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**FOOD PLANT AND DISTRIBUTION OF MELIGETHES SAEVUS
(COLEOPTERA: NITIDULIDAE)**Andrew H. Williams¹**ABSTRACT**

Meligethes saevus (Coleoptera: Nitidulidae) is here reported to be a specialist on its food plant *Onosmodium molle* (Boraginaceae). The geographic distributions of these taxa are discussed. This is the first report of *M. saevus* from Wisconsin.

Beetles in the genus *Meligethes* (Nitidulidae) are often called “flower” or “pollen” beetles because the adults and larvae, where known, feed on pollen, and some are restricted to particular food plants (Parsons 1943, Osborne 1965).

Meligethes saevus LeConte adults were found on *Onosmodium molle* A. Michaux (Boraginaceae) in a Wisconsin survey of the arthropod fauna using this locally rare, herbaceous perennial (Williams 1996). Adults were collected from flower buds, from flowers and often from among damaged unfurling leaves at shoot tips over the periods 7 May to 1 August, 1993-96, at 29 sites in Buffalo, Dane, Grant, Green, Iowa and Pierce Counties. Many more observations of *M. saevus* on *O. molle* were made at these study sites than were vouchered by collections.

Solitary larvae were collected on 2 July 1996 from inside the tubular flowers of *O. molle* at one Wisconsin site where many *M. saevus* adults were present. These larvae resemble those of *M. aeneus* Fabricius depicted in Osborne (1965), bearing at the tips of their prothoracic legs setae characteristic of the subfamily Meligethinae (Böving and Craighead 1931), which in the Nearctic is represented only by the genus *Meligethes* (Parsons 1943).

Criddle (1928) collected *M. saevus* at Aweme, Manitoba, where he also collected *O. molle* (his plant specimen is at the Canadian Museum of Nature in Ottawa). In July 1996, on a brief pilgrimage to the Criddle homestead at Aweme, I collected *M. saevus* adults from *O. molle* in Bottineau, Foster, Nelson, Rolette and Towner Counties, North Dakota, and at two sites in southern Manitoba, one of which was only a few miles south of Aweme. My own records of *M. saevus* on *O. molle* can be summarized as from 36 sites over a transect of about 600 miles, made on many occasions over several years.

Meligethes saevus has been reported from Illinois and Tennessee west to Missouri, Iowa, Minnesota, Kansas, Nebraska, South Dakota, North Dakota, Manitoba (Aweme), New Mexico, Colorado, Montana and Alberta (Lethbridge) (LeConte 1859, Popenoe 1877, Horn 1879, Leng 1920, Criddle 1928, Criddle 1929, Parsons 1943, Blackwelder and Blackwelder 1948, Easton 1955, Arnett 1975, Kirk and Balsbaugh 1975). I examined historic specimens from Illinois and Tennessee west to Iowa, Minnesota, Kansas, Nebraska, South Dakota, North Dakota, New Mexico and Colorado. Most of these specimens lack plant data, but six specimens at Iowa State University in Ames bear the data: “Ames, Iowa; June 14, 1892; on *Onosmodium molle*.”

With data from 137 herbaria, I mapped the distribution of *O. molle*, which grows widely over the entire region delimited above and is the sole member of the genus *Onosmodium* growing in this region (Williams 1996). This plant grows

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in gravelly or rocky calcareous prairies, barrens, openings, glades and bluffs (Williams 1996). Though it ranges widely between the Appalachian and Rocky Mountains, it is most common in the central and western parts of its range, and becomes more rare in the east where its preference for sweet well-drained soils and abundant sunlight restrict its distribution. It grows farther south and also farther east than *M. saevus* has been collected, and the beetle should be sought in these areas wherever *O. molle* grows so that we might more fully understand the beetle's distribution.

Two old reports suggest *M. saevus* may also feed on a closely related plant. Gibson (1919) reported *M. saevus* on *Mertensia paniculata* (Aiton) G. Don (Boraginaceae) in Manitoba, where, quoting J. B. Wallis, the species, 'occurred along the line of the Hudson Bay Ry., wherever its food plant grew.' Gibson (1919) also reported Carr's 1915 record of *M. saevus* at Edmonton, Alberta, which is farther north than *O. molle* occurs (Williams 1996). These more northern reports are probably referable to *Meligethes canadensis* Easton. This species was described in 1955 from paratypes that included some collected by Carr at Edmonton in 1910 and 1919 and some that had earlier been labelled *M. saevus* (Easton 1955). The suspected relationship between *M. canadensis* and *Mertensia paniculata* requires confirmation in the field.

My specimens have been deposited at the Wisconsin State Herbarium and the Insect Research Collection of the University of Wisconsin - Madison. Plant nomenclature herein follows Gleason and Cronquist (1991). This is the first report of *M. saevus* larvae and adults using *O. molle* and of *M. saevus* from Wisconsin.

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