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TWO NEW CARIBBEAN SUBSPECIES OF BARN OWL (*TYTO ALBA*), WITH REMARKS ON VARIATION IN OTHER POPULATIONS

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ABSTRACT

The Barn Owl *(Tyto alba)* population of the Isle of Pines, previously considered identical to *T. a. furcata* of mainland Cuba, is described as new; it is smaller than *furcata* and whiter than all but a few extreme specimens of that race. The population of the Bay Islands of Honduras, previously placed with *T. a. pratincola*, is also described as new; it is smaller and whiter than *pratincola*. A female of this new race was in heavy molt while feeding young. Sexual dichromatism is marked in many races of this species, so color comparisons must be made sex for sex. The characters and geographic range of *T. a. guatemalae* need to be reassessed.

INTRODUCTION

Only three specimens of the Barn Owl *(Tyto alba)* are known to have been collected on the Bay Islands, off the Caribbean coast of Honduras (Monroe, 1968:153). The first of these was taken by James Bond on "Bonacca Island" (=Isla Guanaja) on 29 February 1936, and is in the collection of the Academy of Natural Sciences, Philadelphia (ANSP). Bond (1936) assigned this specimen to the North American race *T. a. pratincola* (Bonaparte), which he stated "is known to range

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USNM, but also possibly to the geographic origin of Ridgway's series, which included a high proportion of specimens from California and Mexico. Specimens from California that we have measured (see Table 1) and Ridgway's table (1914:606) indicate that these and Mexican birds are appreciably smaller than those from most of the United States. As the type locality of *pratincola* is in Pennsylvania, we have felt justified in excluding these Pacific Coast and Mexican specimens when characterizing the subspecies *pratincola*. Ridgway himself, although not mentioning these size differences, pointed out that Pacific Coast specimens in general differ in color from others assigned to *pratincola*, and might ultimately prove separable. This question is outside the scope of the present paper, in which all references to *pratincola*, unless otherwise specified, may be assumed to apply to the populations of the United States other than the Pacific states.

The determination that a specimen has been missexed must of course be made cautiously, to avoid circularity of reasoning. The dimorphism in color and in size in the populations considered here is sufficiently consistent so that we are suspicious of the occasional very large and dark specimen sexed as male, or pale and small sexed as female, unless the sexing has been well documented by label notes on gonad condition; few of the specimens examined had any such documentation.

For this paper the wing was measured flattened on the rule, to attain the maximum measurement. Remiges and rectrices obviously worn more than 1 mm were excluded. The tails of these populations are variably forked, both geographically and individually. The normal tail measurement, which is a diagonal from the base of the central rectrices to the tip of the longest (in this instance outermost), was found to be difficult to take consistently, with the variation in tail spreading effected by the preparator complicating the natural variation. Far more consistent measurements were made by measuring the length of the central rectrix, a straight (not diagonal) measurement, so this somewhat unorthodox technique has been used for this paper.

SYSTEMATIC ACCOUNTS

Tyto alba niveicauda, new subspecies

Holotype.—CM 39,991, male (presumably adult) from Los Indios, Isle of Pines, Cuba, collected by G. A. Link, Sr., on 20 January 1913 (field number 535).

Characters.—Nearest *furcata* of mainland Cuba, but tail shorter and wing averaging shorter (see Table 1). Sex for sex, averaging whiter and paler than *furcata;* of 18 Cuban males, only four matched a series of five from the Isle of Pines in this respect. The few Jamaican specimens of *furcata* seen suggest that there might be slightly more overlap in color with *niveicauda* than is true of topotypical Cuban *furcata*. Comparisons here

Table 1.—*Measurements in millimeters of adult Barn Owls (see text for methods of measuring).*

Sex	Flattened wing Observed range (Mean) ± SD (N)	Central rectrix Observed range (Mean) ± SD (N)
	Tyto alba pratincola (U.S. except Pacific states)	
Males	322–357 (341.3) ± 7.87 (13)	125–138 (130.5) ± 4.55 (14)
Females	335–357 (347.8) ± 7.11 (13)	131–144 (136.0) ± 3.88 (15)
	Tyto alba pratincola (California and one Oregon)	
Males	322–339 (331.2) ± 5.05 (10)	120–135 (127.0) ± 4.78 (10)
Females	334–348 (340.0) ± 4.20 (11)	127.5–142 (134.4) ± 4.51 (11)
	Tyto alba furcata (Cuba)	
Males	332–349 (341.8) ± 4.94 (9)	128–138 (133.8) ± 3.52 (12)
Females	345–359 (353.8) ± 4.50 (4)	134–141 (138.0) ± 2.38 (7)
	Tyto alba furcata (Jamaica)	
Males	332, 333	126, 133
Female	345	136
	Tyto alba niveicauda	
Males	318–338 (330.8) ± 7.66 (5)	122.5–128 (126.4) ± 3.60 (5)
Female	347	128
	Tyto alba bondi	
Male	301	114
Females	296+ (very worn), 316	114, 114.5

are made between *niveicauda* and the majority of *furcata* specimens. *Males*—gray marbling of upperparts coarser so that more white background shows, giving a paler appearance. Rectrices completely white, with no markings whatsoever. Primaries paler, with dark spots along the shaft reduced, especially on proximal primaries; in extreme instances (CM 41,383), these marks reduced to a single spot on the four outer primaries only; buffy wash and fuscous freckling of tips of inner primaries reduced or lacking, with the palest birds (CM 36,064; 41,383) having the inner primaries unmarked white. All but innermost secondaries (=tertials) pure white, with *at most* a small linear dark mark midway along shaft, and slight fuscous freckling on outer web near tip of the three or four secondaries immediately distal to tertials; all specimens have at least some secondaries pristinely white. In most *furcata*, all secondaries have at least two spots along the shaft, and have their outer webs freckled against a pale buff background, from all to about the distal half of their length. Pigmentation of the small feathers of the lower half of the facial disk of *niveicauda* reduced or lacking. Tiny fuscous dots on white underparts averaging fewer, sometimes nearly lacking.

Females—the one available female of *niveicauda* is more lightly marked than any examined female of *furcata*. Gray marbling of upperparts paler. Dark rectrix spots reduced to linear marks along the shaft on the inner three to four pairs; the only trace of buff is a stain around the dark spots of the central pair of rectrices only, and freckling is confined to the tips of the two central pairs. The two outermost pairs of rectrices are

pure white. In most *furcata* the rectrices have two to four conspicuous dark spots (full crossbars in darker specimens), diminishing in size from inner to outer rectrices; the central pair is more or less washed with buff, diminishing outwardly so that little or none remains on outermost pair; some fuscous freckling at tips of all rectrices in darker and all but two outer pairs in paler specimens. In even the palest extreme "females" of *furcata*, only the outermost pair of rectrices were pure white (versus two outermost pairs in *niveicauda*), and measurements suggest that three out of five such pale *furcata* "females" were missexed males. The primaries of *niveicauda* are much paler than in most *furcata*, with dark crossbars reduced in size and number; inner primaries with outer margins white (buff in most *furcata*), with freckling much reduced. Outer and inner secondaries pure white except for small shaft-spots and some freckling on outer web; a few central secondaries pure white. Very few specimens of *furcata* have *any* pure white secondaries, and some of these (as indicated above) may be missexed males. Pigmentation of facial disk and ventral spotting reduced as in males. Cinnamomeous or buffy wash of white underparts much reduced, confined to sides of breast, as in palest extreme examples of *furcata*.

Range.—Known only from the Isle of Pines (Isla de Pinos), south of the western end of Cuba, Greater Antilles.

Remarks.—Todd (1916:235–236) discussed the CM series of Barn Owls from the Isle of Pines. He mentioned the fact that only one specimen exhibited any markings at all on the rectrices, but overlooked the significant fact that this was the only female in the series. The Isle of Pines, although separated from Cuba by a relatively narrow channel and presumably relatively recently disconnected from Cuba (Bond, 1956:78), is a moderate center of differentiation for birds. There are about eight valid subspecies of birds endemic to the island, including the Barn Owl described here. A few bird species vary geographically on Cuba itself. In four of these *(Gymnoglaux lawrencii, Mimocichla plumbea, Vireo gundlachi, Quiscalus niger)* the subspecies of western Cuba is shared with the Isle of Pines (Garrido and Garcia Montaña, 1975). In *Tyto alba*, however, the white extremes of *furcata* were collected all over Cuba and were not concentrated in the west, nor do these individuals come any closer than darker birds to the measurements of *niveicauda*.

Inclusion of the North American *T. a. pratincola* as an accidental visitant to Cuba (Garrido and Garcia Montaña, 1975:70) rested until recently on the willingness of Bond (1964:6) to accept as valid the alleged Cuban origin of two specimens, now in the ANSP (where Parkes examined them), that died in the Philadelphia Zoo in the 1890's. We regard these specimens as insufficient evidence of the natural occurrence of *pratincola* on Cuba. A verified occurrence on Cuba was not unexpected, however; as Bond (1964) pointed out, some individuals of *pratincola* are known to travel great distances, and one banded as a juvenile in Pennsylvania was found dead in Key West, Florida, only 150 km from the nearest point in Cuba. Garrido (1978) has now published the particulars of a specimen of *pratincola* collected at

Monte Barreto, Marianao, Cuba, 1 October 1976, a date on which a major migratory movement of passerines was also noted in Marianao.

Turning now to the population of the Bay Islands, this may be called:

Tyto alba bondi, new subspecies

Holotype.—CM 131,548, male (presumably adult) from French Harbor, Isla Roatán, Bay Islands, Honduras, collected by A. C. Twomey on 7 April 1947 (field no. 11,967).

Characters.—To some extent intermediate in color between *T. a. pratincola* and *T. a. furcata*, but markedly smaller than either (see Table 1). The single male specimen is slightly paler dorsally than the palest of all *pratincola* examined. Its tail is almost pure white, with a single broken crossbar near the bases of the central rectrices; two pairs of small spots representing remnants of central and subterminal crossbars on these same rectrices; and slight freckling on all but the two outermost pairs of rectrices. The palest male *pratincola* seen (CM 6661, Virginia) has the outer pair of rectrices pure white, then the remainder increasingly marbled with dusky toward the central pair, which has two fairly distinct and two broken crossbars. All other *pratincola* seen had much more heavily pigmented tails. The inner web of the outer primary of the male *bondi* has three broken crossbars (the proximal two hardly more than spots), whereas in *pratincola* there are four to five, sometimes broken but more often solid. The outer web of this primary in *bondi* has some spots at the level of the crossbars of the inner web, and some dark speckling at the tip, but otherwise the outer web and the outer half of the inner web are pale buff, barely more than cream-colored. In *pratincola* the crossbars continue across the outer web, and there is also heavy speckling in most individuals, on a background varying from rich light buff to dark tawny. All but the innermost secondaries (=tertials) of the male *bondi* are almost pure white, with speckling on the outer web (extending to the inner web on the innermost of these white secondaries). There are two to three dark marks near the shafts of the secondaries, where *pratincola* has dark bars completely crossing the feathers. Even the palest *pratincola* (CM 6661) has much heavier speckling on the outer webs of these secondaries, such that the slightly darker (compared with *bondi*) background color is almost completely obscured. Most *pratincola* have even heavier speckling, often completely obscuring the dark ground color of the outer webs of the secondaries. All *pratincola* in the CM series except 6661 have the tips of the feathers of the facial disk rich red-brown to blackish; in 6661 these markings are of a faint orange-buff. In the male *bondi* there is no pigment on the tips of the feathers of the lower two thirds of the disk (these appear dark, but the feathers are adventitiously stained).

In comparison with *furcata*, the male *bondi* has the dark marbling of the back finer, with the teardrop-shaped markings of the back, scapulars, and tertials smaller and less contrasting. The rectrices have fewer markings and less of the buff wash than most males of *furcata*. The primaries are similar to those of *furcata*, but paler, with the crossbars fuscous rather than blackish, and tending to break up more. Almost all of the remiges of all but the palest extremes of male *furcata* have a faint to well-marked teardrop spot near or at the tip; in the male *bondi* these are present on only the four innermost secondaries. The outer webs of the secondaries in average male *furcata* have a ground color of pure white for about the basal one third to one half, becoming washed with buffy on the distal portion. In *bondi*, the white basal portion is confined to the area normally concealed by coverts, the remainder being of a uniform cream color. The facial disk of *furcata* is pigmented as in *pratincola*, unlike *bondi*. The spotting of the underparts of the male *bondi* is much sparser, with smaller spots, than most *furcata*, about as in *niveicauda*.