A NEW SPECIES OF SWIFT OF THE GENUS *CYPSELOIDES* FROM NORTHEASTERN SOUTH AMERICA (AVES: APODIDAE)[1]

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ABSTRACT: A review of the Chestnut-collared Swift, *Cypseloides rutilus,* indicates that the labelled type specimen of *Hirundo rutila* Vieillot, 1817 is from Trinidad, that Vieillot's original description agrees with the type, and that the distinctive population from the Pantepui area of southern Venezuela and neighboring Guyana and Brazil, long believed to the the same as the Trinidad population and also called by that name by recent authors, is deserving of separate species status. Although characterized nearly 100 years ago, this species lacks a valid name, and *Cypseloides phelpsi,* the Tepui Swift, is here proposed.

In the course of field studies of the Chestnut-collared Swift (*Cypseloides rutilus*) in Trinidad (Collins, 1968) I became increasingly aware that the plumages of some individuals, particularly those of females and juveniles, were sharply at odds with some published accounts. A subsequent review of the molts and plumages of this species throughout its range (Collins, in preparation) has also pointed out a particularly distinct population which, although accurately characterized nearly 100 years ago, lacks a valid scientific name. Correcting this situation entails first a review of the taxonomic history of *C. rutilus* and this distinctive population.

The Chestnut-collared Swift (*Cypseloides rutilus*) was first described by Vieillot (1817) under the name of *Hirunda rutila.* The type specimen, stated by Vieillot to be in the collections of the Muséum National d'Histoire Naturelle, (Paris), is extant in the collections of that museum, mounted on a small stand as was then the custom. No locality for the type was given by Vieillot although "La Trinité" (i.e., Trinidad) is written on the underside of the base of the stand. This omission is not surprising as it is well known that Vieillot often described new species from mounted specimens he did not handle but only observed in locked exhibit cases in the Paris museum. In any event Vieillot's description agrees with the specimen. Also appearing on the underside of the stand are the determinations "*Chaetura rutila* Vieillot" and "*Hirundo robini* Lesson," the latter being a long accepted junior synonym published in 1831 with type locality given as "l'île de la Trinité." Later authors

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(Sclater, 1855; Salvin and Sclater, 1860; Orton, 1871) state that this species was collected by M. Robin in Trinidad and that his *specimens* form the *types* of Vieillot's and Lesson's descriptions. I have been able to find only the single specimen. There is no evidence that there were ever more and I suggest that both descriptions were based on the same specimen, as indicated by the labels on the stand. As indicated below there is no reason to doubt that the specimen described by Vieillot is that marked as type in the Paris museum and labeled as being from Trinidad, and this should be designated as the type locality for *Hirundo rutila* Vieillot and *H. robini* Lesson in future studies.

In the next 100 years Chestnut-collared Swifts were collected in most parts of their present known range: in mountainous country from Mexico to Bolivia. Additional taxa were described from Colombia (*Chaetura brunnitorques* Lafresnaye, 1844 = *Cypseloides rutilus brunnitorques*); and from Mexico (*Cypselus brunneitorques* (sic) *griseifrons* Nelson, 1900 = *Cypseloides rutilus griseifrons*; *Chaetura nubicola* Brodkorb, 1938 = *Cypseloides rutilus nubicola*). A full review of these taxa and a yet to be described subspecies from South America will be presented later (Collins, in preparation).

During this period authors have not been in full agreement as to whether *brunnitorques* and *rutilus* were races of a single species, *C. rutilus,* or alternatively, separate species, with *griseifrons* and *nubicola* being races of *C. brunnitorques.* Species limits will be discussed in detail below. Although several fairly recent authors, mostly following Peters (1940), have included these birds in the genus *Chaetura,* as was also done by some very early workers, the current consensus favors inclusion in *Cypseloides.* This is based both on various aspects of the reproductive biology (Lack, 1956; Snow, 1962; Collins, 1968) but also on more traditional morphological characters (Zimmer, 1953; Eisenmann and Lehmann, 1962).

In the last century two specimens of an allied but strikingly different swift, one of which is presently located in the collections of the British Museum, were collected by H. Whitely in the Merumé Mountains of British Guiana (Guyana). As described by Salvin and Godman (1882:82), these specimens differed from those of other areas in having a "brighter" chestnut collar and a tail "much longer and distinctly forked." Also, the chestnut of the collar included the chin, an area normally brown in specimens from all other populations. These are in fact some of the salient characteristics of this population. However, the following statement made by Salvin and Godman with regard to the correct name applicable to these specimens was evidently made without examining Vieillot's type and in disregard of a salient aspect of his description: "There can be little doubt that the species described as *Hirundo rutila* by Vieillot was the Guiana bird, though the origin of the specimens was unknown."

This view is contradicted by Vieillot's original description of *Hirundo rutila* in which, among other things, the tail is stated to be square (not forked), and the chin is not chestnut colored. Salvin and Godman further suggested

that the name *Hirundo robini* be applied to these Guianan birds as well and that the island of Trinidad be included in the range. The erroneous assumption was made that the two populations were the same. The designation of "Guiana" as the type locality for *H. rutila* by Peters (1940) ,following Salvin and Godman, is not supportable on the basis of the known facts. Peters did correctly include Trinidad in the range of this form, not realizing that two very different forms were included under one designation.

I have examined most of the available specimens of the Chestnut-collared Swifts from all portions of their range and they are in agreement with Vieillot's original description of *H. rutila* and the type specimen, which I have also examined. It is important to note that in all populations the tail is relatively short, essentially square and unforked. In worn plumages the rectrices may become abraded thus exposing the terminal portion of the shafts of some feathers. This gives them the superficial appearance of having the bare terminal "spines" typical of species of *Chaetura.* The specimen described by Vieillot had these characteristics, for he stated "la queue carrée; les deux pennes intermediares terminees en pointe; les autres arrondies a leur extremite," which I translate as "the tail square; the two middle feathers ending in a point; the others rounded at their ends." Personal observations made on numerous living birds netted in the field confirm that these characteristics are also true of the Chestnut-collared Swifts presently breeding on the island of Trinidad. Surprisingly there are but two museum specimens of these swifts from Trinidad, and only one is of an adult. I have examined both and they are of the form described by Vieillot.

The correct view that *Cypseloides rutilus* (Vieillot) is applicable to the birds inhabiting the island of Trinidad has been uniformly accepted by all authors considering the avifauna of this island from Léotaud (1866) to the present day. However, the erroneous conclusion of Salvin and Godman (1882) that Guianan birds were the same was repeated by Salvin (1885), and unfortunately was uncritically followed by Peters and nearly all later authors. This gave rise to the view that the name *Cypseloides rutilus* was applicable not only to the Trinidad form (which is square-tailed), but to the distinctive, fork-tailed birds now known from many specimens from the tabletop mountains (tepuis) south of the Orinoco River in Venezuela and the immediate adjacent parts of Guyana and Brazil ("Pantepui Area" of Mayr and Phelps, 1967). This situation was abetted by a near absence of specimens of these swifts from the mountains of northern Venezuela, thus giving the impression that there existed a large discontinuity in the range of these swifts and that the nearest continental population to Trinidad was in fact that inhabiting Pantepui. With the collection of specimens of *C. rutilus* from various localities in northern Venezuela (Phelps and Phelps, 1958), and the filling of this seeming discontinuity in their range, it is now obvious that the zoogeographical affinities of the population in Trinidad (*Cypseloides rutilus sensu stricto*) are with northern Venezuela and Colombia (so-called *brunnitorques*). There is much

less morphological resemblance and less close relationship with the distinctive population inhabiting Pantepui. In fact, *rutilus* and *brunnitorques* are so similar as to be doubtfully distinct even as subspecies, and after further study the latter may prove to be synonymous with *rutilus* which has priority. The Pantepui swifts, characterized by Salvin and Godman (1882) form a distinctive allopatric population for which I now propose the name:

Cypseloides phelpsi, new species

TYPE: Adult male, AMNH 324213, original expedition number 1594; collected 14 February 1938, on Cerro Auyan-tepui, Bolivar, Venezuela at an elevation of 1100 meters by the Phelps Venezuela Expedition.

DIAGNOSIS: Adults of *C. phelpsi* are readily separable from those of all populations of *C. rutilus* (whatever the subspecies) in having a longer "softer" (less stiffened) and deeply forked tail lacking the stiffened, and sometimes bare-tipped shafts and square tail of *C. rutilus* and in longer wings. Moreover, in color they also differ from all populations of *C. rutilus* in 1) having the plumage more nearly black rather than a blackish brown, 2) the collar a more orange-chestnut tone rather than a deep red-brown or chestnut-brown, and 3) in having the coloration of the collar extend upward over all of the chin or interramal area. The extent of this coloration is the same in both sexes although the breast is a bit paler and mixed with brown in some females. The white supraocular streak is present in nearly all individuals. In *C. rutilus* only exceptional females have the full male coloration; most females have no chestnut collar, or only a partial one confined to the nape and part of the sides of the neck. In both *C. phelpsi* and *C. rutilus* there is a tendency for males to be larger than females in most linear measurements, although even the smallest females of *C. phelpsi* are generally larger than the largest males of *C. rutilus*. Table 1 presents measurements of the available specimens of *C. phelpsi* (both from Venezuela and Guyana) and, for comparison, a series of *C. rutilus* from the mountainous areas of northern Venezuela in the states of Táchira, Mérida, Barinas, Yaracuy, Carabobo, Aragua, Distrito Federal, Miranda and Sucre.

As mentioned earlier, specimens from all parts of the range of *C. rutilus* have been examined in this study, although only measurements from this one nearby part of the range are presented here. The darkness of the body and flight feathers, the more orange color and extent of the collar, the length of wing and tail, and depth of forking of the tail, individually as well as collectively, serve to separate *C. phelpsi* from this or any other population of *C. rutilus* throughout its range. The degree of whiteness of the supraocular stripe in *C. phelpsi* is approached in one population of *C. rutilus* in Middle America (*nubicola*). As also usually (but not invariably) true in *C. rutilus*, the outermost (tenth) primary of *C. phelpsi* is shorter than the ninth (see tip measurement, Table 1).

TABLE 1

Measurements[a] of *Cypseloides phelpsi* and *Cypseloides rutilus* from Venezuela

	phelpsi Males (N = 12)[c]	*phelpsi* Females (N = 18)	*rutilus* Males (N = 22)	*rutilus* Females (N = 20)
Wing (Flattened)	136.92 ±0.61 (133–140.5)	133.92 ±0.64 (129.5–138)	122.50 ±0.89 (116–130.5)	119.15 ±0.71 (112–124.5)
Wing Tip[b]	5.15 ±0.42 (3.0–7.5)	4.86 ±0.28 (2.5–7.5)	4.98 ±0.53 (2.5–10.0)	4.31 ±0.18 (2.5–5.5)
Tail	61.31 ±0.81 (56.5–66)	58.87 ±0.36 (56.5–61.5)	44.84 ±0.58 (39.5–48.5)	42.68 ±0.49 (37.5–47.0)
Depth of Tail Fork	9.61 ±0.45 (7.0–11.5)	9.71 ±0.48 (5.5–13.0)	2.79 ±0.62 (1.0–3.0)	1.36 ±0.29 (0.0–4.5)
Culmen (from nostril)	4.18 ±0.06 (4.0–4.5)	4.21 ±0.06 (3.7–4.5)	4.17 ±0.09 (3.7–4.5)	4.16 ±0.05 (3.7–4.5)
Tarsus	13.76 ±0.13 (12.7–14.5)	13.60 ±0.11 (12.7–14.3)	12.33 ±0.11 (11.5–13.0)	12.03 ±0.11 (11.3–13.0)

a. All measurements in millimeters; presented are: Mean ± standard error and (range).

b. Difference in length of ninth and tenth primaries (ninth longest).

c. Does not include extralimital specimen from Aragua: wing, 139; wing tip, ? (primary 10 not full length); tail, 59.2; depth of fork, 9.8; culmen, 4.0; tarsus, 14.0.

DESCRIPTION OF TYPE: Dark sooty black all over except for pronounced orange-chestnut collar including nape, upper breast, throat, chin and sides of head up to level of eyes; light white streak above eyes on edge of dark crown. Tail deeply forked; shafts of rectrices not markedly stiffened nor projecting beyond vane. Soft parts (on label): iris brown, bill black, feet purplish gray. Wing (flattened) 136 mm, tail 61.5 mm; culmen (from nostril) 4 mm; tarsus 14.5 mm; depth of tail fork 8.5 mm; gonads not fully enlarged; no appreciable molt but not in fresh plumage.

RANGE: Pantepui area of southeastern Venezuela, northwestern Guyana, and probably (no specimen) extreme northeastern portion of Territorio Federal de Roraima, Brazil. A single extralimital specimen has been taken at Rancho Grande, Aragua, in northern Venezuela.

SPECIFIC STATUS: *C. phelpsi* is unquestionably a distinctive population, but, it may be argued, no more so than numerous insular or otherwise isolated populations of other birds entitled to only subspecific rank. It should be remembered, however, that swifts are exceedingly mobile animals and that the geographic distances which restrict gene flow between populations of many bird species may be encompassed by the daily foraging flights of swifts. Thus it is unlikely that in itself the distance between Pantepui and the nearest

breeding populations of *C. rutilus* in northern Venezuela (900 ± kms) is enough of a barrier to gene flow to justify considering the striking differences of *C. phelpsi* as simply those of a geographically isolated but potentially interbreeding population. The Mexican and Bolivian populations of *C. rutilus* are more like those of Trinidad and northern Venezuela than is the comparatively nearby Pantepui population of *C. phelpsi.* As has also been pointed out by Orr (1963) and Brooke (1971), good species of swifts frequently show little divergence in appearance so that seemingly minor morphological difference may be of greater importance in delimiting species than in other avian taxa. Thus the striking difference in wing and tail length, degree of forking of the tail, and decreased sexual dimorphism in plumage of *C. phelpsi* seem especially significant in appraising specific limits in this case. Two further bits of evidence are available. Firstly, if the Pantepui area is as isolated for swifts as it is for the other less mobile species, we should expect to find similar degrees of difference in other swift species living there. Such is not the case! *Aëronautes montivagus* and *Chaetura chapmani* show little or no geographic variation over this part of their ranges. A second bit of evidence that *C. phelpsi* is not sedentary is the existence of a single specimen collected at the Rancho Grande Biological Station in Aragua on 16 February 1960. This specimen, now housed in the collection at that station, is typical in every way of the Pantepui specimens of *C. phelpsi.* Rancho Grande is well within the breeding range of *C. rutilus,* which has also been collected there (Beebe, 1949; Collins, in preparation). This indicates that at least an occasional individual of *C. phelpsi* may occur in the range of *C. rutilus* and that the appreciable morphological differences between these birds are maintained despite this possible sympatry and potential for genetic interchange. For these reasons I feel that tentatively full specific status is warranted for *Cypseloides phelpsi.* This is essentially a reversion, although with new nomenclature, to the treatment prevailing before Peters (1940).

REMARKS: There is no information available on the ecology, feeding habits, or body weight of *C. phelpsi.* It was observed flying in large flocks around Cerro Auyan-tepui in the non-breeding season by Gilliard (1941). Although Mayr and Phelps (1967:297) include the Tepui Swift in a list of "cliff dwellers," this, although probably true, is still a supposition, for its nesting and roosting habits are presently unreported. In all likelihood, it will show the same affinities for nest and roosting sites in damp, dark areas with high relief, near or behind waterfalls, exhibited by other *Cypseloides* swifts including *C. rutilus* (Snow, 1962; Collins, 1968). Nest sites of *C. phelpsi* should be looked for in the vicinity of the numerous waterfalls coming off the tepuis.

Two specimens showing early stages of molt of the wing feathers, typical of the end of the breeding season, were taken on 26 July. This probably indicates a late "spring"- early "summer" breeding season (in the northern hemisphere sense) closely tied to the onset of the rainy season in this area. Only

one of a large series collected in February showed even slightly enlarged gonads (Gilliard, 1941). Two specimens show from three to six white feathers in the central breast region at the lower border of the collar. These specimens, both of female (AMNH 323327 and 324266), were collected on Cerro Auyan-tepui on 14 February and 13 March 1938. Such cases of partial albinism have been recorded for several other neotropical swifts including *C. rutilus* (Eisenmann and Lehmann, 1962; Collins, 1967).

The name *Cypseloides phelpsi,* based on information provided by me, has appeared as a *nomen nudum* in two recent faunal lists but without any diagnosis or description (Brooke, 1970a, 1970b).

Since most of the possible vernacular names incorporating the color of the collar have been used in reference to *C. rutilus,* Tepui Swift would seem the most appropriate English name for *Cypseloides phelpsi* in recognition of its range in Pantepui.

ETYMOLOGY: It is my pleasure to name this swift after William H. Phelps, Jr., who, by so ably continuing the efforts devoted by his father, the late William H. Phelps, to the study and preservation of the avifauna of Venezuela and the Pantepui area in particular, has contributed so much to our ornithological knowledge of these areas.

SPECIMENS EXAMINED

Cypseloides phelpsi

Venezuela, Bolivar, Mt. Auyan-tepue: 9 males, 14 females (AMNH, R.G.)
Cerro Duida: 1 female (AMNH)
Gran Sabana: 1 male, 1 female (P.)
Cerro Serrania: 1 male, 1 female (P.)
Territory Amazonas, Cerro Yapacana: 1 female (R.G.)
Aragua, Rancho Grande: 1 male (R.G.)
British Guiana (Guyana): Merumé Mountains: 1 male (B.M.)

Cypseloides rutilus

Over 250 specimens from all parts of the range of this species have been examined in this study including a sample of 44 from northern Venezuela (localities listed in text). A complete analysis of this species will be presented later (Collins, in preparation).

(AMNH = American Museum of Natural History, New York; P. = Phelps Ornithological Collection, Caracas; R.G. = Estacion Biologica de Rancho Grande, Aragua; B.M. = British Museum, Tring.)

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RESUMEN

Una revisión del vencejo de collar castaño, *Cypseloides rutilus*, ha indicado que el espécimen tipo (*Hirundo rutila* Vieillot, 1817) es de Trinidad, y que la población distintiva del área de Pantepui del sur de Venezuela, la vecina Guayana y Brasil, desde hace mucho asociada con este nombre, merece ser separada en categoría de especie. Aunque caracterizada hace cerca de 100 años, esta especie carece de nombre válido y *Cypseloides phelpsi* es propuesto aquí para el vencejo tepuiano.

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