



## Redescriptions of last instar larvae of *Ischyronota conicicollis* (Weise, 1890) and *Ischyronota desertorum* (Gebler, 1833) (Coleoptera: Chrysomelidae: Cassidinae)

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### Abstract

Last instar larvae of *Ischyronota conicicollis* (Weise, 1890) and *Ischyronota desertorum* (Gebler, 1833) are redescribed and figured in detail using light microscope as well as SEM images. Larvae of *Ischyronota* are distinct within the tribe Cassidini and differ from those of the other genera in body not flattened dorso-ventrally, in thorax lacking scoli and in possessing abdomen with very short or completely reduced lateral scoli. The reduction of lateral scoli of body is probably correlated with feeding on succulent plants of saline habitat (Chenopodiaceae). Detailed examination showed that bodies of immatures of both species are covered with cauliflower-shaped sensilla, while pointed setae are only found on the middle of thoracic and first three abdominal sternites. Perhaps this character is also correlated with living in steppes and semi-deserts areas. Examination also showed that larvae of *I. desertorum* possess one-segmented maxillary palpi. This character has diagnostic value for *I. desertorum* and is unique within Cassidinae, which usually have two-segmented maxillary palpi.

**Key words:** entomology, taxonomy, Coleoptera, Chrysomelidae, Cassidinae, Cassidini, *Ischyronota conicicollis*, *Ischyronota desertorum*, morphology of larva, Palearctic Region

### Introduction

The genus *Ischyronota* Weise, 1891 includes six species that are similar and difficult to identify (Borowiec 1999, Borowiec & Świętojańska 2002). They are distributed in steppes and semi-deserts from Eastern Europe and Turkey to Mongolia. One species is known also from northern Africa. Biologically they are associated with saline habitats and feed on various genera of Chenopodiaceae: *Anabasis* Linnaeus, 1753, *Halochnemum* Marschall, 1820, *Salicornia* Linnaeus, 1753, *Salsola* Linnaeus, 1753, and *Suaeda* Forsskal, 1776 (Lopatin 1977, Brovdii 1983). These plants are characterised by succulent habitus with mostly reduced leaves. This special morphology causes several modifications in morphology of larvae of Cassidinae associated with such plants. The genus *Ischyronota* belongs to the tribe Cassidini but its larvae look very special and distinct from typical larvae of the tribe, except the genus *Oxylepus* Desbrochers, 1884, which is also associated with plants of saline habitat and is probably close phylogenetically to the genus *Ischyronota* Weise (Bordy 2000).

Till now immatures of two *Ischyronota* species have been described: mature larva and pupa of *I. desertorum* (Gebler, 1833) (Matis 1971, Brovdii 1983), and mature larva of *I. elevata* (Reitter, 1890) (Medvedev and Radzivilovskaja 1971). Moreover Medvedev (1982) in his key to larvae of Mongolian members of the genus *Ischyronota* has given diagnostic characters for *I. desertorum*, *I. conicicollis* (Weise, 1890), and *I. schusteri* Spaeth, 1914. All these descriptions are poor, with poor figures and without many important characters essential for recent descriptions of immatures of Cassidinae.

In this paper we redescribe larvae of *I. desertorum* and *I. conicicollis* based on fresh material collected in Central Asia, including many characters not previously described.