NOTES ON LITTLE KNOWN BIRDS OF THE UPPER URUBAMBA VALLEY, SOUTHERN PERU

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ABSTRACT.—Distributional, ecological, and behavioral notes are presented for 34 species of poorly known birds from the Upper Urubamba River drainage in southern Peru. Records and data come from work by personnel of the LSU Museum of Zoology between 1974 and 1979. *Received 30 July 1979, accepted 4 October 1979.*

LONG studied as a cradle of the Inca Civilization, the upper Urubamba River valley in the Department of Cuzco, southern Peru, is still poorly known biologically. Its avifauna has been reported upon by Sclater and Salvin (1869), Berlepsch and Stolzmann (1906), and Chapman (1921). The latter paper is a fairly comprehensive report on the bird collections secured by Edmund W. Heller for the Yale University-National Geographic Society's Machu Picchu Expedition (April–November 1915), by Frank M. Chapman and George K. Cherrie (1–24 July 1916), and by Harry L. Watkins (3–25 April 1917). That paper also incorporates the records of the earlier authors who published on the collections of H. Whitely and Jean Kalinowski. Since the appearance of Chapman's 1921 work, no other paper dealing specifically with the avifauna of the region has been written.

From July–September 1974 and again in June 1976, 1977, and 1978, October 1978, and August 1979, personnel from the Louisiana State University Museum of Zoology visited the valley in an effort to obtain distributional, ecological, and behavioral information on birds and small mammals. The purpose of this paper is to provide natural history information for some of the many poorly known species (those with restricted geographical and elevational ranges) encountered during our studies. Of these species, 9 were known from fewer than 10 specimens; 3 others represent the first published records for Peru.

Three principal camps were made along the narrow Ollantaytambo-Quillabamba road that passes over Abra Málaga (3,900 m), and a fourth was at Kiteni (450 m), a small village at the end of that road below Quillabamba. Brief descriptions of the localities, with longitudes and latitudes, follow.

Camp 1.—Canchaillo (or Canchailloc) (13°07'S, 72°22'W), 3,260 m; about 14 road km NW Abra Málaga; 23 July–1 August 1974, 14–15 September 1974. Habitats visited include upper Humid Temperate Zone cloud forest, Puna Zone grassland, and *Polylepis-Gynoxys* woodland in an elevational range of 2,800–3,960 m. The forest near our camp, at treeline, was very dense, with trees ranging in height from 4 to 8 m and with a variety of short bushes present at the edge. Especially prominent near the camp were the trees *Gynoxys* spp. (Compositae), *Polylepis* spp. (Rosaceae), *Miconia* spp. and *Brachyotum* spp. (Melastomataceae), *Clusia* spp. (Guttiferae), bushes of the Ericaceae and Compositae (especially *Gynoxys* spp.), and bamboo (*Chusquea*). Tree limbs and trunks were thickly covered with mosses and lichens. About 300 m above main treeline, surrounded by grassland, were small (less than 1 ha) groves of *Polylepis* trees bordered by *Gynoxys* shrubs. Some of the rarest species of birds that we found inhabited these woodlands. Mist nets were set in openings cut in forest from 3,000 to 3,240 m; guns were also used to secure specimens at these and other elevations. We collected 152 specimens.

Camp 2.—San Luís (13°06'S, 72°25'W); 2,740 m; ca. 30 road km NW Abra Málaga; 1–8 August 1974, 17–22 August 1974. Most of our efforts here were concentrated in Humid Temperate Zone cloud forest averaging about 10 to 12 m in height, from 2,600 to 2,740 m. Arboreal epiphytic growth, including

mosses, bromeliads and climbing ferns, was abundant. Tree ferns (*Lomaria*?) and *Chusquea* bamboo (Gramineae) were also prevalent. In disturbed areas at the forest edge and near potato gardens were groves of alder trees (*Alnus jorullensis*). Nets were placed in the forest understory, especially in or near bamboo thickets. We collected 168 specimens.

Camp 3.—Aputinye (13°0'S, 72°32'W); 1,670 m; humid subtropical forest on the mountain slope directly above (south of) the village of Huyro; 23 August–3 September 1974. We worked this area from 1,730 m (the upper limit of the Huyro tea plantation) to 1,830 m. Average tree height in the undisturbed forest was about 25–30 m, with some as tall as 40 m. Epiphytic growth was not as abundant as at previously described camps, but hanging vines and orchids were conspicuous. Large tree ferns were common. Along the forest edge fruiting trees of the Melastomataceae and flowering *Cecropia* spp. (Moraceae) attracted numbers of tanagers and other frugivores and nectarivores. *Chusquea* bamboo was common in forest openings such as treefalls. A number of bird species were recorded only in trees shading the tea plantation (mainly flowering *Inga* spp.). We collected 214 specimens.

Camp 4.—Peñas (13°10'S, 72°18'W); 3,240 m; about 25 road km NE Ollantaytambo, west of Abra Málaga; 8–11 August 1974. This camp was in a narrow deep valley in and around the Inca ruins of Peñas, in a shrub zone not far below grassland. The area was a patchwork of clumps of bushes (primarily Ericaceae and Compositae) and grazed, small pastures. Bordering a small stream were thickets of alders, *Alnus jorullensis* (Betulaceae) and *Clusia* sp. (Guttiferae). Small, remnant *Polylepis* woodlands occurred high on the valley slopes. We collected 88 specimens.

Camp 5.—Kiteni (or Quiteni) (ca. 12°20'S, 72°50'W); 450 m; about 66 road km beyond Rosalina; 5–12 September 1974. In the transition between Dry Tropical Zone deciduous forest and Humid Tropical Zone forest, this camp was on the floodplain of the Urubamba River at the village of Kiteni. On a ridge north of camp, the forest was fairly open, with some arborescent cacti and tall Bombacaceous trees. Arboreal bromeliads were common. Ground cover was sparse. The north-facing ridge opposite camp was covered by denser, more humid forest with a closed canopy averaging about 30 m in height and sparse undergrowth. Immediately adjacent to the river were taller trees (up to 40 m). Several manioc gardens bordered by second growth had been planted on the village outskirts. We collected 90 specimens.

In addition to the above localities, observations were made in the vicinity of the city of Cuzco and the villages of Ollantaytambo, Machu Picchu, Quillabamba and in intervening areas.

SPECIES ACCOUNTS

Accipiter collaris.—Semicollared Hawk. This rare forest hawk was previously known from the Subtropical Zone of the Andes of western Venezuela, Colombia, and Ecuador (Blake 1977). A male (nonbreeding; no wgt) was collected by Richard Thomas and Parker on 3 September 1974 as it perched atop a tall dead tree at the edge of the Aputinye cloud forest (1,730 m). This represents the first record for this species in Peru and a range extension of over 1,500 km. The specimen closely resembles a female in the collection of the Philadelphia Academy of Natural Sciences, but it is distinctly smaller and somewhat paler and has blackish as opposed to white feathering over the tarsi. The measurements (mm) of our specimen [wing (flat)—161, tail—112, and tarsus—41] fall within the range given by Blake (1977) for the species. This species was probably overlooked in Peru until now because of its shy nature and (probable) narrow elevational distribution.

Buteo leucorrhous.—White-rumped Hawk. This species was formerly known in Peru from the Subtropical Zone of the Pacific slope of the Andes in the northwestern part of the country (Blake 1977), in the Eastern Cordillera from the Department of Junín (Berlepsch and Stolzmann 1902), and from the Department of Huánuco in the Carpish Mountains (3 specimens, LSUMZ; sight record by Vuilleumier, one at 2,500 m on 28 May 1964) and in the Divisoria Mountains (a pair at 1,650 m on 4 September 1979 by Parker and V. Emanuel). Two adults were observed by Parker for 20 min as they circled low over the Aputinye forest edge on 24 June 1976. One of these individuals uttered a thin, high-pitched call note ("pfeee") every 10–15 s.

Heliodoxa rubinoides.—Fawn-breasted Brilliant. This hummingbird of upper Subtropical Zone forest understory was previously known in Peru only as far south as the Department of Junín (Meyer de Schauensee 1966). Two specimens (nonbreeding; ♂, 6.0 g; ♀, 7.0 g) were netted at Aputinye, and two were seen flycatching in rather open forest from 3 to 6 m above ground by Parker. These birds represent a range extension of approximately 380 km.

Aglaeactis castelnaudii.—White-tufted Sunbeam. This central and southern Peruvian endemic was common at Peñas (3,260 m) but rare at Canchaillo (3,260 m). In the first locality it slightly outnumbered

the similar *A. cupripennis caumatonotus*. Both species apparently prefer the more xeric shrub zone near treeline on the west-facing slope of the mountain to the humid eastern slope. Both fed on the nectar of small blue flowers of the shrub *Brachyotum quinquenerve* (Melastomataceae) and pink flowers of *Barnadesia* sp. (probably *horrida*) (Compositae), which bordered woodland and pastureland. Territorial sunbeams of both species perched conspicuously atop these plants and drove off intruding individuals of either species as well as individuals of the much larger *Pterophanes cyanopterus*. For further information on foraging of *Aglaeactis* spp. at Peñas, see O'Neill and Parker (1978). Zimmer (1951) reported on several specimens of *Aglaeactis* from Cachupata, Department of Cuzco, that showed plumage characteristics of both of the above species. There are no intermediate specimens of *A. c. castelnaudii* in our series from Peñas (3 ♂♂, 1 ♀; nonbreeding; $\bar{x}$ = 7 g, n = 4), and our one specimen (♂; nonbreeding; 7 g) of *A. cupripennis caumatonotus* from the same locality is almost inseparable from five additional specimens of that race in the LSUMZ (Departments of Ancash, 2; Lima, 2; and Huánuco, 1). None of the many *Aglaeactis* spp. observed at Peñas exhibited any obvious signs of hybridization, and it would be interesting to determine whether or not both species are resident there. *A. cupripennis caumatonotus* is known to occur throughout the range of *A. c. castelnaudii* (see Peters and Griswold 1943).

Metallura aeneocauda.—Scaled Metaltail. This is another hummingbird of restricted elevational and geographical distribution (Urubamba Valley south to the Department of Cochabamba, Bolivia). This was the common medium-sized hummingbird of treeline forest edge shrubbery at Canchaillo (1 ♂, 1 ♀; nonbreeding). Our only other record was on one netted at Peñas (♂; nonbreeding; 6.0 g). This species may exclude *Aglaeactis* spp. on the more humid east slope, as it also feeds primarily at flowering *Brachyotum* sp. (probably *quinquenerve*) shrubs. In the manner of members of that genus, *M. aeneocauda* hung on flowers while feeding. The smaller ($\bar{x}$ = 3.5 g, n = 5) *Metallura tyrianthina* was also present at Canchaillo in the forest edge, but it was less common than *M. aeneocauda*. The latter is the geographical and ecological equivalent of the more northerly *M. eupogon, M. theresiae, M. baroni* and *M. williami*. The taxonomic relationships of these forms, which are at least members of a species group, remain unclear (see Graves 1980).

Oreonympha nobilis.—Bearded Mountaineer. We first noticed this spectacular bird in June 1977 at introduced tree tobacco, *Nicotiana* sp. (Solanaceae), which grows along road edges in xeric areas around the towns of Cuzco, Pisac, and Ollantaytambo. *Oreonympha* actively competes with several other hummingbirds for this food source. These include, in order of abundance: *Colibri coruscans* (common, widespread, and dominant over *Oreonympha*), *Patagona gigas* (fairly common, perhaps local, and dominant over *Oreonympha*) and *Lesbia nuna* (uncommon and subordinate to *Oreonympha*). The spread of *Nicotiana* may favorably affect the distribution of these and other nectarivorous birds of the arid Temperate Zone of southern Peru. We collected no specimens.

Andigena hypoglauca.—Gray-breasted Mountain-Toucan. Haffer (1974) gives Yurracyacu in the Department of Ayacucho as the southern limit for this striking species. Mountain-toucans were uncommon, from San Luís (2,700 m) to 3,240 m, as evidenced by only five records (seen/heard) between 23 July and 6 August. These were noted singly or in pairs. Two vocalizations heard were (1) a loud, slowly rising, nasal, almost catlike "aaaaaah" (3–5 s long), which is repeated at 4-s intervals for up to 5 min, and (2) low-pitched probable contact calls: "kek-kek-kek" etc. Specimens (1 ♂, 1 unsexed; nonbreeding) are referable to the southern race *A. h. lateralis*. This toucan was not recorded by Parker in the upper Marcapata Valley (3,300 m), 100 km south of the Urubamba region, during the period 16–21 October 1974, suggesting that a hiatus in known distribution (see Haffer 1974) between *A. hypoglauca* and *A. cucullata* may be real and not a function of inadequate collecting.

Leptasthenura xenothorax.—White-browed Tit-Spinetail. This species was previously known only from the type specimen (Chapman 1921) collected by Heller in the upper Urubamba Valley (Torontoy, "14,000 ft") in 1915. Parker found it in small *Polylepis-Gynoxys* woodlands isolated far above treeline (3,900 m) at Canchaillo on 1 August (3 in 1 group) and 15 September 1974 (1), and 2–4 km NW Abra Málaga (4,000 m) in June 1977, June 1978, and August 1979 (always in groups of 3–4). All individuals hopped along *Polylepis* limbs and gleaned twigs and foliage from 50 cm to 4 m above ground. Occasionally these birds uttered short, high-pitched trills. A call note heard was a dry "chek," which is quite similar to that of *L. pileata* of the Western Cordillera in Peru. Our specimens (2 ♂♂, 1 alch.; nonbreeding; 1 × 13 g) agree with the description of the type. Soft part colors were: iris medium brown; bill black, base of mandible pink; tarsi and feet black.

Leptasthenura yanacensis.—Tawny Tit-Spinetail. As in the previous species, this bird was known for many years from the type only, a male collected in 1933 by Carriker above Yánac (15,000 ft), Department of Ancash, west-central Peru (Carriker 1933). Recently Vuilleumier (1969) found *L. yanacensis* to be fairly widespread and common in the Andes of northern Bolivia and suggested that the species should

occur between there and the type locality over 700 km to the northwest. We found this to be the case when Parker glimpsed an individual in *Polylepis* above Canchaillo on 1 August 1974. In June 1977, 3–4 were seen 2 km NW Abra Málaga in the same habitat at 3,900 m (Parker). In both instances *L. yanacensis* foraged in the company of *L. xenothorax,* and in a similar manner. *Leptasthenura yanacensis* was more vocal than *L. xenothorax*; it almost constantly uttered soft chipping notes. No specimens were obtained, but field identification of the species is not difficult. In May 1976 Parker found this tit-spinetail to be common above Yánac (see above) in *Polylepis* from 3,940 to 4,240 m, where it was noted in close proximity to two other poorly known birds, *L. pileata* and *Anairetes alpinus* (see below). These species may eventually prove to share more continuous ranges through the high, inaccessible *Polylepis* zones of central Peru to those in northern Bolivia.

Cranioleuca marcapatae.—Marcapata Spinetail. This distinct species was described by Zimmer in 1935 from two specimens collected in the upper Marcapata Valley (3,300 m), Department of Cuzco, 110 air km south of the Urubamba region. It then remained unknown until we found it again. We observed the species daily in twos and threes in mixed-species flocks moving through *Chusquea* bamboo thickets and mossy forest, from below San Luís to near treeline at Canchaillo (2,380–3,260 m). These uncommon spinetails "hitched" along limbs and probed mosses, bromeliads, and tree bark from 2 to 10 m above ground. The only vocalization heard was a loud, descending series of staccato notes ("tu-tu-tu-tu-tu") reminiscent of those of other *Cranioleuca* species. They were usually noted in association with *Margarornis squamiger, Pseudocolaptes boissonneauti, Basileuterus luteoviridis* and *Catamblyrhynchus diadema.* On 23 August 1979, below the Canchaillo camp, Parker found a large (35 × 25 cm) oval nest of mosses, slender branches, and strips of bark, hanging at the end of a limb approximately 9 m above ground. No *C. marcapatae* were seen in the vicinity, but, in construction and location, the nest resembled those of other *Cranioleuca* spp. (Parker pers. obs.). We collected five males (nonbreeding; $\bar{x}$ = 21.5 g, n = 5). From 16 to 21 October 1974, Parker found the species to be uncommon in Temperate Zone forest near the type locality, Marcapata (2,840 m), and 4 more specimens were secured (2 ♂♂, 2 ♀♀; 1 ♂ with enlarged testes; wgt of 1 ♂ = 22 g, 1 ♀ = 20 g). Soft part colors were recorded as follows: iris reddish-brown; maxilla grayish-horn, mandible silvery to blue-gray; tarsi and feet olive-green. *Cranioleuca marcapatae* apparently replaces the similar *C. albiceps* in the relatively small area between the Vilcabamba Mountains, where *C. albiceps* was recently found (J. S. Weske and J. W. Terborgh pers. comm.), and the Department of La Paz, northern Bolivia. *Cranioleuca albiceps* was previously unknown in Peru.

Cranioleuca albicapilla.—Creamy-crested Spinetail. This furnariid is endemic to the semiarid intermontane valleys of central and southern Peru, from the Department of Junín to Cuzco (Meyer de Schauensee 1970), and very little is known of its natural history. At Peñas it was common, though more frequently heard than seen, in alder thickets bordering a stream and dense hillside shrubbery with scattered tree groves. Here it behaved in the manner of *C. marcapatae.* Once, two were seen probing mosses on boulders at the edge of a small pasture. The loud, harsh, descending call notes of this bird ("tchéw-tchew-chew-chew-chew") were characteristic sounds of the Peñas area. On 24 August 1979 Parker noted at least three *Cranioleuca* type nests at Peñas. These resembled that described in the last account; they were placed at the ends of limbs in isolated low trees surrounded by shrubbery on a hillside (see Peters and Griswold 1943). Specimens include: 3 ♂♂; nonbreeding; 18, 20, and 22 g. Soft part colors were: iris chestnut-brown; bill pinkish-flesh; tarsi and feet olive-yellow. *Cranioleuca albicapilla* resembles *C. antisiensis baroni* of central and northern Peru in basic color pattern, habitat preference, and voice. The two may eventually be merged into the same superspecies.

Schizoeaca helleri.—Puna Thistletail. Described by Chapman (1923) from six specimens taken by Heller in 1915 in the upper Urubamba drainage, this ovenbird was common in *Chusquea* bamboo understory of forest and edge from San Luís to Canchaillo (2,745–3,260 m), where it was seen singly or in pairs gleaning foliage and stalks of bamboo, and shrubbery. When disturbed, as by an observer's squeaking, they bobbed in a wren-like manner. The tail was often held cocked above the body. The song, which was heard mainly early in the morning, is a short trill that intensifies in volume towards the end and then tapers off ("pee-pee-p-p-p-t-t-t-ti"). Occasionally two birds, presumably a pair, called alternately while perched in the same bush or in adjacent bushes. A frequently heard call note was an emphatic "peent" or "feet" that is almost indistinguishable, to Parker's ear, from that of *S. fuliginosa plengei* and that of *S. griseomurina.* Specimens include: 3 ♂♂, 4 ♀♀; nonbreeding; $\bar{x}$ = 16.3 g, n = 3. Soft part colors were: iris brownish-gray; maxilla horn, mandible silver-gray; tarsi and feet gray to blue-gray. Unlike other thistletail species with which we have field experience, *S. helleri* was not restricted to treeline shrubbery and adjacent forest but ranged well down into Temperate forest. This might be explained by "competitive release," as two bamboo-inhabiting furnariids of high cloud forest in the range

of the other thistletails, *Synallaxis gularis* and *S. unirufa,* are not known to occur in this region. Though thistletails are still not well known in terms of behavior, strong plumage similarities among currently recognized species and their allopatric distribution seem to suggest conspecificity. Thus *Schizoeaca helleri* may be a race of the widespread *S. fuliginosa.*

Asthenes ottonis.—Rusty-fronted Canastero. This is another Peruvian endemic furnariid of restricted distribution (Departments of Huancavelica, Apurímac, and Cuzco; Meyer de Schauensee 1970). It was fairly common in dense shrubbery at Peñas and on xeric shrub-and-cactus-dotted slopes above the Urpicancha lakes 20 km south of Cuzco city at 3,100 m, and one was seen by Parker on 15 September in *Polylepis* above Canchaillo. This canastero was difficult to observe, as it usually stayed well hidden within bushes. Constantly moving, individuals occasionally ran for short distances on the ground and perched momentarily on boulders. The characteristic song, which consists of a short, high-pitched, rapidly descending series of notes ("bzee-bzée-bzee-di-di-di-di-d-d-d") repeated at short intervals for up to several minutes, was uttered from the mid- to upper portion of a bush during early morning hours. Three specimens from Peñas include: 1 ♂, 2 ♀♀; nonbreeding; 1 ♂ = 13 g, 1 ♀ = 13 g. Soft part colors were: iris dark brown; maxilla dark horn, mandible silvery; tarsi and feet olive-gray. Behaviorally and in terms of habitat preference, *A. ottonis* is similar to *A. pudibunda* of the Western Cordillera of Peru.

Asthenes virgata.—Junín Canastero. Previously known only from the Department of Junín (Meyer de Schauensee 1970), it has been found more recently in the Department of Lima (specimen, LSUMZ). Our records from Canchaillo and Peñas (see O'Neill and Parker 1978) represent a southward range extension of at least 150 km. At Canchaillo the species was uncommon in bunch grass with scattered small bushes (*Lupinus* sp.) adjacent to Temperate forest and *Polylepis* woodland (3,260–3,960 m). It was most easily found just after dawn when individuals sang from tops of bushes (a buzzy, descending series of notes like that of *A. ottonis*). During the rest of the day, they were flushed from grass clumps, whereupon they flew towards and dropped at bases of bushes. Two males were collected (nonbreeding; 1 = 22 g). Soft part colors were: iris dark brown; maxilla horn, mandible grayish-pink; tarsi and feet olive. In behavior, voice, and habitat preference, *A. virgata* is very like *A. flammulata* and is probably conspecific with the allopatric forms of that species, a taxonomic decision already made by Vuilleumier (1968).

Asthenes urubambensis.—Line-fronted Canastero. First found by Heller at 14,000 ft above Machu Picchu in 1915 (Chapman 1919), and subsequently discovered as far north as the Department of La Libertad (*A. u. huallagae*), this ovenbird was found to be uncommon (1–3 seen daily) in treeline forest edge and *Polylepis* groves above Canchaillo (3,260–3,960 m); it was also observed by Parker in the latter habitat 2 km NW of Abra Málaga in June 1976 and in June 1977. In contrast to the morphologically similar, ground-dwelling *A. virgata, A. urubambensis* is primarily arboreal. Individuals hopped along lower limbs of *Polylepis* and other trees and shrubs, probing mosses, bark, and leaf clusters in search of insects (see Zimmer 1930). No vocalizations were heard. Specimens from Canchaillo were: 3 ♂♂, 1 ♀; nonbreeding; 1 ♂ = 20 g. Soft part colors were: iris medium brown; maxilla horn, mandible silver-gray; tarsi and feet olive-green. In the Canchaillo area a narrow degree of habitat overlap was noted for four species of *Asthenes: ottonis* and *urubambensis* in *Polylepis, urubambensis* and *virgata* in forest edge shrubbery, and *virgata* and *humilis* in grassland. The last species, which is almost entirely terrestrial, preferred rocky, short grass areas devoid of bushes.

Grallaria erythroleuca.—Red-and-white Antpitta. Previously known from fewer than 10 specimens from the upper Urubamba drainage (Sclater 1873), this Cuzco endemic was found at San Luís in secondary woodland bordering a small garden between 2,430 and 2,470 m, where it frequented boggy ground drained by a small stream and devoid of herbaceous growth. Here a dense, continuous canopy of short trees (up to 4 m) and associated vines nearly obliterated direct sunlight below mid-levels of this habitat. Seen singly, this antpitta behaved like a thrush (*Turdus* or *Catharus*). Individuals hopped three–five times, then stopped suddenly, with head cocked slightly to one side as if "listening," and picked insects from fallen leaves, mosses, and mud. Stomachs of specimens contained remains of beetles, ants, spiders, and bits of gravel and plant matter. The sole vocalization heard was a loud, mellow, down-slurred whistle ("hóooo"). This call, quite similar in quality (Parker pers. obs.) to that of the closely related *G. capitalis* of central Peru, was given mainly early and late in the day from a horizontal perch in dense tangles less than 2 m above ground. While calling, the head and neck were held outstretched with the bill pointing upward. No songs were heard. Within approximately 50 m² of the woodland, six specimens of *G. erythroleuca* were shot by Parker (of about nine seen) from 2–6 August (2 ♂♂, 3 ♀♀, 1 fluid-preserved; nonbreeding; $\bar{x}$ = 77.6 g). None was seen or heard elsewhere. Soft-part colors were recorded as: iris medium brown; bill black; tarsi and feet slate-gray to blue-gray. The larger *G. squamigera* ($\bar{x}$ = 115 g, n = 3) was found in the same woods in equal numbers, and the smaller ($\bar{x}$ = 41 g, n = 6) *G. rufula* was seen once. Both of these also foraged on the ground. When more behavioral and, especially, vocal information becomes available, it is highly likely that the allopatric *G. hypoleuca* (including *G.*

przewalskii), *G. erythroleuca, G. capitalis,* and *G. flavotincta* will be found to be members of a superspecies. The song of *G. capitalis* differs distinctly from those of *G. h. castanea* and *G. h. przewalskii,* which have songs that are similar to each other (unpublished pers. obs.). To our knowledge, the songs of *G. erythroleuca* or *G. flavotincta* have not been reported.

Myiotheretes fumigatus.—Smoky Bush-Tyrant. This flycatcher was formerly known to occur south to the Department of Junín in central Peru (Meyer de Schauensee 1970). We observed it only twice at San Luís (2,740 m), both times in close association with two different flocks of tanagers and other flycatchers in the open canopy of fairly tall (10–15 m) cloud forest. One of these, *M. fumigatus,* a male (testes 4 × 2 mm; 34 g; iris dark brown; bill black; tarsi and feet black), was collected. These birds, an individual and a pair, perched conspicuously atop foliage and on limbs and sally-gleaned insects from leaves, epiphytes, and moss-covered branches (see Fitzpatrick 1980 for definitions of foraging terms used in this paper). More recently (1976–1978), we have seen this species foraging in a similar manner in the Departments of Huánuco (Carpish Mts.) and Cajamarca (Cerro Chingüela). All observations (at least 20) have been of one–four birds in canopy of fairly uniform forest, though occasionally close to the edge. In all localities, including Canchaillo, this species was replaced in treeline shrubbery and pajonal (grass-shrub association) by *M. erythropygius,* which takes most of its prey from the ground. In extensive clearings (landslides, gardens, etc.) within Temperate forest in all three regions, *M. striaticollis* was present (usually in pairs) and conspicuous. It catches much of its prey in the air.

Myiotheretes fuscorufus.—Rufous-bellied Bush-Tyrant. At San Luís, this fourth member of the genus was found. It is a rare species known primarily from "about ten [specimens] in major U.S. and European museums" (Vuilleumier 1971). This author considered this taxon to be a peripheral, allopatric representative of a *fumigatus* (along with *pernix* of the Santa Marta Mountains of Colombia) superspecies. At San Luís we saw and netted *M. fuscorufus* within sight of *fumigatus* habitat. The former species, however, seemed to prefer secondary woodland (at all heights) adjacent to undisturbed cloud forest. Like *M. fumigatus, M. fuscorufus* was relatively rare. Sightings included a pair seen in bamboo and understory at 2,740 m on 3 August 1974, a pair sally-gleaning foliage in the tops of alders 5–6 m above ground on 4 August, and a pair sally-gleaning and catching insects on the wing (at least twice during 5 min of observation) in alder and melastome treetops (8 m up), on 6 August 1974. Only once were any vocalizations heard, a series of *Myiarchus*-like "pit" notes. Assuming that our two specimens (♂ ♂; nonbreeding; 26 and 30 g; iris dark brown; bill black, mouth lining grayish-pink; tarsi and feet black) and sightings did not represent migrant birds (which seems unlikely), it appears that *M. fuscorufus* and *M. fumigatus* are sympatric in at least this locality and thus probably not as closely related as was thought by Vuilleumier (1971). They differ in size, coloration, and habitat preference. Our observations lend some credence to Smith's (1971) sighting of what he thought was an as yet undescribed *M. pernix-fuscorufus* type flycatcher in Ecuador within the range of *M. fumigatus.*

Hymenops perspicillata.—Spectacled Tyrant. Two female-plumaged individuals seen by O'Neill and Peter Alden about 10 km east of Iscuchacca along the edge of Laguna Huaypo (ca. 3,350 m), approximately 25 km NW of the city of Cuzco, on 17 July 1974 are the first for Peru. The birds spent most of their time on the ground, feeding like pipits, but on two occasions one flew out and perched in reeds at the lake edge. The species, which breeds in Argentina and Chile, was previously known to winter north only as far as the Department of Beni, northern Bolivia (Meyer de Schauensee 1970).

Casiornis rufa.—Rufous Casiornis. A single specimen (♀; nonbreeding; 24 g) netted by Parker in undergrowth of rather open, dry, Tropical Zone hill forest at Kiteni on 10 September 1974 represents the first published record of this genus for Peru. The subspecies is as yet undetermined. This flycatcher was previously known to range north from the Chaco to the Department of Beni in northern Bolivia (Pearson 1975).

Anairetes alpinus.—Ash-breasted Tit-Tyrant. This rare bird was known only from the type specimen, a female collected above Yánac (Dpto. Ancash), west-central Peru (Carriker 1933), and one female taken at km 50 on the Yungas Railroad, Department of La Paz, northern Bolivia (Carriker 1935). We obtained two additional records, from Cuzco: one female (nonbreeding; 10 g; iris hazel; bill black, mouth lining orange; tarsi and feet black) above Canchaillo on 1 August 1974, and a pair observed 2 km NW Abra Málaga in June 1977. In both instances the birds were in isolated *Polylepis-Gynoxys* woodland (3,900–4,000 m), where they sally-gleaned and perch-gleaned foliage and twigs. No vocalizations were heard. Three additional specimens, taken by Parker above Yánac (Dpto. Ancash) in May 1976, were in the same habitat at nearly 4,260 m. Our Cuzco specimen agrees with the description of the La Paz bird (*A. a. boliviana*) and differs from our Yánac specimens in having more extensive black on the crown and a whitish, as opposed to yellowish, belly. The patchy distribution of this small flycatcher closely parallels those of *Leptasthenura yanacensis* and *L. pileata.*

Uromyias agraphia.—Unstreaked Tit-Tyrant. This flycatcher was previously known from the type, a

male collected above Idma in the Urubamba drainage in 1915 (Chapman 1919), and three specimens from the Carpish Mountains in the Department of Huánuco (O'Neill and Parker 1976). In 1974 we obtained the following additional records: 1 collected of 4 seen in *Chusquea* bamboo below Canchaillo (at 2,980 m) on 28 July; 3+ in 2 different mixed-species flocks (including *Myiophobus ochraceiventris, Hemispingus atropileus* and *Catamblyrhynchus diadema*) on 31 July below Canchaillo (at 2,980 and 3,100 m); and 1 or 2 in second growth at forest edge just above San Luís (2,775 m) on 1 August. Individuals perched in close proximity to each other atop small-leaved bushes at the forest edge or in bamboo. Most of their foraging movements were short outward sally-gleans to upper leaf surfaces and twigs. Less frequently they perch-gleaned leaves after short flights to the prey area (see Fitzpatrick 1980). Unlike most cloud forest birds, this species can be attracted by squeaking. Specimens include two birds (nonbreeding; both 10 g; iris dark brown; bill black; tarsi and feet dark slate).

Notiochelidon flavipes.—Pale-footed Swallow. Formerly thought to be rare, this swallow was described by Chapman in 1922 on the basis of a single specimen collected at Maraynioc (3,250 m), Department of Junín, central Peru. It has subsequently been found in two Colombian localities (Meyer de Schauensee 1966), the Sangay area of Ecuador (J. P. O'Neill and R. Ridgeley unpubl. obs.), and in the Department of Huánuco (Carpish Mts.), central Peru, in 1973 (specimen, LSUMZ). We found it to be locally common within narrow elevational limits (2,685–2,980 m) between our San Luís and Canchaillo camps. Groups of 10–15 were noted daily at the upper limit of this range, while up to 50 were regularly counted in the immediate vicinity of San Luís (2,745 m). Two or three were seen once at treeline at 3,260 m. This species was usually seen flying rapidly, low over, or through, the forest canopy. Occasionally small groups were found perched on bare dead limbs of tall forest trees at the road edge. Calls included a somewhat musical "threeeép" and a distinctive buzzy "bzeet." From San Luís up to about 2,895 m, *N. flavipes* was occasionally seen in association with *N. cyanoleuca,* which is quite similar in overall coloration and even voice, but the latter forages more over open areas rather than in close proximity to the forest. *Notiochelidon flavipes* can be told in the field from *N. cyanoleuca* by its smaller size, its blackish sides, and its faster, more direct flight; the cinnamon throat of *N. flavipes* is not always visible. The calls of *N. cyanoleuca* include short buzzy notes of varying length and intensity and occasional sharp "cheep" notes. We collected 3 ♂♂, 1 ♀ (1 ♂ enlarged testes and a brood patch, the others nonbreeding; 2 ♂♂ = 11 g; iris dark brown; bill black, mouth-lining pink; feet pinkish-flesh). From the upper limit for *N. flavipes* (2,980 m) to above treeline, a third species in the genus, *N. murina,* was seen daily in small numbers. It, too, sometimes flew with *flavipes,* though it seemed to prefer the grassland above treeline. *Notiochelidon flavipes* has no doubt been overlooked in many areas between Colombia and Bolivia due to its similarity to *N. cyanoleuca.*

Thryothorus euophrys.—Plain-tailed Wren. This bamboo-inhabiting wren of the upper Subtropical and lower Temperate Zones of SW Colombia, Ecuador, and northern Peru, was previously known south to the Department of Cajamarca, northern Peru, over 900 km north of the Urubamba region. Finding it to be common at San Luís, Aputinye, and even Machu Picchu (an elevational range of 1,830–2,775 m) was quite a surprise. The populations found in this region represent a morphologically striking new race, which will be described elsewhere.

Conirostrum ferrugineiventre.—White-browed Conebill. This is a poorly known species found from the Department of Huánuco (Carpish Mts.), central Peru, south to the Department of Cochabamba, western Bolivia (Meyer de Schauensee 1970). At Canchaillo it was observed every day in mixed-species flocks (*Mecocerculus leucophrys, Tangara vassorii, Iridosornis jelskii, Dubusia castaneoventris, Anisognathus igniventris,* and *Hemispingus trifasciatus*) that frequented small-leaved canopies of fruiting trees (especially of Melastomataceae) at treeline (3,050–3,260 m). It was also seen by Parker in *Polylepis* above Canchaillo (3,900 m) on 15 September 1974. At Canchaillo it was occasionally observed in association with the similar-sized *C. cinereum,* which is common at Peñas. Both species foraged deliberately in bushes, searching and gleaning the upper and lower surfaces of tiny leaves and nearby twigs, especially those of *Gynoxys* spp. and *Brachyotum* sp. (probably *quinquenerve*). The song of *C. ferrugineiventre,* which is very like that of *C. cinereum,* is a rapid, jumbled series of "seet" and "cheet" notes lasting several seconds. At treeline Parker once observed *C. ferrugineiventre, C. cinereum,* and *C. sitticolor,* all foraging in the above manner in the same shrub. A single female (nonbreeding; 11.5 g; iris dark brown, bill dark horn; tarsi and feet horn) of *C. ferrugineiventre* was collected.

Oreomanes fraseri.—Giant Conebill. Once considered rare, this peculiar species is now known to be locally common in *Polylepis* woodlands throughout Peru. The species was seen twice in that habitat above Canchaillo (2 on 1 August and 2–3 on 15 September 1974), where they noisily flaked off bark of trunks and limbs in search of insects. Only thin "seep" notes were uttered by these birds. Two males were taken (nonbreeding; 1 = 25 g; iris medium brown; bill horn, base of mandible silvery; tarsi and feet blackish, toe pads dull yellow).

Xenodacnis parina.—Tit-like Dacnis. Like the last species, this bird is locally common at and above treeline in forested areas of Peru where the composite shrub (*Gynoxys* spp.) is present. At Canchaillo and Peñas they fed almost exclusively on aphid-like insects gleaned from the undersides of *Gynoxys* leaves. They were fairly common in treeline forest edge (Canchaillo), *Polylepis* woodland, and shrubbery (Peñas) from 3,050 to 3,960 m. At Canchaillo they were occasionally seen in the canopies of small-leaved forest trees. The short, simple song, a series of liquid "whit" notes followed by, or occasionally preceded by, several hissing notes, was heard infrequently (1–3 times daily). Specimens include 2 ♂♂, 1 ♀; nonbreeding; 1 = 12 g; iris brown; bill and legs black.

Iridosornis jelskii.—Golden-collared Tanager. Known to occur at the upper limit of Temperate cloud forest only from the Department of Huánuco (Carpish Mts.) south to the Department of La Paz, northern Bolivia (Meyer de Schauensee 1970), this species is rare in collections, and nothing has been published concerning its natural history. At Canchaillo it was uncommon; one–three were observed daily with flocks of the species mentioned in the account of *Conirostrum ferrugineiventre.* They fed largely on fruits but were also seen searching for insects on leaves at the ends of moss-covered branches. In the absence of any congener (*I. reinhardti* south only to the Department of Ayacucho, 3 specimens, LSUMZ), we might have expected to find this bird at lower elevations in cloud forest. One male (nonbreeding; 26 g) was collected.

Dubusia (=*Delothraupis*) *castaneoventris.*—Chestnut-bellied Mountain-Tanager. This species shares the distribution and status of the previous one and was uncommon at Canchaillo, where one or two were noted in each large mixed-species tanager flock at treeline. When foraging for insects, this bird hopped slowly along limbs 7–10 m above ground and deliberately probed mosses and bromeliads. In this way of feeding it differs strikingly from *Dubusia taeniata,* which at Canchaillo visited fruiting trees but otherwise was seen only in dense undergrowth, especially bamboo. Differences in plumage and behavior between these two species support generic separation for them. Specimens of *D. castaneoventris* from Canchaillo include 3 ♂♂, 1 ♀ (nonbreeding; 1 = 26 g; iris brown; maxilla black, mandible blue-gray; tarsi and feet dark brown).

Creurgops dentata.—Slaty Tanager. This Subtropical Zone forest tanager was known previously from less than 10 specimens from the Department of Puno in extreme southern Peru, and the Departments of La Paz, Cochabamba, and Santa Cruz in Bolivia (Meyer de Schauensee 1966). Parker observed this distinctive species almost daily in mixed-species flocks (mainly *Tangara* spp.) in the forest canopy and subcanopy at Aputinye (1,830 m). As does its widespread congener *Creurgops verticalis, C. dentata* deliberately worked along slender limbs, carefully searching foliage, from 10 to 30 m above ground. A pair was netted in mature second growth (♂ with slightly enlarged testes, 20 g; ♀ nonbreeding, 19 g) and a ♂ (nonbreeding; 19 g) was shot from a treetop. In all three the iris was brown; maxilla and tip of mandible black; basal one-third of mandible, tarsi, and feet blue-gray. Their stomachs contained only insects. These specimens represent a northerly range extension of approximately 150 km.

Hemispingus xanthophthalmus.—Drab Hemispingus. This Temperate Zone tanager of central Peru (from the Department of Amazonas south to the Urubamba Valley, Meyer de Schauensee 1966) was rare at San Luís (2,745 m), where it was occasionally seen with canopy flocks. It was not noted higher where common (up to treeline) farther north (pers. obs.). This species searched small-leaf clusters of treetops and bushes and characteristically walked, with bobbing head, over foliage. Specimens include 2 ♂♂, 1 ♀ (nonbreeding; 1 = 12 g; iris pale whitish-yellow; bill, tarsi, and feet black).

Hemispingus trifasciatus.—Three-striped Hemispingus. This is another treeline forest tanager found from central Peru (Department of Huánuco, Carpish Mts.) to central Bolivia (Department of Cochabamba) (Meyer de Schauensee 1966). At Canchaillo it was seen daily (up to 15) in tanager flocks in small-leafed canopy from 3,050 to 3,260 m. Several times it was noted in groups of four or five individuals apart from mixed-species flocks. Parulid (*Dendroica*)-like, it gleaned leaves at or near the ends of limbs.

Caryothraustes humeralis.—Yellow-shouldered Grosbeak. A male (testes: R = 2 × 1, L = 4 × 2; 31 g; iris crimson; maxilla blackish, mandible blue-gray; tarsi and feet gray) shot by Parker in semi-humid hill forest canopy at Kiteni on 7 September represents the first record of this species for Peru. This peculiar tanager-like grosbeak is probably widespread but often overlooked in the Tropical Zone of eastern Peru. Recently it has been found in the Department of Madre de Díos, southwest of Puerto Maldonado (Parker unpubl. obs.).

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The **Frank M. Chapman Memorial Fund** of the American Museum of Natural History is administered by a committee that meets twice annually to review applications for grants and fellowships. While there is no restriction on who may apply, the Committee particularly welcomes applications from graduate students; management projects and projects by senior investigators are seldom funded. Applications should be submitted not later than **15 February** and **15 September.** Application forms may be obtained from the *Frank M. Chapman Memorial Fund Committee, The American Museum of Natural History, Central Park West at 79th St., New York, N.Y. 10024.*

Dr. Robert Eckhardt was appointed a Naumburg Fellow for the period September 1979 through August 1980. He will study foraging strategies and adaptive syndromes in a guild of tropical flycatchers.

Chapman grants during 1979, totalling $39,956 with a mean of $481, were awarded to: Patricia C. Arrowood, function of duetting in Canary-winged Parakeets; Lee Astheimer, timing of yolk deposition, albumen synthesis, and ovoposition in Cassin's Auklet; Graeme C. Backhurst, Ngulia bird ringing project; Joan M. Ballam, function and engineering of soaring in Red-tailed Hawks; William H. Baltosser, comparative ecology and behavior of nesting hummingbirds in southwestern New Mexico, southeastern Arizona, and northern Mexico; George F. Barrowclough, genetic and phenetic studies of the speciation process. The genus *Junco.* I. The *Junco hyemalis* complex; Ellen R. Becker, breeding biology and ecology of the Black Guillemot, *Cepphus grylle,* in Maine, with special reference to the influence of territory size and habitat utilization on reproductive success; Bruce McPherson Beehler, life in the canopy of a New Guinea forest tree (socioecology of birds of paradise); John C. Beier, epizootiology of avian malaria in captive African penguins (*Spheniscus demersus*) at the Baltimore Zoo; Daniel D. Berger and George Allez, age, sex, and interspecific differences in wing loading and aerodynamic characteristics of birds of prey; Verner P. Bingman, cue interdependency and the ontogeny of migratory orientation; James L. Blank, age-specific reproduction in Red-winged Blackbirds (*Agelaius phoeniceus*); Jacques Blondel, ecomorphological convergences in Mediterranean communities of Europe, North America, and South Africa; Godfrey R. Bourne, Black-bellied Whistling Duck ecology: its relationship to Guyana's rice industry; Lynne A. Brenner, polyandry in the Pheasant-tailed Jacana (*Hydrophasianus chirurgus*); Peter L. Britton, museum study of Andersen specimens collected from Tanzania; Deborah Buitron, social behavior and reproductive strategies of the Black-billed Magpie; Jeffrey T. Burns, mate-switching in House Wrens; Philip J. K. Burton, feeding ecology of *Artamus* spp. and its morphological correlates; Julio E. Cardona, introduced Java Sparrow (*Padda oryzivora*) and its effects on the native avifauna of Puerto Rico; Roberto B. Cavalcanti, adaptive aspects of nest desertion in birds; Betty-Ann Chapman, comparative foraging ecology of wintering gulls on southeastern Lake Erie; Larry Clark, reproductive energetics of Starlings; Sharon D. Clawson, behavioral ecology of the Northern Oriole in western Nebraska; Nigel J. Collar, ICBP Fuerteventura Houbara expedition; Scott L. Collins, nest versus perching site habitat data for two species of warblers; Jeanne A. Conry, ecological relationships in an arctic tundra avian community; Jeffrey A. Cox, habitat selection in Florida Scrub Jays; Thomas E. Dickinson, communicative functions of female song in the Red-winged Blackbird (*Agelaius phoeniceus*); Robert J. Dowsett, population dynamics and ecological distribution of montane forest birds on the Nyika Plateau, Malawi, Zambia; Carl Edelstam, molt in large birds of prey; Hugh I. Ellis, solar radiation and color in Charadriiform energetics; Sue F. Elston, effects of intraspecific kleptoparasitism on breeding Ring-billed Gulls; Mary A. Fitch and Gary W. Shugart, polygyny and female-female pairs in Herring Gulls (*Larus argentatus*); Elizabeth N. Flint, foraging success, energetics, and sleep in the Sooty Tern (*Sterna fuscata*); Nancy J. Flood, adaptive significance of delayed male plumage maturation in *Icterus galbula*; Dennis M. Forsythe, vocalizations of the Eurasian Curlew: a bio-acoustical comparison with the Long-billed Curlew; Ralph Grundel, profitability and searching image in food selection by parent Mountain Chickadees (*Parus gambeli*); Jürgen Haffer, systematics of Palearctic passerine birds; Susan Hannon, female behavior in the Willow Ptarmigan and its relation to population dynamics; Lynn C. Harper, dominance hierarchies, flock size, and foraging success in winter bird flocks; James L. Hayward, social behavior of homosexual gulls; Robert W. Howe, distribution and behavior of birds on small isolated woodlots in Australia and North America; Thomas J. Kaiser, comparative energetics of male and female Prairie Falcons during the breeding season; Paul Kerlinger, tracking radar studies of raptor migration; Nedra

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