

## RECORDS OF ALLEN'S HUMMINGBIRD IN LOUISIANA AND POSSIBLE RUFIOUS × ALLEN'S HUMMINGBIRD HYBRIDS

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Allen's Hummingbird (*Selasphorus sasin*) has the most restricted breeding range of any hummingbird in the United States, excluding those primarily Mexican species that breed in Texas and Arizona. The two subspecies, *S. s. sasin* (migratory) and *S. s. sedentarius* (nonmigratory), are common only in coastal California, where they are allopatric (Stiles 1972, Phillips 1975). The nominate subspecies migrates as far as the Valley of Mexico in June, July, and August, and returns by a Pacific coastal route in January and February (Phillips 1975). At no time does the regular movement of this species carry it farther east than southern Arizona. Adequately documented extralimital records are few. Because the closely related Rufous Hummingbird (*S. rufus*) is so similar to the Allen's Hummingbird, sight records deserve no consideration unless of the adult male Rufous Hummingbird. Nevertheless, this species, which was previously unrecorded anywhere east of the Mississippi River, has been documented on three occasions in southeastern Louisiana since 1976 by specimens now held in the Louisiana State University Museum of Zoology (LSUMZ). The twofold purpose of this note is to coordinate and amplify those relevant records in a single publication while correcting several published discrepancies concerning those occurrences, and to report on three possible *S. rufus* × *S. sasin* hybrids taken in the eastern United States.

The first Louisiana specimen of Allen's Hummingbird was an adult male collected in Reserve (St. John the Baptist Parish) by Ronald Stein on 6 March 1976. This male (LSUMZ 81486) had been present at a feeder since 8 October 1975. It arrived in juvenal plumage and completed postjuvenal molt before being collected. The bird performed what Stein considered to be the display flight characteristic of Allen's Hummingbird (R. Stein, pers. comm.). Allan R. Phillips identified the specimen and referred it, on the basis of data provided by Stiles (1972), to the subspecies *sedentarius*, a form normally known only from the Channel Islands and coastal Los Angeles County, California. Previous reference to this specimen was made by Hamilton (1976) who incorrectly listed the date of collection as 16 March. [Measurements: exposed culmen 18.3 mm; wing chord 39.2 mm; rectrix 1, 6.9 mm; rectrix 2, 3.8 mm; rectrix 5, 1.5 mm.]

Two years later, on 22 March 1978, an adult female Allen's Hummingbird was captured at a feeder in New Orleans (Orleans Parish). This bird (LSUMZ 86998) was in such poor physical condition that it succumbed in handling. Identification was made by J. V. Remsen, who assigned it to the nominate subspecies. It was reported as a presumed male by Imhof (1978). [Measurements: exposed culmen 17.4 mm; wing chord 40.8 mm; rectrix 1, 7.5 mm; rectrix 2, missing; rectrix 5, 2.6 mm.]

Another male Allen's Hummingbird in adult plumage was collected by Michael J. Braun in Metairie (Jefferson Parish) on 6 January 1979. This specimen (LSUMZ 89623) was in good condition and very fat. Allan R. Phillips identified the specimen and noted an anomalous notch on the inner web of the second rectrix. Because of this anomaly, Hamilton (1979) reported it as a possible *S. rufus* × *S. sasin* hybrid, although he later published a clarification

(Hamilton 1980). [Measurements: exposed culmen 16.0 mm; wing chord 38.5 mm; rectrix 1, 6.2 mm; rectrix 2, 4.6 mm; rectrix 5, 1.6 mm.]

Three other specimens taken far east of the normal range of *S. sasin* display characters of both *S. rufus* and *S. sasin*. A search of the literature (Banks and Johnson 1961, Short and Phillips 1966, Lynch and Ames 1970, Wells and Baptista 1979) revealed no mention of hybridization between these two species except for the suggestion by Webster (1978) that hybridization was suspected in one specimen. Suspicion of such hybridization is based on the presence of characters of both species and on measurements that fall into a gap between the ranges of measurements of the two species.

An adult male *Selasphorus* found dead in Houston (Harris County), Texas on 1 March 1976 (Texas Cooperative Wildlife Collection 9945, Texas A.&M. University) appeared to be an Allen's Hummingbird. A previous account of this specimen by Beavers (1977) referred to it as the first specimen of Allen's Hummingbird from Texas. However, Allan R. Phillips identified the specimen as a hybrid and noted that rectrices 2, 3, and 5 were unusual. The wing chord clearly measures as that of *S. sasin*. Judged by measurements in Stiles (1972), the length of the exposed culmen is intermediate between those of *rufus* and *sasin*. Stiles (1972) omitted rectrix measurements for adult males but commented on the comparative widths of rectrices 1 and 5. Although no measurements have been published for rectrix 2, it is correspondingly wider in *S. rufus* than in *S. sasin*. Critical examination of the rectrices suggests that *rufus* genes are involved. Rectrix 2 is strongly emarginate as in *rufus* yet appears narrower than normal for that species and is shorter than rectrix 3, although both appear to be of the same feather generation. [Measurements: exposed culmen 15.8 mm; wing chord 37.8 mm; rectrix 1, 7.1 mm; rectrix 2, 5.4 mm; rectrix 5, 2.0 mm.]

A female *Selasphorus* found dead in Memphis (Shelby County), Tennessee on 9 November 1976, also may be a hybrid between *S. rufus* and *S. sasin*. This specimen (LSUMZ 87078) was identified as *S. rufus* by Phillips and as *S. sasin* by Bruce A. Sorrie. According to Sorrie (pers. comm.) the measurement of the wing chord indicates *rufus*. Rectrices 1 and 2 (left) are adult-shaped and unworn. The remaining rectrices 3 through 5 (left) and 1 through 4 (right) are juvenal and worn. Rectrix 5 (right) is missing. After accounting for the difference in age classifications, Sorrie finds the measurements to indicate *S. sasin*. Rectrix 2 (left) is strongly emarginate, a characteristic of *rufus*. The bill is broken, with the result that no measurement is possible. Numerous corrugations on the remaining section of bill indicate that the bird is immature (Ortiz-Crespo 1972). [Measurements: exposed culmen n.a.; wing chord 47.7 mm; rectrix 1, 7.0 mm (adult); rectrix 2, 5.8 mm (adult); rectrix 5, 3.3 mm.]

Finally, a juvenile male with adult rectrices was collected in Metairie (Jefferson Parish), Louisiana on 20 December 1979 by Michael J. Braun. In measurements of the exposed culmen and wing chord, this specimen (LSUMZ 91453) is intermediate between *S. rufus* and *S. sasin*. Additionally, rectrix 2 is strongly emarginate on the inner web as in *S. rufus* yet it appears considerably narrower than usual for that species. Hamilton (1980) noted that this specimen appeared to be a hybrid, but he incorrectly reported that it had been collected 21 December by this writer. [Measurements: exposed culmen 15.4 mm; wing chord 41.4 mm (juvenal); rectrix 1, 8.6 mm; rectrix 2, 6.0 mm; rectrix 5, 2.1 mm.]

The three Allen's Hummingbird specimens reported here represent the only documented occurrences of that species east or northeast of Arizona and San Luis Potosi, Mexico. Previous October to December records had been no closer to Louisiana than San Diego, California, and Aguascalientes, Mexico (Phillips 1975). Beavers (1977) notwith-

standing, specimen evidence of the occurrence of *S. sasin* is lacking for Texas (Oberholser 1974) and New Mexico (Hubbard 1978)—states that this species would likely traverse in reaching Louisiana. The numerous sightings from Texas require substantiation. Similarly, the many reports of *S. rufus* in the eastern United States (Conway and Drennan 1979) need individual re-evaluation. Because of the great similarity between the two *Selasphorus* species discussed here, because green-backed *S. rufus* males are known, because of possible hybridity, and because *S. rufus* occurs regularly in Louisiana in winter (Lowery 1974), sight records of *S. sasin* always may be unacceptable in Louisiana or anywhere east of Arizona. Nevertheless, the occurrence of Allen's Hummingbird in Louisiana is indisputable.

I gratefully acknowledge the assistance of Paul Newfield III and J. V. Remsen in preparing the original draft of this paper. Michael J. Braun, Allan R. Phillips, and Robert J. Newman contributed many valuable suggestions. Richard C. Banks and Paul A. DeBenedictis made useful suggestions on the original draft. I thank Keith A. Arnold for the loan of TCWC 9945. Ronald J. Stein provided a useful discussion of LSUMZ 81486.

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3016 45th Street, Metairie, Louisiana 70001. Received 20 April 1981. Final acceptance 7 January 1983.

*Condor* 85:254-255  
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## IDENTIFICATION AND OCCURRENCE OF BLACKPOLL WARBLERS IN SOUTHERN MIDDLE AMERICA

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The Blackpoll Warbler (*Dendroica striata*) normally migrates southward in fall via a nonstop flight from the east coast of North America to northern South America (Nisbet 1970), with many individuals also passing through the West Indies (e.g., Bond 1971). The main wintering ground of the species is the upper Amazon and Orinoco watersheds in north-central South America (Keast 1980). Until recently, it was known in Middle America only from old specimen records from Tehuantepec and central Panama (Eisenmann 1955). In recent years, Blackpoll Warblers have been reported from both Panama and Costa Rica on the basis of sight records and birds banded and released (Ridgely 1976, Stiles and Smith 1980). Since the basic plumages of this species and its close relative, the Bay-breasted Warbler (*D. castanea*) are often very similar, specimen confirmation is highly desirable. Here we report the first specimens and additional sightings for Costa Rica, and summarize the available information on the occurrence of Blackpoll Warblers in southern Middle America.

Field identification of the two species in fall can be tricky: none of the definite and obvious average differences holds for all individuals. In general, Blackpoll Warblers are greenish-white to pale yellowish below, with dusky-olive streaking extending laterally from breast to flanks; Bay-breasted Warblers are more buffy-white below, with fainter streaking restricted to the flanks. However, some Blackpolls (especially young females) have very little streaking below, and a definite buffy-yellow tinge to the crissum. Conversely, some Bay-breasteds, notably adult females, have rather prominent streaking and little buffy tinge below, the crissum being pale buffy-white to nearly pure white. In *D. striata* the tarsi and anterior scutes of the feet are often brownish to dusky; these birds do not appear noticeably pale-legged in the field. However, examination of museum specimens has yielded a useful character for distinguishing these species in the hand. In *D. striata*, the outer webs of primaries 7 and 8 are emarginate near the tip; in *D. castanea* primaries 6, 7, and 8 are emarginate. Emargination averages less in immatures than adults, but all *D. castanea* seen have had the sixth primary at least "slightly cut out" (cf. Phillips et al. 1966); no sign of emargination of this primary has been seen in *D. striata*.

We mist-netted two Blackpoll Warblers during banding operations in an area of scrub and overgrown pasture ½ km northeast of the campus of the Universidad de Costa Rica (elev. 1,230 m). Provincia San José. The specimens are in the Museo de Zoología, Universidad de Costa Rica. Data are as follows: UCR 2370, adult female, 9 Nov 1980, light fat, skull ossified, ovary very small, 12.3 g; and UCR 2542, adult male, 30 Oct 1981, light fat, skull ossified, left