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The Vocalizations of the Slender-billed Wren (*Hylorchilus sumichrasti*): Who Are Its Close Relatives?

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The Slender-billed Wren (*Hylorchilus sumichrasti*) is one of the rarest and least-known members of the family Troglodytidae. It is endemic to Mexico and has restricted geographic and ecological distributions. The species is known only from a few localities in central western Veracruz (and possibly adjacent northern Oaxaca), and from a small area 26 km north of Ocozocoautla, Chiapas (Crossin and Ely 1973). First described in 1871 by Lawrence (reference not seen by us), who placed it in the genus *Catherpes* with the Canyon Wren (*C. mexicanus*), it was then known only from Veracruz. Nelson (1897) erected the new genus *Hylorchilus* and stated that it seemed to be intermediate between *Catherpes* and *Microcerculus*, the nightingale wrens. In 1925 W. W. Brown collected a series near Presidio, Veracruz. The last specimens taken in Veracruz until 1985 were those obtained by Chester Lamb in the years 1942–1945 and now in the Moore Laboratory of Zoology, Occidental College, Los Angeles, California. Crossin and Ely (1973) described the disjunct population first discovered by Santos Farfan B. (in the field with Allan R. Phillips) in Chiapas in December 1969. Crossin and Ely named the new subspecies *H. s. navai*. Their paper was accompanied by a color plate of the bird by John O'Neill.

The Slender-billed Wren is apparently confined to midelevations (around 760 m) in steep hill country covered by lush tropical forest, of semideciduous or evergreen aspect. All known locations of occurrence are characterized by extensive limestone outcropping and heavy undergrowth. The bird remains at or near ground level and forages among the rocks.

Crossin and Ely (1973) offered what seems to be the first mention of voice, though not song, of this wren. They mentioned a Canyon Wren-like call, described as a "loud metallic 'peenk' that the bird utters at intervals while moving about." They reported that when calling the bird performs a bouncing crouch similar to that of the Canyon Wren.

On 29 April 1985 at 1000, one of us (Delaney) was exploring limestone hills between 10 and 15 km south of Cordoba, Veracruz, Mexico. He carried a Sony TCM-5000 cassette tape recorder (Mineroff modified), microphone amplifier, and Sennheiser K3U/ME-88 unidirectional electret condensor microphone. He was attempting to record the song of a Black-faced Antthrush (*Formicarius analis*) when a Slender-billed Wren burst into song almost underfoot. He had encountered this species and heard it a few days earlier at nearby Amatlan, also south of but nearer Cordoba. Over the next 10 min he recorded several songs and call notes and gave accompanying data on the tape. His recording is now on Florida State Museum Master tape No. 782, cut 1.

The songs of the Slender-billed Wren and Canyon Wren (Fig. 1) are very similar spectrographically, and to the ear. Both consist of a series of rapidly descending, mostly L-shaped figures given until the bird seems to run out of breath. The figures are clear whistles similarly inflected in both species. The call notes (Fig. 2) are also similar, consisting of sharply and downwardly inflected, abrupt, shrill whistles, quite unlike call notes we have heard from other wren species. Most importantly, the songs of these two species do not resemble closely the songs of any other wrens. The call notes (Fig. 2) were both recorded in the same context, namely, after the singing birds had been ex-

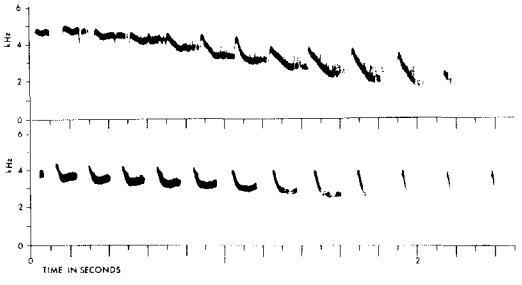

Fig. 1. Top: song of *Hylorchilus sumichrasti*. FSM 782-1-1. See text for details. Bottom: song of *Catherpes mexicanus*. FSM 156-6-1. Anza Borrego Desert, San Diego Co., California, 17 April 1976, by Luis Baptista and Hardy (1977). (Sonagrams made on Kay Sonagraph 7029A with 300 Hz filter.)

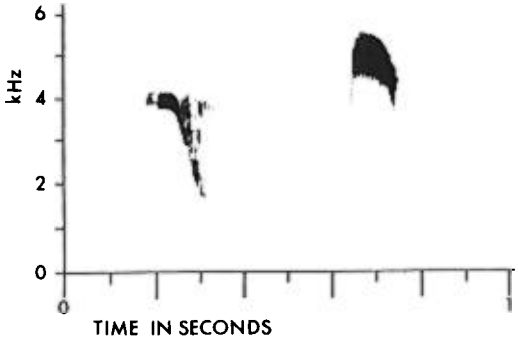

Fig. 2. Left: Call of *Hylorchilus sumichrasti*. Right: Call of *Catherpes mexicanus*. See Fig. 1 for details.

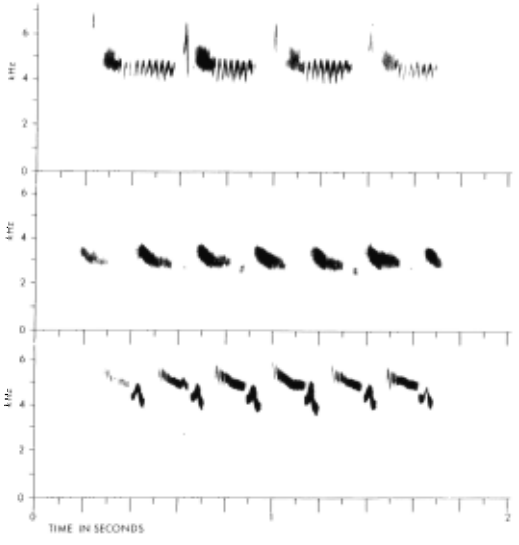

Fig. 3. Three songs of *Salpinctes obsoletus*. FSM D-20-7-1, near Escondida, Nuevo Leon, Mexico, 1 June 1969; Ben B. Coffey, Jr., and Hardy (1977). See Fig. 1 for other details.

posed to playback of their songs. Each individual then abruptly stopped singing and approached, soon giving the calls. We believe these might best be referred to as contact calls, given as if the birds were searching visually and vocally for the intruder. Moreover, although not shown in the figures, both the Slender-billed and the Canyon wren subsequently began to sing an alternate song that consisted of fewer but more sustained and intense phrases in the descending pattern of the first song type.

The Canyon Wren also has a mewing call sometimes uttered immediately after it sings its primary song. The mews, in fact, are often given as the terminal figures of songs. Such calls have not been heard from the Slender-billed Wren. On the basis of their vocalizations and general external appearance, we think the Slender-billed and Canyon wrens are close relatives.

Crossin and Ely (1973) reported that the Slender-billed Wren had only 10 rectrices vs. 12 in the Canyon Wren. There is, however, precedent in birds, even in closely related passerines, for variation in rectrix number (Stresemann and Stresemann 1966). Vaurie (1980) found considerable variation, from 6 to 10, in the number of rectrices in ovenbirds [Furnariidae; e.g. *Sylviorthorhynchus* (p. 55) and *Synallaxis* (p. 100)]. Van Tyne and Berger (1971) noted intrafamilial variation in rectrix number and even a difference in the number of rectrices between the male and female Common Peafowl (*Pavo cristatus*). The Canyon Wren is a long-tailed inhabitant of open rocky sites in lightly wooded regions where undergrowth is scant. The Slender-billed Wren is an extremely short-tailed bird, similar in body/tail proportions to other tropical forest wrens of the genera *Henicorhina* and *Microcerculus*, for example. We suggest that this short-tailed condition is a derived state (unique in wrens) correlated with the limited flight mobility necessary in its dense habitat and that having fewer rectrices is a correlate of this condition.

We have studied the arrangement of Mayr and Greenway (*in* Peters 1960), who submerged *Catherpes* in *Salpinctes*. The A.O.U. (1983), however, maintained *Salpinctes* as a monotypic genus, containing the Rock Wren (*S. obsoletus*). As can be seen in individual Rock Wren song types (Fig. 3), the three song types are different from each other and all are different from songs of *Catherpes* and *Hylorchilus*. Furthermore, in a song bout a Rock Wren sings such phrases in long sequence, varying their order, pausing typically 2–5 s between each song and often continuing for several minutes. The character of song cadence is thrasher-like (*Toxostoma* spp.). In contrast, Canyon and Slender-billed wrens sing essentially the same song type repeatedly and seldom in a steady, long sequence (each burst of descending components constitutes a complete song and is followed at highly variable intervals by a rendition of the same series). Thus, song comparison does not support a close relationship between *Salpinctes* on the one hand and *Hylorchilus* and *Catherpes* on the other.

Nelson's (1897) opinion that *Hylorchilus* might be allied with *Microcerculus*, the nightingale wrens, was next considered on the basis of song. The song of the Nightingale Wren (*M. philomela*), which ranges from southern Mexico to Costa Rica, consists of clear, whistled notes (notes meaning sounds of constant pitch) sung in vigorous, emphatic, long sequences (hear Hardy 1977). They are not, however, uttered at a steadily descending pitch, but rather wander up and down the musical scale quite unlike the song of any other bird known to us (Fig. 4). The Scaly-breasted Nightingale Wren (*M. marginatus*), which ranges from Costa Rica into South America, also sings whistled

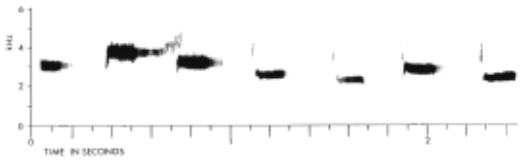

Fig. 4. Portion of a song of *Microcerculus philomela*. FSM D-20-19A-1, Palenque Ruins, Chiapas, Mexico, 19 May 1969, and Hardy (1977). See Fig. 1 for other details.

notes (not illustrated here), but they are long sustained, with long internote intervals, and are delivered in a remarkably subtle pitch descent (hear Hardy 1977). The resulting song resembles even less the song of *Catherpes* and *Hylorchilus*.

In further consideration of these four genera of wrens, one of us (Hardy) studied the descriptions of external anatomy given by Ridgway (1904), study skins, and field-guide illustrations. We conclude that most of the technical details of anatomy, which involve mainly minor differences of bill, nares, and comparative lengths of inner and outer toes to length of hallux, seem trivial even though such differences were used by Ridgway (1904) to separate *Salpinctes* and *Catherpes*.

Tarsal scalation, however, though given by Ridgway without much emphasis, may be a useful feature in the problem. Wrens have a fully scutellate acrotarsus (anterior side). The plantar tarsus is variable, ranging from fully scutellate to booted but usually showing at least 1–3 divisions just above the heel joint (Ridgway 1904). In *Catherpes*, *Hylorchilus*, and *Microcerculus* the planta tarsus (posterior side) is booted, or virtually so. In *Salpinctes* it is scutellate, even as much as or more so than the acrotarsus! [For *Catherpes*, Ridgway (1904) wrote that the planta tarsus has "several divisions, obvious only on close inspection." Yet he is at odds with his own drawing in plate 17 of the appendix, which shows a booted tarsus, except for one distal division almost at the base of the hallux.] Drawings of the tarsus of the other wrens in question are on plates 17 and 19 (*Microcerculus*). This anatomical evidence, therefore, supports similarity among *Catherpes*, *Hylorchilus*, and *Microcerculus* and dissimilarity of *Salpinctes*.

Microcerculus looks strikingly like a miniature *Hylorchilus*, with disproportionately large feet (long toes) and very slender, long bills in both (Peterson and Chalif 1973: plate 33). This overall similarity of the birds and the booted planta tarsus in both suggest that despite song dissimilarities further investigation of possible affinities between *Hylorchilus* and *Microcerculus* is warranted, but is beyond the scope of this paper.

We recommend that *Hylorchilus* be submerged in *Catherpes*, but that *Catherpes*, *Salpinctes*, and *Microcerculus* be maintained as separate genera.

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