



<http://dx.doi.org/10.11646/zootaxa.3955.2.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:2C428174-7C02-4F0C-BB34-E1BC81F58CB1>

Immatures of Palaearctic species of the weevil genus *Sibinia* (Coleoptera, Curculionidae): new descriptions and new bionomic data with suggestions on their potential value in a phylogenetic reconstruction of the genus

JIŘÍ SKUHROVEC^{1,5}, RAFAŁ GOSIK², ROBERTO CALDARA³ & MICHAEL KOŠTÁL⁴

¹Group Function of Invertebrate and Plant Biodiversity in Agrosystems, Crop Research Institute, Prague 6 – Ruzyně, Czech Republic. E-mail: jirislavskuhrovec@gmail.com

²Department of Zoology, Maria Curie-Skłodowska University, Akademicka 19, 20-033 Lublin, Poland. E-mail: cossonus@gmail.com

³via Lorenteggio 37, 20146 Milan, Italy. E-mail: roberto.caldara@gmail.com

⁴Kotlanova 1, 628 00 Brno, Czech Republic. E-mail: michael.kostal@iol.cz

⁵Corresponding author

ABSTRACT

The larvae and pupae of six species of the Palaearctic genus *Sibinia* Germar, 1817 are described in detail for the first time. Five of them develop in seeds of Caryophyllaceae and belong to *Sibinia* (s. str.): *S. attalica* Gyllenhal, 1835; *S. femoralis* Germar, 1824; *S. tibialis* Gyllenhal, 1835; and *S. viscaria* (Linnaeus, 1760), which are included in the *S. femoralis* group, and *S. sicana* Ragusa, 1908, which is included in the *S. unicolor* Fåhræus, 1843 group. The sixth species is *S. sodalis* Germar, 1824, which develops in seeds of Plumbaginaceae and belongs to the subgenus *Dichotychius* Bedel, 1885. The larvae and pupae of these species are compared with those previously described for some species of the third subgenus, *Microtychius* Casey, 1910 from the Americas. Some larval characters, but no pupal ones, are useful to support the three subgenera and the two previously mentioned groups of *Sibinia* s. str., which were previously postulated based on a few adult morphological characters. The immatures of *Sibinia* are also compared with those of the closely related genus *Tychius* Germar, 1817, providing some distinctive characters between both genera. New bionomic data on larval and pupal development and adult emergence are reported for all the described species. These data suggest that species in this genus are highly homogeneous in life history traits.

Key words: Coleoptera, Curculionidae, Curculioninae, Tychiini, *Sibinia*, mature larva, pupa, morphology, host plant, larval development, life history

INTRODUCTION

The genus *Sibinia* Germar, 1817 belongs to the subtribe Tychiina of the tribe Tychiini (Coleoptera, Curculionidae, Curculioninae; Alonso-Zarazaga & Lyal 1999; Caldara 2013; Caldara *et al.* 2014). Approximately 50 species of *Sibinia* occur in the Palaearctic region (Caldara 1979, 1985), 130 species are found in the New World, mainly in South America (Clark 1978), and 60 species are from the Afrotropical region, mainly in South Africa (Caldara 1989, 1993). The genus is currently divided into three subgenera, *Sibinia* s. str., *Dichotychius* Bedel, 1885, and *Microtychius* Casey, 1910. It is possible that the Afrotropical species, currently included in *Sibinia* s. str., might belong to another subgenus. The three subgenera are primarily distinguished by the shape of the spermatheca and by the host plants which belong to different families, and are difficult to separate based on external adult morphological characters. The species of Palaearctic *Sibinia* s. str. live on Caryophyllaceae (Caldara 1985), whereas the Afrotropical ones seem to live especially on Aizoaceae (Caldara 1989). The species of *Dichotychius* live on Plumbaginaceae Staticoideae (Caldara 1979), whereas the almost entirely American *Microtychius* live on Fabaceae, Mimosoideae (Clark 1978).

Most species of *Sibinia* are seed predators (Hoffmann 1955; Clark 1978; Caldara 1979, 1985; Dieckmann 1988; Korotyaev *et al.* 2005), although a few species of *Sibinia* (*Microtychius*) develop in flower buds (Clark