

Study: Wild Cuban crocodiles hybridize with American crocs

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A new study confirms that critically endangered Cuban crocodiles are hybridizing with American crocodiles in the wild. Credit: Steve Zack/Wildlife Conservation Society

A new genetic study by a team of Cuban and American researchers confirms that American crocodiles are hybridizing with wild populations of critically endangered Cuban crocodiles, which may cause a population decline of this species found only in the Cuban Archipelago.

Cuban crocodiles and American crocodiles have been confirmed to interbreed in captivity and were suspected to hybridize in the wild. This is the first genetic study that confirms wild hybridization.

The study, which appears in the spring issue of the *Journal of Experimental Zoology*, is by Yoamel Milián-García of the University of

Havana; Miryam Venegas-Anaya of the Smithsonian Tropical Research Institute; Roberto Frias-Soler of the University of Havana; Andrew Crawford of the Smithsonian Tropical Research Institute; Roberto Ramos-Targarona, Roberto Rodríguez-Soberón, and Manuel Alonso-Tabet of Empresa Nacional para la Protección de la Flora y la Fauna; the late John Thorbjarnarson of the Wildlife Conservation Society; Oris I. Sanjur of the Smithsonian Tropical Research Institute; Georgina Espinosa-López of the University of Havana; and Eldredge Bermingham of the Smithsonian Tropical Research Institute.

Known for their leaping ability and aggressive disposition, Cuban crocs are a charismatic and culturally significant species to Cuba. Exact population estimates for the species remain unknown, though scientists believe that a minimum of 3,000 individuals remain in the Zapata swamp. A smaller population exists in the Lanier Swamp on the Island of Youth. The species was extensively hunted from the middle of the 19th century through the 1960s resulting in drastic [population](#) declines.

The team collected and analyzed DNA from 89 wild-caught Cuban and American crocodiles in the wild and two samples from crocodiles in zoos.

The genetic data produced an unsuspected result: American crocodiles in Cuba are more closely related to Cuban crocodiles than other American crocodile populations found along mainland Central America. The study found just a 1 percent genetic sequence divergence between Cuban crocodiles and American crocodiles in Cuba yet an 8 percent divergence between American crocodiles in Cuba and other American crocodile populations living in mainland Central America.

This finding indicates that Cuban crocodiles and American crocodiles in Cuba may represent two evolutionary significant units (ESU's) - populations considered distinct for conservation purposes and represent

an important component of the evolutionary legacy of the species.

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The authors say that hybridization may be one of the most important threats to Cuban crocodiles, along with illegal hunting and habitat modification. Hybridization can result in both replacement and genetic mixing, and one lineage may cause the extinction of another.

Based on evidence of hybridization between the two [species](#), the authors strongly urge that efforts to avoid anthropogenic causes of hybridization be taken into account for future management plans of Cuban [crocodiles](#).

Provided by Wildlife Conservation Society

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