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STUDIES OF PERUVIAN BIRDS. NO. XLVI¹

THE GENUS *TANGARA*. PART 1

BY JOHN T. ZIMMER

I am grateful to Mr. R. M. de Schauensee and Mr. James Bond of the Academy of Natural Sciences of Philadelphia and to Mr. W. E. Clyde Todd of the Carnegie Museum, Pittsburgh, for the loan of important material used in the following studies.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color standards and color nomenclature."

Tangara chilensis chilensis (Vigors)

Aglaia Chilensis VIGORS, 1832, Proc. Comm. Sci. Corr. Zool. Soc. London, vol. 2, p. 3—no locality but presumably thought to be Chile (*errore*); subst. Bolivia by Hellmayr, 1910; type in Cuming coll., repository unknown.

A[glia] Yeni D'ORBIGNY AND LAFRESNAYE, 1837, Mag. Zool., vol. 7, cl. 2, "Syn. Av.," p. 31—Yuracares, Bolivia; Paris Mus.

Río Cosireni, 1 ♂; Astillero, 3 ♂, 2 ♀; La Pampa, 1 ♂; Río Huacamayo, 1 ♂; Candamo, 1 ♂; Río Távara, 2 ♂, 1 ♀; Río Inambari, 1 ♀; Tulumayo, 4 ♂, 3 ♀, 1 (?); Perené, 3 ♂, 2 ♀; La Merced, 2 ♂, 2 ♀; Pozuzo, 2 ♂, 1 ♀; Lagarto, 1 ♂; upper Ucayali, 1 ♂, 1 ♀; lower Ucayali, 1 ♂; Sarayacu, 4 ♂, 4 ♀; Orosa, 2 ♂, 5 ♀; Puerto Indiana, 5 ♂, 3 ♀; Nauta, 1 ♂; Apayacu, 2 ♀; Río Cenipa, 1 (?); Río Tapiche, 1 (?); mouth of Río Curaray, 2 ♂, 1 ♀; Huarandosa, 3 ♂, 3 ♀; Pomará, 5 ♂, 4 ♀; Río Seco, 7 ♂, 1 ♀; Uchco, 2 ♂.

Compared with numerous examples from Bolivia, eastern Ecuador, southeastern Colombia, and western Brazil without find-

ing any characters to distinguish the birds of any part of this extensive range. Furthermore, there is not a great deal of individual variation beyond the duller coloration shown by young birds. The amount of black around the eye and at the base of the bill is slightly variable as it is in other forms of the species. Young birds, aside from their generally duller coloration, have the lower back variously orange or orange red, in contrast to the lighter yellow rump of the allied *coelicolor* and *paradisaea*.

Peruvian records are from Cosñipata, Huaynapata, Marcapata, San Gaban, Caradoc, Río Comerciato, Chanchamayo, Río Colorado (Chanchamayo), Monterico, Iquitos, Pebas, Yahuas (near Pebas), Jeberos, Chayavitas, Moyobamba, and Rioja.

Tangara chilensis chlorocorys Zimmer

Tangara chilensis chlorocorys ZIMMER, 1929 (March 25), Proc. Biol. Soc. Washington, vol. 42, p. 91—Vista Alegre, Perú; ♂; Field Mus. Nat. Hist.

Huayabamba [Valley], 2 ♂, 1 (?); Nuevo Loreto, 3 (?).

These specimens confirm the characters of this curiously isolated population. An occasional example of *coelicolor* shows a close approach to the present form, but the distinctions hold for almost all of a long series of the more northern bird.

On the other hand, *coelicolor* and *paradisaea* show complete intergradation in northeastern Venezuela, and it is extremely difficult to know to which form the birds from this area should be assigned. I have very few topotypes of either form but find that these appear to be separable on the basis of the following characters. In *coelicolor* the green cap is somewhat more ex-

¹ Earlier papers in this series comprise American Museum Novitates, nos. 500, 509, 523, 524, 538, 545, 558, 584, 646, 647, 668, 703, 728, 753, 756, 757, 785, 819, 860, 861, 862, 889, 893, 894, 917, 930, 962, 963, 994, 1042, 1043, 1044, 1045, 1066, 1095, 1108, 1109, 1126, 1127, 1159, 1160, 1168, 1193, 1203, and 1225.

tensive posteriorly (in the middle); the red of the lower back is a little deeper in tone and a little more broadly extended posteriorly; the yellow of the rump is a little deeper in tone; the wing and tail are longer; and the violaceous band across the upper wing-coverts is confined largely to the single row of median coverts. These characters are those on which distinction was made by Hellmayr (1936, Field Mus. Nat. Hist. Publ., zool. ser., vol. 13, pt. 9, p. 83) but not entirely those of the original separation of *coelicolor* by Selater.

In all of these particulars, the birds of Mt. Duida, the Cassiquiare, the Uaupés, both banks of the upper Rio Negro in Brazil, and the right bank of the lower river agree with Bogotá examples or exceed them. Certain specimens show a decidedly deeper red patch on the back or a markedly more extensive one, and the wing and tail are always longer than in Cayenne skins.

A long series of birds from Mt. Roraima and Mt. Auyan-tepui is intermediate between the Cayenne skins and the series of *coelicolor*. As a series, the specimens have the red of the lower back a little lighter in tone and more restricted in extent than in *coelicolor*, although not to the extreme shown by the few Cayenne examples at hand. The rump is a little lighter yellow, about as in *paradisaea*; the violaceous band on the upper wing-coverts sometimes is restricted to a single row of feathers—the median series—but usually involves a second row of feathers above, sometimes including the entire feather and sometimes only the tip. The green of the cap is as in *coelicolor*, and the wing and tail are as long as in that form. Some examples are inseparable from *coelicolor*; some, except in size, are like *paradisaea*.

A number of birds from the Río Caura are most like the Roraima birds except that the yellow of the rump is slightly deeper, more as in *coelicolor*. The wing and tail are as in the smaller examples of *coelicolor* but longer than in *paradisaea*.

Since the Roraima and Caura birds are not clearly either *coelicolor* or *paradisaea* but represent different degrees of intermediacy, I prefer to keep them as intermediates.

I use the name *Tangara* for this genus advisedly. Dr. Hellmayr was in error in believing that the International Zoological Congress at Padua had invalidated Brissonian genera, although the matter was brought before that congress. In any case, the name *Calliste* would be next in order of preference since, by the International Code of Zoological Nomenclature, it is not preoccupied by the earlier *Callista*, and *Calospiza* is still farther down the list of generic names available for this group.

Tangara schrankii (Spix)

Tangara schrankii SPIX, 1825, Av. Spec. Nov. Bras., vol. 2, p. 38, pl. 51, figs. 1 (♂), 2 (♀)—no locality; Hellmayr suggests Tabatinga; cotypes in Munich Mus.

Pomará, 1 ♂, 2 ♀; Río Seco, 5 ♂, 3 ♀; Río Negro, 2 ♀; Jeberos, 1 ♂; Chayavitas, 2 ♂; Chamicuros, 1 ♂, 1 ♀; Orosa, 2 ♂, 6 ♀; Puerto Indiana, 6 ♂, 6 ♀; Río Mazán, 1 ♀; mouth of Río Curaray, 8 ♂, 7 ♀; Sarayacu, 6 ♂, 8 ♀; "Upper Ucayali" [= Cashiboya], 1 ♀; Santa Rosa, 1 ♀; Pozuzo, 1 ♂, 1 ♀; Tulumayo, 2 ♂; Río Távora, 8 ♀, 3 ♀; Candamo, 2 ♂, 1 ♀; Astillero, 1 ♀; Marcapata, 1 ♀; Cosñipata, 1 ♂, 1 (?).

This species has an extensive range in upper Amazonia but shows no tendency to break up into subspecies. A single male from extreme eastern Colombia on the Río Uaupés, opposite Tahuapunto, Brazil, extends the range of *schrankii* some distance to the northeast.

Peruvian records are from Pebas, Río Javari [Yavari], Prov. Maynas, Shanusi (near Yurimaguas), Yurimaguas, Nuevo Loreto, Huachipa, Cayumba (near Huachipa), Chanchamayo, La Merced, La Gloria, Río Cosireni, Amable Maria, Monterico, Río Cadena, and Huaynapata. Loretoyacu, an early locality of record, is in territory now belonging to Colombia.

Tangara punctata zamorae Chapman

Tangara punctata zamorae CHAPMAN, 1925 (Feb. 26), Amer. Mus. Novitates, no. 160, p. 9—Zamora, Ecuador; ♂; Amer. Mus. Nat. Hist.

Four birds from Ucheco, east of Chachapoyas, northern Perú, agree best with this east-Ecuadorian form, although they show a certain approach toward the characters of

perenensis of central Perú. The belly is a little more broadly pale than in most of the Ecuadorian birds, but part of the difference is due to the preparation of the skins. There is a stronger tinge of yellow on the belly than in any *perenensis* at hand, and the sides and flanks are much brighter than in that form, being yellower than in most Ecuadorian specimens of *zamorae*. The differences do not seem sufficient to warrant the separation of the Uchco birds from *zamorae*, but their distinction from *perenensis* is obvious.

Hellmayr (1936, Field Mus. Nat. Hist. Publ., zool. ser., vol. 13, pt. 9, p. 97) comments on a female from Huayabamba [Valley?] as not typical *zamorae*, although nearer that form than to *perenensis*, but he does not give the distinctions. There are no other Peruvian records other than the Moyobamba specimen listed below.

***Tangara punctata perenensis* Chapman**

Tangara punctata perenensis CHAPMAN, 1925 (Feb. 26), Amer. Mus. Novitates, no. 160, p. 9—Utcuyacu, Perú; ♂; Amer. Mus. Nat. Hist.

The least heavily marked on the under parts of the various forms of the species, and with the lower under parts most broadly and purely white. It seems to be restricted to the Chanchamayo region of central Perú with a record from Garita del Sol in addition to the localities listed below.

Birds from southeastern Perú have been assigned by authors to *punctulata*, described from northern Bolivia, but a series from this part of the country is readily distinguishable from the Bolivian form as well as from *perenensis* and, although intermediate between them, may well support separation as defined below.

***Tangara punctata annectens*, new subspecies**

TYPE: From Río Inambari, southeastern Perú; altitude 2200 feet. No. 132820, American Museum of Natural History. Adult male (breeding) collected April 24, 1915, by H. and C. Watkins; original No. 107.

DIAGNOSIS: Intermediate between *P. p. perenensis* of central Perú and *T. p. punctulata* of northern Bolivia, being more

heavily and sharply marked above and below than *perenensis* but less sharply marked than *punctulata* and with less yellowish margins of the mantle feathers and upper wing-coverts, darker rump and flanks, less extensive spotting on the lower under parts, and usually a less broadly whitish area above the lores.

RANGE: Southeastern Perú in the Inambari region.

DESCRIPTION OF TYPE: Forehead and supra-loral region narrowly whitish, the pale area continued indistinctly over the orbit; rest of forehead with broad blackish centers on the feathers, margined with Deep Glaucous Green; back of head and hind neck clearer green on the margins passing into Grass Green × Scheele's Green on the margins of the mantle feathers; lower back and upper tail-coverts like the margins of the mantle feathers, with the dusky central spots largely concealed. Lores blackish; rest of sides of head with blackish centers and narrow whitish margins, faintly tinged with glaucous; throat similar but with pale edges broader and dusky centers narrower; breast similarly marked; sides of breast and sides of neck with the pale margins Chalcidony Yellow, graduating dorsad into the color of the mantle; lower breast with central blackish spots narrow and acute; belly pure whitish; upper part of flanks marked like the sides of the breast, but lower part with dark central spots becoming obsolete and the terminal margins Light Bice Green; under tail-coverts Pale Glass Green with dark shaft streaks. Remiges blackish; outer margins of primaries narrowly deep Scheele's Green except toward the tips where they are pale brownish; secondaries with outer margins a little broader, becoming also lighter on the inner quills; tertials with broad but not very sharply defined margins, near Parrot Green; lesser wing-coverts blackish, margined with Chromium Green on the lower feathers but with a slightly more bluish tinge on the smaller ones; median and greater coverts with lighter green margins, Calliste Green × Yellow-Green; alula and primary-coverts contrastingly bluish on margins, near Deep Niagara Green; under wing-coverts white

but with a tinge of bluish near the carpal margin where also dark centers are slightly exposed; inner margins of remiges dull whitish. Tail dull blackish; outer margins of rectrices the color of the rump; a tinge of dark green on the inner webs of the median pair. "Bill black; feet slate." Wing, 63 mm.; tail, 46; exposed culmen, 9.5; culmen from base, 12.2; tarsus, 18.

REMARKS: Females much like the males but very slightly smaller on average; wing, 61–61.75 (♂, 61.9–64.8); tail, 41–44.2 (♂, 43–47). The spotting on the throat and breast also averages a little less pronounced and that on the back perhaps faintly duller. This dorsal marking is quite in contrast to that of the females of *perenensis* which is sometimes very dull, in marked distinction from that of the males of the same form. In *punctulata*, as in *annectens*, the sexes show little difference in the prominence of the dorsal maculation.

An immature female (?) from the type locality, collected April 27, is dull green on the upper surface, with all the dusky markings dull and inconspicuous. Similarly, the blackish centers of the anterior and lateral under parts are reduced to dull brownish gray marks, poorly defined against the equally dull whitish margins, slightly yellowish on the sides of the breast. The belly is soiled whitish with traces of darker tips. A few feathers of the first winter plumage are beginning to appear on the throat and sides.

Peruvian records of "*punctulata*" belong with this new form, including those from Río Cadena, Huaynapata, and Marcapata.

SPECIMENS EXAMINED

T. p. punctulata.—

BRITISH GUIANA:

(Rockstone, Wismar, upper Mazaruni district, Essequibo, and Mines district), 2 ♂, 2 ♀, 5 (?).

FRENCH GUIANA:

"Cayenne," 1 (?).

VENEZUELA:

(Mt. Auyan-tepui, Mt. Duida, and Mt. Roraima), 3 ♂, 6 ♀, 2 (?).

BRAZIL:

(Manaos, Faro, Igarapé Cacao Pereira, Pará, and Igarapé Assú), 4 ♂, 1 ♀, 1 (?).

T. p. zamorae.—

ECUADOR:

Zamora, 4 ♂ (incl. type), 1 (?);

Guayaba, 1 ♂, 1 ♀;
below San José, 2 ♂;
Ambato, 1 (?);
"Napo," 1 (?);
"S. Ecuador," 1 (?).

PERÚ:

Uchco, 3 ♂, 1 ♀;
Moyobamba, 1 ♂¹.

T. p. perenensis.—

PERÚ:

Utcuyacu, 6 ♂ (incl. type), 1 ♀;
Tulumayo, 1 ♀;
Chanchamayo, 1 ♂.

T. p. annectens.—

PERÚ:

Río Inambari, 3 ♂ (incl. type), 2 ♀;
Río Távora, 1 ♂;
Santo Domingo, 2 ♂, 1 ♀;
La Oroya, Inambari, 3 ♂², 1 ♀².

T. p. punctulata.—

BOLIVIA:

Yungas, Cochabamba, 2 ♂;
Palmar, Cochabamba, 2 ♂, 2 ♀²;
Calabatea, La Paz, 1 ♂².

Tangara xanthogastra xanthogastra

(Selater)

Calliste xanthogastra SELATER, 1851 (Jan.), Contrib. Ornith., p. 23—"Rio Negro"; ♂; probably British Museum.

Ixotheupis chrysogaster BONAPARTE, 1851 (March), Rev. Mag. Zool., ser. 2, vol. 3, no. 3, p. 144—Colombia; coll. of M. Eyrolle; repository unknown.

Calliste xanthogastra rostrata BERLEPSCH AND STOLZMANN, 1896, Proc. Zool. Soc. London, p. 339—La Merced, Chanchamayo region, Perú; ♂; Warsaw Mus.

The type locality of *xanthogastra* is variously indicated by Selater in different publications. In the original account he says, simply, "Rio Negro." In his "Catalogue of American birds" (p. 64, 1862) he specifies a Bogotá specimen as type, but this may be a *lapsus calami* since a skin from the "Upper Amazon" is listed also, and in the "Catalogue of birds in the British Museum" (vol. 11, p. 106, 1866) this other example is said to be the type.

In the original account (*loc. cit.*), Selater says that the bird was lent to him by Edward Wilson who had obtained it from [J. and E.] Verreaux, and in the same journal, page 56, he still cites the Rio Negro as sole locality, with the added note

¹ Specimen in Field Museum of Natural History, Chicago.

² Specimens in Academy of Natural Sciences, Philadelphia.

"(Verreaux, No. 8622)." Edward Wilson's material was destined for the Academy of Natural Sciences of Philadelphia, but the type of *xanthogastra* never reached that institution. It may have been lost in transit with other material known to have gone down at sea, or it may possibly have been presented to Selater, although I can find no record to that effect.

There is a possibility, therefore, that the "Upper Amazon" bird actually is the type in spite of an apparent discrepancy in locality. In Selater's "Monograph of the ...genus *Calliste*" (pp. 23-24, 1857), he indicates the range of *xanthogastra* as "on the southern and eastern slope of the Andes of New Grenada, Ecuador and Peru" and says nothing about Brazil and its Rio Negro. In fact, although I have specimens before me from that stream, there are no published records of any others. On the other hand, the bird also occurs near Moyobamba, Perú, where there is also a Río Negro, and there is some evidence to indicate that material from this latter region was reaching Europe as early as 1851 (see account of *T. cayana cyanolaema*). There is thus considerable possibility that the type locality of *xanthogastra* is properly the Río Negro, Perú, as I hereby suggest, and that Selater's "Upper Amazon" in this case is synonymous with that locality.

I am unable to detect any differences between Rio Negro (Brazil) material and specimens from the Andean region. The Rio Negro specimens average a little smaller than the others, but both the smallest and the largest birds in the series at hand are from Perú. There is nothing in the series, furthermore, to warrant the recognition of a central-Peruvian "*ros-trata*."

On the other hand, a small series from Mt. Auyan-tepui, Venezuela, is quite distinct from all the rest of the material and deserves a separate name as is detailed below.

Peruvian records of typical *xanthogastra* are from Pebas, Huambo, Nuevo Loreto, upper Ucayali (= Cashiboya), Ropaybamba, Paltaypampa (of Jelski), La Merced, La Gloria, Chanchamayo, Chaquimayo, and Marcapata.

***Tangara xanthogastra phelpsi*, new subspecies**

TYPE: From Mt. Auyan-tepui, Venezuela; altitude 1100 meters. No. 325062, American Museum of Natural History. Adult male collected February 6, 1938, by the Phelps Venezuelan Expedition of the American Museum of Natural History; original No. 1418.

DIAGNOSIS: Similar to *T. x. xanthogastra* of the Rio Negro, Perú (and Brazil), but with longer wing and tail, heavier bill, more yellowish anterior under parts, more broadly yellow belly, duller flanks, more yellowish green head, and more metallic luster on the outer surface of the wings.

RANGE: Mt. Auyan-tepui, Venezuela, and probably also Mt. Roraima.

DESCRIPTION OF TYPE: Top of head Cosse Green × Calliste Green, becoming darker, near Lettuce Green on the back of the neck; each feather with a blackish central area, concealed on the forehead but more or less exposed on the rest of the area; mantle with broad blackish centers and sharply defined margins of Deep Glaucous Green × Niagara Green; rump and upper tail-coverts near Scheele's Green. Sides of head and malar area near Mineral Green; a broad eye-ring a little brighter, near light Calliste Green with central dusky spots not completely hidden; loreal spot in front of eye-ring blackish; throat (centrally), breast, and sides with broad blackish centers margined with Greenish Yellow; belly broadly clear Lemon Yellow; flanks dull Scheele's Green; under tail-coverts like belly but with dusky shaft-stripes not reaching the tips of the feathers. Remiges blackish; outer margins of the primaries near Fluorite Green, lighter toward the base; secondaries more broadly margined with Rejane Green and tertials and upper wing-coverts still more broadly edged with the same hue, having also a brassy luster; primary-coverts and alula distinctly bluer on outer margins. Under wing-coverts white, faintly tinged with yellow; carpal margin bluish; inner margins of remiges dull whitish. Tail blackish with outer margins (and inner margins of median pair of rectrices) Light Porcelain Green; tail in

ventral aspect has a bluish tinge. Bill (as noted by the collector) with maxilla horn; mandible blue gray with tip horn; feet slate. Wing, 68.5 mm.; tail, 47; exposed culmen, 9.5; culmen from base, 14; tarsus, 18.

REMARKS: A female is a little greener and darker on the top of the head than any of the males but not so green as *xanthogastra* of either sex; the other characters are as in the males. Wing, 68.25; tail, 44. Including the type, four males have the wing, 67–68.5; tail, 44–48.5.

A young bird from Nicaré, Río Caura, may possibly belong in *phelpsi* but is too young to make determination certain. I place it here tentatively because of its geographical origin and because the green of the upper surface is lighter than that shown by young *xanthogastra* and the breast perhaps a little more yellowish in tone.

I have no material from Mt. Roraima or Mt. Kukenam, but Chubb (1921, "Birds British Guiana," vol. 2, p. 507) gives the measurements of a Roraima male as: wing, 67; tail, 47; and of a Roraima female as: wing, 66. These measurements agree better with those of *phelpsi* than with those of *xanthogastra*, and the near geographical position of Roraima to Auyan-tepui strengthens the value of the measurements. For the present, therefore, Mt. Roraima and Mt. Kukenam may be included in the range of *phelpsi*.

I take great pleasure in naming this form for Mr. William H. Phelps, sponsor and member of the Phelps Venezuelan Expedition of the American Museum of Natural History.

SPECIMENS EXAMINED

T. x. xanthogastra.—

BRAZIL:

Río Negro, Tatú, 3 ♂, 6 ♀, 1 (?);
Yucabí, 1 ♂, 1 ♀;
San Gabriel, 2 ♂;
Río Uaupés, Tahuapunto, 1 ♂;
Ilanarete, 1 ♀.

COLOMBIA:

La Morelia, 1 ♂;
"Bogotá," 3 (?).

ECUADOR:

Río Suno, above Avila, 3 ♀;
below San José, 2 ♂, 1 ♀;
San José, 1 (?);
Sarayacu, 2 (?);

"Napo," 3 (?);
Zamora, 1 ♀;
Macas region, 1 (?);
Cotapino, 1 (?);
Río Tigre ?, 1 (?);
Gualaquiza, 1 (?);
"Ecuador," 2 (?).

PERÚ:

mouth of Río Curaray, 3 ♂, 3 ♀;
Apayacu, 3 ♂, 1 ♀;
Orosa, 1 ♂;
"Lower Ucayali," 1 ♀;
Rioja, 1 ♂¹;
Moyobamba, 1 ♂¹;
Río Seco, 1 ♂;
Pomará, 1 ♂;
Tulumayo, 1 ♂;
Río Colorado (Chanchamayo), 1 ♀¹;
Pozuzo, 2 ♂;
Astillero, 2 ♂;
Río Távara, 1 ♂.

BOLIVIA:

Mapiri, 1 (?).

T. x. phelpsi.—

VENEZUELA:

Mt. Auyan-tepui, 4 ♂ (incl. type), 1 ♀,
1 (?);
?Río Caura, Nicare, 1 (?).

Tangara arthus aequatorialis (Taczanowski and Berlepsch)

Calliste pulchra aequatorialis TACZANOWSKI
AND BERLEPSCH, 1885, Proc. Zool. Soc. London,
p. 77—Machay, eastern Ecuador; ♂; Warsaw
Mus.

Three birds from Chaupe, northern Perú, are best referable to the present form, although they exhibit a noticeable trend toward *pulchra* of the more central part of the country. The throat and chest are strongly orange brownish, quite unlike the light extremes of *aequatorialis* though not so dark as in typical *pulchra*. If they were alone in this characteristic, it would appear necessary to refer them to *pulchra*, but they are matched by various east-Ecuadorian skins from Zamora, Ambato, San José, and Gualaquiza, while others form an easy transition to the light extreme in which there is no more than a trace of the deeper color on the anterior under parts. Consequently, assignment of the Chaupe birds to *aequatorialis* seems advisable.

One specimen, possibly of this form, labeled "Ecuador; Wallace," has the top of the head, the throat, and the breast between Scarlet and Scarlet-Red, and there

¹ Specimens in Field Museum of Natural History, Chicago.

are touches of the same color on other parts of the plumage. The exact locality is in doubt, and it may possibly have come from Perú, but there is little question that the coloration is abnormal and not indicative of an unknown form with this characteristic.

The specimen recorded by Bangs and Noble (1918, Auk, vol. 35, p. 459) from Charapi and assigned to *pulchra* should belong to the same form as the Chaupe birds.

Tangara arthus pulchra (Tschudi)

C[alospiza] pulchra TSCHUDI, 1844 (May), Arch. Naturgesch., vol. 10, no. 1, p. 285—forests of eastern Perú (I suggest Chanchamayo Valley); Mus. Neuchâtel.

This form has a fairly wide range in central Perú, from the Chanchamayo Valley north to the Chachapoyas region. Records are from La Gloria, Garita del Sol, Amable Maria, Ropaybamba, Cueva Seca, Huambo, and Huayabamba [Valley].

Tangara arthus sophiae (Berlepsch)

Calliste sophiae BERLEPSCH, 1901 (Jan.), Jour. für Ornith., vol. 49, p. 83—Songo, Bolivia; ♂; Frankfort Mus.

Numerous specimens at hand from southeastern Perú are inseparable from Bolivian examples.

I question the record from Cuzco, based on a skin in the British Museum collected by Whitely. Whitely obtained more than one example of the form at San Antonio, in the Department of Cuzco, but I can find no evidence elsewhere that he collected any birds at the town of Cuzco; certainly it is not included among Whitely's localities in the reports on his collections from southern Perú published by Sclater from time to time. The word "Cuzco" on a Whitely skin may require interpretation as meaning the Department of that name and not the town.

Records assignable to *pulchra* are from San Antonio, Huaynapata, Marcapata, Río Cadena, and Chaquimayo.

In this connection it may be stated that *T. a. goodsoni* is found at Alamor, western Ecuador, so close to the Peruvian boundary that its occurrence on the Peruvian side of the line is to be expected.

I follow Hellmayr in placing this and related forms in the *arthus* group. It must be admitted that there is no demonstrable intergradation between *arthus* and *aurulenta* or any other form of the group, but the general pattern of coloration is much the same throughout the group and the brown hue of the breast and flanks of *arthus* is repeated in *sophiae*, although in a different position on the anterior under parts.

It may be of interest to point to a specimen of *arthus* at hand from Santa Estanques, near Mérida, Venezuela. There has been some doubt expressed that the bird occurred in the Mérida region, but this example, a Briceño skin, presents evidence that it does occur there, although perhaps sparingly.

SPECIMENS EXAMINED

T. a. arthus.—

VENEZUELA:

(Silla de Caracas, Galipan, Cerro de Avila, San Esteban Valley, Cumbre de Valencia, San Antonio, Mt. Bucarito, Santa Estanques, Caripe, and "Venezuela"), 5 ♂, 2 ♀, 11 (?).

T. a. sclateri.—

COLOMBIA:

"Bogotá," 6 (?).

T. a. aurulenta.—

COLOMBIA:

"Bogotá," 6 (?);

Subia, 1 ♀;

Aguadita, 2 ♂, 1 ♀;

El Roble, 1 ♂;

Fusugasugá, 1 ♂, 1 ♀;

Anolaima, 1 (?).

T. a. occidentalis.—

COLOMBIA:

Gallera, 1 ♂;

Las Lomitas, 1 ♂, 1 ♀;

San Antonio, 2 ♂ (incl. type), 3 ♀;

La Frijolera, 3 ♂;

Cocal, 1 ♂, 1 ♀;

near Honda, 1 ♂;

Río Lima, 1 ♂;

Concordia, 1 ♂;

Las Cruces, 1 ♂, 1 ♀;

Primavera, 1 ♂;

"Bogotá," 1 (?).

T. a. occidentalis × *goodsoni*.—

COLOMBIA:

Ricaurte, 3 ♂, 3 ♀.

ECUADOR:

Paramba, 1 ♂ (juv.).

T. a. goodsoni.—

ECUADOR:

Gualea, 6 ♂ (incl. type), 3 ♀;

(Cayandeled, San Bartolo, near Intag, near

Quito, Pallatanga, Cocó, Canzacota, Zaruma, Portovelo, Salvias, El Chiral, Pullango, Punta Santa Ana, Las Piñas, and Alamor), 35 ♂, 13 ♀, 1 (?).

T. a. aequatorialis.—

ECUADOR:

(Zamora, San José, below San José, Ambato, Baeza, Río Oyacachi, Archidona, Macas region, lower Sumaco, Valley of Gualaquiza, Sabanillas, "Ecuador," "S. Ecuador," and "Napo"), 6 ♂, 10 ♀, 10 (?).

PERÚ:

Chaupe, 3 ♂.

T. a. pulchra.—

PERÚ:

Río Seco, 1 ♂, 2 ♀;
Uchco, 1 ♂;
Huachipa, 3 ♂¹, 1 ♀¹;
Pozuzo, 1 (?);
Garita del Sol, 1 ♂;
Chanchamayo, 1 ♂, 1 ♀¹.

T. a. sophiae.—

PERÚ:

Marcapata, 2 ♂, 1 ♀;
Santo Domingo, 1 ♀;
Inca Mine, 1 ♀;
La Pampa, 2 ♂, 1 ♀;
Río Inambari, 3 ♂, 1 ♀;
Río Távora, 1 ♂.

BOLIVIA:

Yungas, Cochabamba, 6 ♂, 2 ♀.

**[*Tangara icterocephala icterocephala*
(Bonaparte)]**

Calliste icterocephala BONAPARTE, 1851, Compt. Rend. Acad. Sci., Paris, vol. 31, no. 3, p. 76—Ecuador = Valley of Punto Playa, near Quito; Paris Mus.

A male at hand is labeled "Alamor, Perú," but the locality is in Ecuador, although not far from the Peruvian border. There are no records from Peruvian territory.

I believe that this species is easily divisible into two forms, one ranging from Costa Rica to extreme eastern Panamá (Tacaruna) for which the name *frantzii* is available, and the other in western Colombia and western Ecuador. I have 24 examples from Colombia (one) and Ecuador and 65 from Costa Rica and Panamá and every example, except two or three juvenile specimens on which the yellow feathering has not yet developed, is distinguishable as belonging to one or the other form in accordance with its point of origin.

The Central American birds have the yellow parts of the plumage of a deeper,

more cadmium-tinged hue than that found in typical *icterocephala*, regardless of sex or age. In addition, the series at hand show a little overlap in measurements but an average distinction; male *icterocephala* has the wing 69–74 mm. (average, 71.6); *frantzii*, 74–78 (average, 75).

I propose, therefore, the recognition of *frantzii* as a subspecies of *icterocephala*, a position of distinctness that has been refused to it since Salvin (1867, Proc. Zool. Soc. London, p. 138) found himself unable to separate it.]

***Tangara xanthocephala venusta* (Sclater)**

Calliste venusta SCLATER, "1854" [= Apr., 1855], Proc. Zool. Soc. London, vol. 22, p. 248—"in Nova Grenada et in rep. Equatoiranae provincia Quijos"; type from "Bogotá" in British Mus.

Chaupe, 3 ♂, 3 ♀; Uchco, 3 ♂, 1 ♀; Cushi Libertad, 2 ♂.

It is very interesting to find that this form ranges through central Perú as far south as Cushi Libertad, on the Río Pozuzo, in the Ucayali drainage. It thus occupies parts of all three major river systems of the country.

The depth of color on the top of the head is somewhat variable, and two of the males from Uchco and the two from Cushi Libertad exceed most of the rest of the series in this respect. However, at least one east-Ecuadorian male and Colombian specimens, including a "Bogotá" example, are similar while the other two Uchco examples are like the average bird from farther north. The Chaupe specimens are quite typical. In any case, the extreme depth of color in any of the north-Peruvian examples is distinctly closer to that of average *venusta* than to that of any *xanthocephala* examined.

Another set of variations may have more significance. Birds from the western side of the Western Andes of Colombia are usually slightly bluer on breast and back than all other examples of *venusta* at hand, and the black band on the forehead averages narrower. The distinctions are not perfectly maintained and are slight at best, and it would be of doubtful value to erect a subspecies for the western birds. West-

¹ Specimens in Field Museum of Natural History, Chicago.

Ecuadorian specimens are like those from the eastern part of the country.

So far I have found no evidence of the occurrence of *venusta* on the eastern side of the Eastern Andes of Colombia, although it occurs on that slope in Ecuador.

Peruvian records of this form are from Charapi, Tambillo, and Cueva Seca.

Tangara xanthocephala xanthocephala (Tschudi)

C[allopiza] xanthocephala TSCHUDI, 1844 (May), Arch. Naturgesch., vol. 10, no. 1, p. 285—Perú = wooded region of eastern Perú; I suggest Vitoc; Mus. Neuchâtel.

Chelpes, 2 ♂, 4 ♀; Utcuyacu, 1 ♀.

Strictly intermediate between *venusta* and *lamprotis* and apparently restricted to the Chanchamayo region. *Venusta* occurs at Cushi Libertad, very little isolated by Humid Tropical and Temperate Zones from the Subtropical habitat of this form in the Chanchamayo region, and *lamprotis* occurs in the Urubamba Valley similarly but slightly separated zonally.

Records are from Ropaybamba, Vitoc, Garita del Sol, and Chanchamayo.

Tangara xanthocephala lamprotis (Sclater)

Calliste lamprotis SCLATER, 1851, Contrib. Ornith., p. 65—Bolivia; British Mus.

Idma, 8 ♂, 2 ♀; San Miguel, 1 ♂, 1 ♀; near San Miguel, 1 ♂, 1 (?); Santa Rita (Urubamba Valley), 1 ♂; Santo Domingo, 3 ♂, 2 ♀; Inca Mine, 1 ♂, 2 ♀.

There appears to be no distinction between these birds and Bolivian specimens. Peruvian records are from Torontoy and Huaynapata.

***Tangara chrysotis* (Du Bus)**

Calliste chrysotis DU BUS, 1845, Esq. Ornith., pl. 7—Perú; Brussels Mus.

Tangara chrysotis cochabambae TODD, 1924 (July 8), Proc. Biol. Soc. Washington, vol. 37, p. 121—Yungas of Cochabamba, Bolivia; ♂; Carnegie Mus.

I am not sure that two forms of this species should not be recognized, but their proper delimitation is in doubt. If individual specimens from different parts of the range are held in a variety of positions and minutely compared, it is possible to get

a slightly stronger blue reflection from the Bolivian birds (among those at hand) than from those of other localities, but the difference is slight and all but overcome by the individual variation of the more northern birds. A much more easily discernible distinction is found in the color of the belly which is pale in the Bolivian birds and deeper in the Ecuadorian skins. However, one specimen from Chirimayo, south-eastern Perú, agrees with the Ecuadorian series, while all the other Peruvian examples at hand, from the extreme north to the extreme southeast, are distinctly closer to the Bolivian birds, occasionally equally pale, and one specimen from Río Oyacachi, northeastern Ecuador, agrees with them. On this basis, instead of that of the evanescent blue tinge, Peruvian and Bolivian birds should go together and the Ecuadorian population be separated.

In any case, no disposition should be made of the case until the type of *chrysotis* can be carefully compared with extremes of both variations. For the present, therefore, the species may be maintained undivided.

Peruvian records are from Río San Miguel, Río Cadena, Huaynapata, Chirimayo, Río Jelashte, and Tamborapa.

SPECIMENS EXAMINED

T. chrysotis.—

ECUADOR:

Río Oyacachi, 1 ♀;
Sabanilla, 1 ♂, 1 ♀;
Zamora, 1 ♂, 1 ♀;
Güilca, 1 ♂;
Colimba, 2 ♂;
"Napo," 1 (?);
"Ecuador," 1 (?);
"S. Ecuador," 1 (?).

PERÚ:

Río Seco, 1 ♂;
Chaupe, 2 ♀;
Chanchamayo, 2 ♂, 1 ♀;
Santo Domingo, 2 (?);
Chirimayo, 1 ♂.

BOLIVIA:

Yungas, Cochabamba, 2 ♀.

Tangara parzudakii parzudakii (Lafresnaye)

Tangara Parzudakii LAFRESNAYE, 1843, Rev. Zool., vol. 6, p. 97—Bogotá, Colombia; cotypes in Mus. Comp. Zool.

Tangara parzudakii florescentes BANGS AND

NOBLE, 1918, Auk, vol. 35, p. 459—Charapi, Perú; ♀; Mus. Comp. Zool.

I can find no constant differences among Colombian, east-Ecuadorian, and north-Peruvian birds. The Colombian birds average a little duller in the coloration of the belly and a little lighter brown on the under tail-coverts, but there is a wide overlap in which the distinctions do not hold.

The supposedly distinct "*florentes*," based on a single bird, cannot be maintained. The measurements of the type, as given in the original description (wing, 87 mm.; tail, 57), show a longer wing than that of any female at hand, although surpassed by some of the males and longer than in some others. It is possible that the type was wrongly sexed. The other character given for "*florentes*" is quite at variance with that exhibited by the north-Peruvian birds as a whole since, as noted above, the color of the lower under parts here averages slightly darker than in Colombian specimens, not paler as stated for the type.

The non-occurrence of this bird on the eastern side of the Eastern Andes of Colombia is curious in view of its range on that slope in Ecuador. Peruvian records are from Charapi and Auquimarca.

While central Peruvian birds are quite like those from the northern part of the country, examples from the Urubamba Valley may be separated as follows.

Tangara parzudakii urubambae, new subspecies

TYPE: From Idma, above Santa Ana, Urubamba Valley, Perú; altitude 5000 feet. No. 145750 American Museum of Natural History. Adult male collected July 12, 1916, by Frank M. Chapman and George K. Cherrie.

DIAGNOSIS: Similar to *T. p. parzudakii* of central and northeastern Perú, eastern Ecuador, and eastern Colombia, but with shorter and stubbier bill. Forehead slightly darker and duller red; top of head averaging a little lighter yellow and possibly a little less extended posteriorly; under parts with the dusky subterminal area of the feathers averaging more pronounced;

belly less broadly and less warmly tawny and with subdued streaks present.

RANGE: Urubamba Valley, southern Perú.

DESCRIPTION OF TYPE: Forehead Brazil Red; auricular patch Brazil Red \times English Red; a narrow bar behind the nostrils black, continued as a black mask surrounding the eye, on the lores, the malar apex, chin, and throat and all but interrupted below the auriculars but broadening behind the auriculars into a semilunar patch. Crown, occiput, and nape Light Cadmium \times Cadmium Yellow, broadening laterally on the sides of the neck behind the black semilunar patch; the yellow feathers with black bases. Mantle and scapulars black. Rump Ochraceous-Buff strongly iridescent with hues of Lavender, Light Sky Blue, Neuvidur Green, and Light Yellow-Green; shorter upper tail-coverts similar but longer ones with only narrow blue or blue-green tips. Breast Chrysolite Green with blue, violet, green, and buff reflections and with the subterminal portion of the feathers rather broadly dusky brown, not entirely concealed but giving a certain spotted effect; middle of belly narrowly dull light Tawny-Olive with traces of dusky streaks; under tail-coverts brighter, near Buckthorn Brown \times Cinnamon-Brown. Remiges black; secondaries with a narrow stripe of Methyl Green or Motmot Blue in the median portion of the outer margin; greater upper wing-coverts black with a similar bright area on the outer margins at the tips, forming a conspicuous wing-bar; median and lower lesser coverts with broad tips the color of the rump; smaller lesser coverts, primary-coverts, and alula black; under wing-coverts Pinkish Buff; carpal area blackish with narrow pale tips; inner margins of remiges inconspicuously pale. Tail black. Bill (in dried skin) blackish; mandible slightly brownish; feet brown. Wing, 84 mm.; tail, 56; exposed culmen, 8.8; culmen from base, 11.1; bill from nostrils, 6.4; gonys, 6; tarsus, 19.7.

REMARKS: Female not certainly distinguishable from the male.

The series of Urubamba Valley birds

shows the exposed culmen to vary between 8 and 10 mm., average 8.8 [in *parzudakii*, 9.2 (once)—11.8, average, 10.3]; culmen from base, 11–12, average, 11.6 (in *parzudakii*, 13–15.3, average, 13.9); bill from nostril, 6.1–7.4, average, 6.6 (in *parzudakii*, 7.1–8.5, average, 7.8). Even when the bill of *parzudakii* shows the culmen apparently as short as that of *urubambae*, the shape of the bill is appreciably different, and the mandible, in particular, appears broader in proportion to its length and a little flatter.

The record of "*parzudakii*" from Santa Ana belongs in the present subspecies.

SPECIMENS EXAMINED

T. p. parzudakii.—

COLOMBIA:

La Palma, 1 ♂;
Aguadita, 2 ♀;
El Roble, 1 ♂;
Subia, 4 ♂, 1 ♀;
"Bogotá," 11 (?).

ECUADOR:

Baeza, 2 ♂, 3 ♀;
Sabanilla, 1 ♂;
(unspecified), 2 (?).

PERÚ:

Andoas, 1 ♂;
Chaupe, 3 ♂, 3 ♀;
Uchco, 1 ♂;
Chilpes, 2 ♂, 1 ♀;
Huacapistana, 1 ♂.

T. p. urubambae.—

PERÚ:

Idma, 6 ♂ (incl. type), 1 ♀, 1 (?).

T. p. lunigera.—

ECUADOR:

Gualea, 4 ♂, 6 ♀;
El Chiral, 1 ♂;
Nanegal, 1 ♂;
Milligalli, 1 ♂;
near Mindo, 2 ♂;
near Quito, 1 ♂, 1 (?);
(unspecified), 8 (?).

[*Tangara cyanotis cyanotis* (Sclater)]

Calliste cyanotis SCLATER, 1858, Proc. Zool. Soc. London, vol. 26, p. 294—Perú bordering Bolivia or Bolivia; British Mus.

Although it is quite possible that this subspecies occurs in southeastern Perú, no specimens have ever been taken there. It has been found in northern Bolivia, in the La Paz and Cochabamba regions, and, until evidence is at hand that Perú is included in the range, the form cannot be added to the Peruvian list.]

Tangara cyanotis lutleyi Hellmayr

Calliste melanotis SCLATER (nec *Aglaira melanotis* Swainson, 1837 = *T. schrankii*), 1876, Ibis, p. 408, pl. 12, fig. 1—Río Napo, eastern Ecuador; British Mus.

Tangara lutleyi HELLMAYR, 1917 (Sept. 20), Verhandl. Ornith. Gesellsch. Bayern, vol. 13, no. 2, p. 198—new name for *Calliste melanotis* Sclater.

No important differences are apparent in a series from Perú, Ecuador, and Colombia. Peruvian records are from Paltaypampa, Chirimayo, Achamal, Huayabamba [Valley], and Nuevo Loreto.

SPECIMENS EXAMINED

T. c. cyanotis.—

BOLIVIA:

Yungas of Cochabamba, 1 ♀¹.

T. c. lutleyi.—

PERÚ:

Idma, 4 ♂, 1 ♂², 2 ♀;
Chanchamayo, 2 ♂, 1 ♀³;
Garita del Sol, 1 ♂;
Huachipa, 1 ♀³;
Cushi Libertad, 1 ♂;
Utcuyacu, 1 ♂, 1 ♀;
Uchco, 2 ♀.

ECUADOR:

Sabanilla, 1 ♀;
lower Sumaco, 1 ♂;
Archidona, 1 (?)².

COLOMBIA:

"Bogotá," 1 (?), 1 (?)²;
La Palma, 1 ♂.

Tangara labradorides chaupensis
Chapman

Tangara labradorides chaupensis CHAPMAN, 1925 (Febr. 26)?, Amer. Mus. Novitates, no. 160, p. 10—Chaupe, Perú; ♂; Amer. Mus. Nat. Hist.

Chaupe, 3 ♂ (incl. type), 1 ♀; Chachapoyas, 1 ♀.

The discovery of a misidentified specimen of this form in the Rothschild Collection adds another locality to the known range. There are no other recorded specimens.

Tangara cyanicollis cyanicollis
(D'Orbigny and Lafresnaye)

A[glia] cyanicollis D'ORBIGNY and LAFRESNAYE, 1837, Mag. Zool., vol. 7, cl. 2, "Syn. Av.," p. 33—Yuracares, Bolivia; Paris Mus.

Tangara cyanicollis gularis CHAPMAN, 1919

¹ Specimen in Carnegie Museum, Pittsburgh.

² Specimens in U. S. National Museum, Washington, D. C.

³ Specimens in Field Museum of Natural History, Chicago.

(Sept. 1), Bull. Amer. Mus. Nat. Hist., vol. 41, p. 332—Candamo, southeastern Perú; ♂; Amer. Mus. Nat. Hist.

Specimens from as far north as the upper reaches of the Río Huallaga and the Río Pozuzo, in the Ucayali drainage, are not always distinguishable from Bolivian examples, although occasionally there is a trend toward the characters of *caeruleocephala*, apparent even in some southeast-Peruvian birds. The most pronounced example of this trend is a female from Pozuzo which has the throat quite strongly violaceous. A male from the same locality shows none of this coloration. One male from the Yungas of Cochabamba, Bolivia, has the head slightly lighter blue than any of the Peruvian birds at hand, but the rest of the Bolivian series may be matched by Peruvian skins, although none of them is so dark as the darkest Peruvian specimen.

The colors of the rump and shoulder patch are variable but do not reach the full intensity found in *caeruleocephala*.

Peruvian records are from San Gaban, Yahuarmayo, Chaquimayo, Marcapata Valley, Huaynapata, Idma, Río San Miguel, Monterico, Paltaypampa, Garita del Sol, La Merced, Borgoña, and Espe-
ranza.

Tangara cyanicollis caeruleocephala (Swainson)

Aglaia caeruleocephala SWAINSON, "1838"
[= Dec. 31, 1837], Anim. in Menag., p. 356—
Perú = northern Perú; Liverpool Mus.

This form is readily distinguishable from *T. c. cyanicollis* in most cases by its violaceous throat and anterior border of the crown but intergrades with it in the upper Huallaga Valley. As noted under *cyanicollis*, certain examples of that form show a greater or lesser amount of the violaceous color but remain, on average, closer to the Bolivian birds. In the present series, a single specimen from Nuevo Loreto shows a little less pronounced violaceous hue on the fore part of the crown and the throat but is closer to *caeruleocephala*. A similar assignment has been made by Hellmayr for three specimens from the same general region.

The range of *caeruleocephala* extends up the eastern side of the Eastern Andes of Ecuador and Colombia and crosses the

range in southernmost Colombia to the head of the Magdalena Valley, as outlined by Chapman (1917, Bull. Amer. Mus. Nat. Hist., vol. 36, pp. 598–599), although I cannot agree with Chapman's assignment of Honda birds to this form. They may be matched more closely by the series of *granadensis*. Hellmayr (1936, Field Mus. Nat. Hist. Publ., zool. ser., vol. 13, pt. 9, p. 124, footnote) assigns the upper Magdalena birds to *granadensis*, and it may be a matter of opinion whether they are best referred to that form or to the present one; actually they may be matched by extremes of either. Likewise "Bogotá-skins" are often equivocal, for while some of them are rather definitely one or the other, some are not so certain.

The exact locality where the type of this form was obtained is uncertain, but other forms described by Swainson from the same source, W. Hooker's collection, are presumed to have come from northern Perú where they were probably taken by Andrew Mathews, a collector for Hooker, who is known to have worked in that part of the country.

Peruvian records of *caeruleocephala* are from Huambo, Huayabamba [Valley], Corral, Piña, Perico, and Tabaconas.

SPECIMENS EXAMINED

T. c. cyanicollis.—

BOLIVIA:

Yungas of Cochabamba, 4 ♂, 2 ♀;
San Mateo, 2 (?).

PERÚ:

Candamo, 2 ♂ (incl. type of "*gularis*");
Caradoc, 1 ♂;
Santo Domingo, 3 ♂, 3 ♀;
La Pampa, 1 ♂;
Astillero, 1 ♀;
Río Inambari, 3 ♂, 1 ♀;
Río Távora, 5 ♂, 2 ♀;
Cosñipata, 1 ♀;
Tulumayo, 4 ♂, 3 ♀, 1 (?);
Utcuyacu, 1 ♂, 2 ♀;
San Ramón, 1 ♂;
Perené, 1 ♀;
Pozuzo, 1 ♂, 1 ♀;
Río Colorado, 1 ♂¹;
Chanchamayo, 1 ♀¹;
Chinchao, 2 ♀¹;
Vista Alegre, 1 ♂¹, 3 ♀¹;
Hacienda Buena Vista, Río Chinchao, 1 ♂¹,
1 ♀¹.

¹ Specimens in Field Museum of Natural History, Chicago.

T. c. caerulescephala.—

PERÚ:

- Nuevo Loreto, 1 (?);
 Moyobamba, 1 ♂¹;
 Río Seco, 2 ♂, 1 ♀;
 Uchco, 2 ♂, 1 ♀;
 Lomo Santo, 3 ♂, 1 ♀;
 Santa Rosa (Marañón), 1 ♂;
 Huarandosa, 2 ♂, 2 ♀;
 San Ignacio, 1 ♂, 3 ♀;
 Chaupe, 3 ♂, 3 ♀;
 mouth of Río Curaray, 4 ♂.

ECUADOR:

- Zamora, 7 ♂, 1 ♀, 4 ♀ (?);
 Sabanilla, 3 ♂, 1 ♀;
 Ambato, 1 (?);
 Baeza, 3 ♂, 2 ♀;
 Macas region, 2 (?);
 San José, 1 ♂;
 Río Suno, above Avila, 2 ♂, 1 ♀;
 Oyacachi, 1 ♂;
 Chivinda, 1 (?);
 Valley of Gualaquiza, 6 (?);
 "Ecuador," 3 (?);
 "Headwaters of Marañón," 7(?).

COLOMBIA:

- Buena Vista, 2 ♂, 1 ♀;
 near Quitame, 2 ♂;
 La Candela, 1 ♂;
 Andalucia, 2 ♂, 1 ♀;
 near San Augustin, 2 ♂, 4 ♀;
 "Bogotá," 10 (?).

T. c. granadensis.—

COLOMBIA:

- (Miraflores, Las Lomitas, near Honda, El Consuelo, La Frijolera, San Antonio, Tenasuca, Fusugasugá, Aguadita, Barbosa, Primavera, Río Lima, and "Bogotá"), 15 ♂, 5 ♀, 6 (?).

T. c. cyanopygia.—

ECUADOR:

- (Chimbo, Nanegal, below Mindo, Canzacota, Guala, Santa Rosa, Esmeraldas, coast of Manaví, and "Ecuador"), 23 ♂, 6 ♀, 1 (?).

T. c. hannahiae.—

VENEZUELA:

- Sierra de Carabobo, 2 ♂, 1 ♀;
 San Cristóbal, Táchira, 5 ♂, 1 ♀, 1 (?).

T. c. melanogaster.—

BRAZIL:

- Utiarity, 1 ♂, 3 ♀;
 Tapirapoan, 1 ♂, 1 ♀;
 Doze Octubre, Matto Grosso, 1 ♀.

Tangara nigro-cincta nigro-cincta (Bonaparte)

Aglaia nigro-cincta BONAPARTE, "1837" [= June 14, 1838], Proc. Zool. Soc. London, vol. 5, p. 121—"Brazil bordering Perú"; subst. north-eastern Perú, Berlepsch, 1912; type apparently lost.

¹ Specimens in Field Museum of Natural History, Chicago.

Calliste thalassina STRICKLAND, 1844, Ann. Mag. Nat. Hist., vol. 13, p. 419—"believed to be brought from Mexico" (errore); Strickland coll., Cambridge, England.

Aglaia Wilsonii LAFRESNAYE, 1847, Rev. Zool., vol. 10, p. 71—"Guaunco," Perú = Dept. of Huánuco; cotypes in Acad. Nat. Sci., Philadelphia, and Mus. Comp. Zoöl., Cambridge.

A series of over 50 birds from all parts of the range of *nigro-cincta* shows no appreciable differences of coloration and only minor ones of size. Nine adult males from Perú have the wing 68–75 mm. (only two below 71); two Bolivian males show one 69 and one 72; one Ecuadorian male, 69.5; two "Bogotá" males, 70; seven males from southern Venezuela, northern Brazil, and easternmost Colombia, 65–70.5, with only two above 70. This leaves an overlap of measurements in about 40 per cent of the specimens, however arranged. The overlap may be fortuitous, owing to the small extent of the sample, and might be reduced in a large series. For the present, however, it is too large to allow a satisfactory subdivision of the form.

The association of the *larvata* group with *nigro-cincta* in a single species is, perhaps, a rather broad arrangement since *larvata*, *fanny*, and *franciscæ* are closer together than the three are to *nigro-cincta*. Nevertheless, I think there is little question of sufficiently close affinity among the four forms to hold them together, whether as species or "superspecies," in distinction from the other members of the genus. Since the genus is a large one, there is advantage in expressing this relationship which, in a system of trinomial nomenclature, can be done only by referring them to a common specific unit. Hence I adopt the arrangement here used.

The separation of *franciscæ* and *larvata* has been variously suggested to place Costa Rican and Nicaraguan birds in one form or the other. The material at hand is more satisfactorily divided by placing Nicaraguan and north-Costa Rican birds in *larvata* and most of the Costa Rican specimens in *franciscæ*. The birds most nearly like *larvata* are from Carrillo, situated on an affluent of the Río San Juan; the remainder are from river valleys with more southern outlets, either in the Caribbean or

the Pacific. However, these north-Costa Rican birds are somewhat intermediate between the two forms and may be matched with extremes of either, and no good purpose will be served by dividing the ranges at this point.

The Nicaraguan birds are more clearly referable to *larvata*, making the Río San Juan a good line of geographical demarcation. Eight skins from this country are distinctly closer to this form than to *franciscæ*, although none of them is so strongly marked as the darkest-throated birds from Guatemala; one or two of them exceed the lighter Guatemalan skins, and all of them stand out well from the series of *franciscæ*.

Peruvian records of *nigro-cincta* are from Iquitos, Huambo, Huayabamba [Valley], Nuevo Loreto, Borgoña, La Merced, Chanchamayo, Río Ucayali, "Eastern Perú," and [Dept.] Huánuco.

SPECIMENS EXAMINED

T. n. nigro-cincta.—

BOLIVIA:

Mapiiri, 2 ♂, 1 ♀.

PERÚ:

Cosñipata, 1 ♂;

Perené, 1 ♂;

Pozuzo, 1 ♂, 1 ♀;

Pomará, 1 ♂;

Río Negro, 3 ♂, 2 ♀;

Yarina Cocha (Ucayali), 1 [♂];

mouth of Río Curaray, 2 ♂, 2 ♀;

"Jiputinis, Ecuador" [a Kalinowski specimen from northern Perú].

ECUADOR:

Río Suno, above Avila, 2 ♀;

Lonambo, 1 ♂;

Sarayacu, 1 ♂;

(unspecified), 1 [♀].

COLOMBIA:

Villavicencio, 1 ♀;

"Bogotá," 3 [♂], 5 [♀].

BRAZIL:

Tahuapunto, 1 ♀;

Ianarete, 1 ♂;

Mt. Curycuryari, 1 ♀;

Río Madeira, Humaythá, 1 ♀.

VENEZUELA:

Mt. Duida, Playa del Río Base, 1 ♂;

Río Caura, Nicaré, 2 ♂, 1 ♀;

Suapure, 3 ♂, 1 ♀;

Mt. Roraima, 1 ♀.

T. n. fanny.—

PANAMÁ:

(Tacarcuna, Tapalisa, Chepigana, Capeti, El Real, Tocumé, Lion Hill, and "Panama"), 8 ♂, 7 ♀.

COLOMBIA:

(Noanamá, Juntas de Tamaná, Medellín, Río Dagua, Bagado, Los Cisneros, San José, Nóvita, Barbacoas, Puerto Valdivia, Buenavista, Río Zapata, and Río Lima), 24.

ECUADOR:

(Cachabí, Lita, Manaví, and Esmeraldas), 10.

T. n. franciscæ.—

PANAMÁ (western): 46.

COSTA RICA: 33.

T. n. larvata.—

NICARAGUA: 8.

GUATEMALA: 19.