

OBSERVATIONS ON THE NESTING BEHAVIOR OF THE YUCATAN SPINY-TAILED IGUANA *CACHRYX DEFENSOR* (SQUAMATA: IGUANIDAE) IN ITS NATURAL HABITAT

OBSERVACIONES SOBRE EL COMPORTAMIENTO DE ANIDACIÓN DE LA IGUANA YUCATECA DE COLA ESPINOSA *CACHRYX DEFENSOR* (SQUAMATA: IGUANIDAE) EN SU HABITAT NATURAL

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Resumen.— Describimos el primer registro de un nido silvestre de la iguana de cola espinosa Yucateca (*Cachryx defensor*) en su hábitat natural, con notas sobre el probable comportamiento de guarda durante la anidación y de fidelidad al sitio de anidación. El 22 de marzo de 2022, se encontró a una hembra de *C. defensor* dentro de un refugio en el hueco de un tronco de un árbol de chechén negro (*Metopium brownei*), un árbol tóxico típico del bosque tropical seco estacional y del matorral espinoso en el Parque Nacional Mirador-Río Azul, en el extremo norte de Guatemala. Tras una inspección más profunda del refugio, se encontró una puesta de tres huevos recién depositados dentro del hueco del tronco, sobre un lecho de restos de madera desecha en el interior del tronco hueco. Además, se observaron varios fragmentos de cáscaras de huevos antiguos que parecen pertenecer a una puesta del año anterior a nuestro hallazgo.

Palabras clave.— Fidelidad al sitio de anidación, reptiles, bosque seco, *Metopium brownei*, Guatemala.

Abstract.— We describe the first record of a wild nest of the Yucatan Spiny-tailed Iguana *Cachryx defensor* in its natural habitat, with notes on probable nesting guarding behavior and nest site fidelity. On 22 March 2022, an adult female *C. defensor* was found inside a shelter in a hollow trunk of a black-sap poisonwood (*Metopium brownei*), a toxic tree typical of the seasonally dry tropical forest and thorn scrub of Mirador-Río Azul National Park, in far northern Guatemala. On closer inspection of the shelter, a clutch of three recently laid eggs was found in the trunk cavity above a bed of wood debris inside the hollow trunk. Several egg-shell fragments of what seems to be a clutch from the year before our finding were also observed.

Key words.— Nesting site fidelity, reptiles, dry forest, *Metopium brownei*, Guatemala.

Cachryx defensor, commonly known as the Yucatan Spiny-tailed iguana, is an endangered iguana species endemic to the seasonally dry tropical forests and thorn scrub of Yucatán in Mexico, northern Belize, and northern Petén, in Guatemala (Malone et al., 2017, Monter-Pozos et al., 2022). On 22 March 2022, an adult female of the Yucatan Spiny-tailed iguana *C.*

defensor (snout to vent length 136 mm, weight 70 g) was found in a shelter approximately 1 meter above the ground, in a hollow trunk of a black-sap poisonwood (*Metopium brownei*), a toxic tree typical of the seasonally dry tropical forest and thorn scrub in Mirador-Río Azul National Park, in extreme northern Guatemala (17.7600° N, 89.3070° W; WGS84; 91 m a.s.l.). The habitat is a



Figura 1. Hembra adulta de *Cachryx defensor* (longitud del hocico a la cloaca de 136 mm, peso de 70 g)(A) y huevos en un nido de *C. defensor* encontrado dentro de un tronco hueco de *Metopium brownei* aproximadamente a 1 metro sobre el suelo (B) en el Parque Nacional Mirador-Río Azul, en el extremo norte de Guatemala, a una elevación de 91 m el 22 de marzo de 2022. Fotos: Frida Yanes.

Figure 1. Adult female *Cachryx defensor* (snout to vent length 136 mm, weight 70 g)(A) and eggs located in a *C. defensor* nest within a hollow trunk of a black sap poisonwood *Metopium brownei* approximately 1 m above the ground, (B) in the Mirador-Río Azul National Park, in extreme northern Guatemala at 91 m elevation on 22 March 2022. Photos: Frida Yanes..

seasonally dry tropical forest and thorn scrub in a flood prone area.

After a careful inspection of the shelter, a clutch of three recently laid eggs was found in the hollow trunk above a bed of wood debris inside the hollow trunk. Several eggshell fragments were also observed from what seems to be a clutch from the year before we found it. To the best of our knowledge, this is the first ever published report of a wild nest of *C. defensor*. Our observations of the number of eggs laid are consistent with the reports of clutch size from captive individuals (Monter-Pozos et al., 2022).

The fact that we have observed an adult female in the same hollow trunk cavity where the egg clutch was found may indicate nest-guarding behavior in this species. Also, the old eggshells found within the same cavity suggest that the iguanas used this shelter as a nesting site in the past. In addition, the toxic nature of the tree (*Metopium brownei*) where the nest was found raises several questions about the possible benefits of nesting in a toxic tree for nest protection in this species. This tree is poisonous to touch thus the use of this species as a nesting site by the iguanas can be advantageous to deter predators from reaching the nest. The area where the nest was found is prone to flooding, so it may be advantageous for nesting species to lay their eggs in suitable above-ground shelters to avoid embryo death by drowning. Further research on these topics is needed to better understand the factors that influence nest site selection and the nesting behavior of *C. defensor*. This information may be useful for the

conservation and management of the species in its natural habitat.

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CITED LITERATURE

- Malone, C. L., V.H. Reynoso & L. Buckley. 2017. Never judge an iguana by its spines: systematics of the Yucatan spiny tailed iguana, *Ctenosaura defensor* (Cope, 1866). *Molecular Phylogenetics and Evolution* 115:27-39.
- Monter-Pozos, A., J.C. Hernández-Hernández, P.E. Nahuat-Cervera & J.R. Avilés_Novelo. 2022. La iguana Chopito (*Cachryx defensor*), endémica de la provincia biótica de la península de Yucatán. *Bioagrobiencias* 15:77-84.

