

## OBSERVATIONS ON PERIODICAL CICADAS (BROOD XIX) IN INDIANA IN 2011 (HEMIPTERA: CICADIDAE: *MAGICICADA* SPP.)

**Gene Kritsky\*** and **Jessee Smith:** Department of Biology, College of Mount St. Joseph, Cincinnati, Ohio 45233 USA

**Roy Troutman:** 4484 Dogwood Dr., Batavia, OH 45103 USA

**ABSTRACT.** The periodical cicada Brood XIX emerged during May and June 2011 in southernmost Posey County, bringing to five the number of established broods in Indiana.

**Keywords:** Periodical cicadas, *Magicicada*

Brood XIX, a 13-year brood of periodical cicadas, has the largest distribution of the periodical cicada broods, being reported from Maryland south to Georgia, westward through Arkansas and easternmost Oklahoma, and north into southern Iowa. It was reported to have occurred in Posey County in 1998, but the reports did not include detailed information as to the extent of the Indiana emergence (Kritsky 2004). In this study Posey County was surveyed during the 2011 emergence to verify the extent of this brood in the state.

### METHODS

The county was surveyed for periodical cicada chorusing centers during 30 May and 12–13 June 2011 by driving through the county and recording the locations where calling cicadas could be heard. Locations were determined and recorded with a vehicle-mounted GPS receiver (Garmin Novi 885). The cicada species were identified by their distinct choruses.

### RESULTS AND DISCUSSION

The survey verified a heavy emergence of cicadas in southern Posey county starting in the southwestern portion of Black Township and extending south throughout Point Township (see Figure 1 and appendix for coordinates). One species of periodical cicada, *Magicicada tredecassini*, was heard during the survey. Given the nature of the survey and their smaller numbers, we did not hear *M. tredecim* or *M. tredecula*, although they were heard in neighboring Illinois.

The presence of Brood XIX in Indiana brings the number of established periodical cicada broods in the

state to five (Kritsky 2004). The next emergence of periodical cicadas in Indiana will be in 2015, when the 13-year Brood XXIII will emerge in the southwestern portion of the state (Kritsky 2004). It

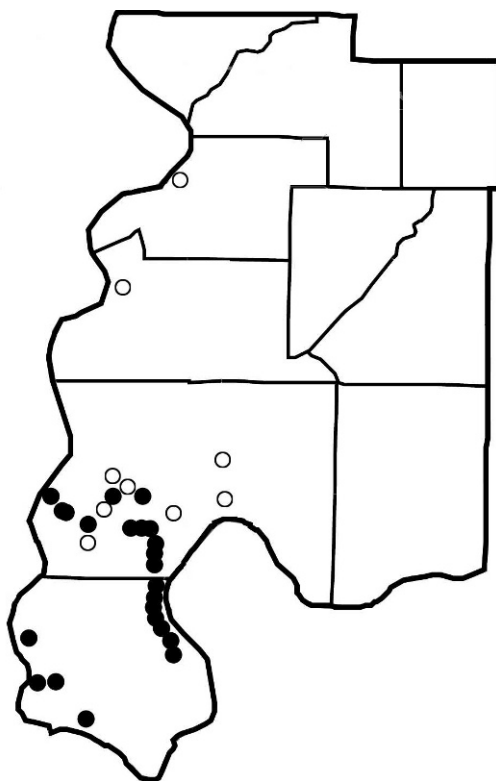


Figure 1.—The 2011 distribution of Brood XIX in Indiana. Solid circles represent positive records of singing *Magicicada tredecassini*, and the open circles designate areas where cicadas were not heard.

\* *Corresponding Author:* Phone: (513) 244-4401; E-mail: cdarwin@aol.com

is expected that a few counties may witness cicadas during 2017, which would be the result of 4-year accelerations of cicadas from Brood X (Kritsky 2004). These early-emerging cicadas do not represent an established brood of cicadas in Indiana, but rather a shadow brood of Brood X. Brood X, which is the state's largest 17-year brood, will next emerge in 2021 (Kritsky et al. 2005). The 17-year Brood XIII is expected to emerge in the three northwestern counties in 2024 (Kritsky and Smith 2009) the same year that the 13-year Brood XIX will reappear in Posey County. The 17-year Brood XIV will emerge in 2025 in a few scattered counties in the central and southern parts of the state (Kritsky et al. 2009).

#### APPENDIX 1

Periodical cicadas were heard at the following locations:

37 53.017'N, 87 56.743'W  
 37 47.717'N, 87 59.388'W  
 37 49.621'N, 88 00.153'W  
 37 50.217'N, 88 01.285'W  
 37 52.651'N, 88 02.500'W  
 37 55.293'N, 87 59.476'W  
 37 56.226'N, 88 00.865'W  
 37 57.095'N, 87 58.200'W  
 37 57.076'N, 87 57.304'W  
 37 56.578'N, 88 00.986'W  
 37 51.279'N, 87 56.014'W  
 37 54.520'N, 87 56.791'W  
 37 54.351'N, 87 56.808'W  
 37 54.249'N, 87 56.810'W  
 37 52.660'N, 87 56.758'W  
 37 52.580'N, 87 56.768'W  
 37 52.404'N, 87 56.850'W  
 37 51.290'N, 87 56.228'W  
 37 51.164'N, 87 56.230'W  
 37 54.669'N, 87 56.715'W  
 37 54.778'N, 87 56.690'W

37 54.942'N, 87 56.684'W  
 37 55.097'N, 87 56.679'W  
 37 55.744'N, 87 57.194'W  
 37 55.745'N, 87 57.237'W  
 37 55.746'N, 87 57.358'W  
 37 55.746'N, 87 57.469'W  
 37 55.745'N, 87 57.725'W  
 37 56.050'N, 88 00.392'W

Periodical cicadas were not heard at the following locations:

37 54.734'N, 87 59.505'W  
 37 56.205'N, 87 58.898'W  
 37 57.097'N, 87 57.725'W  
 37 56.077'N, 87 55.571'W  
 38 07.683'N, 87 56.163'W  
 38 04.372'N, 87 57.030'W  
 37 56.566'N, 87 53.833'W  
 38 00.886'N, 87 53.935'W  
 37 57.535'N, 87 58.258'W

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