



New records of *Haplaxius* (Hemiptera: Cixiidae) in the Dominican Republic, with description of a new species

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The planthopper genus *Haplaxius* Fowler has a New World distribution. Kramer (1979) revised the New World *Myndus* Stål, consisting of 63 species. In that revision, Kramer synonymized *Haplaxius* and *Paramyndus* Fennah under *Myndus*, and *P. cocois* Fennah (1945), the type species of *Myndus*, as a junior synonym of *M. crudus*. Emeljanov (1989) reinstated the genus *Haplaxius* Fowler for the New World species formerly in *Myndus*. These consequent name changes have been accepted by all subsequent taxonomists (e.g., see Holzinger *et al.* 2002) but use of the name *Myndus*, when referring to New World species is still widely used, erroneously, in the applied literature.

One species, *H. crudus* (Van Duzee 1907) (Fig. 7), is a confirmed vector of Lethal Yellowing (LY) of coconut and other palms in Florida (Howard *et al.* 1983; Howard 1987), and perhaps elsewhere in its range where LY occurs (e.g., Dominican Republic, Jamaica, and Mexico) (Howard and Wilson 2001). Ferreira *et al.* (in review) documented the presence of *H. crudus* in the Dominican Republic; it is primarily a mainland species, but until now one of only three *Haplaxius* species recorded from the Antilles, occurring also in Cuba and Jamaica (Kramer 1979). The other insular species are *H. jamaicae* Kramer, which was thought until now to be endemic to Jamaica, and *H. hochae* O'Brien, from Dominica.

In this paper we record the presence of *H. jamaicae* in the Dominican Republic and describe a new species from that country. Both may be involved in the spread of LY.

The LY disease, caused by a phytoplasma, was first reported in the Dominican Republic from Puerto Plata (Carter, 1962), in the Northern Region of the country. This record has since been confirmed by specialists, such as Romney (1970) and Harries (1999). The LY has infested the coconut plantations in Cabarete, Sosua, Luperón (Provincia Puerto Plata) and Corral Grande and Villa González (Provincia Dajabón). Martinez *et al.* (2008) reported it from the locality of Boca Chica, Santo Domingo, indicating that the LY is spreading to the Southeast, and perhaps nationwide.

It merits mention that this phytoplasma is attacking coconut plantations along beach areas of the Dominican Republic, which draws tourism. The coconut palm is therefore part of the landscape context of the tourism. Because tourism constitutes one quarter of the GDP of the Dominican Republic (<http://www.godominicanrepublic.com/en/dr.htm>), the potential economic impact of uncontrolled LY, or its control through any massive destruction of the coconut plantations of the country is greatly increased.

Elsewhere in the tropical Americas, *Haplaxius crudus* has been confirmed as a vector of LY in coconut palms (Howard *et al.*, 1981, 1983; Purcell, 1985).

Kramer's (1979) diagnosis of this important genus (as *Myndus*) merits repeating: "The genus [*Haplaxius*] can be separated from other American cixiid genera by the following combinations of positive and negative characters: vertex not narrowed for entire length, lateral coronal margins not strongly elevated, frons no wider than long, antennae not in earlike cavities, mesonotum tricarinate, no spines on hind tibia before apex, and forewings not tectiform."

The genus *Haplaxius* was reported in the Dominican Republic by Howard *et al.* (1981), as "*Myndus* sp. (próximo a [= near to] *M. crudus*)," but an undescribed species with unspecified genitalic differences. The two males on which this report was based, presumably were examined by J. P. Kramer (a junior author of the paper) and deposited in the United States National Museum of Natural History [USNM], could not be located for comparison. They, perhaps, were other specimens of the new species described here.