

Fossil evidence for the occurrence of Cuban Poorwill *Siphonorhis daiquiri* in western Cuba

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Se registra por primera vez a *Siphonorhis daiquiri* fuera de las localidades conocidas desde la publicación de su descripción original (parte oriental de Cuba), constituyendo éste el primer registro de la especie para la región occidental de la isla. El espécimen hallado es una mitad distal del tarsometatarso derecho, procedente de uno de los depósitos fosilíferos de la 'Cueva de Sandoval', conocido como 'El Sumidero', en la provincia de La Habana. Este depósito presenta mayor antigüedad que la localidad tipo, a juzgar por la asociación de reptiles, aves y mamíferos extintos registrados. Se hacen algunas inferencias paleoecológicas y se comenta sobre la posibilidad de que individuos vivos (relictos) de *Siphonorhis daiquiri* y *Burhinus* sp. puedan constituir hallazgos ornitológicos reales en la región sudeste del archipiélago.

Introduction

Cuban Poorwill *Siphonorhis daiquiri* was described from post-cranial elements from 'Cueva de los Indios', c.22 km south-east of Santiago de Cuba city, eastern Cuba⁷. Other specimens from 'Cueva de los Fósiles', 28.5 km north-east of Camagüey, Camagüey Province, were also discovered, but not used in the description⁷. The species has received no other mention in the literature, although western Cuba has been systematically explored and extinct Quaternary vertebrate taxa have recently been described from the region^{8,11}.

During visits to 'Cueva de Sandoval', since 1994, c.4 km south of Vereda Nueva, Caimito municipality, La Habana (Fig. 1), the author and members of Grupo Espeleológico 'Cayaguasal' (Sociedad Espeleológica de Cuba) excavated its fossil deposits.

Excavations in 'El Sumidero' yielded a small collection of fossil bird bones, of c.800 specimens. Some were identified and published by Suárez & Arredondo¹³. The study also produced the first specimen of *Siphonorhis daiquiri* from western Cuba.

Geology

The cave takes its name from a former owner of the area, which is in the Llanura Meridional Habanera, western La Habana province. Structural rocks are Middle Miocene in age, under laterite red soil, while its general axis runs west to east. Two other, apparently isolated, sinkholes—Sandoval II and III (but Sandoval I, in the eastern portion, is the largest)—are known. Most productive for fossils are Sandoval I and III. Apparently, at present, the other sinkholes are not connected to Sandoval I, although a continuous cavity may have formerly existed. They are very close to each other and may have been separated as a result of collapses in recent times (probably Holocene). 'El Sumidero' is a small hole (c.2.5–3.0 m deep, and 3 m at its widest point) in the south part of the cave, c.50 m from the main entrance. Bones of extinct reptiles, birds and mammals are abundant, particularly small birds, embedded in its red clay walls, as a result of alluvial deposition (Fig. 2).

Paleontology and paleoecology

The specimen of *Siphonorhis daiquiri* is a distal half of a right tarso-metatarsus lacking the outer trochlea (Fig. 3), deposited in the Paleontological collection, Museo Nacional de Historia Natural de Cuba (MNHNC P686), collected by William Suárez, on 16 March 1997, from the eastern red clay wall of 'El Sumidero', at c.1 m depth. It is beige-white and heavily mineralized, as are other fossils from the same deposit.

The bone has a slender and graceful shaft, the hallux scar is high, and the trochleae are separated by very wide inter-trochlear spaces. Measurements in mm: length as preserved 18.2; shaft width at level of hallux scar 1.5; and distal width (from inner to outer trochlea only) 2.8. These characters coincide with the description and illustrations of *S. daiquiri*⁷. Other Cuban Caprimulgidae, from the genera *Chordeiles* and *Caprimulgus* (*Chordeiles minor*, *C.*

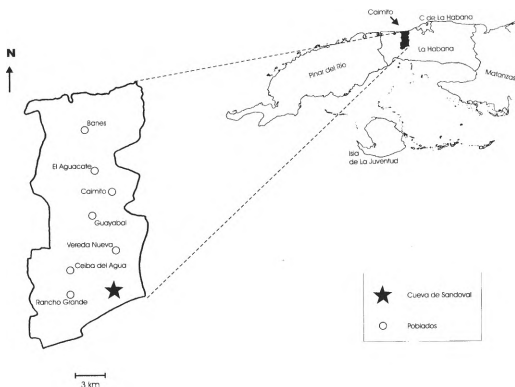


Figure 1. Location of Sandoval Cave in western Cuba.

gundlachii, and *Caprimulgus cubanensis*, *C. carolinensis* and *C. vociferus*) have tarso-metatarsi with short robust shafts (Fig. 4). The only other caprimulgid recorded in this deposit is *C. gundlachii* (see Table 1).

Stratigraphy in 'El Sumidero' is undefined, without layers. The most reliable indicators of paleoecological conditions at the time of sedimentation come from avian remains. Extant taxa, such as Burrowing Owl *Speotyto cunicularia*, and a thick-knee *Burhinus* sp. (now apparently extinct in Cuba), demonstrate that conditions within the cave's environs were formerly more arid and open. Such environments in Wisconsinian times were common throughout the West Indies⁶.

Olson⁷ considered the type-locality of *S. daiquiri* as probably Holocene in age, because remains of extinct Pleistocenic indicators were absent. Apparently, the 'El Sumidero' deposit is older than the type-locality, as extinct mammal species (e.g. *Megalocnus rodens*, *Mesocnus browni*, *Solenodon* cf. *S. arredondo* etc.), reptiles (*Geochelone cubensis*) and birds such as *Titanohierax borraasi*, *Ornimegalonyx oteroi* and *Tyto noeli* are present, plus arid-adapted avian species (see Table 1).

Probably remains of small birds are primarily the result of predation by the extinct *Tyto noeli*. Bones of this tytonid occur here in association with small vertebrate remains. The extant species, *T. alba*, which is now responsible for the accumula-

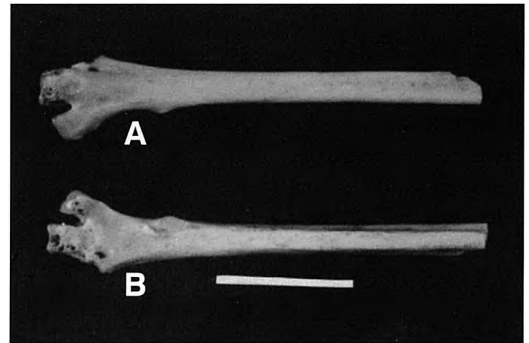
Table 1. Fossil vertebrate taxa recovered from 'El Sumidero'. Cueva de Sandoval, La Habana. Avian taxa marked with an asterisk (*) are second fossil localities for Cuba. A cross (†) denotes taxa known in Cuba only from fossil specimens.

Reptiles	† <i>Siphonorhis daiquiri</i> *
† <i>Geochelone cubensis</i>	<i>Chordeiles gundlachii</i> *
<i>Cyclura nubila</i>	<i>Saurothera</i> sp.
cf. <i>Epicrates angulifer</i>	<i>Xiphidiopicus percussus</i>
	<i>Colaptes fernandinae</i>
	<i>Petrochelidon fulva</i>
Birds	<i>Corvus minutus</i>
† <i>Grus cubensis</i> *	<i>Mimus</i> sp.
† <i>Burhinus</i> sp.	<i>Sturnella magna</i>
<i>Cyanolimnas cerverai</i>	<i>Torreornis inexpectata</i>
† <i>Nesotrochis picapicensis</i>	
† Accipitridae indeterminate	Mammals
† <i>Titanohierax borraasi</i>	† <i>Megalocnus rodens</i>
<i>Accipiter gundlachi</i>	† <i>Mesocnus browni</i>
<i>Buteo platypterus</i>	† <i>Neocnus</i> sp.
† Falconidae indeterminate	<i>Capromys</i> sp.
<i>Falco sparverius</i>	† <i>Geocapromys pleistocenicus</i>
<i>Caracara</i> sp.	† <i>Boromys affella</i>
<i>Zenaidura aurita</i>	† <i>Boromys torrei</i>
† <i>Tyto noeli</i>	† <i>Solenodon</i> cf. <i>S. arredondo</i>
<i>Tyto alba</i>	† <i>Nesophontes micrus</i>
† <i>Ornimegalonyx oteroi</i>	
<i>Speotyto cunicularia</i>	

tion of avian remains in Cuban caves¹², is represented by just two specimens in the deposit. 'El Sumidero' contains a different avifauna compared to deposits in other parts of the cave, apparently due to differences in time of sedimentation, or because ancient owl pellet remains have not been found elsewhere. Sandoval Cave has at least two other productive deposits: Sandoval III (high), and



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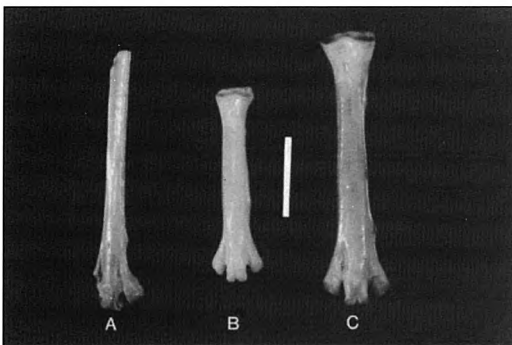


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Figure 2. Interior of El Sumidero, with the clay wall where many fossil birds have been found (Lic. Marlen Capote)

Figure 3. Distal right tarso-metatarsus (MNHNC P686) of *Siphonorhis daiquiri*, Cueva de Sandoval, La Habana. A: anterior view B: posterior view. Scale bar = 1 cm (Luis M. Díaz)

Figure 4. Comparisons of right tarso-metatarsi of all Cuban caprimulgids, from left to right *Siphonorhis daiquiri*, *Chordeiles gundlachii* and *Caprimulgus carolinensis* (Luis M. Díaz)



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Sandoval III (low). In these, the avifauna is predominantly raptorial (genera *Gymnogyps*, *Teratornis*, *Titanohierax*, *Amplibuteo*, *Caracara* and *Ornimegalonyx*¹³), and small species of birds are rare.

Comments

Siphonorhis is one of the most primitive avian genera found in the Antilles. It possesses a number of unique features, such as the broad, heavy bill structure, and is not closely related to other American Caprimulgidae^{6,7}. Within the Greater Antilles, two other species are known, the extant Least Poorwill *S. brewsteri*, of Hispaniola, and Jamaican Poorwill *S. americanus*, from Jamaica, which is almost certainly extinct⁹. Olson⁷ noted the possibility that a relict population of *S. daiquiri* could persist in arid south-east Cuba, which is poorly known ornithologically. The fossil reported here proves that the species was widely distributed across the island during the Pleistocene, and became extinct in the Holocene. Probably its habitat was lost in early Holocene times, when more mesic habitats supplanted many previously arid open regions of Cuba. Similar situations exist for other birds of arid environments, e.g. *Speotyto cunicularia*, which still persists in more arid regions of Cuba⁵, and a now extinct *Burhinus* sp., (but still present on Hispaniola⁹), which are both known from the Sandoval deposit, and are common in western Cuban Quaternary records^{2,6,8}.

Since Olson's comment in 1985, adequate nocturnal explorations of the arid Cuban south-east have still not been conducted. Such surveys remain a priority, given that both *Siphonorhis* and *Burhinus* could potentially persist in the region.

A similar case holds for another nocturnal species, Black-capped Petrel *Pterodroma hasitata*, which had been heard regularly by coastal people many decades before its capture, and was the source of fantastic legends in these regions^{1,4}. It is now known to occur in central Cuba¹⁰. Given its recent (1977) confirmation in Cuba⁴, it would be almost unsurprising if *Siphonorhis daiquiri*, a secretive, nocturnal and relatively silent species, compared to *P. hasitata*, still existed. Apparently, the possibility that these taxa may persist has been underestimated by ornithologists.

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