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New Record of *Idana marginata* (Say) (Diptera: Tephritoidea: Ulidiidae) from Wisconsin

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Abstract

*Idana marginata* (Say) (Diptera: Tephritoidea: Ulidiidae) was previously known from northeastern North America: Canada and the United States, west to northeastern Illinois and south to North Carolina. Herein, collection events are reported from Richland County in southwestern Wisconsin. This **new state record** significantly increases the known geographical distribution of the species to the west. The specimens were recovered from an unbaited Lindgren funnel trap during two intervals between 26 June and 28 July 2019.

**Keywords:** Ulidiidae, *Idana marginata*, distribution, Wisconsin

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*Idana marginata* (Say 1830) (Diptera: Tephritoidea: Ulidiidae) (Fig. 1) is one of the largest ulidiids in North America (Marshall 2012) and the only species of *Idana* Loew. Little is known regarding its natural history although Marshall (2012) indicated larvae develop in compost. The species has previously been recorded from southeastern Canada and the northeastern United States from Michigan and Indiana east to Massachusetts and south to Virginia (Steyaskal 1965, 1987). However, Brimley (1938) recorded *I. marginata* from Linville Falls, North Carolina during May.

**Methods**

Specimen data and Specimens

Label data from the new state record reported below are presented verbatim. The specimens were field collected into 70–80% ethanol. However, since most Diptera are prone to excessive tissue distortion during the normal dehydration process associated with pinning, the HMDS technique (Nation 1983) was used in specimen preparation to minimize exoskeletal collapsing and shriveling.

The specimens of *I. marginata* reported herein are vouchered in the Insect Research Collection (WIRC) of the Department of Entomology, University of Wisconsin-Madison.

**Study Site**

Habitat images (Fig. 2a, b), albeit from different points in time, reference the locality where the Lindgren trap was set from which the specimens were captured.

The site is located near the north shoreline of the Cruson Slough of the Wisconsin River in the southeastern corner of Richland County. This site is part of the Lone Rock Unit of the Lower Wisconsin State Riverway (LWSR) in southwestern Wisconsin. The habitat was historically a *Quercus-Pinus* sand barren immediately to the north and the slough bottomland to the south. Most of this area has recently been highly modified with much of the oak-pine removed. The extent to which these management practices may have im-
Figure 2. General habitats where *Idana marginata* (Say) specimens were collected. [Images were captured April 2014 (a) and April 2015 (b).] Digital images: DKY.
pacted the habitat of *I. marginata* remains to be determined.

**Results and Discussion**

One male and two females of *I. marginata* (Fig. 1) were recovered from an unbaited Lindgren funnel trap: [1st label] USA: WI: Richland Co. // LWSR – Lone Rock Unit // 43.19356°N/-90.23950°W // WGS84; 26 June –5 July 2019 // Jacquelyn R. Whisenant; [2nd label] unbaited Lindgren trap on // tree 10 meters from river // 20190626_JRW_LoneR. An additional three males and four females were recovered from the same trap during the subsequent sampling interval: [1st label] USA: WI: Richland Co. // LWSR – Lone Rock Unit // 43.19356°N/-90.23950°W // WGS84; 5–28 July 2019 // Jacquelyn R. Whisenant; [2nd label] unbaited Lindgren trap on // tree 10 meters from river // 20190705_JRW_LoneR.

It should be noted the “river” described on the collection event labels is actually an outflow of the slough that passes beneath a nearby earthen levy. The discharge eventually flows back into the Wisconsin River approximately one mile from the levy. Although the microhabitat is in proximity to the discharge of the Cruson Slough, no reference to *I. marginata* was made by Keiper et al. (2002).

Prior to the current discovery, the western-most record for *I. marginata* was from Indiana (Steyskal 1965). More specifically, data from the Global Biodiversity Information Facility (GBIF) (https://www.gbif.org/species/1523861) indicate records from as far west as northwestern Indiana. An additional record has also been validated from the internet: St. Charles, DuPage Co., IL, 5 June 2019 (https://bugguide.net/node/view/1671858/bgimage). The Wisconsin records reported here are approximately 170 miles west-northwest of the Illinois location and the land between the two locations has become highly altered by human activity, largely agricultural. Thus, it would be interesting to explore whether any gene flow remains between what might now represent disjunct populations. Interestingly, my students and I have collected at this site numerous times in the past 20+ years by hand, Malaise traps, and Lindgren funnel traps without previously encountering this large, conspicuous and colorful ulidiid fly.

**Acknowledgments**

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**Literature Cited**


