



PROCEEDINGS
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NEW ENGLAND ZOÖLOGICAL CLUB

NOTES ON THE ROUGH-WINGED SWALLOW
(*STELGIDOPTERYX SERRIPENNIS* (AUD.))
AND ITS ALLIES

BY LUDLOW GRISCOM

FOR many decades American ornithologists thought there were two species of *Stelgidopteryx* in North America, the familiar grayish brown *serripennis* of the United States, and a race of the South American *S. ruficollis* in the lowland tropics of the southern half of Central America, a very different bird with a cinnamon throat, pale rump, yellowish belly, and under tail-coverts tipped or spotted with sooty. In 1901 Nelson described a large, dark form, *S. ridgwayi*, based on a winter specimen from Yucatan. In 1904 Ridgway named *S. salvini* from Dueñas, Guatemala, and referred to this new species two specimens in the Bangs Collection, from Chiriqui, which had been identified as *S. uropygialis* by Bangs. *S. salvini* was apparently intermediate between *S. serripennis* and *S. ruficollis uropygialis*, in having a pale cinnamon throat, though not so deep or rich as in the latter. Carriker (Birds of Costa Rica, 1910, pp. 790-791) reported true *serripennis* breeding in Costa Rica, and, without seeing specimens, made a guess

that *salvini* was a race of *serripennis*. In 1927 Bangs and Peters (Bull. M. C. Z., vol. 67, no. 15, p. 479) recorded winter specimens of *S. ridgwayi* from eastern Vera Cruz, and in a general discussion of the group showed that Ridgway was quite wrong in using the spotting of the under tail-coverts as a key character for the various species. They also regarded all four as representative forms.

The Dwight Collection of Guatemalan birds fortunately contains breeding material of *ridgwayi*, breeding material of *salvini*, and winter specimens of *serripennis* and *salvini*. In addition much fresh material from Yucatan, Nicaragua, Honduras and Costa Rica, has reached this country, all of which I have examined, and some of which has been collected by me. One key to a difficult and puzzling situation proves to be a question of plumage sequence. It so happens that there is an appreciable difference between the breeding plumage of these swallows, the fresh fall plumage and the winter plumage. Swallows have a complete post-nuptial moult and a very incomplete or partial body moult in the spring. The fresh fall plumage of the rough-winged swallows is quite different from the relatively worn plumage of breeding birds, and is at its best in October and November, rapidly fading after that. The type of *S. salvini* is an October specimen, quite different from summer specimens of *serripennis* from the Eastern United States. Breeding material from near the type locality of *salvini* is, however, scarcely separable from breeding *serripennis*. Winter specimens of *serripennis* from eastern Central America all have traces of cinnamon on the throat.

I give beyond a detailed diagnosis of each form and its plumage variations, but wish to give a general summary here. The ancestral form of these swallows is obviously *S. ruficollis*, which has gradually spread northward and become increasingly modified, losing more and more of the primitive ancestral characters. The light rump and the yellow belly disappear first; the cinnamon throat fades, and in *serripennis* disappears altogether, surviving as a trace only in winter plumage or as a very rare mutation. The spotting of the under tail-

coverts also survives as a rare mutation only in the northern forms. Even in *ruficollis*, however, we see signs of incipient mutational instability, as the cinnamon throat becomes quite pale northward, and the under tail-coverts occasionally are immaculate. The North American rough-winged swallow is, then, one of the many Nearctic species of Neotropical origin, which starts returning to its original home by the middle of July, and the ancestral characters of which survive best in the winter and immature plumages.

***Stelgidopteryx ruficollis uropygialis* (Lawrence)**

Type locality.—Canal Zone, Panama.

Range.—In the lowland tropics, from western Ecuador north in Central America to southeastern Nicaragua on the Atlantic Slope. In Central America chiefly below 1000 ft., rarely as high as 2500 ft.

General diagnosis.—Pileum darker than back; rump lighter than back; belly more or less yellow; under tail-coverts with a large subterminal black spot; throat bright cinnamon; wing of males, 103-114 mm.

Seasonal variation.—Very worn specimens have but little cinnamon left on throat; the contrast between back and rump is reduced; the yellow of the belly fainter and paler; light edgings to tertials very narrow and faint. Specimens in fresh fall plumage are brightly and more richly colored, the brown of the upper parts is darker and glossier, the tertials have broad light edgings.

Individual variation.—Occasional specimens have greatly reduced spotting on the under tail-coverts.

Material examined.—A large series (over 50) from entire range.

***Stelgidopteryx ruficollis decolor* subsp. nov.**

Type, no. 107,641, Mus. Comp. Zoöl., adult male, Divala, Chiriqui, Pacific slope of Panama; Dec. 1, 1900; W. W. Brown.

Subspecific characters.—Radically different from all the South American races of the species, and most of all, *uropygialis*, in being much paler

and more washed out; back a lighter brown; pileum less black, only slightly contrasted with back; rump but little lighter than back; throat paler cinnamon; breast and sides ashier brown; belly very faintly tinged with yellow; under tail-coverts sometimes unspotted. Differs from *salvini* in having pileum darker than back, rump lighter than back, throat clearer cinnamon, belly tinged with yellow, majority of individuals with spotted under tail-coverts, and smaller size. Certain individuals having these characters developed to an extreme have been erroneously determined as *salvini*, one of the main causes for confusion in this group.

Seasonal variation.—Very worn specimens vary as in *uroptygialis*, and are very close superficially to fresh specimens of *salvini*, except in size.

Individual variation.—Occasional specimens have immaculate under tail-coverts.

Range.—Lowland forests of the Pacific slope of Central America from central Veraguas north to the Terrabá Valley in western Costa Rica. Habits similar to those of *uroptygialis*; a river-bank- and swamp-inhabiting swallow, nesting in holes in trees over water.

Material examined.—Chiriqui, 4; western Costa Rica, 5.

Stelgidopteryx ruficollis salvini Ridgway

Type locality.—Dueñas, Guatemala.

Range.—Highlands of Central America from western Vera Cruz, and western Guatemala to Costa Rica. Altitudinal range from 3500 to 7500 ft. This form and all the northern ones nest in holes in walls, caves or banks.

General diagnosis.—Radically different from *decolor* in never having a contrasted pileum, a lighter rump, or the belly tinged with yellow, and much larger. The under tail-coverts immaculate as a rule; whole throat with a faint, pale cinnamon tinge in fresh fall plumage. Averaging slightly larger than typical *serripennis*, the chin and throat with traces of pale cinnamon in all but extremely worn breeding birds, the whole throat pale cinnamon in fresh fall birds. Wing of males, 113-118 mm.

Seasonal variation.—Fresh fall specimens (October and November) have whole throat pale cinnamon, and have broad light edgings to the tertials. The latter is not a specific character of *salvini*, but is a seasonal variation common to all the swallows of this group. Winter, early spring, and breeding specimens have the chin and throat with far more cinnamon on the average than fairly fresh winter specimens of *serripennis*, and it must be remembered that spring and breeding specimens of *serripennis* have *no tinge whatever* of cinnamon. The idea of the specific distinct-

ness of *salvini* was due to comparison of a fresh fall bird with relatively worn or faded spring specimens of *serripennis*, and to ignorance that some of the obvious differences were seasonal. When seasonally comparable specimens are compared, *salvini* is a good average race; the differences are most apparent in fresh fall birds, and least obvious in breeding birds. In fact one very worn breeding male from Guatemala has lost all traces of cinnamon on the throat, and such individuals would only be identifiable (eliminating locality) should they happen to be particularly large. The immature plumage is unknown to me.

Individual variation.—Two individuals have subterminal spots on the under tail-coverts.

Material examined.—Vera Cruz, 4; highlands of Guatemala, 5; highlands of Costa Rica (breeding birds), 5.

Stelgidopteryx ruficollis ridgwayi Nelson

Range.—Breeding in caves in the hills of Alta Vera Paz, Guatemala, in April and May, and also in western British Honduras. Winter specimens are recorded from the lowlands of eastern Vera Cruz and Yucatan.

General diagnosis.—Easily separable from typical *serripennis* in being much larger and very much darker, sooty or blackish brown instead of hair-brown or grayish brown; sides and flanks more extensively dark, the light area often being restricted to the center of the abdomen; under tail-coverts always spotted with darker; throat always more or less tinged with pale cinnamon, even in breeding birds; wing of males, 116-122 mm. Juvenals differ in the same respects.

Seasonal variation.—None of any note in the limited material available.

Individual variation.—A topotype from Chichen-Itza, Yucatan, differs from Mexican and Guatemalan specimens in being less blackish brown above, though radically darker and larger than *serripennis*. Should *ridgwayi* prove to breed in Yucatan, and this difference prove constant in series, there would be two subspecies involved. In fact this form is so different from *serripennis* that it is almost specifically distinct. A winter specimen collected by Peters in eastern Honduras is, however, an obvious intermediate, far too large for *serripennis*, but not dark enough for *ridgwayi*. There is plenty of room in eastern Mexico for breeding birds showing these characters.

Material examined.—Yucatan, 1; British Honduras, 1; Alta Vera Paz, Guatemala, 8; Vera Cruz, 2.

Stelgidopteryx ruficollis psammochrous subsp. nov.

Type, no. 221,956, Mus. Comp. Zoöl., adult male; near Oposura, Sonora, Mexico, April 15, 1887, John C. Cahoon.

Subspecific characters.—Similar to typical *serripennis* of North America, but slightly paler both above and below; grayer or more ashy brown, less sandy or hair-brown.

Individual variation.—The series consists solely of breeding birds. The majority have a faint tinge of cinnamon on the chin.

Range.—The eight specimens are all from Oposura and Alamos, Sonora, and from "Hacienda de San Rafael," Chihuahua. The few specimens of *serripennis* examined from Lower California and southern Arizona do not show any approach to this form.

Stelgidopteryx ruficollis serripennis (Audubon)

Type locality.—Charleston, South Carolina.

General diagnosis.—Slightly darker than *psammochrous*. Very much paler and smaller than *ridgwayi*. Closely resembling *salvini* in general coloration, but slightly smaller, and chin tinged with pale cinnamon in winter plumage only; wing of males, 105.5-115 mm.

Seasonal variation.—In fresh winter plumage general coloration slightly darker, tertials broadly edged with whitish, and chin almost always tinged with pale cinnamon. Specimens taken as late as the latter part of March in Georgia, show this character.

Individual variation.—Three specimens out of nearly two hundred have spotted under tail-coverts, and two breeding birds show a barely perceptible tinge of cinnamon on the chin. Birds from West Virginia northward average about 2 mm. longer-winged than a series from Georgia and South Carolina.

Range.—Wintering chiefly in Central America, mainly on the eastern side, the center of abundance being from southern Mexico to eastern Honduras. Much less common further south, but reaching Almirante, Panama (Feb. 19, 1926). I have no material to show fall arrival, but the latest date is April 25 in British Honduras.