

our six specimens) extending from breast to, or even on, lower tail-coverts, and the black markings are finer and more numerous giving a vermiculated appearance wholly absent, or less highly developed in *watsoni watsoni*. For this southern form it is probable that we may use the name *Otus watsoni usta* (Sclater) described from Ega, Brazil, on the south shore of the Amazon. While it is true I have seen no specimens from Ega, the comparative stability of the species warrants this proceeding pending the receipt of topotypical specimens. It should be said, however, that Sclater's plate suggests *watsoni watsoni* rather than the bird for which I accept the name *usta*.

#### **Otus choliba crucigerus** (Spix)

This species has not before been represented in our collections from Ecuador. We now have a specimen from the mouth of the Curaray. The occurrence also at this point of *Otus watsoni* establishes a faunal association which, as Dr. Hellmayr has already said, demonstrates the specific distinctness of *choliba* and *watsoni*.

Our collections show that not only two but three species of *Otus* inhabit the Tropical Zone of eastern Ecuador. The third appears to represent *Otus guatemalæ* and I propose for it the name *Otus guatemalæ napensis*.

#### **Otus guatemalæ napensis**, new subspecies

CHARACTERS.—Not strongly streaked with black, either above or below, as in *Otus choliba*: brown phase; general tone of upperparts sepia, the feathers finely vermiculated with black and ochraceous-tawny; ear-tufts like crown; superciliary white; outer scapulars and outer median wing-coverts with large white spots; underparts comparatively uniform; finely barred and vermiculated with sepia and white, with some inconspicuous darker shaft-streaks. Rufous phase; general color hazel or tawny, the markings as in the brown phase. Resembling *O. guatemalæ guatemalæ* (Sharpe) but smaller, the markings throughout generally finer. In size and in the markings of the upperparts more nearly resembling *Otus vermiculatus* Ridgway of Panama and Costa Rica, but underparts more finely and uniformly marked and tarsus fully feathered.

TYPE.—No. 185,228, Amer. Mus. Nat. Hist.; ♀ ad.; below San José de Sumaco, eastern Ecuador; April 19, 1924; Olalla and Sons.

#### SPECIMENS EXAMINED

*Otus guatemalæ napensis*.—ECUADOR: San José, 1 ♀; Curaray and Napo, 1 ♂; Macas region, 1; "Napo," 1. ? W. ECUADOR: Cerro Manglar Alto, 1 ♂ im.

*Otus guatemalæ guatemalæ*.—GUATEMALA, 1. NICARAGUA: ? Jalapa, 3000–4000 ft. alt., 1 ♂, 1 ♀.

*Otus vermiculatus*.—PANAMA: Santa Fé, alt. 1300 ft., Veraguas, 1 ♂, 1 ♀ (?).

*Otus watsoni watsoni*.—COLOMBIA: La Morelia, 1 ♂, 1 ♀. ECUADOR: "Napo," 1 ♂, 1 ♀; Río Suno, 2 ♂; Lagarto Cocha, 1 ♀; Curaray and Napo, 2 ♂, 6 ♀. PERU: Puerto Indiana, mouth Napo, 1 ♂, 1 ♀.

*Otus watsoni usta*.—PERU: Rio Orosa and Amazon, 3 ♂, 2 ♀; "Amazon," 1.

*Otus roboratus*.—PERU: Perico, Chinchipe, 6 ♂, 4 ♀; Jaen, 2 ♂, 1 ♀.

## MEASUREMENTS

			Wing	Tail	Tarsus
<i>Otus g. guatemalæ</i> , Guatemala	?		157	79	29 mm.
" " " Jalapa, Nic.	♂		167	85	31.5
" " " " "	♀		167	80	32
" <i>vermiculatus</i> , Veraguas, Pan.	♂		167	75	26.5
" " " " "	♀		155	75	26
" <i>g. napensis</i> , Curaray, E. Ec.	?	♂	165	75	26
" " " Macas, "	?		160	75	26
" " " "Napo," "		♀	164	75	27
" <i>roboratus</i> , Chinchipe, Peru	3	♂	165-169	85-89	32.0-34
" " " " "	3	♀	165-169	86-90	32
" <i>watsoni watsoni</i> , Curaray, Ec.	2	♂	165	79	31
" " " " " "	3	♀	160-167	78-85	31.5-33
" " <i>usta</i> , Orosa, Peru	3	♂	167-171	84	31.0-31.5
" " " " " "	1	♀	167	84	31
" <i>choliba crucigerus</i> , Curaray, Ec.	1	♂	168	91	30

The known distribution of true *guatemalæ* and the occurrence of the possibly representative *vermiculatus* in Panama may seem to make it improbable that this form from eastern Ecuador is subspecifically related to the Guatemalan race; nevertheless, the differences between our Guatemala and eastern Ecuador birds seem to me to be of not more than subspecific value.

In size and coloration the Panama *vermiculatus* is clearly intermediate between the two, but the absence of feathers from the lower part of the tarsus separates it from both, but does not, in my belief, preclude the possibility of intergradation with them.

In view of the occurrence of a relative of *guatemalæ* in eastern Ecuador we must now revise our estimate of Salvadori and Festa's record of this species from western Ecuador. This has hitherto been referred to *roboratus* Bangs and Noble<sup>1</sup> but it now seems probable that the bird recorded from Vinces was of the *guatemalæ* type, possibly the one herein described. A specimen in the barred immature plumage from Cerro Manglar Alto, above Colonche, adds further support to this belief. It has fully feathered tarsi, but is too young to supply dependable color data, but the fact that its fully grown tail measures only 73 mm. while the tail in adult *roboratus* averages 87 mm. and in *guatemalæ napensis* 75 mm. indicates that it is more closely related to the latter than to the

<sup>1</sup>1926, Bull. Amer. Mus. Nat. Hist., LV, p. 246.

former. I think, therefore, that we may definitely remove *roboratus* from the list of Ecuador's birds and provisionally refer the west coast form to *napensis*.

It may be added, while this material is before me, that the most distinctive character of *roboratus* is a dark, in some specimens nearly black, crown distinctly set off by broad whitish superciliaries reaching from the bill to the nape where they are connected by a similarly colored nuchal band that forms the base of the triangle. There is a tendency in *usta* to develop such a mark, but the ground color of the underparts in *roboratus* is white, quite different from the ochraceous-tawny of *usta*.

*Otus roraimæ* Salvin<sup>1</sup> is described as similar to *guatemalæ* but smaller. Chubb<sup>2</sup> considers it inseparable from *crucigera*, but if the measurements are correct (wing, 149 mm.) it is apparently distinct.

#### ***Neomorphus napensis*, new species**

**SPECIFIC CHARACTERS.**—Resembling *Neomorphus pucherani* Deville of the Rio Ucayali, but prevailing color of the underparts drab-gray or light drab instead of cinnamon-buff, the breast narrowly and faintly, not broadly and strongly margined with black.

**TYPE.**—No. 255,363, Amer. Mus. Nat. Hist.; ♂ ad.; junction of Rio Curaray with Rio Napo, Ecuador; December 20, 1925; Olalla and Sons.

**DESCRIPTION OF TYPE.**—Entire crown shining blue-black with greenish reflections anteriorly, the central feathers elongate, forming a pronounced crest; fore back olive-citrine with metallic reflections becoming more bronzy on the lower back, rump, and upper tail-coverts; tail, from above, largely yew-green with bronzy and purplish reflections, the purple areas increasing in extent toward each side and occupying essentially all of the outer pair of feathers; tail, from below, nearly uniform purple-black; wings blue-black with metallic reflections, exposed portions of the inner feathers, chestnut-bay, inner vanes of tertials more purple, the under surface of the wings practically uniform fuscous-black; throat and breast drab-gray, drab laterally, the feathers of the lower throat and breast to the black pectoral band, very narrowly and faintly margined with black; lower parts, posterior to the pectoral band drab, grayer laterally; flanks much darker, ventral region and lower tail-coverts smoky, tibiae light drab or drab; tarsi and toes mottled horn-color, the margins of the scales paler; in the dried skin bare ocular space reddish, the bill Brazil red, terminal portion of the maxilla light cadmium; end of the mandible greener. Wing, 165; tail, in molt; tarsus, 74; chord of culmen, 57 mm.

#### **SPECIMENS EXAMINED**

*Neomorphus napensis*.—The type.

*Neomorphus pucherani*.—PERU: Junction Rio Orosa and Amazon nearly opposite the mouth of the Napo, 3 ♂, 3 ♀. BRAZIL: São Paulo de Olivença,<sup>3</sup> south shore of the Amazon east of the Javari, 1 ♂, 1 ♀; Hyutanahan,<sup>3</sup> north shore Rio Purus, 1 ♀.

<sup>1</sup>1897, Bull. B. O. C., VI, p. 38.

<sup>2</sup>1916, Birds British Guiana, I, p. 288.

<sup>3</sup>Coll. Carnegie Museum.