

THE AUK:

A QUARTERLY JOURNAL OF
ORNITHOLOGY.

VOL. LI.

JANUARY, 1934.

No. 1.

A NEW GENUS AND SPECIES OF TANAGER FROM ECUADOR.¹

BY ROBERT T. MOORE.

Plates I and II.

THE new Tanager described below was secured by the writer in the Culebrillas Valley, northwest of Mt. Sangay, Ecuador, while conducting an expedition for the California Institute of Technology in 1929. It is not only specifically different from any known member of the family but is apparently not referable to any described generic group so that a new genus is established for it.

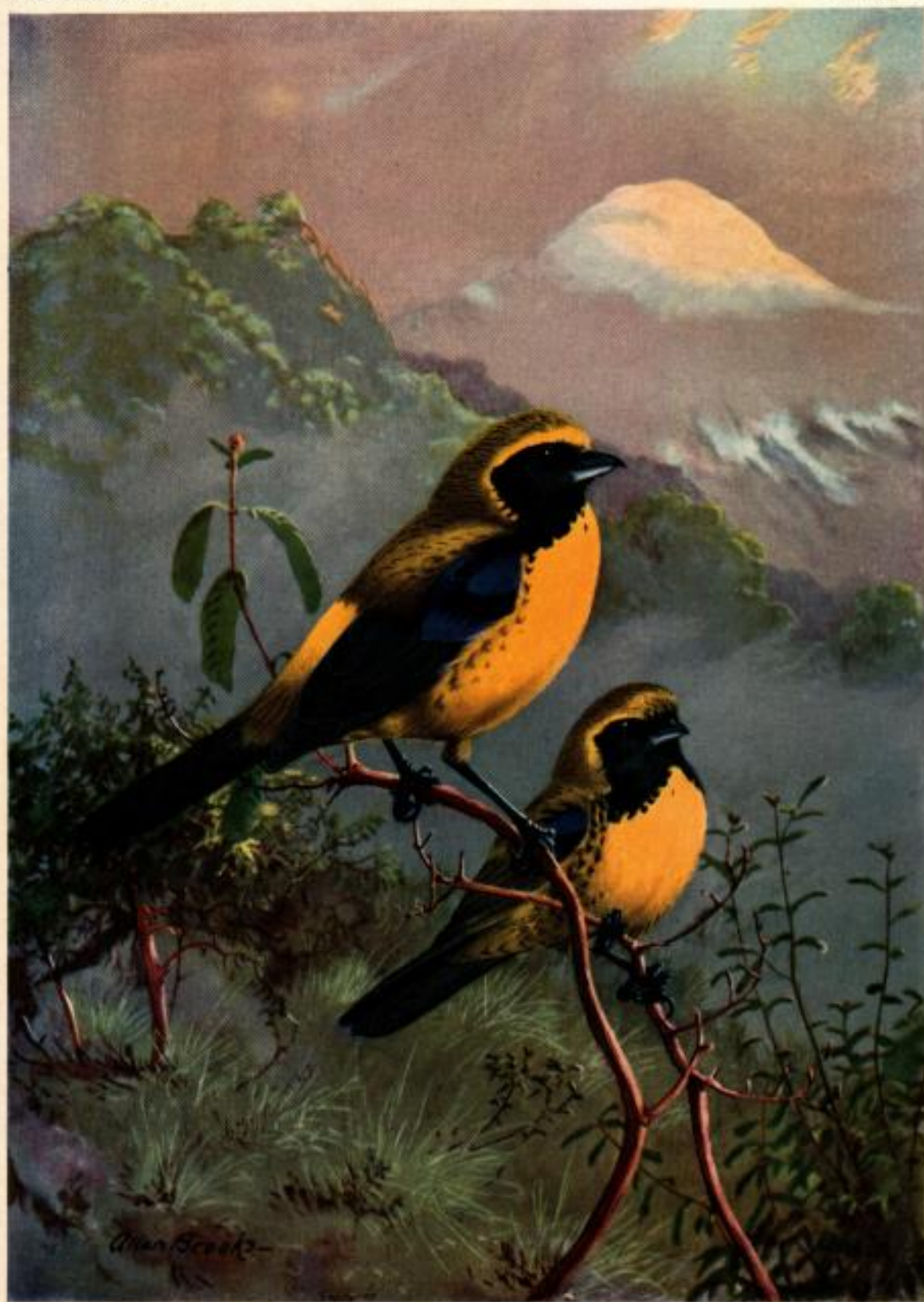
Tephrophilus gen. nov.

TYPE.—*Tephrophilus wetmorei* Moore.

CHARACTERS.—Bill short (length of maxilla from nostril about one quarter the length of the tarsus), stout (both depth and width at base of exposed culmen slightly shorter than gonys), slightly broader than deep; culmen straight for basal two-thirds, distinctly convex terminally, the tip of the maxilla slightly uncinatè, with a distinct tomial notch behind point, sulcate, the groove being parallel with the culmen, very close to it and moderately deep; commissure undulating, the maxillary tomium, when viewed from below in profile, swollen and slightly convex at base, straight or slightly concave towards tip, possessing no median "tooth"; width of the maxillary tomia at nostril considerably wider than width of the mandibular tomia at the same point, creating a spacious effect;² mandible much more shallow than maxilla, sharply compressed towards tip, the lateral outline, when viewed from below, convex at base, then straight, then convex in the middle, then straight or slightly concave towards tip; rami of mandible thickened forming a strong ridge along base, swollen at

¹ Contribution from California Institute of Technology.

² Not due to distortion in "make-up"; true of all three specimens.



TEPHROPHILUS WETMOREI MOORE

extreme base, forming a deep pit behind, differently colored from the maxilla (in the type pale mazarine blue); gonys slightly longer than length of maxilla from nostril, rather strongly convex, ascending, sharply contracted and sharply ridged for terminal half, with line of junction plainly marked, considerably longer than distance from angle of gonys to feathers on side of mandible; nostril exposed, slightly egg-shaped, occupying most of anterior end of nasal fossae; rictal bristles distinct as are the bristles in the interrammal space. Wing rather short as compared with tarsus and tail, from two and a half to three times the length of the tarsus, rounded, the first primary (counting from the outside) shortest and fourth primary slightly the longest (the third, fourth and fifth primaries about equal); the primary formula is rather unusual for the Thraupidae, resembling somewhat *Dubusia taeniata*; beginning with the shortest and running through to the longest, it reads 1st, 9th, 8th, 2nd, 7th, 6th, 5th, 3rd, 4th; longest primary exceeding first primary by more than one half length of tarsus; primaries exceeding secondaries by about 15 mm. Tail nearly as long (nine-tenths) as wing, strongly rounded, the outer rectrices from 10 to 15 mm. shorter than the median ones, with rounded tips, less than the basal half overlaid by upper coverts; tarsus unusually strong and long, about four times the length of maxilla from nostril, somewhat longer than middle toe with claw; feet, toes and claws unusually strong and powerful, much heavier than members of the genus *Buthraupis* of the same size such as *B. eximia eximia* or *B. eximia chloronota*; lateral claws not quite reaching to base of middle claw.

COLORATION.—Uniform dark golden green from middle of crown to rump. Rump yellow, wings and tail black, a black mask extending from lores, chin and upper throat around sides of neck and postocular region into rather wide superciliary stripe over eye, connecting with lores; a narrow border of yellow above black mask, extending from shoulders to lores and connecting above the nostrils. Rest of underparts yellow except for under tail-coverts and thighs which are dark warbler green. Lesser wing-coverts and margins of outer webs of greater wing-coverts light violet blue.

SEXES.—Different, but resembling each other.

RANGE.—So far as at present known, in the Humid Temperate Zone of the extensive ash canyons at base of Mt. Sangay, south central Ecuador.

***Tephrophilus wetmorei* sp. nov.**

In describing the type species of the new genus, *Tephrophilus*, it seems particularly appropriate to name it for Dr. Alexander Wetmore, whose work in classification, dealing with the relationships of genera, has been outstanding. I take added pleasure in doing so because of the ties of friendship.

TYPE.—Male adult, No. 7010, Collection of Robert T. Moore; south-eastern end of Culebrillas Valley, northwest (20° N. of W.) of Mt. Sangay,

Ecuador; Aug. 8, 1929; Robert T. Moore, collector; original field number EC-H254.

SPECIFIC CHARACTERS.—As the new species resembles no known Tanager in coloration, reference is made to the remarks above concerning generic comparisons.

GEOGRAPHICAL AND ZONAL DISTRIBUTION.—Probably confined to the Humid Temperate Zone of the Sangay Labyrinth of ash canyons from the bottom of the canyons up to the tree-growth on the northwestern slopes of the Labyrinth. I strongly question if this species descends into the Humid Sub-tropical. If it could endure this zone, it would surely have escaped from the Labyrinth during the major eruptions of Sangay via the main canyon that plunges eastward into the Amazon basin and would have been secured long ago by collectors.

DESCRIPTION OF TYPE.—Adult male, apparently in full breeding plumage, only the outer primaries still showing traces of sheath.—Type, No. 7010. Crown, hind neck, nape back as far as rump yellowish citrine,¹ each feather obscurely and finely bordered by black, slightly darker on lower back, and passing into wax yellow on the fore part of crown and posterior part of forehead; on the extreme anterior part the yellow is mixed with black. Lores, malar region, wide superciliary stripe, ear-coverts, sides of neck, chin, upper part of throat and sides of middle throat glossy jet black, relieved on the chin by very fine shaft-streaks of gray. A band of empire yellow— $\frac{3}{16}$ ths of an inch wide—borders this black mask above, lying between it and the yellowish citrine of the crown and back; this band begins obscurely at the posterior border of the mask over the shoulder, proceeds vertically to the corner of the mask, then turns at right angles and proceeds to the forehead in a now solid band where it joins the wax yellow area. Under parts, including abdomen, breast and lower throat empire yellow mottled with light cadmium, a tongue of empire yellow extending anteriorly with a V-shaped point into the black of the upper throat; sides of breast and body blotched with obscure black, the obscurity being caused by the yellow feathers above which veil the spots; a wide patch of light blue violet covers the lesser wing-coverts and bend of wing; greater wing-coverts margined on outer webs with the same; rest of wings, primaries, secondaries and rectrices slate-black, less intense than black of mask; base of inner webs of primaries and secondaries neutral gray; rump light cadmium. Upper and under tail-coverts and tufts covering thighs warbler green, the feathers tipped here and there with yellow; thighs plain warbler green. Under wing-coverts dark gray, bordered posteriorly with a fine line of light gray; axillars dark gray mixed with obscure greenish blue. Eyes natal brown,² maxilla black, mandible pale mazarine blue, extreme tip black. Legs black, feet black, pads of toes light yellow.²

¹ Names of colors in paper taken from Ridgway, 'Color Standards and Color Nomenclature,' 1912.

² Colors of soft parts taken in field shortly after bird was collected.

ADULT FEMALE IN BREEDING PLUMAGE.—No. 7011, Collection of Robert T. Moore; southeast end of Culebrillas Valley, Ecuador, Aug. 8, 1929. Resembling male but darker, yellow band bordering face mask narrower and duller in color, about wax yellow; band interrupted over forehead, where it is replaced by olive-yellow, the center of each feather occupied by a small dusky spot; black mask dull without gloss, the feathers obscurely edged with yellowish gray; on the under parts the cadmium yellow confined to chest and to median line down the center of breast and abdomen, while the sides of body are more heavily blotched with obscure black, the blotches larger and more numerous on sides under wing; blue patch on lesser wing-coverts more restricted and duller; rump duller, between primuline yellow and wax yellow; in both females the main groove parallel with culmen is less deeply cut.

SPECIMENS.—One male and two females.

MEASUREMENTS.—Wing, 105.3—101.3; Tail, 92.6—88.1; exposed culmen, 15.3—14.3; Tarsus² 34.8—34.8; Middle toe minus claw, 22.9—21.9; middle claw, 8.1—8.4; height of bill,³ 9.9—10.1; width of bill,³ 10.8—10.5; height of bill at center of nostrils, 8.1—8.4; width of bill at center of nostrils, 7.3—7.5; length of bill from nostril, 9.1—9.3; nostril to notch, 7.9—7.7; Gonys, 9.6—9.8; length from angle of gonys to feathers at side of rami, 6.9—6.2; amount of tail graduation, 15.5—10.4; excess of longest primary over first primary, 19.7—19.7; length of wing tip, 15.1—14.4.

As the new Tanager is a large species about the size of *Buthraupis eximia chloronota*, some affinities were anticipated with this genus although size was deemed of little importance. Detailed comparisons, however, developed an extraordinary number of dissimilarities and few resemblances. In general I am now rather confident *Tephrophilus* will eventually find a place among members of the rather artificial group, which Sclater described as the "Tanagrinae fortirostres." It possesses many important affinities with *Dubusia*. I have not seen *Dubusia stictocephala* of central Peru, but I possess an adequate series (14 specimens) of *Dubusia taeniata* (Boiss.). *D. taeniata* is a Humid Temperate Zone species of restricted range (Ecuador and Colombia), and one of the few tanagers found in the Sangay Labyrinth. It arouses speculative interest, therefore, to realize that it possesses as many important affinities with *Tephrophilus* as any other species or genus and reveals no more dissimilarities. On the other hand almost as many affinities exist, al-

¹ The average measurement of the two females for each item is given immediately after measurement of the male.

² Measured to last entire scute generally opposite anterior edge of hallux.

³ Measured at base of exposed culmen.

though of different character, with *Thraupis darwini* (Bonap.). *Thraupis* and *Dubusia* supplement each other to such an extent, that hardly a single character exists, in which one or the other does not resemble *Tephrophilus*, and yet there are a great many dissimilarities between *Tephrophilus* and each of them, and between *Dubusia* and *Thraupis*. *Thraupis darwini* is also found today in the Temperate Zone not very far from the Sangay area, namely in the vicinity of Riobamba about forty miles to the northwest.

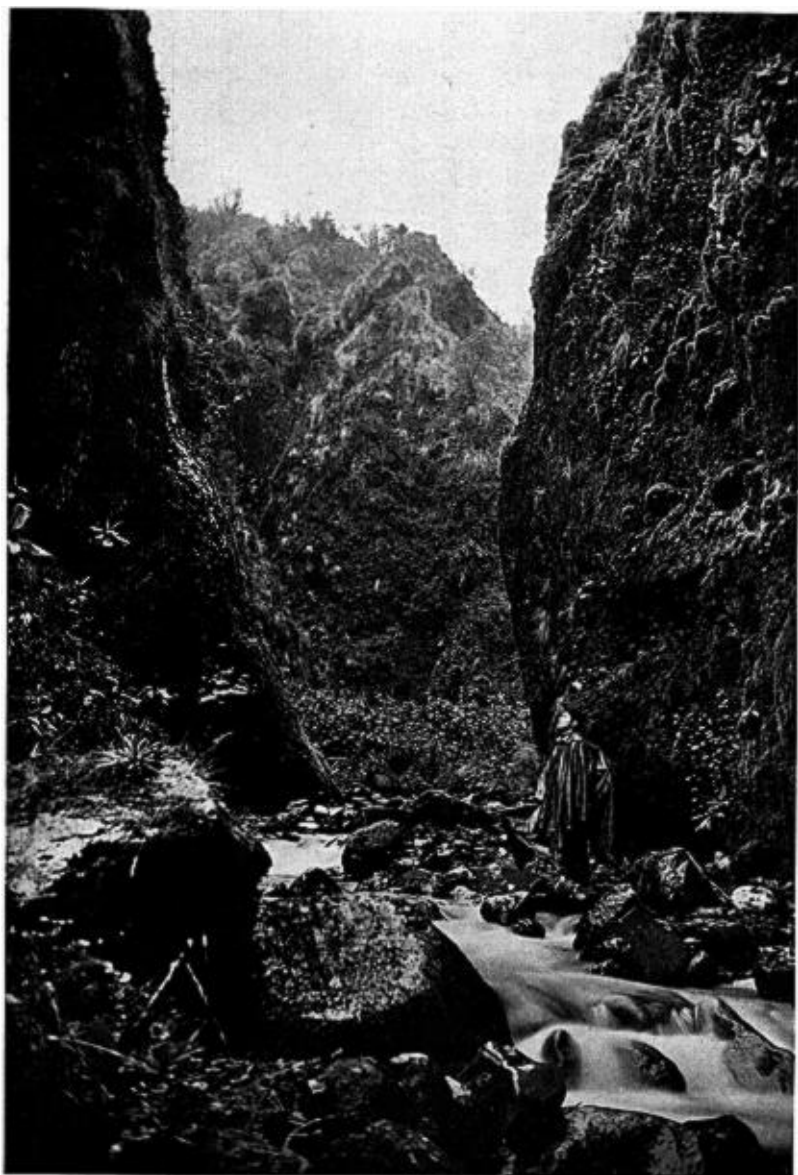
As far as external characters are concerned, *Tephrophilus* dovetails between the two genera. *Dubusia* resembles *Tephrophilus* as follows: In both, bills are about the same height at base as width at base. Both have the culmen strongly curved towards a slightly uncinuate tip, with deep tomial notch; both have sulcate culmens, gonys rather sharply ridged, nostrils exposed and rather similar in shape and position, and wings about three times length of tarsus. It is rather extraordinary that *Dubusia* is the only genus (of those closely related) in which the primary formula is about the same and in which the *first* (outer) primary is the *shortest* of all. Both wings are rounded instead of pointed and the wing tip almost identical. The tails resemble each other closely, being unusually long, much rounded with broad rectrices and overlaid less than one half by upper tail coverts. *Dubusia taeniata* is almost the only species in which the color pattern, even faintly resembles *Tephrophilus*. Both have black chin, throat and face masks. In both the mask is separated from crown and nape by a narrow border of different color. Both have lesser primary coverts light blue and greater coverts edged with blue. Both have a large portion of underparts yellow and thighs and under tail-coverts of a different color, but here the resemblances cease, *taeniata* having rump unicolor with back, a buff band separating the black throat from the yellow underparts and middle of back differently colored from crown and nape.

The dissimilarities are equally numerous. *Dubusia* has a proportionately more slender and shallow bill, as proved by the fact that both height and width of bill at base are considerably less than length of maxilla from nostril, whereas in *Tephrophilus* they are more; height of bill at center of nostrils is considerably less than

distance from nostril to notch on the mandible, whereas, in *Tephrophilus* it is more; maxilla very shallow as compared with *Tephrophilus*; culmen convex instead of straight for its basal half; maxilla fits tightly over mandible instead of being spacious; width of rami at base is considerably less, instead of more, than length of maxilla from nostril; sides of mandible at base not thickened and not forming heavy ridge; commissure broadly convex instead of strongly sinuate; mandible the same color as maxilla, instead of different; tarsus much shorter and weaker proportionately; feet and toes weaker; lateral claws extend considerably beyond, instead of short of, base of middle claw; sexes do not differ as in *Tephrophilus*.

Thraupis darwini, although differing from *Tephrophilus* in a few more ways than *Dubusia*, resembles *Tephrophilus* in almost exactly those items, where *Dubusia* differs, namely: Width of bill at base slightly more than maxilla from nostril; height of bill at nostril slightly more than distance from nostril to notch; maxilla rather deep; tomia of maxilla dilated at base and maxilla spacious; rami of mandible swollen at lateral bases forming deep pits behind; width of rami at base the same as maxilla from nostril; outline of side of mandible in vertical profile sinuate; commissure strongly sinuate; mandible differently colored from maxilla; and sexes dissimilar. In short, more affinities exist between the bill of *Thraupis* and *Tephrophilus*, but there are far more dissimilarities between the wings, tails, tarsus and feet. For instance, the primary formula is totally different (ninth primary being much the shortest and first longer than sixth, creating a pointed wing); tail square with narrow rectrices; tarsus comparatively short and slender, feet and toes comparatively much weaker.

It would seem well, therefore, to place *Tephrophilus* tentatively between *Dubusia* and *Thraupis*, at least until further studies, including an examination of the internal structure, confirm or disprove the relationship. This position has the further advantage that it places *Tephrophilus* reasonably close to *Ramphocelus* whose peculiar thickened rami and bright color of entire mandible seems to be faintly forecast by the condition of the lower bill of *Tephrophilus*. In closing I should remark that *Iridosornis* possesses just as many affinities with *Tephrophilus* as *Dubusia* and as many dissimilarities. Although a considerably smaller bird the proportions



OUTLET FROM LABYRINTH TO BASE OF MT. SANGAY. *TEPHROPHILUS WETMOREI* SECURED NEAR THIS SPOT IN SHRUBS SIMILAR TO THOSE IN CENTER OF PHOTOGRAPH.

of its maxilla and mandible are very close to *Tephrophilus*. Unless its internal structure proves otherwise, it would seem to be a misfit in its generally accepted position between *Tangara* and *Poecilothraupis*.

For many courtesies graciously extended in the study of this bird, I am indebted to Dr. Frank M. Chapman and to Mr. John T. Zimmer of the American Museum of Natural History. To Dr. Herbert Friedmann of the U. S. National Museum my acknowledgments are also gratefully given for his assistance. I am particularly indebted to Dr. Alexander Wetmore for direct advice and help. At the American Museum comparisons were made with the entire first series, which covers practically every genus of the Thraupidae. In addition checking measurements were made of many individuals of the second series, which represent genera having the closest affinities with the new genus. The Thraupidae are well represented in my own collection, which contains large series of some ninety species from Ecuador alone, with which, as would be expected, the new tanager finds its greatest similarities. In spite, therefore, of study of various species of many genera, it is realized that no convincing solution is possible at the present time; any suggestions must be considered as merely tentative. Fortunately a stomach with contents, as well as a partial skeleton, were preserved, and these will have to be studied by competent students before anything approaching finality can be achieved.

*California Institute of Technology,
Pasadena, Calif.*