

## SCIENTIFIC NOTE

### A New Host Plant Record, the Endangered Star Cactus, *Astrophytum asterias* (Zuccarini) Lemaire, for *Moneilema armatum* LeConte (Coleoptera: Cerambycidae: Lamiinae)

Members of the cerambycid genus *Moneilema* Linnaeus are typically considered cacti-boring specialists of the plant genus *Opuntia* Miller (Cactaceae) (Hovore *et al.* 1987; Linsley and Chemsak 1997). However, recent evidence indicates that *Moneilema* species may possess greater plasticity in host plants than previously thought (Lingafelter 2003; Salazar *et al.* 2004). As part of an on-going study regarding the population dynamics of the state and federally endangered star cactus (*Astrophytum asterias* (Zuccarini) Lemaire: Cactaceae) in Starr County, Texas, USA, we documented evidence of mortality resulting from *Moneilema* larval damage. Specifically, we report the first published record of *Moneilema armatum* LeConte infesting a non-Opuntioideae cactus (Hovore *et al.* 1987).

On 25 November 2007, three large beetle larvae were found inside three *A. asterias* (Fig. 1) plants on a private ranch off Farm Road 3167, 10.8 km north, 3.9 km west of Rio Grande City, Texas. Due to risks associated with illegal collection of *A. asterias*, we have chosen not to reveal exact geographic coordinates for each site. Coordinates may be obtained from the author (AWF) by request. These three specimens were transported to Angelo State University with the *A. asterias* plants and soil collected from the site. All three specimens were taken back to the laboratory and artificially reared on *Opuntia* spp. in a covered 37.85 liter (10 gallon) terrarium kept at room temperature with no additional moisture added. All three larvae formed pupal chambers with dirt and *A. asterias* plant material (Fig. 2) and emerged as adults in May 2008. On 9 February 2008, an additional larva was located inside an intact *A. asterias* at another private ranch off San Julian Road, 5.3 km north, 4.2 km east of the city of Roma. Another larva was located on the private ranch off Farm Road 3167 in an intact *A. asterias*. Both infested plants were covered with a wire cage buried 3 cm into the ground and staked down. On 22 March 2008, an adult *M. armatum* was collected in the cage located on the private ranch off San Julian Road. On 12

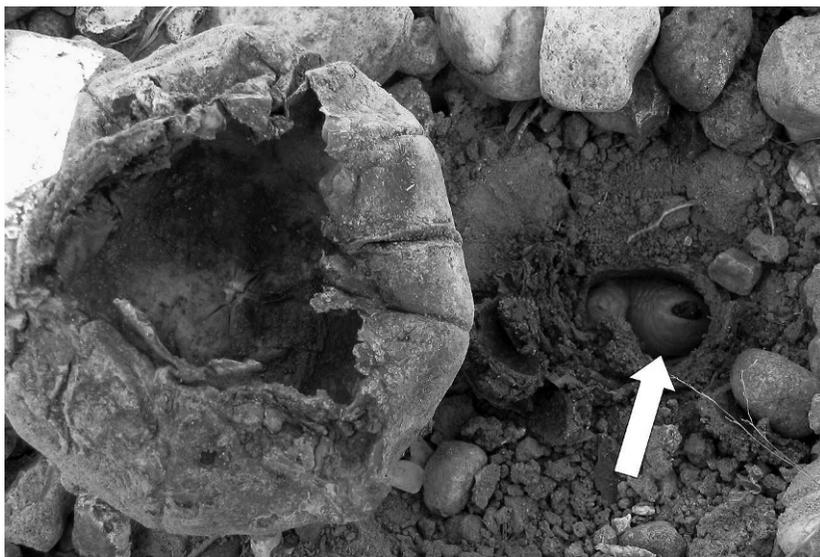


Fig. 1. *Moneilema armatum* larva found in the root of *Astrophytum asterias*.



Fig. 2. *Moneilema armatum* pupal chambers formed by larvae.

May 2008, a second adult was collected in the cage on the ranch off Farm Road 3167. No disturbance to either cage was recorded, and evidence collected from the *A. asterias* under the cages indicates the source of the adults came from the larvae originally detected on 9 February 2008. Another two *M. armatum* adults were found inside pupal chambers within *A. asterias* on the private ranch off Farm Road 3167 on 22 March 2008. One had created a



Fig. 3. *Moneilema armatum* adult emerging from root of *Astrophytum asterias*.

pupal chamber in the root cavity (Fig. 3) and the other had formed a pupal chamber of soil on the side of the cactus. The adult in the root chamber was fully sclerotized and began producing loud stridulations as it was removed from the root chamber. The second *M. armatum* was not fully sclerotized and soft to the touch. An additional adult *M. armatum* was found on this same ranch on 12 May 2008. This *M. armatum* was within 0.25 m of a large *A. asterias* (>9 cm) cactus whose epidermis was intact except for a hole chewed in the side of the dermal layer. Upon further inspection, it was determined that the cactus' internal tissue had been consumed and the beetle was approximately the size of the hole chewed in the *A. asterias*. A final specimen, a larva of *M. armatum*, was located on a third private ranch off San Julian road 7.2 km north, 4.0 km east of the city of Roma on 26 October 2008. Voucher specimens were preserved as pinned (n = 5) and in alcohol (n = 4) and were deposited in the invertebrate zoology collection of the Natural Sciences Research Laboratory at the Museum of Texas Tech University, Lubbock, Texas (NSRL).

Dan Heffern graciously provided identification of adult beetles. This work was supported by Endangered Species Grant # E-TX-E-46-R through the Texas Parks and Wildlife Department.

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(Received 23 January 2009; accepted 24 February 2009. Publication date 24 June 2009.)