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Herpetological observations on the island of Cayo Cruz

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Abstract. The herpetofauna of Cayo Cruz island in the Sabana-Camagüey archipelago, located off the northern coast of Cuba, includes seven species of terrestrial reptiles (*Ameiva auberi orlandoi*, *Anolis jubar santamariae*, *Anolis porcatus porcatus*, *Cyclura nubila nubila*, *Leiocephalus stictigaster septentrionalis*, *Hemidactylus mabouia*, *Cubophis cantherigerus cantherigerus*) and three species of sea turtles (*Chelonia mydas*, *Caretta caretta*, *Eretmochelys imbricata*). Amphibians are absent from the island. The study confirms the presence of the ameiva *Pholidoscelis auberi* on the island, clarifies the subspecies of *Anolis jubar*, and documents the first record of *Hemidactylus mabouia* for the island. A previous record of a third anole species, *Anolis sagrei*, is determined to have been based on a misidentification of female *Anolis jubar*.

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Keywords: Cuba, Sabana-Camagüey Archipelago, Cayo Cruz, herpetofauna, Reptilia

Герпетологические наблюдения на острове Кайо-Круз

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Аннотация. Герпетофауна острова Кайо-Круз архипелага Сабана-Камагуэй, расположенного у северного побережья Кубы, включает семь видов наземных пресмыкающихся (*Ameiva auberi orlandoi*, *Anolis jubar santamariae*, *Anolis porcatus porcatus*, *Cyclura nubila nubila*, *Leiocephalus stictigaster septentrionalis*, *Hemidactylus mabouia*, *Cubophis cantherigerus cantherigerus*) и три вида морских черепах (*Chelonia mydas*, *Caretta caretta*, *Eretmochelys imbricata*). Земноводные на острове отсутствуют. Подтверждено присутствие на острове амеивы *Pholidoscelis auberi*, уточнена подвидовая принадлежность *Anolis jubar*, впервые для острова зарегистрирован *Hemidactylus mabouia*. Третий вид анолисов, *Anolis sagrei*, был указан ошибочно, вероятно, на основании неверного определения самок другого вида — *Anolis jubar*.

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Ключевые слова: Куба, архипелаг Сабана-Камагуэй, Кайо-Круз, герпетофауна, пресмыкающиеся

Introduction

The island of Cayo Cruz belongs to the Jardines del Rey group of islands in the Sabana-Camagüey archipelago, located along the northern coast of Cuba, in the province of Camagüey. The island covers an area of 26 km² and has a maritime tropical climate with mild winters; mean maximum and mean minimum temperatures are 28.2 °C and 24.5 °C, respectively (Claro et al. 2001). The island is covered with xerophilous vegetation on saline sandy soils, with *Rhizophora mangle* predominantly distributed along the southern shore (Galford et al. 2018). Coastal areas feature shrub thickets of *Scaevola taccada* and *Argusia gnaphalodes*, while the central part of the island is occupied by sparse tree-shrub communities dominated by the palm *Coccothrinax litoralis* (Fig. 1). The southern part of the island is occupied by groves of *Casuarina equisetifolia*.

Amphibians are absent from the island's herpetofauna. The terrestrial reptile fauna includes seven species (*Ameiva auberi orlandoi*?, *Anolis jubar ssp.*, *Anolis porcatus porcatus*, *Anolis sagrei sagrei*, *Cyclura nubila*, *Leio-*

cephalus stictigaster septentrionalis, *Cubophis cantherigerus cantherigerus*), although the presence of *Pholidoscelis auberi* on the island remains questionable (Estrada 2012). No geckos have been recorded on the island, although several Cuban and introduced species are present on adjacent islands (Estrada 2012; Borroto-Páez et al. 2015). Three species of sea turtles (*Chelonia mydas*, *Caretta caretta* and *Eretmochelys imbricata*) breed on islands within the Sabana-Camagüey archipelago (Gavián et al. 2011).

Material and methods

Fieldwork and observations were carried out between 15 and 30 September 2023. Animals were recorded along survey routes covering coastal and inland areas of the island. These routes encompassed the central part of the island and the northern shore. Population density was estimated using the line transect method, according to established methodologies for surveying terrestrial reptiles (Bondarenko 1994; Bondarenko, Ergashev 2022). A total of nine transects, covering 46 km, were surveyed.



Fig. 1. Sparse tree-shrub communities with *Coccothrinax litoralis* palms in the central area
Рис. 1. Разреженные древесно-кустарниковые сообщества с пальмой *Coccothrinax litoralis* во внутренней части острова



Fig. 2. Reptiles of the Cayo Cruz island: 1 — *Pholidoscelis auberi orlandoi*; 2, 3 — *Anolis jubar santamariae*; 4 — *Anolis porcatus porcatus*; 5 — *Leiocephalus stictigaster septentrionalis*; 6 — *Hemidactylus mabouia*; 7 — *Cyclura nubila nubila*

Рис. 2. Пресмыкающиеся острова Кайо-Круз: 1 — *Pholidoscelis auberi orlandoi*; 2, 3 — *Anolis jubar santamariae*; 4 — *Anolis porcatus porcatus*; 5 — *Leiocephalus stictigaster septentrionalis*; 6 — *Hemidactylus mabouia*; 7 — *Cyclura nubila nubila*

Results and discussion

Eight species of reptiles were recorded on the island during the observation period: six species of lizards (Fig. 2), one species of snake, and one species of sea turtle. The presence of the ameiva, *Pholidoscelis auberi*, is confirmed; the subspecies of *Anolis jubar* is specified, and *Hemidactylus mabouia* is recorded for the first time on the island. A previous record of a third anole species, *Anolis sagrei*, was likely based on a misidentification of *Anolis jubar* females.

Pholidoscelis auberi orlandoi (Schwartz et McCoy, 1975) is a very common lizard species on the island, inhabiting open landscapes, including sparse shrub thickets along the coast. Two other subspecies, *P. a. extorris* (Schwartz, 1970) and *P. a. extraria* (Schwartz, 1970), occur in the western part of the Sabana-Camagüey archipelago. Its relative abundance is approximately 20 individuals per 1 km, with a density of 4 ind./ha.

Anolis jubar santamariae Garrido, 1973 is also a relatively common species on the island, inhabiting mainly thickets of palms and shrubs. Males of this species often perch openly on vertical trunks of *Coccothrinax litoralis*, becoming completely black in the sun. The bright red coloration of the throat fan in males is characteristic of the subspecies *A. j. santamariae*, which is distributed in the Sabana-Camagüey archipelago. In contrast, in *A. j. cuneus* Schwartz, 1968, which also inhabits the islands of the archipelago, the coloration of dewlap is yellow with transverse white stripes (Schwartz 1968). Its relative abundance is about 14 individuals per 1 km.

Anolis porcatu porcatu Gray, 1840 is not a common species and was recorded only in gardens on the trunks of cultivated palm species. The nominative subspecies occupies most of Cuba, including the islands of the Sabana-Camagüey archipelago. The first appearance of juveniles was recorded on 24 September.

Cyclura nubila nubila Gray, 1831 is the only species of Cuban iguana on the island. It is a species with a limited distribution. A

micropopulation exists on the north coast of the central part of the island, where iguanas inhabit coastal cliffs along a 550 m stretch of coastline. A total of four adult specimens were counted on these rocks. Iguanas also live in the southern part of the island, where they inhabit *Casuarina* groves.

Leiocephalus stictigaster septentrionalis Garrido, 1975 is the most common lizard species on the island. It inhabits sparse shrub thickets, areas without vegetation and rocky outcrops. Its relative abundance can reach 17 individuals per 1 km, with a density of 0.6–1.1 ind./ha.

Hemidactylus mabouia (Moreau de Jonès, 1818) is a single gecko species on the island. This synanthropic species was recorded only on the walls of buildings.

Cubophis cantherigerus cantherigerus (Bibron, 1843) is the only snake species on Cayo Cruz and is possibly common. Tracks of a few individuals were recorded among sparse shrub thickets along the coast.

Caretta caretta caretta (Linnaeus, 1758), like the other two species of sea turtles, breeds on the islands of the archipelago. A costal scute of this species was found in the sand 24 m from the water's edge.

Chelonia mydas mydas (Linnaeus, 1758) and *Eretmochelys imbricata imbricata* (Linnaeus, 1766) were both recorded as breeding species on islands in the Sabana-Camagüey archipelago (Gavián et al. 2011).

Conclusion

The herpetofauna of Cayo Cruz currently includes ten reptile species, including six species of lizards (*Pholidoscelis auberi orlandoi*, *Anolis jubar santamariae*, *Anolis porcatu porcatu*, *Cyclura nubila nubila*, *Leiocephalus stictigaster septentrionalis*, *Hemidactylus mabouia*), one snake species (*Cubophis cantherigerus cantherigerus*) and three species of sea turtles (*Caretta caretta caretta*, *Chelonia mydas mydas*, *Eretmochelys imbricata imbricata*).

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