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First record of *Agrilus osburni* Knull (Coleoptera: Buprestidae) in two northeastern states in North America

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Abstract. *Agrilus osburni* Knull (Coleoptera: Buprestidae) is reported from Massachusetts and Pennsylvania for the first time, **new state records**. Nine male specimens were collected in Lindgren funnels from 2010 to 2016. These new records expand the known range of this species in northeastern North America.

Key Words. Lindgren funnel, new record, Pennsylvania, Massachusetts, jewel beetles.

Introduction

The genus *Agrilus* Curtis (Coleoptera: Buprestidae) contains more than 180 North American species with approximately 65 occurring in eastern North America, 43 in Pennsylvania, and 30 in Massachusetts (Nelson et al. 2008; Paiero et al. 2012). *Agrilus osburni* Knull has a scattered distribution in eastern North America with records from Georgia, Missouri, Ohio, Michigan, Connecticut, and Ontario, Canada (Paiero et al. 2012). Presented here are the first records of *A. osburni* from Pennsylvania and Massachusetts, adding to its known range.

Materials and Methods

Trapping was conducted by the Pennsylvania Department of Agriculture in 2010, and the USDA APHIS Otis Laboratory as part of a trap efficacy study on Buprestidae from 2013-2016. Black and green Lindgren funnel traps with combinations of chemical lures were used and are summarized in Table 1. The Pennsylvania trap was hung in a *Quercus* (Fagaceae) and *Carya* (Juglandaceae) dominated site. The Massachusetts (Otis) traps were hung on either *Quercus* spp. or *Carya* spp. Traps were serviced every two weeks and specimens were placed into ethanol after collection until sorting and identification. Voucher specimens were deposited in the Pennsylvania Department of Agriculture Collection, Harrisburg, Pennsylvania (PADA).

Results

Nine male specimens of *Agrilus osburni* were collected in traps set in Massachusetts and Pennsylvania between 2010-2016. Trapping dates ranged from June 4th to July 14th. One individual from Crawford County in 2010 was the lone Pennsylvania specimen, adding to the known Northeastern distribution of the Central Northeastern distribution of this species in Ohio, Michigan, and Ontario. The eight specimens from Massachusetts were from Essex County. The Massachusetts records make a contiguous distribution with Connecticut but are separated from other north eastern records by New York (Paiero et al. 2012).

Discussion

Documented larval host species for *A. osburni* are *Quercus phellos* L. (willow oak) and *Ostrya virginiana* (Mill.) K. Koch (eastern hophornbeam) (Betulaceae) (Wellso et al. 1973; MacRae 2006; Jendek and Poláková 2014). Willow oak is a common tree in the southern United States and ranges into New

York's southern tip and into the Long Island Sound as well as Pennsylvania's southeast corner. Eastern hophornbeam is widespread throughout the eastern-half of the United States (USDA and NRCS 2017). The northern distribution of these records indicate the most likely host is eastern hophornbeam in both states given current information.

Agrilus osburni can be distinguished from other males in the *Agrilus otiosus* group by the prosternum not conspicuously pubescent, all tibiae armed with distinct tooth on the inner margin apex, and features of the male genitalia. Females cannot be easily separated from species in the *Agrilus otiosus* group.

Material Examined

US: Pennsylvania: Crawford County: 7919 Hartstown RD (4) (41.5681 N, -80.3892 W), June 4, 2010, Col. J. Fuller (1♂); **US: Massachusetts:** Essex County: Otis 2014-MA-56 HP (72.613847 N, -71.067033 W), June 30, 2014, Col. J. Francese (1♂); Otis 2014-MA-56 HP (72.613847 N, -71.067033 W), July 8, 2014, Col. J. Francese (2♂); Otis-2014-MA-56 HP (72.613847 N, -71.067033 W), July 14, 2014, Col. J. Francese (1♂); Otis 2015-MA-625-HP (42.613847 N, -71.067033 W), July 13, 2015, Col. J. Francese (1♂); Otis 2014-MA-11-SE (42.711218 N, -71.11579), June 30, 2014, Col. J. Francese (2♂); 313 Sweeney RD (42.622257 N, -71.067747 W), June 28, 2016, Col. J. Francese (1♂).

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Table 1. Summary of trapping methodologies used across the six years of trapping.

Survey and Year	Trap	Lure(s)
PDA 2010	12-unit black Lindgren funnel	Cerambycidae pheromones
Otis 2013-14	12-unit green Lindgren funnel	Z-3-Hexanol and 3Z Lactone OR not baited
Otis 2015	12-unit green Lindgren funnel	5-component Cerambycidae lure and EtOH
Otis 2016	12-unit green Lindgren funnel	EZ-Fuscumol, EZ-Fuscumol Acetate, and EtOH

