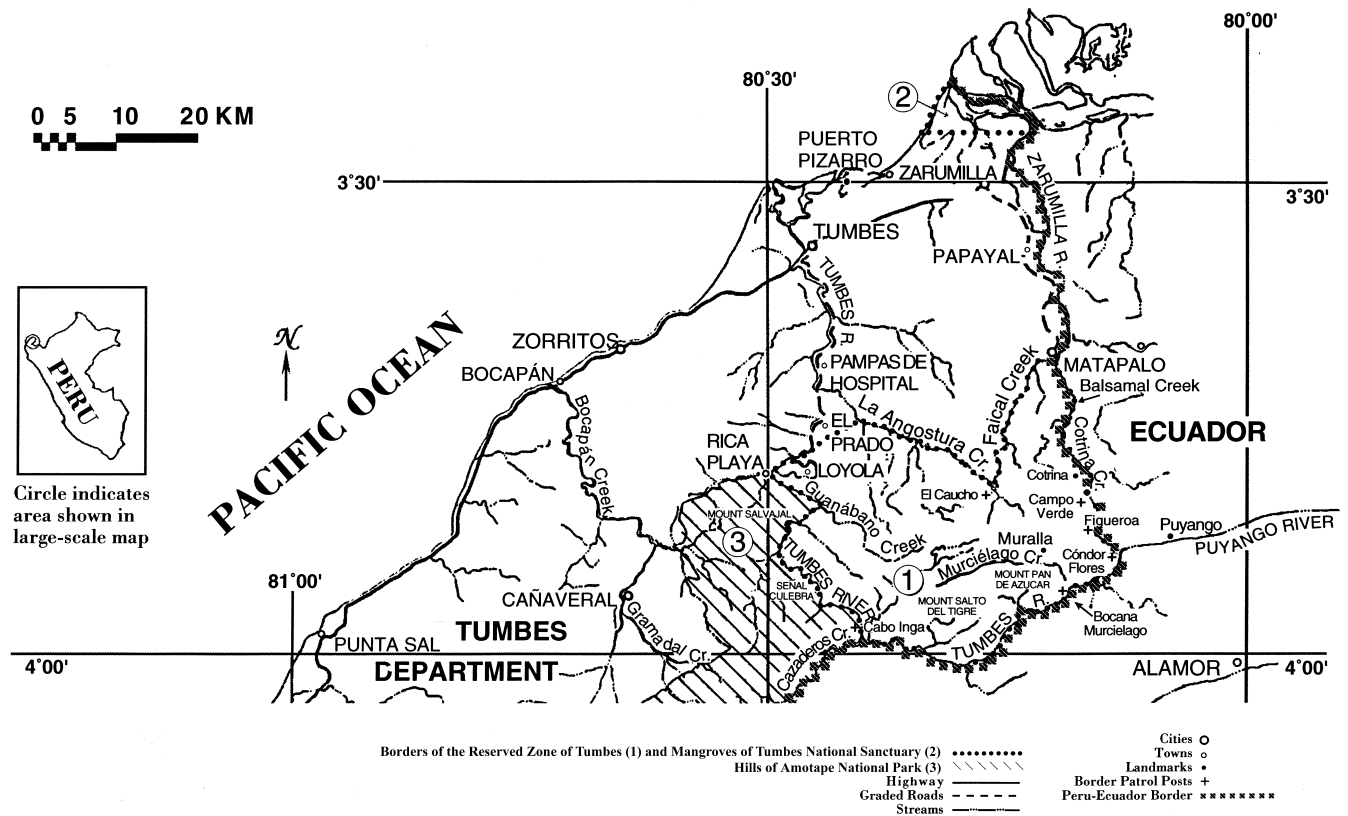


Fig. (1). Protected areas of Tumbes Department, Peru in 1994 when the investigation reported here was performed. Presently, most of the Reserved Zone of Tumbes, including the study area where the results of this paper were effectuated, is incorporated in Hills of (Cerros de) Amotape National Park.

Study Area

Avian observations occurred in defiles and hills of moderate to steep declivity about El Caucho (Fig. 2). El Caucho existed in the former Reserved Zone of Tumbes, which constitutes the southern or northern terminus of the range of many avian species [1]. The grand majority of the study site comprehended deciduous xeric forest. The E and SE portions of the former reserve (Fig. 1) were represented by subhumid or humid subtropical forest [5, 8-10].

Elevations and annual rainfall \approx 300–800 m and 100–2000 mm [mean = 1350 mm], respectively [1, 10, 11, this study]. In Tumbes, precipitation prevails from November to April or May, depending on specific habitat ([8]; \approx 85% of it falls from December to April [9]).

RESULTS

This paper reports five *novitates geographicae* for Peru (see Discussion for citations pertaining to the distribution of these species).

Novitas Geographica For Entire Country Of Peru

The female Chestnut-backed Antbird (Hormiguero Dorsicastaño) *Myrmeciza exsul maculifer* that was detected on 21 August 1994 constitutes the 1st record of this species in the nation of Peru.

The observed female, which was detected during the foliate period, possessed a robust bill, light blue periorbital skin, brunnescent *inferna* (underparts), wings and tail, and external alar coverts bearing albescent apices. Distinct parts of the *inferna* appeared to be tinged ochraceous or flavescent.

Novitates Geographicae for the Occidental Declivity of the Andes of Peru

At the end of July during the foliate period, a pair of Powerful Woodpeckers (*Orugafila Poderosa*) *Campephilus pollens* was observed. Another observation of a female occurred in October during the defoliate period. The head of these females, which lacked any trace of red, was superiorly nigrous.

These observations constitute the primary records of this picid on the western Andean inclination of Peru and the incipient accounts of the nominate race of this species in Peru.

The 1994 sighting of the Golden-crowned Flycatcher (Mosquero Coronadorado) *Myiodynastes chrysocephalus* on 9 September during the defoliate period was the primary observation of this species on Peru’s occidental Andean versant of Peru and the initial record of *M. c. minor* in Peru.

Detection of the Yellow-throated Bush-Tanager (Clorospingo Goliamarillo) *Chlorospingus flavigularis* in SE Tumbes on 8 August during the foliate period was the 1st

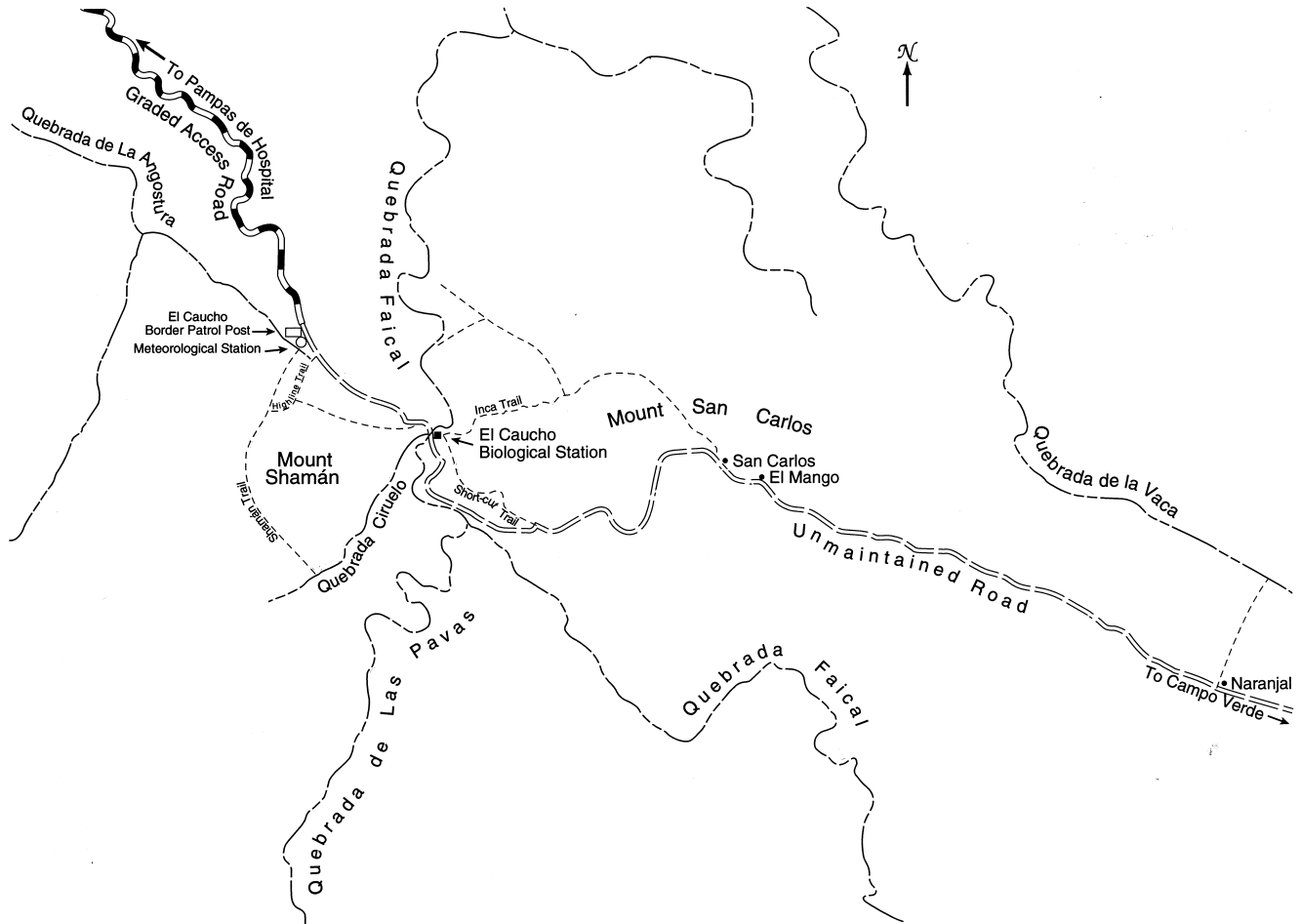


Fig. (2). Crude map of the study area in the Reserved Zone of Tumbes, Peru.

record of this emberizid on the western Andean declivity of Peru and the primary record of *C. f. marginatus* in Peru. This bird had an olive dorsum, yellow throat and greyish *inferna*.

The observation of a female or juvenile White-winged Tanager (*Piranga Alilistada*) *Piranga leucoptera* in a mixed-species flock of tanagers on 15 September during the defoliate period was the 1st record of this cardinalid on the occidental inclination of the Andes of Peru. The sighted individual was perched in the canopy of a large tree.

DISCUSSION

Myrmeciza Exsul

Distribution

The distribution of the Chestnut-backed Antbird, a member of a polyphyletic thamnophilid genus [12-14], reportedly extends from northern Honduras [15, 16: 516] to W Ecuador [17, 18]. The observation of *M. exsul* at our study site in SE Tumbes was a new national record for Peru [see 1, 7, 17, 18, 19: 264]. *Myrmeciza e. maculifer* had been recorded on the western declivity of the Andes through Ecuador except for that country's SW extremity [20, 21]. Its

most proximate approach to Tumbes occurred 49 km NE of El Caucho at an elevation of 600 m [1, 22].

Note on Conspecific Discriminative Morphology

The description of the holotype of the species, *M. e. exsul*, indicates that solely the apices of the dusky minor (not median or major) alar coverts bear candid punctulations [23] although Burn [24] depicts the apices of both the minor and median tectrices of the nominate race. In contrast to the tectrices of *M. e. exsul* and *M. e. occidentalis*, all external alar coverts of *M. e. maculifer* are apically maculated fulvous-white [25].

Elevational Extent, Vagility and Reproductive Period

Myrmeciza e. maculifer, frequents lowlands that are principally humid but occasionally ascends into subtropical sites at mid elevations (elev.: mean = 326 m, SD = 432 m, N = 35, range: 0–1500 m) [16, 19, 20, 22, see 26]. This thamnophilid is nonmigratory, based on a study of it in Costa Rica [27] (Table 1).

This inhabitant of *matorrales* (thickets) about sylvan margins and hiatuses [21] nests in SE Central America from April–November, an interval largely coinciding with the

Table 1. Based on the Literature, the Probability of whether or not Novitates Geographicae were Encountered by us in Tumbes During their Reproductive Period as well as an Indication of their Category of Vagility

Species	Encountered during reproductive period?	Vagility
<i>Myrmeciza exsul</i>	Possibly	Resident
<i>Campephilus pollens</i>	Yes	Resident in vast home range
<i>Myiodynastes chrysocephalus</i>	No positive evidence based on examined literature	Occasional vagrant Errant from Jan-Mar in Venezuelan Andes
<i>Chlorospingus flavigularis</i>	Yes	Resident
<i>Piranga leucoptera</i>	No positive evidence based on examined literature	Resident

pluvial period [21, 27, 28]. Late August, when this species was observed in Tumbes, is in the arid season (see Table 1).

Campephilus Pollens

Distribution

Campephilus pollens ranges from north-central Colombia and extreme W Venezuela (Paramo de Tama in Táchira State) south to Pasco Department in central Peru [29, 30]. The nominate race inhabits both inclinations of the Andean Mountains in Ecuador. Its occupancy of the western declivity does not continue all the way to the southern terminus of Ecuador [20]. Inhabiting Peru is *C. pollens peruvianus*; residing outside Peru is *C. pollens pollens*. In northern and central Peru, *C. pollens* had been recorded solely on eastern Andean declivities within a stria of humid subtropical montane forest in the grossly longitudinal middle of Peru, and a disjunct strict tract in extreme NE Piura and NW Cajamarca Departments of NW Peru [7]. Although Piura and Tumbes Departments are contiguous, the NE frontier of Piura Department is distantly east of Tumbes Department, the small political unit in extreme NW Peru [see 1]. *Campephilus pollens peruvianus*, a resident of the eastern inclination of the Peruvian Andes, is probably not the subspecies that we encountered on the Pacific versant (see Table 2).

Prior to our study, *C. pollens* had not been recorded on the western declivity of the Andes of Peru and the nominate subspecies had not been reported anywhere in Peru [1, 5, 7, 30, 31].

Note on Congeneric Discriminative Morphology

The black-headed picids that we observed in SE Tumbes were not juvenile Guayaquil Woodpeckers (*Campephilus*

gayaquilensis); they were female *C. pollens* (Table 2, [30, 31]).

Elevational Extent, Vagility and Reproductive Period

The nominate subspecies, the race that we probably observed, reportedly occupies principally humid subtropical forests on the occidental inclination of the Andes of Ecuador at an elevational range (1) “higher ... than (that of) any other *Campephilus*” [20]; (2) principally from 1700–2600 m, but as high as 3500 m [16]; and (3) 1800–2500 m [31].

Two specimens of *C. p. pollens* have been collected in El Oro Province, Ecuador, which is contiguous with E Tumbes. One was taken at El Chiral (1225 to 1950 m), 26 km E of Piedras [22, 26, see 1]. The other one was procured along Amarillo River at Salvias (1050 m), which is located 65 km ESE from Piedras [22, 26, see 1].

Ecuadorian records manifest that *C. p. pollens* is a subtropical race of mid elevations, which rarely ventures into the high sierra (elev.: mean = 1841 m, SD = 705 m, N = 13, range = 1050–3900 m) [22, see 26]. The 2nd and 3rd loftiest sites occupied by *C. p. pollens* in Ecuador were 2700 m and 1900 m, respectively [22]. The nominate race occupies terrain as low as 900 m [31]. The vicinity of El Caucho, where the three Powerful Woodpeckers were observed in this study, lies at an elevation of ≈400 m [1].

Observations of *C. pollens* in SE Tumbes reveal that the vast domain [32] of this picid is less restrictive geographically and elevationally than previously believed.

The reproductive period of this permanent resident [30], based on observations in northeastern Ecuador, extends at minimum, from May to November [33] (see Table 1).

Table 2. Differentiation of Caput (the Head) of Female *Campephilus pollens* from that of Male and Female Juvenile *C. gayaquilensis*

Female <i>C. pollens</i>	Female adult <i>C. gayaquilensis</i>	Male juvenile <i>C. gayaquilensis</i>	Female juvenile <i>C. gayaquilensis</i>
Destitute of rubious color.	Caput is rubious except for candid suprarostal zone and gena, plus a nigrous macula posteroinferior to auricular covert.	Appearance approximates that of conspecific female adult except that malar fasciae, which are predominately candid, contain some pinnae possessing rubious apices.	Appearance approximates that of conspecific female adult. Nigrous periorbital area, frons & lores (in distinction from female adult). From lores, a pair of nigrous fasciae extends posteriorly. Each fascia proceeds through corona to crestal summit, thence to an auricular covert, & then to nucha. A posterolateral zone is candid.

Myiodynastes Chrysocephalus

Distribution and Conspecific Discriminative Morphology

The author's observation of the Golden-crowned Flycatcher on 9 September 1994 in SE Tumbes was the prime record of this tyrannid on the western declivity of the Peruvian Andes.

Six years later, *M. chrysocephalus* was detected in the western Andean cordillera on the occidental Andean inclination of NE Piura Department [34]. Ranging from 2200-3100 m in elevation on the western declivity of Chacas Hill is Cuyas Forest (Bosque de Cuyas) [4°57'S, 79°44'W], which is located 5 km NE of Ayabaca, Ayabaca Province, Piura Department, Peru, and 15 km S of the Ecuadorian border [35].

Notations in two published sources [36, 37] pertaining to observations of *M. chrysocephalus* in Cuyas Forest were based on a 46-page report written by J. N. M. Flanagan and W. P. Vellinga in 2000, which was disseminated by ProAves-Perú. That document indicated that on two occasions from late June to early July 2000, an adult Golden-crowned Flycatcher was observed nuturing two juveniles.

Myiodynastes chrysocephalus ranges from extreme E Panama (Darién), N Colombia and mountains of N and W Venezuela, south to the central and eastern Andes of Peru where its distribution extends from San Martín Department south to N Puno Department, as well as to S Bolivia and extreme NW Argentina [17, 36, 37].

In Ecuador, *M. c. minor* reportedly inhabits the entire extent of the eastern declivity of the Andean Mountains and the entire length of the western declivity except for its southwestern extremity [20].

Mobley [37] assigned the totality of Peruvian representatives of *M. chrysocephalus*, including those from Cuyas Forest in NW Piura Department, to the nominate race. Indeed, reference books on avian geography [e.g. 17, 18] designate Ecuadorian Golden-crowned Flycatchers as representatives of *M. c. minor* and Peruvian ones as examples of *M. c. chrysocephalus*.

The Golden-crowned Flycatcher recorded in SE Tumbes possessed a robust bill as well as nigrificant pileum, and nigrificant facial streaks and malar streaks (Table 3 [38-41]). The throat was pale buff; the remainder of the *inferna* was distinctly yellow (Table 3). Alae possessed ample rufous margins (Table 3). Auspiciously presented to the observer was the median yellow vitta of the vertex, which involved an abbreviate medial ferruginous ray (Table 3). The characteristics of the *inferna*, alae, cauda and vertex reveal that the identity of the observed subspecies was *M. c. minor* (Table 3). Golden-crowned Flycatchers of both Ecuador [17, 18] and Tumbes Department, Peru (this study) are representatives of *M. c. minor* (Table 3).

Vellinga *et al.* [34] intimated that the Golden-crowned Flycatchers of Cuyas Forest were examples of *M. c. minor* but provided no annotations on the physical characters of the flycatchers they observed [34]. Avian subspecies inhabiting western Andean declivities of Piura Department, Peru are universally, or almost universally, identical to those occupying western Andean inclinations of both SW Ecuador and

Tumbes Department, Peru. If the Golden-crowned Flycatchers of the western declivity of the Andes in Piura Department were examples of the nominate race, they would be the sole known Peruvian representatives of their subspecies not to be restricted to the eastern and central Andean Mountains. *Trans-Andean* Golden-crowned Flycatchers are *in toto* almost certainly examples of *M. c. minor*.

Elevational Extent, Vigility and Reproductive Period

Specimens of *M. c. minor* collected in proximity to our study area are from Ecuador. One was taken at Alamor, Loja Province, and two were collected at La Chonta, El Oro Province ≈7 km NE of Piedras [22, see 1]. Alamor, Ecuador lies merely 34 km SE of El Caucho but resides at an elevation of 1387 m [26].

Myiodynastes chrysocephalus is the subtropical congeneric replacement of *M. bairdii*. Whereas *M. bairdii* frequents lowland forests and the littoral [elev.: mean = 399 m, SD = 500 m, N = 56, range = 0–1575 m (1575 is the avg. of 1400 and 1750 m)], *M. c. minor* occupies subtropical forests at mid elevations (elev.: mean = 1462 m, SD = 592 m, N = 29, range = 600–2875 m) [16, 22, 26, 42-44]. *Myiodynastes c. minor* makes infrequent descensive incursions into foothills such as those of SE Tumbes (see [37, 45], Table 1).

The nesting period of *M. c. minor* extends, at minimum, from early March through June [46, 47]. The species was observed by the author on 9 September (see Table 1).

Chlorospingus Flavigularis

Distribution

Chlorospingus f. marginatus is the subspecies of the Yellow-throated Bush-Tanager that is reported to inhabit western Andean declivities from SW Colombia through Ecuador; the nominate race inhabits eastern Andean declivities from S Colombia to E Peru [20, 22]. The range of *cis-Andean C. f. flavigularis* extends through most of Peru with the exception of a prominent hiatus N of central Peru [7]. The portion of the Peruvian range of the nominate race that is most proximate to SE Tumbes is N Cajamarca Department, which is distant from our study site.

Our record of *C. f. marginatus* extends the range of this taxon southward into Peru.

Conspecific Discriminative Morphology

Genetic data indicate that *Chlorospingus* is not a thraupid [48] but instead, an emberizid [49-51]. *Chlorospingus flavigularis* has a flavous guttur (entire throat, [52: 101, 103]) plus flavescent crissum and irides [53-55] as well as an olive dorsum and grey (griseous to fumose) *inferna*.

Nigrinous alae of the holotype of the species are margined olive [53, 54] or possess an internal vexillum (vane) that is colorous [56]. In contrast, remiges of the holotype of *C. f. marginatus* are internally luteous (buff or orange yellow) [56]. The luteous hue becomes increasingly intense as the internal margin of any internal alar vexillum is approximated.

The nominate race has cinereous *inferna* [53, 54] whereas *C. f. marginatus* has a brunnescent pectus that is

Table 3. Selected Distinguishing Morphological Comparisons of *Myiodynastes c. chrysocephalus* and *M. c. minor*

Character	<i>Myiodynastes c. chrysocephalus</i>	<i>Myiodynastes c. minor</i>	Refs. ¹
Remiges	Fuscous. External vexillum margined cinnamon; internal vexillum margined flavescens.		Tschudi ²
	Nigrescent. External vexillum of primary pinnae has tenuous rufous margin; that of secondary & tertiary pinnae has pallid virescent margin. Internal vexillum of all remiges has rufous-flavous border.		Tczn ³
	Internal vexillum margined flavous with dilute fulvous tint (tint of lusterless yellowish brown).	Curt. Intensely rufous external margin & ochraceous-rufous internal margin.	B&T ⁴
Vertex	Elongate pinnae of pileum citreous with virescent apex.		Tschudi
	Pinnae citreous except for cinereous apex. Vertex medially concolorous.		Tczn
	Median stria of vertex entirely citreous. Remainder of vertex cinereo-schistaceous (ashy-slate).	Median flavous vitta of vertex comprehends orangey median crest. Remainder of vertex nigrescent.	B&T
Rostrum (bill)		Ampler & less attenuate	B&T T&B ⁵
Guttur (throat)	Candid		Tschudi
		Pale ochraceous	Tczn
		Jugulum more intensely ochraceous (buff, light brownish yellow)	B&T
<i>Inferna</i>		Flavous	Tschudi
	Abdomen sulphur yellow (greenish and pale yellow)		Tczn
		Abdomen much more intensely flavous	B&T

¹Refs = References; ²[41: 272] — Type description of *Myiodynastes (Scaphorhynchus) chrysocephalus*; ³Taczanowski [39: 293]; ⁴Berlepsch & Taczanowski [38: 296-297]; ⁵T&B = Taczanowski & Berlepsch [40: 91] — Type description of *Myiodynastes chrysocephalus minor*.

dilutely tinted luteous, and possesses brunnescent sides (*latera*) and olivaceous flanks (inferoposterior *latera*) [56].

Elevational Extent, Vagility and Reproductive Period

Ecuadorian records demonstrate that *C. f. marginatus* is a subtropical taxon of mid elevations [elev.: mean = 984 m, SD = 660 m, N = 55, range = 30-2818 m], which makes infrequent forays into lowlands and highlands [22, 44, 57: 411, 58, see 26]. The site most proximate to our study area where *C. flavigularis* had been recorded is La Chonta, Ecuador [22, 58, see 1], whose elevation is 600 m [26].

Chlorospingus flavigularis appears to be capable of reproducing any time during a year [59, 60: 305-306]; nidi contained ova during same month [59] that the author observed this putatively resident species (see Table 1).

Piranga Leucoptera

Distribution

Piranga leucoptera ardens has a latitudinally extensive distribution that extends from extreme SW Colombia to NW Bolivia [17, 18], passing through both declivities of the Andes in Ecuador except for the extreme southwest [16, 20], and through the entire longitude of Peru on the oriental inclination of the Andean Mountains [7, 17, 60]. *Piranga leucoptera* had never been encountered in the vicinity of SE Tumbes and had not been recorded on the occidental Andean inclination of Peru [7]. The location most proximate to our study site where it had been registered was Zaruma, El Oro

Province, Ecuador [22, 57: 290, 61], which is situated ≈34 km by air ESE of Piedras and ≈73 km ENE of El Caucho [1].

Note on Systematics and Morphology

Piranga is a genus of Cardinalidae instead of Thraupidae [48-50, 62, 63]. The juvenile male holotype of *P. l. ardens*, whose color approximates that of the female, is superiorly viridiflavous (greenish-yellow) and inferiorly citreous [41].

Elevational Extent, Vagility and Reproductive Period

Ecuadorian and Peruvian records manifest that *P. l. ardens* is principally a subtropical taxon of mid elevations [elev.: mean = 1571 m, SD = 745 m, N = 37, range = 460–3662 m], which visits the high sierra in some parts of Peru, and makes vagations into lowlands [22, 44, 57, 61, see 26, 64]. Nonetheless, *P. leucoptera* has been considered to be a permanent resident ([60: 314, 65, 66], Table 1).

A nest of the species, presumably active, was observed during April in El Salvador [67]; gonads were tumid during 14-16 June in Panama [68] (see Table 1).

CONFLICT OF INTEREST

None declared.

ACKNOWLEDGEMENTS

Thanks go to personnel of the Tumbes, Lima, and Piura offices of Pro Natureza (Peru) for their assistance with

logistics and with providing transportation between Tumbes and the study site. I thank el Instituto Nacional de Recursos Naturales (INRENA) for the use of their biological station at the Reserved Zone of Tumbes. R. Walter Bachman, Brian Thurnham and Shirley Russo contributed to this paper. The project was funded by Earthwatch.

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Received: February 19, 2012

Revised: March 19, 2012

Accepted: March 26, 2012

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