September 2017

First Record of *Hippodamia variegata* (Coleoptera: Coccinellidae) in Illinois, U.S.A., and Relation to Its Other Midwestern Collection Records

Louis S. Hesler
*USDA-ARS North Central Agricultural Research Laboratory, Brookings, SD, louis.hesler@ars.usda.gov*

Jonathan G. Lundgren
*Ecdysis Foundation*

Follow this and additional works at: [http://scholar.valpo.edu/tgle](http://scholar.valpo.edu/tgle)

Part of the [Entomology Commons](http://scholar.valpo.edu/tgle)

---

**Recommended Citation**


This Scientific Note is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.
First Record of *Hippodamia variegata* (Coleoptera: Coccinellidae) in Illinois, U.S.A., and Relation to Its Other Midwestern Collection Records

**Cover Page Footnote**
This research was supported by funding through USDA-ARS CRIS Project Number 3080-21220-006-00D. Eric Beckendorf assisted in collection maintenance. Al Wheeler, Mathew Brust, Lauren Hesler and Eric Beckendorf graciously reviewed drafts of this paper.

This scientific note is available in *The Great Lakes Entomologist*: [http://scholar.valpo.edu/tgle/vol50/iss1/9](http://scholar.valpo.edu/tgle/vol50/iss1/9)
First Record of Hippodamia variegata (Coleoptera: Coccinellidae) in Illinois, U.S.A., and Relation to Its Other Midwestern Collection Records

Louis S. Hesler 1* and Jonathan G. Lundgren 2

1 USDA, Agricultural Research Service, North Central Agricultural Research Laboratory, 2923 Medary Avenue, Brookings, SD 57006 U.S.A.
2 Ecdysis Foundation, 46958 188th St., Estelline, SD 57234 U.S.A.

Abstract

Hippodamia variegata (Goeze) (Coleoptera: Coccinellidae) is an Afro-Eurasian lady beetle first discovered in North America near Montreal, Canada, in 1984 (Gordon 1987). Subsequent records have occurred over a gradually expanding area radiating from the initial detection site and also include a disjunct record from British Columbia. Here, we report the first Illinois specimen of H. variegata, collected in 2004, and discuss this in relation to previous reports of H. variegata in North America.

Hippodamia variegata (Goeze) (Coleoptera: Coccinellidae) is an Afro-Eurasian lady beetle first discovered in North America near Montreal, Canada, in 1984 (Gordon 1987). Subsequent records have occurred over a gradually expanding area radiating from the initial detection site and also include a disjunct record from British Columbia. Here, we report the first Illinois specimen of H. variegata, collected in 2004, and discuss this in relation to previous reports of H. variegata in North America.

During routine insect collection maintenance at the USDA-ARS North Central Agricultural Research Laboratory (NCARL), Brookings, South Dakota, we discovered an unsorted specimen of H. variegata collected from Illinois in 2004. Here, we present its collection information and briefly discuss the record in relation to previously published reports of H. variegata in North America.

New state record. ILLINOIS.

Champaign County, Champaign, University of Illinois, Cruse Research Farm, 40.092° N, -88.243° W, 24-IV-2004, J. G. Lundgren, 1 adult female. The specimen was collected in a pitfall trap, and its identity was determined to species using the description in Gordon and Vandenberg (1991). The specimen is housed at the NCARL.

Hippodamia variegata was collected at the Illinois site as part of a study that sampled predatory beetles (Lundgren et al. 2006). Other agrobiotic lady beetle species were also sampled from this site, but this was the only specimen of H. variegata. The collection of H. variegata in an agricultural setting is consistent with many of its previous collection records in North America (Ellis et al. 1999, Gardiner and Parsons 2005, Day and Tatman 2006, Pavuk et al. 2007, Heidel and Morey 2011). This finding prompted us to search for additional records of H. variegata from Illinois in the Severin-McDaniel Insect Research Collection (SMIRC), South Dakota State University; the insect collection at the NCARL; and the Symbiota Collections of Arthropods Network database (SCAN 2017), which houses specimen occurrence records and images from more than 80 North American arthropod collections, including ones in and around Illinois. No records of H. variegata earlier than 2012 were found for the Midwestern U.S.A., and no additional Illinois record of it was found.

The Illinois specimen represents the earliest record of H. variegata from the Midwestern U.S.A. and predates the first records of H. variegata from nearby states to the east (Michigan in 2005, Gardiner and Parsons 2005; Ohio in 2007, Pavuk et al. 2007) and north (Wisconsin in 2005, Williams and Young 2009). Records of H. variegata west...

Thus, the Illinois record of *H. variegata* reported herein begs the question of how it pre-dates records from Midwestern states further east. Possible explanations include the chance detection of this individual from an established, but initially low-density population of *H. variegata* in Illinois. *Hippodamia variegata* might have been established, but not yet detected, in Ohio when the Illinois specimen was collected in 2004. Alternatively, the record could represent fortuitous collection of an individual *H. variegata* in Illinois that had leapfrogged adjacent states to the north and east. It is unlikely that this individual stemmed from releases of *H. variegata* in states west of Illinois from 1987 to 1994 because there is no evidence of establishment following those releases (Prokrym et al. 1998, Ellis et al. 1999). The reporting of any additional survey and collection data for *H. variegata* in Illinois and adjacent states is encouraged to develop context for this record and to improve our understanding of this species’ dispersal in central North America.

Acknowledgments

This research was supported by funding through USDA-ARS CRIS Project Number 3080-21220-006-00D. Eric Beckendorf assisted in collection maintenance. Al Wheeler, Mathew Brust, Lauren Hesler and Eric Beckendorf graciously reviewed drafts of this paper.

Literature cited


Wheeler, A. G., Jr. 1993. Establishment of *Hippodamia variegata* and new records of
Propylea quatuordecimpunctata (Coleoptera: Coccinellidae) in the eastern United States. Entomological News 104: 102–110.
