Zootaxa 2733: 1–15 (2011)
www.mapress.com/zootaxa/

Article

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

The immature stages of the genus *Trepobates* Uhler (Hemiptera: Heteroptera: Gerridae), with an identification key to instars and the description of the nymphs of *T. taylori* (Kirkaldy)

SUSANA AMANDA KONOPKO[1, 2] & SILVIA ANA MAZZUCCONI[1]

[1]Laboratorio de Entomología, Departamento de Biodiversidad y Biología Experimental, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. Av. Int. Güiraldes s/n, Ciudad Universitaria, C1428EHA, Buenos Aires, Argentina.
E-mail: konopko@bg.fcen.uba.ar; mazzucco@bg.fcen.uba.ar
[2]CONICET

Abstract

The egg and five instars of *Trepobates* are described based on examined material of *T. taylori* and published information of *T. inermis, T. knighti, T. panamensis, T. pictus, T. subnitidus* and *T. trepidus*. The characters most useful in identifying nymphs I–V of *Trepobates* are: the width of the head; the lengths of the antennae, femora 1–3, tibiae 2–3 and tarsus 2–3; the Y-shaped ecdysial line of the head; the colour patterns of the pro- and mesonotum; and the urosternites VIII and IX. A key to the five nymphal instars of *Trepobates* is provided. The five instars of *T. taylori* are described and illustrated for the first time, with emphasis on the morphometry and colour pattern of selected structures, and chaetotaxy of the antennae; the egg is figured and redescribed. The characters useful in identifying nymphs I–V of this species are: the colour pattern of the head; the chaetotaxy of the antennal segment I; the lengths of the antennal segment III and mesonotum; and the width of the pronotum. Differences between sexes in nymphs IV and V are presented.

Key words: Gerromorpha, Trepobatinae, America, immature stages, taxonomy, key

Introduction

The American genus *Trepobates* Uhler comprises 12 species of small gerrids (Polhemus & Polhemus 2002). This genus, best represented in North America, is distributed from southeastern Canada to northwestern Argentina (Polhemus & Polhemus 2002; Morrone *et al.* 2004). Up to now, only *T. taylori* (Kirkaldy) is known from Argentina (Bachmann 1963), whose nymphs are described for the first time in the present contribution [preliminary data from this study were first presented at a scientific meeting (Konopko & Mazzucconi 2007)]. This species is widely distributed in the New World from the US (Texas) to Argentina (Jujuy, Salta and Tucumán Provinces) (Polhemus & Polhemus 2002; Morrone *et al.* 2004).

Although the systematics of the adults of *Trepobates* is comparatively well known (e.g., Drake & Harris 1928a–c, 1932; Drake & Hottes 1952; Drake & Chapman 1953; Kittle 1977, 1982, 1991; Polhemus & Polhemus 2002), very few studies on the egg and nymphs are available in the literature. Previous studies on the immature stages of *Trepobates* have been few and mainly related to studies on life history or relative growth. Morphological studies on the egg and nymphs of the species of this genus are scanty in the literature and sometimes incomplete, lacking comparative precision and detail. The first contribution was given by Hungerford (1919) who figured and described the egg and first instar (including measurements and information on the shape and colour of the egg, body and appendages) of *T. subnitidus* Esaki (misidentified as *T. pictus* (Herrich-Schaeffer), according to Kittle & McCraw 1981) [this information was presented in part by Bobb (1974) under *T. pictus*]. Subsequently, Hoffman (1924) presented observations on the life history of *T. subnitidus* (misidentified as *T. pictus*, according to Kittle & McCraw 1981). Also, he described the colour pattern of the body and presented some measurements of all the instars, and described the size and shape of the egg. Matsuda (1960) studied the allometric growth patterns of legs and antennae in *T. subnitidus* (misidentified as *T. knighti* Drake & Harris, according to Kittle 1985). He presented

Accepted by D. Rider: 25 Nov. 2010; published: 6 Jan. 2011