

SCIENTIFIC NOTE

**FIRST RECORDS OF THE PARASITOID
TEMELUCHA SINUATA CUSHMAN
(HYMENOPTERA: ICHNEUMONIDAE)
IN MISSISSIPPI AND FLORIDA, U.S.A.¹**Tyler E. Schartel,² Travis D. Marsico,³ and Christopher P. Brooks²KEY WORDS: Cremastinae, Florida, *Melitara*, Mississippi, *Opuntia*, parasitoid

Larvae of the native eastern blue cactus borer *Melitara prodenialis* Walker (Lepidoptera: Pyralidae) were collected on single occasions from cladodes of prickly-pear cactus (*Opuntia* spp.) at Sweetwater (Liberty Co.), Florida (30.50483N, 84.95512W), in April 2009 and Town Creek Campground, West Point (Clay Co.), Mississippi (33.60667N, 88.49195W) in July 2011. A total of 91 larvae were collected from the Mississippi location, but the total number of Florida larvae collected is unknown. The larvae from Florida were provisioned with wild-collected cladodes of *O. humifusa* var. *humifusa* and reared at 26.7°C, whereas the Mississippi larvae were provisioned with wild-collected *O. pusilla* and reared at 28°C. Both collections were maintained at ~70% relative humidity and on a 12:12 day-night cycle. Two female and 28 mixed sex (20 male, 8 female) parasitoid wasps eclosed from the *M. prodenialis* pupae reared from the Florida and Mississippi collections, respectively. The wasps from Florida were identified as *Temelucha sinuata* Cushman (Hymenoptera: Ichneumonidae) by Robert Kula, USDA-ARS Systematic Entomology Laboratory. The wasps from Mississippi were identified as *T. sinuata* by R. Brown, Mississippi Entomological Museum, based on their similarity to the Florida specimens. Wasps from both collections have similar body size and color, and a sinuous ovipositor consistent with the descriptions of Cushman (1926) and Dasch (1979). Voucher specimens from the Florida and Mississippi collections have been deposited in the Mississippi Entomological Museum (Fig. 1). The previous known distribution of *T. sinuata* has been reported as ranging from California, Arizona, Texas, and Arkansas to the Yucatan of Mexico (Dasch 1979, Carlton and Kring 1994, Gonzalez-Moreno and Bordera 2011). This report represents the first records of *T. sinuata* from Mississippi and Florida.

Parasitoids of the subfamily Cremastinae, of which *T. sinuata* is a member, frequently parasitize pyralid moths, as well as other lepidopterans (Cushman 1926, Dodd 1940, Dasch 1979). *Temelucha sinuata* has only been collected from pyralid hosts: *Cactobrosis strigalis* and *Rumatha glaucatella* (Dasch 1979), in

¹ Received on March 21, 2012. Accepted on June 23, 2012.

² Department of Biological Sciences, Mississippi State University, Mississippi State, MS 39762-9775 tes164@msstate.edu, Corresponding author: cpbrooks@biology.msstate.edu

³ Department of Biological Sciences, Arkansas State University, P.O. Box 599, State University, AR 72467-0599 tmarsico@astate.edu

addition to *M. prodenialis*. Parasitism rates by *Temelucha* spp. (presumably not *T. sinuata*) on South American pyralids appear to vary by host, ranging from 5 to 30% (Zimmermann, et al., 1979). We observed a similar level of parasitism (31%, or 28 individuals) from *T. sinuata* on the single cohort of 91 *M. prodenialis* larvae collected in Mississippi. Adult *T. sinuata* eclosed from this collection over a period of 25 days, beginning 34 days after the onset of *M. prodenialis* pupation. Male *T. sinuata* wasps eclosed earlier on average than females: 9/20 of the males eclosed over a period of 10 days before the first of 8 females eclosed. The greatest number of individuals to eclose in any single day was three.



Figure 1. Specimen photograph of female *Temelucha sinuata* collected from Florida *M. prodenialis*. Vouchered specimen is deposited in the Mississippi Entomological Museum. Photograph taken by Joe MacGown.

ACKNOWLEDGEMENTS

We would like to thank Dr. Richard Brown for his assistance in identifying the Mississippi specimens of *T. sinuata*, as well as for his editorial suggestions on this manuscript. We would also like to thank Joe MacGown for providing the photograph included in this report. We also thank John Schneider for his editorial suggestions.

LITERATURE CITED

- Carlton, C. E. and T. J. Kring. 1994. *Melitara prodenialis* Walker on prickly pear in Arkansas. *Southwestern Entomologist*. 19:23-31.
- Cushman, R. A. 1926. The new North American Ichneumon-flies. *Proceedings of the United States National Museum*. 67:1-13.
- Dasch, C. E. 1979. Ichneumon-flies of America north of Mexico: 8. Subfamily Cremastinae. *Memoirs of the American Entomological Institute*. 29:1-702.
- Dodd, A. P. 1940. The biological campaign against prickly-pear. Commonwealth Prickly Pear Board, Brisbane, Australia.
- Gonzalez-Moreno, A. and S. Bordera. 2011. New records of Ichneumonidae (Hymenoptera: Ichneumonidae) from Mexico. *Zootaxa*. 2879:1-21.
- Zimmermann, H. G., R. E. McFadyen, and H. E. Erb. 1979. Annotated list of some cactus-feeding insects of South America. *Acta Zoologica Lilloana*. 32:101-112.