

NORTHWARD MIGRATION TO SURINAM OF SOUTH AMERICAN MARTINS (*PROGNE*)

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Little is known of the extent of migration across the Equator of land birds breeding in temperate South America. Recognition of such migration has presented difficulty because often the same species (usually a slightly different subspecies) breeds in the tropical area to which the more southern population migrates. Zimmer showed that two, relatively large, southern races of black-backed martins, called by him *Progne chalybea domestica* and *P. domestica elegans*, winter in the Amazon basin (Amer. Mus. Novitates, no. 1723, 1955). Eisenmann (Auk 76:528, 1959) called attention to the identification value of the difference in time of wing molt in northern and southern populations, and reported on the very few trans-Equatorial records of these martins. The present note provides evidence that they migrate regularly across the Equator, wintering farther north than previously realized.

The widespread, tropical race of the Gray-breasted Martin (*P. c. chalybea*) is a common breeder in the coastal and savanna region of Surinam; it has been recorded nesting from May well into July (Haverschmidt, Birds of Surinam. Oliver & Boyd, Edinburgh, 1968, p. 343). At times, during this period of the year, Haverschmidt has noted, in isolated trees, flocks of this species that might have been migrants; on 1 September 1963 at Maastroom (Commewijne District) he collected from such a flock, on a dead tree in a lagoon, 9 specimens (6 males and 3 females). Their weight (mean, 49.4 g; range, 45–52) exceeded that of local birds (34–45 g). Owing to lack of comparative material at the Leiden Museum, where the specimens were deposited, subspecific identification could not be made; thus they were not mentioned in "Birds of Surinam," the text of which was then near completion. In August 1967 Mr. Th. Renssen, who lives on the sugar plantation, Marienburg, on the left bank of the lower Commewijne River, observed thousands of martins in the cane fields, some sitting on telephone wires. Among the birds were a small number with almost wholly dark underparts. On Haverschmidt's suggestion, Renssen collected 20 specimens on 6, 13, and 20 August, including five with dusky underparts. All of these birds were larger than the local *P. chalybea*; they weighed 38–58 g (mean, 48). These specimens, together with those taken in September 1963, were sent for identification to Eisenmann at the American Museum of Natural History. In 1968 Renssen again observed at Marienburg large numbers of martins, and collected a total of 22 specimens on 5 and 19 May, 2 and 9 June, and 1 July. Among these, five were essentially all dark below (taken 5 and 19 May, 9 June, and 1 July). In measurements and appearance they resembled those collected in 1967.

The specimens taken at Maastroom in September 1963, and all the white-bellied birds (with two exceptions mentioned below) taken at Marienburg in August 1967, were identified by Eisenmann as *P. c. domestica*, which breeds from southern Brazil and eastern Bolivia to northeastern Argentina. They dif-

fered from breeding *chalybea* of Surinam in longer wing and tail and in paler throat and breast, the brownish-gray feathers being edged with very light gray or whitish. As might be expected of *Progne* breeding in the Southern Hemisphere spring, in August and September these migrants (unlike Surinam breeding martins) were nearing completion of wing and tail molt, or (in the case of a few adults) had freshly completed the molt. Wing and tail measurements agreed with those given for *domestica* by Zimmer (op. cit.), except for certain individuals with outer primaries and rectrices either old and excessively worn or broken, or so new as not yet to be full grown. Even for these individuals, the ultimate dimensions of the outermost and longest primary (the ninth) could be sufficiently estimated for identification from the fact that when full grown it is usually 9–12 mm longer than the seventh. Moreover, the diagnostic tail length could be determined in some cases when the true wing length could not be definitely ascertained.

The five 1967 Marienburg specimens with dusky underparts proved to be Southern Martins, currently called *P. modesta elegans*, which breeds from Bolivia through western and central Argentina south to Chubut. Three of the 1967 birds appear to be immature males, having a little gloss on underparts; two seem wholly unglazed below and may well be females, although sexed on the labels as males. One suspects that the difficult sexing of immatures was based partly on appearance, for all but one of the white-bellied Marienburg birds are labelled as females, although some are certainly males. The 1968 birds with dark underparts were identified as *elegans* by Haverschmidt.

These records indicate that as far north as Surinam (5–6° N), *P. c. domestica* is a regular migrant and austral winter resident in large numbers, with definite extreme dates of 5 May–1 September, and that in the flocks of *domestica* small numbers of the more southern *elegans* occur. While these are the most northern definite records of *domestica*, this distinction may prove to belong to certain large specimens taken in Curaçao, first tentatively reported by Voous as nominate *chalybea* (Stud. Fauna Curaçao and Caribbean Island 7:207, 1957; but cf. Ardea 53:227, 1967). As to *elegans*, while a single July specimen from eastern Panamá is still the only one for Middle America, Dr. W. B. Robertson, Jr., found and identified (in Field Mus. Nat. Hist.) an immature male taken at Key West, Florida, on 14 August 1890 by J. W. Atkins, on the same date with a northern Purple Martin (*P. s. subis*). Appropriately, the primary molt of the Southern Hemisphere bird was approaching completion, while that of its Northern Hemisphere ally, collected contemporaneously, was beginning.

Taxonomic considerations. Of special taxonomic interest are two Marienburg specimens, taken on 13 and 20 August 1967 (Leiden Museum reg. nos. 51097 and 51106), which seem to be hybrids between *domestica* and *elegans*. No. 51097 has the throat and breast blackish as in *elegans*, but the lower underparts are white as in *domestica*, although with heavier dark mottling about the feather shafts; while sexed as a "♀," it seems from the amount of gloss to be a male molting out of first winter (basic) plumage. No. 51106 is nearer to an immature *domestica* in appearance, but the brownish-gray of throat and breast appears darker than normal and extends further down over the upper abdomen; the lower abdomen shows considerable dark mottling, which might perhaps be the result of exceptional wear exposing the feather bases. It should be mentioned that *P. c. chalybea* is occasionally melanis-

tic; thus two adult male specimens from Surinam (in Amer. Mus. Nat. Hist.), evidently nominate *chalybea*, have a glossy blue-black chest (but not throat). Conceivably the two assumed hybrids might be melanistic examples of *domestica*. One reason for rejecting this view is that they agree with certain specimens from a series (also in Amer. Mus. Nat. Hist.) taken at Leones, Córdoba, central Argentina, including numerous typical *elegans* but no typical *domestica*. The collector, the late W. H. Partridge, expressed (in litt.) the opinion that his series of birds, variably intermediate between *elegans* and *domestica*, were hybrids. In January, when they were collected in Argentina, these martins were already on migration. While the literature gives the impression that *elegans* and *domestica* are broadly sympatric, this is almost surely not the case, although their ranges evidently touch and may overlap narrowly. During transience one form may enter the range of the other, and on migration they evidently associate to some extent. Probably, as with all members of the *Progne subis* superspecies, they are allopatric representatives. The hybridization noted raises the question whether *elegans* may not be more closely related to *P. chalybea domestica* than to the much smaller *P. modesta* of the Galápagos Archipelago, with which it has customarily been associated specifically. The isolated Galápagos population is, in both sexes, the darkest of the entire superspecies; the adult males are wholly blue-black, even lacking the (usually concealed) white back tufts possessed to a varying degree by all other forms, and the females are uniformly sooty below. Wholly blue-black plumage in adult males is shared not only by *modesta* and *elegans*, and by *murphyi*, endemic to the Peruvian coast (generally considered conspecific with *P. modesta*), but also by the distant, temperate North American, *P. subis*. The increased melanization in the extreme

northern and southern forms, the most migratory members of the superspecies, and also in the sedentary populations of the Galápagos and coastal Perú, may have evolved independently (serving different functions) from the white-bellied, broadly distributed, tropical *P. chalybea* stock, in which the two sexes are essentially alike. In *subis* and *elegans*, of North and South Temperate Zones respectively, the melanization of the adult males has produced a striking sexual dimorphism, which may facilitate rapid pair formation and procuring of nest sites in these long distance migrants with a relatively short breeding season. The blackness of the sedentary Galápagos and Peruvian forms may have developed as a cryptic adaptation to living in crevices of dark rock cliffs; but the possibility does exist that the peripheral populations were derived from migrant *elegans* carried off course, rather than from *P. chalybea* of the continental tropics.

Food. The abundance of martins in the cane fields at Marienburg in 1967 may have reflected an infestation of froghoppers (Homoptera: Cercopidae). The gizzards of the birds were filled with these insects, which Dr. G. C. Geyskes of the Leiden Museum identified as of two species, *Aeneolama flavilatera* (Urich) and *Delassor tristis* F. In addition, stomach contents included Hymenoptera (Braconidae, Stephaniidae, and Formicidae: Attinae). One of the *elegans* had swallowed four large dragonflies (Odonata: Aeschnidae: *Coryphaeschna viriditas* Calv.), a species so big that Dr. Geyskes thought it could only have been caught when emerging.

We are indebted to Th. Renssen for collecting the martins, to G. C. Geyskes for identification of stomach contents, and to W. B. Robertson, Jr., for calling attention to the Florida specimen.

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THE FOX SPARROW ON THE WEST SLOPE OF THE OREGON CASCADES

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Fox Sparrows, *Passerella iliaca*, of three subspecies breed in the state of Oregon (Gabrielson and Jewett, Birds of Oregon. Oregon State Monogr. 2:588, 1940). One race, *P. i. megarhyncha (mariposae)* of Gabrielson and Jewett, op. cit.), nests on the west slope of the Cascades in extreme southern Oregon. Another form, *P. i. fulva*, occurs on the east slope of the Cascades in southern and central Oregon. The third, *P. i. schistacea*, occurs in the eastern portion of the state. None has been reported on the west slope of the Cascades in the central part of Oregon.

On 21 June 1960 I collected a male Fox Sparrow in breeding condition along the North Santiam River near the junction of Bugaboo Creek, at an elevation of 2500 ft, in Linn County, Oregon, on the west slope of the Cascades. The specimen was identified as a representative of the race *fulva*, and was deposited in the Museum of Vertebrate Zoology. Although I realized that this represented a considerable extension of the accepted range of this subspecies, no report was made.

On 24 July 1968 Harry B. Nehls and William Thackaberry obtained a Fox Sparrow near the confluence of Park Creek and Danny Creek in the Santiam

Pass area of the central Cascades in Linn County, some 20 miles south of my 1960 collecting locality. That specimen, a female in breeding condition (brood patch present, oviduct convoluted), was sent to the Bird and Mammal Laboratories of the Bureau of Sport Fisheries and Wildlife, where it was prepared by Roxie C. Laybourne and deposited in the U. S. National Museum. The bird represents the race *P. i. megarhyncha*. At the time of identification of this specimen, the bird taken earlier was re-examined, through the courtesy of Ned K. Johnson, and its identity as *P. i. fulva* was confirmed.

Thus it appears that Fox Sparrows of two subspecies were breeding some 20 miles and eight years apart on the west slopes of the Cascades in central Oregon, where the species has not previously been reported.

Rather extensive logging operations have been carried on in this region for a number of years. In the area which I visited in 1960, small tracts were clear-cut and burned; the areas then began a slow recovery while other areas were cut. This resulted in a mosaic of small tracts of various successional stages interspersed with tracts of mature forest. The brushy areas of new growth represented a habitat not previously present, at least to any extent, in that portion of the west slope of the Cascades.

The situation apparently is quite similar where the second bird was obtained. Nehls (in litt.) stated, "The area in which this colony was found was recently cut over leaving almost no trees. The ground cover is almost all low brush and bushes of the 'mountain laurel' type, few being over eight feet high. Heavy timber still surrounds the area. . . ." Other breeding