

NOTA

FIRST RECORD OF THE FIREWORM *HERMODICE CARUNCULATA*  
PREYING ON COLONIES OF THE THREATENED STAGHORN CORAL  
*ACROPORA CERVICORNIS* IN THE SOUTHEASTERN  
OUTPLANTING SITES OF THE DOMINICAN REPUBLIC

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ABSTRACT

Several fireworms *Hermodice carunculata* (Pallas, 1766) were observed feeding on coral colonies or transplanted fragments of the threatened staghorn coral *Acropora cervicornis* (Lamarck, 1816), in outplanting sites at Bayahibe, Dominican Republic. The fireworm *H. carunculata* has a highly negative impact on *A. cervicornis* populations, causing several lesions on the living tissue of branches and partial or complete mortality at the outplanting sites. This is the first report of predation on transplanted colonies in a coral restoration program in the Dominican Republic.

*Keywords:* *Hermodice carunculata*, coral reefs, restoration, *Acropora cervicornis*, Dominican Republic, Caribbean.

DEPREDACIÓN DEL GUSANO DE FUEGO *HERMODICE CARUNCULATA* SOBRE  
COLONIAS DEL CORAL AMENAZADO CUERNO DE CIERVO  
*ACROPORA CERVICORNIS* EN ZONAS DE TRASPLANTE

RESUMEN

Se observaron numerosos gusanos de fuego *Hermodice carunculata* (Pallas, 1766) alimentándose de colonias o fragmentos trasplantados del coral cuerno de ciervo *Acropora cervicornis* (Lamarck, 1816) en Bayahibe, República Dominicana. El gusano de fuego *H. carunculata* tiene un impacto altamente negativo sobre las poblaciones de *A. cervicornis*, causando severas lesiones en el tejido vivo de las ramas y mortalidad parcial o completa en las zonas de trasplante. Este es el primer reporte de depredación en colonias trasplantadas en el marco del programa de restauración de corales que se desarrolla en la República Dominicana.

*Palabras clave:* *Hermodice carunculata*, arrecifes coralinos, restauración, *Acropora cervicornis*, República Dominicana, Caribe.

In the outplanting sites of staghorn coral *Acropora cervicornis* (Lamarck, 1816) at Bayahibe, La Altagracia Prov., Dominican Republic, several fireworms were observed feeding on coral colonies or transplanted fragments. This study was conducted at a depth of 13 m at the Costa Romantica restored reef patch (18°22'7.38" N, 68°51'6.87" W) on February 16th 2017. The fireworm was approximately 18 cm long and the observation time was 10 min. In this time the polychaeta engulfed the coral branch of the transplanted colony, attached by the buccal mass (fig. 1a).

Also, the coral fragment had two more branches with a lesion tissue, with partial mortality (fig. 1b). This is the first report of predation on colonies transplanted in a coral restoration program in the Dominican Republic.

The fireworm *Hermodice carunculata* (Pallas, 1766) is a cosmopolitan polychaete, abundant in reefs zones of the Caribbean and Western Atlantic Ocean. On coral reefs *H. carunculata* it is well documented as a predator of zoanthids, anemones, gorgonids, hydrocorals, scleractinians and octocorals. This fireworm has a highly negative impact on *Acropora cervicornis* populations, the predation causes several lesions on the living tissue of branches, partial and complete mortality in both and outplanting sites (Wolf and Nugues, 2013; Miller *et al.*, 2014). Observations and reports of the impact of fireworm on staghorn coral restoration programs will continue with the adaptative management of outplanting sites.

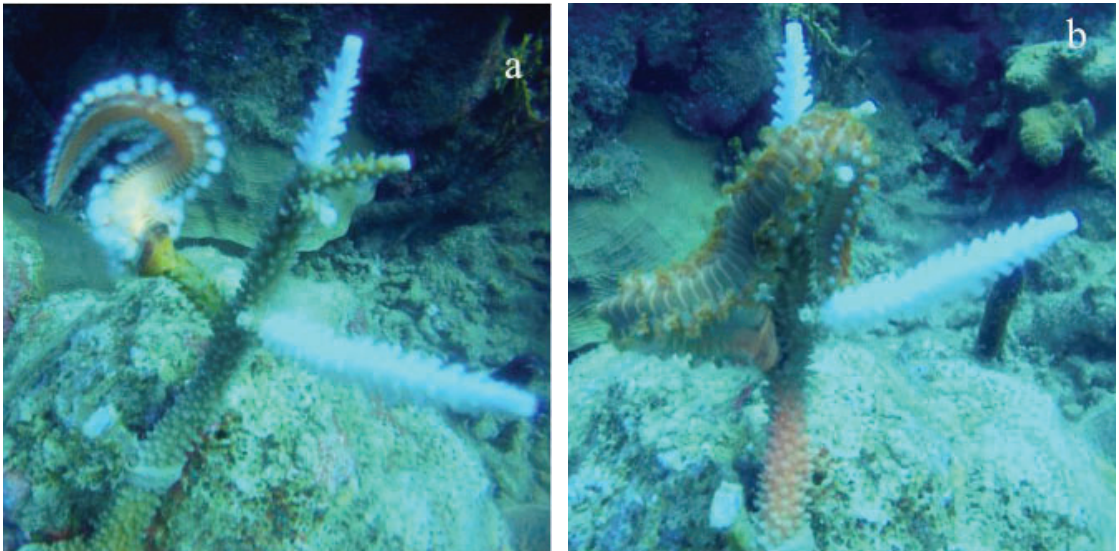


FIGURE 1. a, ouplanted colony of *Acropora cervicornis* at Bayahibe, being preyed by a fireworm on February 16th 2017. b, fragment with partial mortality.

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#### LITERATURE CITED

- Miller, M. W., C. Marmet, C. M. Cameron & D. E. Williams. 2014. Prevalence, consequences, and mitigation of fireworm predation on endangered staghorn coral. *Mar Ecol Prog Ser*, 516: 187-194.
- Wolf, A. T. & N. M. Nugues. 2013. Predation on coral settlers by the corallivorous fireworm *Hermodice carunculata*. *Coral Reefs*, 32: 227-231.