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A NEW TODY-TYRANT FROM NORTHERN PERU

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ABSTRACT.—A new species of tyrant flycatcher (Tyrannidae) is described from eight specimens collected at three cloud forest localities in the Andes of northern Peru. The new form is a member of the expanded genus *Hemitriccus*. It is closely allied to *H. kaempferi*, known only from the unique holotype collected in extreme southeastern Brasil, and to *H. mirandae*, known from four localities in northeastern Brasil. The distribution of this relict species group supports the hypothesis that the subtropical faunas of the central Andes and eastern Brasil were at one time continuous. Received 26 February 1979, accepted 11 May 1979.

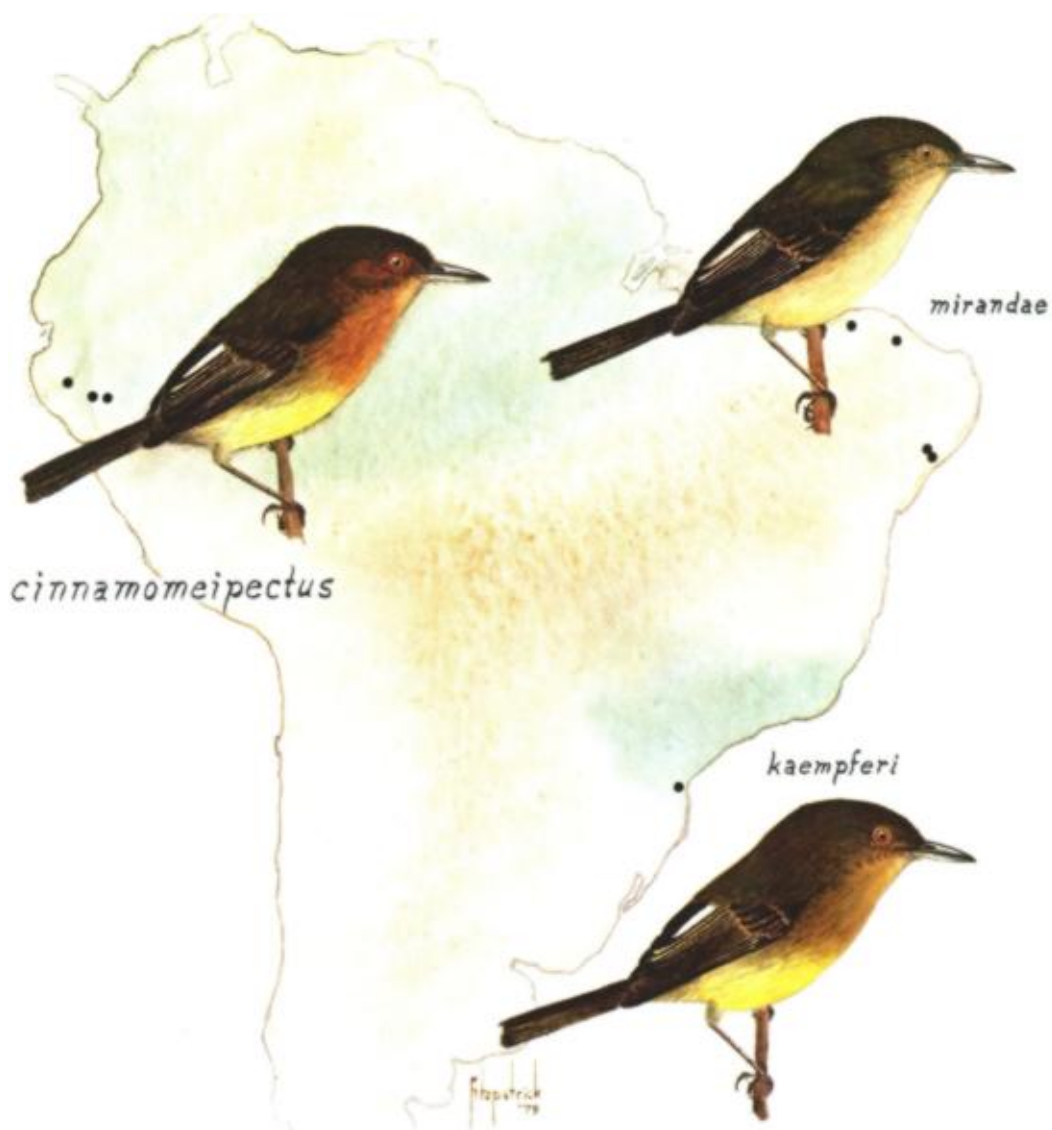
DURING recent ornithological explorations of some little-known, isolated ridges in the Peruvian Andes we collected a small, undescribed tyrant flycatcher (Tyrannidae) at three different cloud forest sites. The bird is a member of the group of genera known collectively as pygmy- or tody-tyrants (Meyer de Schauensee 1966), relatively few of which inhabit montane elevations. Perhaps more surprising, the closest known relative of the new form is represented by a single specimen from extreme southeastern Brasil, 4,000 km from its Peruvian counterpart. In light of this geographic picture, and numerous differences between the plumages of the two forms, we do not hesitate to describe the new form as a distinct species, as follows (see Frontispiece):

Hemitriccus cinnamomeipectus sp. nov.

Cinnamon-breasted Tody-Tyrant

HOLOTYPE: American Museum of Natural History, no. 812797, adult male from the Cordillera del Condor, above San José de Lourdes, Dept. Cajamarca, Peru, 5°02'S, 78°51'W, elevation 2,200 m; collected and prepared 20 July 1976 by John W. Fitzpatrick, field number 76-060.

DIAGNOSIS: Recognizable as *Hemitriccus* (*sensu lato*, see below) by small size, dull green back, wings, and tail, and long, somewhat spatulate bill. Bill thinner, tail relatively longer, and wing bars less pronounced than any green-backed *Todi-rostrum*. Differs from *Hemitriccus mirandae* in having sharp contrast between buffy-orange breast and bright yellow belly, instead of uniform pale sandy-buff underparts. Differs from *H. kaempferi* primarily in having bright buffy-orange, rather than dull buff-brown, eye-ring, throat, and breast; buffy-orange auriculars and lores contrast sharply with dark olive-brown crown in *cinnamomeipectus*; auriculars and lores in *kaempferi* show little contrast to a paler olive crown; faint nuchal collar washed buffy-orange in *cinnamomeipectus*, not present in *kaempferi*.



Frontispiece. Three sister species of tody-tyrants including *Hemitriccus cinnamomeipectus* (Cinnamon-breasted Tody-tyrant), a new form from Peru. Dots show the known localities for each species within South America. Watercolor by John W. Fitzpatrick.

DISTRIBUTION: Known from three localities in northern Peru, at elevations from 1,800 to 2,200 m in the departments of Cajamarca (type locality), Amazonas (12–20 trail km east of La Peca, approx. 5°34'S, 78°17'W), and San Martín (Abra Patricia, 5°46'S, 77°42'W); probably occurs northward along the Cordillera del Condor into adjacent Ecuador.

DESCRIPTION OF THE HOLOTYPE: Upperparts Basic Olive Green (capitalized colors are from Smithe 1975), darker and washed with brownish on crown and nape. Lores, broad eye-ring, and auriculars Cinnamon. Faint malar patch dark grayish; chin Cinnamon, grading into a rich, warm Buff on throat and breast. Underparts grade sharply into pale yellow, brightest and closest to Sulphur Yellow on belly and darkening toward olive on flanks. Undertail coverts faintly tinged buffy. Wings and tail dusky, all remiges and rectrices edged Olive Yellow. Outer web of innermost secondary almost entirely white; inner web of innermost three secondaries white near base. Secondary coverts edged Olive Green; wrist bright yellow. Soft part colors in life: irides pale medium brown; tarsi and feet pinkish-gray; maxilla dark gray, mandible pale flesh.

MEASUREMENTS OF HOLOTYPE: Wing chord 50.5 mm; central rectrices 46.0 mm; tarsus 19.0 mm; culmen: from anterior end of nostril 7.2 mm, from base 14.0 mm; weight 8.5 g.

SPECIMENS: AMNH (holotype); FMNH no. 299451 (♀) from type locality; LSUMZ nos. 82079 (♂), 82078 (♂?), 82080 (juv. ♂), 82077 (♀), from Abra Patricia; LSUMZ nos. 87012 (♀), 87013 (?) from east of La Peca.

REMARKS

Variation among paratypes.—Eight specimens are available from the three Peruvian localities. One specimen (LSUMZ no. 82080) showed no trace of pneumatization in the skull (see Table 1) and had poorly developed testes. While the skulls of even the adults in many small tyrannids show incomplete pneumatization (e.g. Table 1), this specimen appears to be in juvenal plumage, and is described separately below. Of the seven apparent adults we have two males, three females, and two specimens of uncertain sex. As shown in Table 1, males seem to average slightly larger than females, as is typical among pygmy-tyrants. Subtle variation exists in the intensity of the buffy throat and yellow underparts, and the amount of buffy on the wing coverts varies from none to indistinct buffy-olive wingbars. This variation appears not to correspond to sex or geography, and we do not hesitate to include all eight specimens among the paratypes. The mandibles of all adults are pale flesh, tipped with brownish on a few specimens. The juvenile's mandible is black. Eye color varies from pale to dark brown, apparently darkest brown in the immature specimen.

Juvenal plumage.—Besides its peculiar soft part colors (see above), the juvenile specimen differs from the rest in a number of plumage characters. Its body feathers are fluffy and decomposed, and it shows no trace of yellow on the underparts. The throat and breast are pale sandy, not rich buff as in the adults, and this color washes the entire underparts rather than grading into yellow. The entire upperparts are washed brownish except for a few emerging olive feathers, typical of adults, on the lower back. The wings and tail resemble those of the adults.

Breeding and molt.—All specimens were collected between 25 June and 27 August of two different years. Four of the seven adults showed gonadal development in-

TABLE 1. Measurements^a of *Hemitriccus cinnamomeipectus*, *kaempferi*, and *mirandae*.

Specimen	Sex	Wing	Tail	Tarsus	Culmen		Weight (g)	% Ossification ^b
					Exposed	From base		
<i>H. cinnamomeipectus</i>								
Holotype	ad. ♂	50.5	46.0	19.0	7.2	14.0	8.5	50
LSMZ 82079	ad. ♂	51.0	46.0	19.4	7.2	15.0	7.0	50
LSMZ 82078	♂ ?	46.5	41.2	18.0	7.5	14.5	6.5	50
LSMZ 82080	juv. ♂	51.0	43.8	19.2	6.5	13.6	8.5	0
LSMZ 87013	?	50.5	44.0	19.0	8.0	15.0	8.5	50
FMNH 299451	ad. ♀	47.2	40.8	17.6	7.6	13.8	6.8	66
LSMZ 82077	ad. ♀	46.0	41.5	17.2	8.0	14.2	7.5	75
LSMZ 87012	ad. ♀	48.2	41.0	18.0	8.0	14.0	7.5	40
<i>H. kaempferi</i>								
AMNH 315108	♀	45.5	39.0	17.9	7.0	13.5	?	?
<i>H. mirandae</i>								
AMNH 243772	♀	48.2	44.2	18.4	7.8	14.0	?	?
AMNH 243771	?	49.0	42.5	17.2	8.0	14.0	?	?

^a All measurements in mm except where otherwise noted.

^b Estimated percentage of pneumatized skull, as indicated on specimen label.

dicative of breeding condition. One female, collected on 20 July 1976 from the type locality, appears to be in the latter stages of remigial molt, with the outermost pair of primaries still entirely encased in the sheath. Two other adults are still replacing outer rectrices. Body molt is evident only on one adult specimen.

These data, together with the presence of a young bird on 27 August 1976, suggest that these populations may have been near the end of their breeding season during the dry periods in which we were present.

Habitat.—The habitat at the type locality of *Hemitriccus cinnamomeipectus* is described in detail in Fitzpatrick *et al.* (1977, 1979), and a second locality is described in O'Neill and Graves (1977). All known localities for *cinnamomeipectus* are stunted cloud forest sites between 1,800 and 2,200 m elevation on isolated mountain ridges east of the main Andean cordilleras. All specimens but one were mist-netted in the dense lower strata of the cloud forest interior. T. Schulenberg (pers. comm.) briefly observed, then collected, a single free-living *cinnamomeipectus* (LSUMZ 87013) east of La Peca, Amazonas, on 25 June 1978. The bird foraged with quick sallies, gleaning prey from nearby foliage, about 1.5 to 2 m off the ground in forest undergrowth. The bird appeared to be associated with a small mixed-species flock containing antbirds and warblers.

Systematic and biogeographic relationships.—In a recent revision of the Tyrannidae, Traylor (1977) merges the genera *Ceratotriccus*, *Idioptilon*, *Microcochlearius*, and *Snethlagea* into the genus *Hemitriccus* Cabanis and Heine, in which he presently recognizes 19 species (Traylor 1979). Included within *Hemitriccus* is a species group whose five known members (*kaempferi*, *mirandae*, *rufigulare*, *granadense*, and *furcatus*) share buffy eye-rings and faces, pale to rich buff throats, and pale olive backs (see Fitzpatrick 1976, wherein *kaempferi* is consistently misspelled "kaemferi"). All five forms are locally distributed in a geographic ring that surrounds, but does not include, Amazonia. *H. cinnamomeipectus* exhibits all these characteristics, and clearly represents a sixth member of this apparently relict group of species.

In his description of "*Idioptilon mirandae kaempferi*", Zimmer (1953: 10) commented that the unique type of *kaempferi* may be "specifically, rather than subspe-

cifically, distinct." *H. kaempferi* is known only from the unique holotype, collected in the lowland forests of southeastern Brasil (Salto Pirahy, Santa Catarina), and *mirandae* is known from four localities in northeastern Brasil (see Frontispiece). Traylor (1979) follows Fitzpatrick (1976) in assigning species status to these two forms. Zimmer noted that *mirandae* and *kaempferi* differ from nearly all their relatives in possessing a broad, pale stripe along the outer web of the innermost secondaries. This conspicuous feature is also present in *cinnamomeipectus*. The three forms also share the patterns of a buffy head, unstreaked buffy breast, and yellowish belly. Morphologically, these forms are extremely similar (Table 1), and are the smallest members of the genus.

Within this three-species complex, *H. cinnamomeipectus* most closely resembles *kaempferi*. It differs from both sister species primarily in the deep orange-buff color of the face, throat, and breast. These areas are dull buff in *kaempferi* and creamy in *mirandae* (see Frontispiece). The crown and nape of *cinnamomeipectus* are darker and show a more intense suffusion of brown than in the other two forms. Both *kaempferi* and *cinnamomeipectus* show a sharp division between the buffy breast and bright yellow belly, whereas the creamy buff breast of *mirandae* grades uniformly into a pale yellow crissum and undertail coverts. The pale stripe along the innermost secondaries is sharply defined and pale yellowish in *cinnamomeipectus* and *kaempferi*, less well-defined and creamy-white in *mirandae*. The tarsi of both *kaempferi* and *cinnamomeipectus* are grayish, while the tarsi in dried specimens of *mirandae* are a very pale yellow.

H. cinnamomeipectus differs from *kaempferi* primarily in the color of the eye-ring, throat, and breast as described above. In addition, however, the olive-brown crown of *cinnamomeipectus* is darker and separated from the olive mantle by a faint nuchal collar washed buffy-orange, lacking altogether in *kaempferi*. The cinnamon-buff auriculars, eye-ring, and lores in the new form contrast rather sharply with the dark crown. In *kaempferi*, the face (except for a narrow, pale buffy eye-ring) and crown are similarly colored and only slightly darker olive than the mantle. The broad, pale yellow inner remigial stripe extends through four inner remiges (seventh through tenth) in the holotype of *kaempferi*, and is present only on two to three (eighth through tenth) in the specimens of *cinnamomeipectus*. Finally, the pale buffy-olive wing bars of *kaempferi* are more distinct than on any specimen of *cinnamomeipectus*. These plumage differences, together with the habitat difference and the wide geographic gap between *cinnamomeipectus* and *kaempferi*, convince us that the new form should be recognized as a distinct species. We recommend placing it immediately after *Hemitriccus kaempferi* in the linear arrangement (Traylor 1979) to reflect the close relationships between the two species.

While we view their differences as sufficient to warrant specific recognition of all three forms, the striking similarities between *cinnamomeipectus*, *kaempferi*, and *mirandae* strongly suggest that these forms represent widely disjunct populations of a single ancestral form (see Frontispiece). Sick (1970) discusses several additional cases in which bird species endemic to southeastern Brasil show close affinities to Andean forms. Sick interprets these as cases of colonization, but he also mentions similar patterns among certain butterflies and plants. In our view, the persistence of two sister species of small, sedentary tyrannids in these regions, now separated by a gap of some 4,000 km, supports the alternative hypothesis that the faunas of these two subtropical regions were joined at some point during the Pleistocene.

Climatic changes and competitive interactions in the interim would thus account for the separation of these faunas, leaving only a few relict species groups as evidence for an ancient distributional continuity. Further discussion of this peculiar geographic picture, and a model for its origin, are presented in Fitzpatrick (1976, in press).

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