NOTES ON THE TAXONOMY AND PLUMAGES OF THE SLATY VIREO

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Moore and Medina (1956) summarized the available information concerning specimens of the Slaty Vireo (*Neochloe brevipennis*) known at that time and discussed the breeding seasons and habitat of the species. Rowley and Orr (1960) reported the second specimen of a female and the first nest and eggs, both of which resemble very closely those of North American members of the genus *Vireo*. Schaldach (1960) reported a single bird from the humid pine-oak zone, at about 8000 feet, in the Sierra de Autlán, Jalisco, and saw another bird on the Volcán de Nieve, Jalisco. With the addition of these records, the range of *N. b. brevipennis* now forms a semicircle around the single locality for *N. b. browni*, named by Miller and Ray (1944) from the vicinity of Chilpancingo, Guerrero (fig. 1). Phillips (1962) merged the genus *Neochloe* into *Vireo* and, primarily on distributional evidence, concluded that there was but a single recognizable form, *Vireo brevipennis*.

On 10 April 1961, while working through an area about 4.5 miles southeast of Matatlán, Oaxaca, Edward Armstrong and I encountered two Slaty Vireos. The birds stayed in the vicinity for about five minutes as we watched from the gully of a small stream, and then they disappeared uphill into the scrub oaks. Although birds were seen on later occasions, attempts to collect *Neochloe* at this locality in mid-May 1961 (L. C. Binford) and August 1963 (J. P. Hubbard) were unsuccessful. On 14 August 1964, I returned to the area again and located a single bird foraging in a 20-foot oak tree along a stream bank at the foot of a densely vegetated scrub oak hillside. I collected this bird, an adult male (left testis approximately 2 mm long) weighing 12.3 g. The body and flight feathers were very worn, and the bird was in light body molt, probably starting the postnuptial molt. This individual is typical *brevipennis* in color pattern, but approaches *browni* in bill measurements (culmen from base, 11.1; bill, from anterior edge of nostril, 6.9; bill depth, maximum, 3.8; bill width at nostril, 3.1 mm). (See Moore and Medina [1956] for bill measurements of other males.)

I was then attracted to a peculiar call note and found at least two more of these vireos; I collected one, a young of the year. This bird also weighed 12.3 g and had a partially ossified skull. It was undergoing the postjuvenal molt on the forehead, breast, sides, and the upper greater secondary coverts.

This is apparently the first specimen collected in juvenal plumage. The plumage is very lax as is typical in most passerines. The back and crown are olive-green. Where the feathers of the first winter plumage have appeared they are slightly darker olive-green than those of the juvenal plumage. The new interscapulars show that this region would be darker green when the bird completed the postjuvenal molt. Thus the dorsal aspect is much different than in the adult breeding plumage in which the head is dark olive-green and the remainder of the dorsal plumage, including the upper tail coverts, is usually slaty-gray.

The nasal tufts are whitish as they are in adults. The sides of the head and the venter of the juvenile have the same pattern and general coloration as the adult. However, the gray feathers are noticeably brown-tipped. The white of the throat, extending down to the upper breast, is much more extensive than in the adult. There apparently was a pectoral band of grayish feathers with brownish tips in the juvenal plumage that was being replaced with a gray pectoral band. These new gray feath-

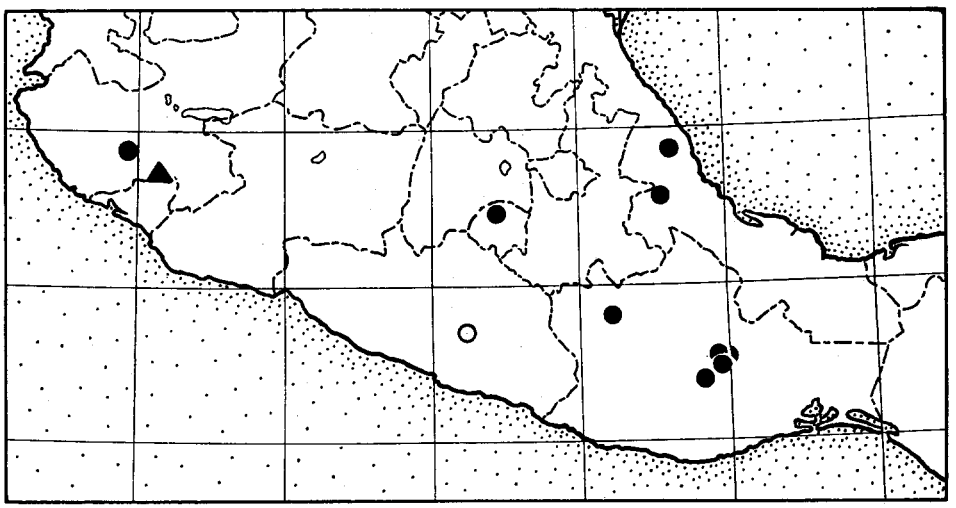

Figure 1. Localities from which *Neochloe brevipennis* is known. Dots represent specimens of *N. b. brevipennis*; the triangle is a sight record of *N. b. brevipennis*; the open circle is the single locality for *N. b. browni.*

ers are lighter than in the worn adult, and it appears that wear of the first winter plumage alone will not produce the dark gray of the adult. The lower breast, sides, and flanks are almost completely new, and there are a few new, partly sheathed, gray feathers in a line up the throat, just to the right of the midline. The abdomen is whitish, and the flanks are gray. The few remaining abdominal feathers of the juvenal plumage are the same pattern as in the adult. The under tail coverts are whitish, and some have a slight buffy cast. Allowing for wear, the colors of the wing, wing coverts, and rectrices are the same in the juvenile as in the adult.

The bill and legs are brownish rather than black as in the adult. The bill is curved as in typical *brevipennis* rather than nearly straight as in *browni.* The iris of the young bird is gray, but the color change in the eye of the White-eyed Vireo (*Vireo griseus*; Bent, 1950) suggests that this will be white in the first breeding season as it is in the adult.

Several authors have reported that some specimens of typical *brevipennis* have small but noticeable amounts of green on the lower back and rump (Moore and Medina, 1956; Rowley and Orr, 1960). On this region of the body the wings would protect the feathers from some wear, and hence the feathers could retain into the breeding season plumage colors that have been worn away from other parts of the body. The slaty color of the midback of breeding adults of the nominate form probably is achieved partly by wear of the greenish tips of gray feathers.

The new interscapular feathers on the juvenile have yellow-green rachises with dark-gray barbs producing greenish-colored feathers. The new interscapular feathers on the adult male have white rachises with dark-gray barbs, giving the feathers a slaty appearance. Since there is no evidence of a prenuptial molt in *Neochloe*, the midback in the first winter will be greenish and the first breeding plumage gray with varying amounts of green depending on the degree of wear. In the adult breeding plumage the midback will be gray. There is no molt on the lower back and

rump of either of my specimens, so I am not certain if these feathers will also differ between the two age groups as do the midback feathers. Hence the lighter color and the plumage pattern of *browni* are both attainable in first-year specimens of typical *brevipennis*. Miller and Ray (1944) noted the possibility that the pattern and colors of their specimen might result from a peculiar first-year plumage in this species, but did not consider the possibility very likely because other vireos do not show a first-year plumage that is markedly different from the adult plumage.

The difference in bill shape is more difficult to explain and may be a valid racial character. The type of *browni* has a rather long bill that is straighter than that in any specimens of typical *brevipennis*. Several specimens, including one from Tamazulapan, Oaxaca, and the adult male reported here, collected since Miller and Ray described *browni*, approach or equal *browni* in bill dimensions. Thus apparently only the straighter culmen is characteristic of *browni*, and this could be an individually variable character.

From the map (fig. 1) one can easily see that the one specimen locality for *browni* is now almost surrounded by localities from which the nominate race is known. All localities for *brevipennis* lie in the mountains that extend south and west from the Mexican plateau or are isolated in the western mountains of Jalisco. *Browni* is separated from the Morelos locality of *brevipennis* by the arid tropical scrub of the Río Balsas drainage that effectively isolates the higher reaches of the Sierra Madre del Sur in this region from the more inland mountains of the plateau. However, the population in the Sierra Madre del Sur from which *browni* was taken could easily be continuous with the populations around Tamazulapan, Oaxaca, through the interior mountains extending north and west from Oaxaca into Guerrero. Since the range of *browni* is not distinct from that of *brevipennis* and since the juvenal and first winter plumages suggest that the color characters of *browni* are those of a moderately worn first-year bird that would not be distinct from *brevipennis*, I agree with Phillips (1962) that *browni*, despite its slightly straighter bill, should not be retained as a form distinct from *brevipennis*.

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