

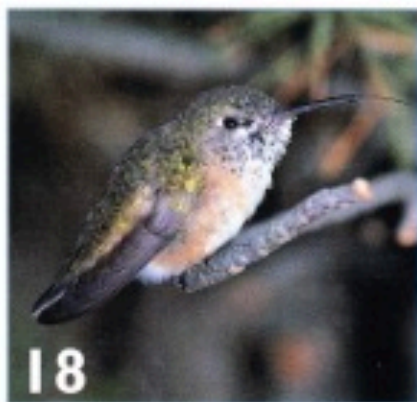
Birding

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Cover: Adult male "Prairie" Merlins (*Falco columbarius richardsoni*) are much paler above than other races of Merlin, and typically lack a moustachial mark. This subspecies breeds in prairie-parkland habitat, more recently in city environs as well. In Saskatchewan, it is a fairly common resident and has probably benefited from the planting of farm shelterbelts (see story on CBCs in that province, page 45). Photographed by Rob Curtis in March 1995 using a Nikon N90S camera, a Nikkor 600mm F4 lens, and Velvia film.

- 12** Letters to the Editor
- 18** **Selasphorus Hummingbirds**
Notes on Identification
by Arnette Heidcamp
- 30** **Birds and Sound**
by Sarah E. Durand
- 38** **Rare, Local, Little-Known, and Declining North American Breeders**
A Closer Look: Mountain Plover
by Fritz L. Knopf
- 45** **A Half Century of Christmas Bird Counts in Saskatchewan**
by Martin Bailey
- 54** **Point/Counterpoint**
Local Record-keeping
by Peter Hunt
Is Local Field Ornithology the Future of Birding?
by Alan Contreras
- 59** **Answers to the December Photo Quiz**
by Robert S. Hamilton
- 66** **Gleanings from the Technical Literature**
Skuas
by Paul A. DeBenedictis
- 73** **Tools of the Trade**
Refining the View: Better Binoculars
by Stephen Ingraham
- 79** **Book and Media Reviews**
- 85** **The Joy of Birding**
Street Listing
by Ted Floyd
- 88** **New Photo Quiz**

Selasphorus

In Brief

Sightings of *Selasphorus* hummingbirds in the East have increased sharply in recent years. Though the majority of these birds may be immature Rufous Hummingbirds (*S. rufus*), other species, such as Allen's (*S. sasin*), Broad-tailed (*S. platycercus*), and Calliope (*Stellula calliope*) Hummingbirds, cannot be ruled out, as all have at least some orange-buff coloring on the sides or flanks and rufous coloring on the tail; and they, too, occur in the East. Identifying most adult males in the field is relatively easy, but adult females and immatures can be easily confused with one another. When attempting to identify a female or immature bird to species, Broad-tailed and Calliope can usually be eliminated at moderately close range, but it is very difficult to separate Rufous and Allen's. In any attempt to distinguish Rufous from Allen's, the age and sex of the bird should first be determined using differences in the throat pattern and, especially, the color of the central tail feather. Separating the two species is extremely tricky: differences between them are small, with overlap in almost all key measurements between individuals of the same age and sex class, and there is much intraspecific variation among individuals. Still, once age and sex are properly assessed, it may be possible to distinguish species under extremely favorable conditions—such as in the hand or when good close-up photographs exist, especially of spread or fanned rectrices. The best clues come from examining an outspread tail, e.g., extremely narrow, ribbon-thin Rectrix 5 (outer tail feather) would indicate Allen's, whereas strong emargination on both webs of Rectrix 2 would indicate Rufous.

Thus, we can see why separating female and immature Rufous and Allen's Hummingbirds in the field is notoriously difficult and usually impossible. Indeed, identification in the hand may be possible only after measuring several characters, and even then, some individuals will not be identifiable. Most birds should thus be left as "Rufous/Allen's Hummingbird" (or "*Selasphorus* species" when Broad-tailed has not been eliminated).



ARNETTE HEIDCAMP*

I CAN RECALL MANY of my father's interesting stories of life on the road in Depression-era America, but one stands out vividly in my mind: he told of a woman in Louisiana who had many beautiful flowers on her balcony to attract hummingbirds. "Look at the birds," she said as she pointed out a number of hummers working the blossoms. "And," my father remembered, "one was reddish." No doubt he had seen a *Selasphorus* hummingbird, perhaps an Allen's (*S. sasin*), but probably a Rufous (*S. rufus*).

Selasphorus in the East

Apparently, these occurrences are not something new to the Southeast, where a number of Rufous regularly winter—some banded individuals practicing typical winter site-fidelity have returned several years in a row (Calder 1993). The first specimen of Rufous Hummingbird from east of the Mississippi River was captured in a Charleston, South Carolina, garden in December 1909 (Conway and Drennan 1979). The Northeast and Midwest, however, are another story. There is a limited but growing number of Rufous sightings for many of the northeastern and midwestern states, with first state records within just the last few years for Michigan (1988), West Virginia (1988),

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HUMMINGBIRDS

Wisconsin (1988), Kentucky (1989), Connecticut (1991), and Vermont (1992) (Womack 1993). Rhode Island had its first in 1995, when a female turned up in the Little Compton area. North Dakota got its first record in 1995 as well. States such as Maine, Massachusetts, New Jersey, Delaware, Maryland, Pennsylvania, Ohio, and Indiana, as well as several eastern provinces including Ontario and Newfoundland, have now had at least several sightings each. An earlier summary of records of Rufous Hummingbirds in eastern North America through the mid-1970s was presented by Conway and Drennan (1979).

What has been going on in the Southeast for many years appears now to be spreading to the Northeast and Midwest. Hummingbird history in New York, my own state, includes one individual in female plumage accepted as "belonging to the genus *Selasphorus*, but was not identified as to species" in 1981 and the first state record of an adult male Rufous in August 1993. Several additional reports, either unaccepted or still under review, precede that record (Able et al. 1995). Although most likely *S. rufus*, many Eastern records are listed simply as "*Selasphorus* species"—meaning Rufous, Allen's, or Broad-tailed (*S. platycercus*). Most of these reports do, in fact, eliminate Broad-tailed, thus listing them as "Rufous/Allen's" is appropriate.



ARNETTE HEDCAPP

Throat pattern and, particularly, the color of the central tail feathers are the best field characters to use in sexing Rufous and Allen's Hummingbirds. The almost entirely green central tail feathers on this bird sexes it as a female. The width of the outer tail feathers—particularly the outermost (Rectrix 5)—is a character used by many birders to separate Rufous from Allen's in the field. Extreme caution should be exercised when using this feature, however, as the differences between the two species are slight, and differences in width between males and females and adults and immatures of the same species exist. This bird is a captive female Rufous Hummingbird, photographed in February 1994.

Allen's Hummingbirds have shown up a number of times in Louisiana, a "hot-spot" for *Selasphorus* hummingbirds in the Southeast. Womack (1993) lists 76 Rufous banded there from 1991 through 1993, and three Allen's banded in 1992 and 1993 (pers. comm.), for a total of at least 12 reports of Allen's for the state through 1992. These totals are actually substantially lower than the actual numbers of *Selasphorus* for a number of Southeastern states, particularly Louisiana. Rufous Hummingbirds have become so

routine that many sightings and banding records are no longer reported to *American Birds*/*Audubon Field Notes*; for example, in the *Selasphorus*-rich Baton Rouge region, some 133 Rufous Hummingbirds were banded by two people during the winter of 1995–1996 (N. Newfield, pers. comm.).

Hummingbird-bander Bob Sargent banded a hatching-year male Allen's Hummingbird on 27 December 1993 in Soddy Daisy, Tennessee, a mountainous region northeast of Chattanooga—a first



ARNETTE HEDCAMP

This is another captive female Rufous Hummingbird. Note the coloration of the tail's uppersurface and the shape of the outer rectrices. Female *Selasphorus* average wider rectrices than males, and immatures average slightly wider rectrices than adults. Thus, an observer must properly age and sex an individual *Selasphorus* before attempting to use this subtle character.

Differences in feather width are useful in the field only with "extreme" individuals (e.g., female Rufous with particularly broad tail feathers versus immature male Allen's with particularly thin). There is some overlap in measurements between the two species, and what differences there are may be only in a few tenths of millimeters (see Table 2). Photographed in January 1996.

record for the state. The bird remained in the vicinity until 5 January 1994. A few days later the bird was recaptured by Sargent in Cartersville, Georgia, a distance of approximately 85 air miles south-southwest of the banding site! This bird remained in the Georgia recapture vicinity for three weeks and then disappeared. The first state record for Georgia was of an immature male in the Atlanta area from 12 December 1992 through 6 March 1993. That bird was also banded by Sargent. Sargent has now banded Allen's Hummingbirds in Alabama, Georgia, Tennessee, and Mississippi, as well as two more individuals in Georgia (pers. comm.). (A 1993 banding record of Allen's Hummingbird from Florida was rejected by the Florida Ornithological Society Bird Records Committee.) Not without an appearance in the Northeast, an Allen's Hummingbird was netted and subsequently died on Nantucket Island, Massachusetts, 26 August 1988 (Andrews and Baltosser 1989).

Some of these extralimital sightings of *Selasphorus* that seem to be spreading to more northerly latitudes and easterly longitudes may involve pioneers seeking out new wintering areas, although most northerly birds assumably perish due to the lack of food and very cold temperature. In any case, as Sargent suggests, the genus *Selasphorus*, particularly *S. rufus*, is much more widespread in the Northeast than we had realized. The most common hummingbird vagrant is the immature Rufous—for years it may have been passed off as the common Ruby-throated

Hummingbird (*Archilochus colubris*) by the casual observer. But with the recent surge in hummingbird popularity and feeders kept up later in fall to attract them (at least into October), *Selasphorus* are being noticed more frequently. Indeed, many *Selasphorus* are turning up in October just after the last of the Ruby-throateds have departed. Perhaps a combination of these factors and others have contributed to this "explosion."

Separating Rufous/Allen's from Other Hummingbirds

The genus most likely to be seen in the Northeast other than *Archilochus* is *Selasphorus*, and Rufous Hummingbird is the species seen most often. Separating *Selasphorus* from *Archilochus* in the field at moderately close range is usually a relatively straightforward task. Most feeder owners report that they first noticed their *Selasphorus* because of the bird's color and the fact that it was present late in fall, after the Ruby-throats had already been gone for a while. A dead giveaway, too, is voice. In fact, an appreciation of call-note differences is an important tool to use in most hummingbird identifications. Compared to the soft, low-pitched *tchew* of Black-chinned (*A. alexandri*) and Ruby-throated, the call of Rufous (and Allen's) is a distinctive *chip* or *t-chip*, frequently given several times in succession. The vocalization that I have heard most often when one Rufous is in the presence of other hummingbirds is best described as a very shrill *tzecept*, rising at the end, or a raspy *eeech* (Calder 1993), and a fast *zee-chip*.

pity-chippity or *eeeee-didayer-didayer-didayer* in response to an intruder that passes overhead or does not leave the territory. But because the Rufous frequently arrives after the Ruby-throateds have departed, other vocalizations may not be heard (or given). For the Broad-tailed, the call is somewhat higher pitched and sharper (Calder and Calder 1992), more metallic.

The presence of a strong buff to orange-buff coloring on the sides and flanks, but especially rufous coloring on the tail, is characteristic of *Selasphorus*. Such coloring on the sides and flanks tends to indicate that the bird is not a Ruby-throated Hummingbird, although that is not a sure-fire sign, because the flank color can vary from pale to deep buff on *Selasphorus*, and occasional female and immature Ruby-throateds and Black-chinneds will show a wash on their sides that rivals the coloring of a pale Rufous Hummingbird in depth and hue. Rufous coloring on the tail, however, does not occur in *Archilochus*.

Field identification is, at times, a process of elimination. Of the female and immature ABA-Area hummingbirds with rufous on the tail, the Broad-tailed can usually be eliminated on the basis of call, size (including larger tail and longer bill), and the more "blended" and peachy color to the sides and flanks (J.L. Dunn, pers. comm.). Contrary to some sources (e.g., Johnsgard 1983), however, the central rectrices of female Broad-taileds are about the same length as the next-to-central ones, not noticeably shorter (N.



MARTHA SARGENT

This immature female Rufous Hummingbird, banded at Gulf Shores, Alabama, on 6 December 1995, shows limited dark spotting on the throat (with more of a streaked pattern to the chin and center of upper throat) with few or no iridescent red feathers, typical of young female Rufous and Allen's. Many females begin acquiring additional iridescent red feathers on the center of the throat, however, as the winter progresses

This female Rufous was banded in Shelby County, Alabama, on 9 November 1995, and was aged as "after hatching year" (AHH). The throat is marked with dark (greenish) spots toward the tips of the feathers.



MARTHA SARGENT



ARNETTE HEDGAMP

The throat pattern on this captive female Rufous Hummingbird is typical of that of many such birds: lightly marked, with a concentration of darker, red iridescent feathers at the center. Be aware, however, that there is some variation in this pattern even among individuals of the same age and sex. Photographed in April 1995.

notes on identification

Newfield, pers. comm.). Calliope Hummingbird (*Stellula calliope*) is eliminated from contention by its smaller size, shorter bill, and a stubbier tail that contains only a little rufous. When perched, the Calliope's wing-tips are even with the tail or extend beyond it. The female Calliope's spatulate-shaped middle rectrices frequently lack rufous altogether, and coloring on its sides tends to be somewhat subdued and blended (Baltosser 1994), as in Broad-tailed. Observers should be aware, however, that both Broad-tailed and Calliope can be easily confused with Rufous and Allen's, particularly by observers lacking comparative experience and when direct comparisons are not possible. Both Broad-tailed and Calliope have also turned up in the East with increasing frequency. They are now regular in fall and winter in small numbers in the western Gulf Coast states, with records eastward to Florida, Georgia, and North Carolina (Calliope).

Determining Age and Sex

Identifying adult male *Selasphorus* from a distance is relatively straightforward. Both Rufous and Allen's have *completely* metallic red throats (sometimes appearing reddish-orange), and both give a high buzz in flight (provided that they are not molting the outer primaries, such as in late summer). The courtship-display flights of the two species are different, however, and such displays may be observed on occasion on the wintering grounds during late winter and early spring.

The back of the adult male

Rufous is rufous, whereas the back of Allen's is green. Adult male Rufous Hummingbirds may retain or renew variable amounts of green-tipped feathers on the back (occasionally as high as 75 percent [Patterson 1990, Calder 1993], which may give the impression that the bird has an essentially green back). There is also considerable variation in the amount of iridescent green on the backs of maturing male Rufous Hummingbirds, and males may or may not have completely rufous backs the

first few years of their lives (Jones 1992), particularly during their first spring. Nonetheless, rufous-colored feathers on the upper back indicate that the bird is *S. rufus*.

More difficulty lies in identifying adult females and the similar-looking immatures of these two closely-related species. But there are differences between adult females and immatures that are verifiable in the hand and may be conspicuous in the field under favorable circumstances at reason-



ARNETTE HEIDCAMP

This captive female Rufous Hummingbird shows the throat pattern, tail pattern, and rectrix shape typical of this sex. Photographed in December 1995



MARTHA SARGENT

This immature male Rufous Hummingbird was banded in Huntsville, Alabama, on 6 January 1995. The immature throat is heavily and uniformly spotted with dusky. Obvious red gorget feathers are coming in on the "side gorget"; such feathers might have been locking on this individual during the fall. The rufous color on the sides of the face is typical of that of many young males of both species, and is lacking in many females (although some females may show a buffy or soft rufous wash to at least part of the face). The back on this bird was over 75 percent rufous; the rump and uppertail coverts were entirely rufous. Many, but not all, immature male Rufous acquire tell-tale rufous on the back by mid-winter, sometimes by late fall. The tail feathers on this bird were still immature.

ably close range. Immatures often show a *slight* rufous or buff wash along the shaft and on part of the white tip on some of the outer three rectrices. This suffusion is typically lacking in adults, but it is often not conspicuous in the field even when present on the immatures. The immature male's rectrices *average* narrower and more pointed than those of immature females. This is more obvious to an observer who has had previous experience with birds of differing ages and sexes, and is a character best judged in the hand or in excellent photos or video footage. In general, immature males have more rufous than adult or immature females—which is most noticeable on the face and rump—and their throats are usually more extensively and uniformly spotted. By autumn, iridescent red feathers

should be visible at the edges of the immature male's gorget (W. Calder, pers. comm.), and by January or early February (rarely already in November) immature males may exhibit some rufous-colored dorsal feathers as well.

Some females can acquire some iridescent red feathers on the center of the throat during their first fall. Of two hatching-year females which I observed closely, one acquired its first iridescent red feathers in early December but had a large throat-patch by the end of the month; the second, exhibiting only a few small, centrally-located red feathers on the throat in late October, added many more in December. Although the size of the throat-patch is sometimes reported to increase with age, this character is variable. As such, a small patch or only a few red

feathers will not conclusively identify the bird as an immature. I have seen adult females with only a few red feathers on the throat. One adult female with only a few red feathers on the lower throat showed evidence of feather molt on the throat in December, but no change in the pattern of the patch nor the number of red feathers was evident (pers. obs.).

Age and sex are best determined by examining the throat and tail and by measuring the bill, wing-chord, and tail length. Table 1 is based on the information contained in Stiles (1972) and outlines the major differences between adult females and immatures. Note, however, that Stiles's information is based largely on a limited sample of museum specimens and that he believed that the differences which he proposed



MARTHA SARGENT

The undertail pattern of the same immature male Rufous as in the previous photograph shows how the outer rectrix might be seen on a perched bird in the field if viewed at close range, particularly with a scope. The white tip on Rectrix 5 is somewhat worn, reducing its width. Some observers might be tempted to use this "narrower" tip to misidentify this Rufous Hummingbird as an Allen's.

should be regarded as *tentative*. More work is needed with immature birds banded and measured and then recaptured as adults.

Separating Rufous from Allen's

After the observer properly assesses the age and sex of the bird, what remains to be done is to distinguish *S. rufus* from *S. sasin*—the most difficult task of all, and considered to be usually impossible in the field. Perhaps some "extreme" individuals may be identified by experts with comparative experience. Although Allen's tends to be slightly smaller overall than Rufous, there are few consistent or dependable differences between the two species. Many birders try to base their in-field identifications of these birds on the width of Rectrix 5,* sometimes visible in glimpses as the birds fan

their tails while moving toward and away from feeders or flowers or when leaving a perch. This feather may be more easily seen by looking with a scope at the underside of the tail on a perched bird. Such field identifications, however, are tenuous at best. The width of the outer rectrix is a useful character that may be noticeable in sharp, close-up photographs only if the measurement is extreme (e.g., immature male Allen's with ribbon-thin outermost tail feathers versus immature female Rufous with broader Rectrix 5). In Stiles (1972), the width of Rectrix 5 for an adult female Allen's ranges from 2.0 to 2.7 mm; for an adult female

*There are ten rectrices (five pairs), which Stiles (1972) numbered from the center outward, the middle pair being the first, and the outermost the fifth. Likewise, the primaries are numbered 1 to 10, starting at the inside—closest to the body—and working outward.

Rufous the range is 2.8 to 4.0 mm. So there is often very little difference. Stephen M. Russell, who has done work with Allen's Hummingbirds in Arizona, points out that there is no reliable tail-pattern difference to help identify Allen's. He believes that identification of adult females is most reliable in hand when Rectrix 5 is less than 1.8 mm, 95 percent reliable when Rectrix 5 is less than 2.0 mm, and uncertain when it measures in the "gray area" of 2.3 to 2.8 mm (pers. comm.). For immature females, the range of these measurements in Stiles (1972) is close as well. Allen's ranges from 2.4 to 3.3 mm and Rufous from 3.2 to 4.7 mm, with a 0.1 mm area of overlap between the two species.

In hand (without calipers) or possibly in excellent close-range photographs, distinguishing

TABLE 1
AGE AND SEX DIFFERENCES—ADULT ♀ AND IMMATURE SELASPHORUS (FROM STILES 1972)

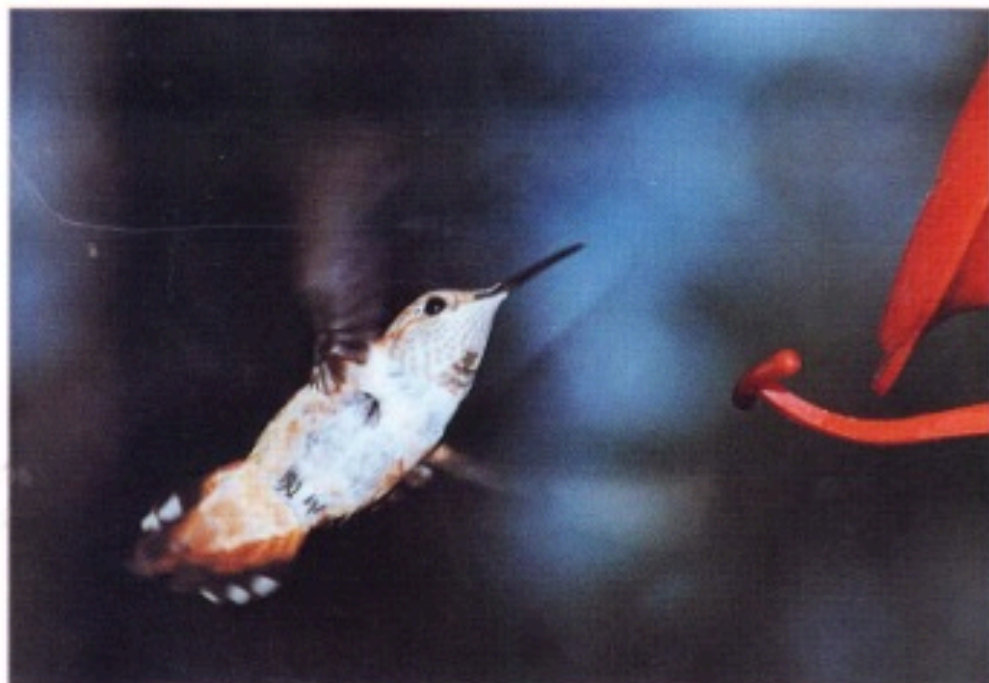
	Adult ♀	Immature ♂	Immature ♀
Bill	Smooth	Coronations present; shorter	Same as immature ♂
Throat	Clear, basically white, variable amount of green or brownish spotting laterally with color toward tip of feathers <i>Red iridescent feathers concentrated at center</i>	Heavily and uniformly spotted or streaked with dusky or greenish-brown, with color concentrated toward shaft <i>Variable amounts of red iridescent feathers not necessarily concentrated at center</i>	Buffy feather edges broader, paler than immature ♂, dusky brown color sometimes restricted to shaft, giving effect of fine streaking <i>Few to no iridescent red feathers restricted to center</i>
Body	Green feathers without buffy edges (although new feathers have narrow rufous edges)	Green feathers with buffy edges <i>Often extensive rufous on appertal coverts</i> <i>Some rufous-colored back feathers may appear by early winter (Rufous)</i>	Green feathers with buffy edges <i>Green not obscured on appertal coverts</i>
Tail Feathers (Rectrices)	middle pair	Mostly green with varying amounts of rufous at base, black at tip; no buffy edging	>66% rufous at base, tipped green with black concentrated near and along shaft Variable amounts, but <50% rufous, usually mostly green with black concentrated toward tip, dusky tinge basally, narrow whitish-buff edging at tip when very fresh
	second pair	Various degrees of emargination	Various degrees of emargination and little to no green Often white or buffy at tip, little to no emargination
	lateral rectrices	White tips and subterminal black usually clearly defined, with no suffusion of rufous	No green; white tips and subterminal black with suffusion of rufous, especially along shaft White tips and subterminal black with suffusion of rufous, especially along shaft

Italics indicate those characters most useful in field identification.

species is sometimes possible by examining the tail:

- For adult females, the second pair of rectrices on Rufous is more or less conspicuously emarginated (notched along the feather margin) on both the inner and outer webs; on Allen's there is little-to-no emargination, and, if present, it is restricted to the outer web.
- For immature females, the emargination on Rectrix 2 is greater in Rufous (but very variable); Rufous generally has more green and less rufous on the middle rectrices than Allen's.
- For immature males, the tip of Rectrix 2 is emarginated strongly in most Rufous, weakly or not at all in Allen's.

When distinguishing Rufous from Allen's with calipers, adult and immature *S. rufus* generally have broader Rectrices 1 through 5 and longer culmen, wing, and tail lengths than do their *S. asin* counterparts, but there is overlap in nearly all measurements between individuals of the two species of the same age and sex. Birds with intermediate measurements cannot be safely identified on the basis of any one measurement alone (e.g., width of Rectrix 5), and several characters must be considered. Table 2, based upon information contained in Stiles (1972), is of diagnostic measurements: note that differences in some key measurements are in tenths of millimeters and that some important measurements may overlap. Given the general



MARITHA SARGENT

This immature male Rufous Hummingbird was photographed in Atlanta, Georgia, in late January, later in winter than the bird in the two previous photos, yet it shows little in the way of large, iridescent gorget feathers. The cluster of dark gorget feathers in the center forms a pattern similar to that of many female *Selasphorus*. Other young males have the red feathers more spread out on the throat. There is a wide difference in the time in which this species molts. Note the uniform dusky spotting and streaking that covers much of the throat.

flexibility of a feather, such exact measurements should be taken only by experienced (and licensed) banders.

Individual Variation

Irrespective of the fine line of differences between species, it appears that there may also be pronounced intraspecific variation among birds even of the same age and sex.

As a state and federally licensed

bird rehabilitator, I have had the opportunity to observe several captive Rufous Hummingbirds in recent years. A female Rufous housed in my sunroom from November 1993 until May 1994 (Heidcamp 1995) fit the description of a typical Rufous found in Calder (1993), Johnsgard (1983), Bent (1940), and elsewhere. A second female, housed following her capture in December 1994 until her release in May 1995, was no-

TABLE 2
DIAGNOSTIC MEASUREMENTS (IN MM) (FROM STILES 1972)

	Adult ♀		Immature ♂		Immature ♀	
	Allen's	Rufous	Allen's	Rufous	Allen's	Rufous
Exposed culmen	<16.3	>18.6	<14.9	>17.0	<15.8	>18.4
Wing chord	<42.6	>42.8	<40.5	>41.4	<42.9	>43.4
Tail length	<24.4	>25.8	<23.0	>24.8	<24.2	>25.0
Width of Rectrix No. 1	<7.5	>7.8	<7.5	>8.0	<7.8	>8.2
Width of Rectrix No. 5	<2.7	>2.8	<2.6	>2.7	<3.2	>3.3

Note: Measurements for the largely nonmigratory race of Allen's Hummingbird (*S. a. asataris*), which are largely intermediate between *S. rufus* and *S. a. asin*, are not included in this table.



MARTHA SARGENT

This individual was captured for banding at Diamondhead, Mississippi, on 31 January 1995 and identified as an immature male Allen's Hummingbird.

The face is distinctly rufous, typical of most immature male Rufous and Allen's.

The throat on this individual, however, is very lightly marked; the significance of this feature is unknown. In-hand measurements included culmen, 16.1 mm; wing chord, 39.9 mm; tail, 24.1 mm; and width of Rectrix 5, 1.3 mm.

According to Stiles (1972), two of these measurements favor Allen's, whereas two are intermediate (Table 2). This bird remained on site until the first week in April, by which time it had molted in a shimmering all-green back and a complete gorget. The new green back feathers were molted in well ahead of the full gorget.

ticeably different from the first bird when viewed up close. It had richer coloring on the sides and flanks and across the lower rump; soft, honey-colored, concolorous undertail coverts (without darker coloring at the center of each feather); no metallic green separating rufous from black on Rectrices 4 and 5; and extensive soft rufous coloring on the face (auriculars and supercilium). Nancy Newfield, who has banded thousands of hummingbirds, including hundreds of Rufous, has told me that Rufous Hummingbird is very variable. Likewise, varying amounts of rufous are obvious in photographs of individual females banded by Bob Sargent.

Some differences between individual Rufous Hummingbirds (e.g., varying amounts of spotting on the throat and intensity of rufous or buff coloring on the sides and flanks) are noted in Stiles (1972) and elsewhere, and should be expected. Some of this variation relating to the age and sex of a bird (e.g., throat and tail patterns) may be explained easily enough. Other variation (e.g., absence of green on outermost tail feathers) may be specific to the individual.

Not only are Rufous and Allen's Hummingbirds usually not safely distinguishable in the field, considerable plumage variation can be exhibited among individuals of the same age and sex *within* either species.

Unfortunately, the pitfall of such variability—and one which we should guard against with utmost caution, especially when dealing

with any out-of-range species—is that we may assign an individual to the wrong species. Because having the bird in hand is not always possible (or desirable) and diagnostic characteristics are not often visible in the field (or are not obvious without direct comparison), individuals can be easily misidentified. *Most birds should thus be listed simply by genus rather than by species* (e.g., *Selasphorus* or "Rufous/Allen's" [assuming that Broad-tailed is eliminated]). Birders should also be careful to eliminate Calliope Hummingbird.

Until additional hummingbird identification methods are discovered and published, we must continue to rely upon Stiles (1972) and calipers to help us identify most of the birds we see. Keep in mind that these hummingbirds can be highly variable, and be willing to leave many of them unidentified to species.

Acknowledgments

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adult ♀ Allen's



adult ♀ Rufous



immature ♀ Allen's



immature ♀ Rufous



immature ♂ Allen's



immature ♂ Rufous

The color pattern of the central tail feathers (Rectrix 1) is a good character to use in sexing Rufous and Allen's Hummingbirds in the field: immature males have the basal $\frac{2}{3}$ to $\frac{3}{4}$ of the feather rufous, whereas the female feather is mostly green with a variable but limited amount of rufous. However, even within the age and sex classes, these color patterns and the width of the individual rectrices are variable. The width and shape of the outer tail feather (Rectrix 5) is an often-touted difference between the two species. But such differences are small, overlapping, and vary with the age and sex of the bird, as well as from individual to individual.

ARNETTE HEDCAMP

The amount of emargination at the tip of Rectrix 2 is a character most visible in the hand that can be used to help differentiate the two species. But, like the other characters discussed here, the amount of emargination is variable within a single age-and-sex class; this diagram shows the most emarginated condition (from Stiles 1972) for both the adult female and immature male.

Many but not all immature Rufous and Allen's show a tinge of rufous or buffy to the white tips and black subterminal areas of Rectrices 3, 4, and 5, but this color is often less extensive than shown here, and is usually very hard to see in the field, even in most photographs.



MARTHA SARGENT

Another view of the same immature male Allen's Hummingbird, showing the width of an outer rectrix, which appears narrower than the outer tail feathers of the female Rufous depicted earlier. The largely rufous central tail feathers are typical of male Rufous and Allen's.

On many immature male Rufous and Allen's Hummingbirds, the rufous color on the sides and flanks shows a rich chestnut tone lacking in many females. Beware, however, that there is some variation in this color between individuals of the same sex. Do not be tricked into using such intraspecific differences to identify two birds as belonging to different species. For example, on one occasion in the East, vagrant male and female Rufous Hummingbirds seen together were initially misidentified by many observers as a Rufous and a Broad-tailed, respectively.

The bird in this photo is the same Mississippi Allen's Hummingbird.



MARTHA SARGENT

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RICK AND NORA BOWERS/VIREO

Female and immature Broad-tailed Hummingbirds may be confused with Rufous and Allen's but show a more blended, peachy color to the sides, are larger overall with a longer tail, and have a slightly different call-note. This Broad-tailed was photographed in Sonoma, Arizona, in September 1990.



JIM RYNN

Female and immature Calliope Hummingbirds are another source of confusion with *Selasphorus*. Most Calliopes may be distinguished by their slightly smaller size, shorter bill (note that this bird's tongue is extended), and stubby tail with limited rufous. Photographed in Arizona in March 1993.