Zootaxa 3774 (1): 083–089
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3774.1.6
http://zoobank.org/urn:lsid:zoobank.org:pub:EBB4F507-F7B1-4394-BAD7-49A3808BD41E

Monoxia obesula Blake, 1939, a species native to the U.S.A. and adventive to Sardinia, Italy (Coleoptera: Chrysomelidae: Galerucinae: Galerucini)

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Abstract

Monoxia obesula Blake, 1939, a species native to North America, is newly found in Sardinia, Italy. This discovery constitutes the first report of the species from Europe, as well as the first report from outside of the U.S.A. The species is redescribed and illustrated, and errors in the original description are corrected. Host plants are species of *Atriplex* and *Chenopodium* occurring in saline habitats.

Key words: *Atriplex*, *Chenopodium*, introduced species, leaf beetle

Introduction

In the mid-1800's, John L. LeConte described a number of new species of small galerucine chrysomelids from North America (LeConte 1857, 1858, 1859, 1865). In 1865, he erected the genus *Monoxia* to accommodate these species. Little more was done taxonomically with this genus for the next three quarters of a century, except that Blatchley (1917) named one additional species, and Horn (1893) transferred the much larger species *Galerucella puncticollis* (Say, 1824), with its presumed synonyms, into the genus. In 1936, Doris Blake described the genus *Erynephala* to accommodate these larger beetles, transferring them out of the genus *Monoxia*. Then in 1939, she published the most important of all taxonomic treatises on *Monoxia*, reexamining LeConte's type specimens, illuminating diagnostic characters, and newly describing numerous species of her own.

Even with the availability of Blake's study, species level identification within the genus *Monoxia* remains difficult. Aedeagal examination is usually necessary, and the differences among species are often subtle. Nonetheless, the senior author of the present study (Clark) has made substantial effort over the last several years to become familiar with this group, and he has achieved some degree of competence. Among thousands of specimens examined, old specimens labeled from Nebraska (U.S.A.) did not match any of the described species, at least not with respect to Blake's illustrations of the aedeagi. Even so, since there were only two of the specimens, they were merely set aside, without any immediate plans for describing them.

Then in the summer of 2013, the Italian coauthors of this study (Rattu and Cillo) discovered chrysomelid beetles on the Italian island of Sardinia, and they realized that the insects were different from any of the species known to occur in Europe. Upon recognizing that they probably belong to the genus *Monoxia*, they sent specimens to Clark for confirmation. Not only was the generic identification confirmed, but realization quickly followed that the beetles were essentially identical to the two old specimens from Nebraska.

In an attempt to obtain more North American material for study, curatorial staff at both the University of Nebraska and the University of Kansas were queried regarding *Monoxia* holding in their collections. They responded that they had essentially nothing. Apparently, specimens were borrowed decades ago and never returned. Next, contact was made with Kentaro Miwa, former curatorial assistant of the senior author (Clark) and current Ph.D. candidate studying chrysomelid behavior at the University of Nebraska. He consented to conduct field work,

Accepted by M. Scholler: 18 Jan. 2014; published: 4 Mar. 2014

be a serious threat to agriculture in Europe. However, some of the congeneric species do damage rangeland plants in North America. Moreover, some are regarded as pests of cultivated beets (*Beta vulgaris* L., Amaranthaceae *s. l.*). Some species even feed on Asteraceae or Solanaceae, in preference to Amaranthaceae. Accordingly, concern and vigilance are warranted.

Acknowledgments

We appreciate the help of Brett Ratcliffe (University of Nebraska) and Zachary Falin (University of Kansas), who hunted for *Monoxia* specimens in their collections, albeit unsuccessfully. We similarly appreciate Alexander Konstantinov (United States National Museum of Natural History), who loaned paratypes of *M. obesula*. Robert Kaul (University of Nebraska) is thanked for identifying host plants from Nebraska. Robert Johnson (Brigham Young University) is thanked for assistance with microphotography, and Michael Hastriter and Kevin Kemp (both from Brigham Young University) for additional help preparing illustrations. Perhaps most of all, we are deeply indebted to Kentaro Miwa (University of Nebraska). At our request, he arranged time in his busy schedule to collect specimens. His contribution is invaluable.

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