

A NEW SPECIES OF THE GENUS *AESCHROCNEMIS* WEISE, 1888 FROM SOUTHWEST TURKEY (COLEOPTERA: CHRYSOMELIDAE)

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Abstract.— A new flea beetle, *Aeschrocnemis turcica* sp. nov. from Southwest Turkey is described and illustrated. The new species is compared with the closely related species, *Aeschrocnemis whiteheadi* (Warchałowski, 1998), occurring in Turkey. They can be easily distinguished by differences in colour, the shape of aedeagus and prothorax, the pronotal punctation, male tarsi, and the fifth abdominal sternite.



Key words.— Chrysomelidae, flea beetle, *Aeschrocnemis turcica*, new species, Turkey.

INTRODUCTION

The *Aeschrocnemis* Weise, 1888 is one of the small flea beetle genera. It is mainly distributed in mountainous regions around Black Sea: Balkans, Crimea, Caucasus, and Asia Minor. Many of the species in the genus have small distribution ranges. The genus *Aeschrocnemis* is represented with 16 species of which four are presented in Turkey (Gruev and Döberl 1997, 2005, Warchałowski 2003). They are as follows: *A. anatolica* (Heikertinger, 1922), *A. delagrangi* (Pic, 1903), *A. serbica* (Kutschera, 1860), and *A. whiteheadi* Warchałowski, 1998). Intensive studies on Turkish leaf beetles fauna started in last three decades and increased significantly in the new taxa in this time period, both for region and to science that continue at present time. This paper deals with description of a new species of the genus *Aeschrocnemis* collected from Southwest Turkey in recently. Its description is given below. Undoubtedly, in a course of a further study the new species of this genus from Turkey will also be described.

This new species is closely related to *A. whiteheadi* described from Turkey by Warchałowski (1998).

A holotype of this species deposited in the Natural History Museum (London) and additional materials (1 male, 3 female from Antalya) from the Süleyman Demirel University (Isparta) have been examined for comparison and providing of a differential diagnosis.

MATERIAL AND METHODS

All observations and figures were made using a dissecting stereomicroscope MBS-10. Type materials are deposited at Department of Biology in Süleyman Demirel University, Isparta, Turkey.

TAXONOMY

Aeschrocnemis turcica sp. nov.
(Figs 1–8)

Type material. Holotype, male: SW Turkey, Denizli Prov., Buldan, 1100 m. 22.V.2004, leg. A. N. Ekiz, Paratypes, male and female: the same locality as holotype.

Etymology. The species is named after its distribution range.

Diagnosis. The new species is closely related to *Aeschrocnemis whiteheadi* from which it differs in the following features: head and prothorax lighter, five apical antennomeres not darkened, frontal ridge narrower, pronotal punctation smaller and shallower, basal transversal impression deeper and more developed, elytral apices rounded (in *A. whiteheadi* elytral apices arched with projected sutural angle), first protarsomere of male large and longer, fifth sternite of male with large and deep cavity of roundish shape (*A. whiteheadi* without one); aedeagus of another shape: apical part ventrally with sides narrowing and with obtuse apical projection on tip instead of apical part rounded and without projection, apical part ventrally with narrow longitudinal groove instead of apical part with elliptical cavity bears short and thin ridge on bottom, median lobe ventrally with deep longitudinal groove with membranous area medially instead of median lobe ventrally with shallow longitudinal impression without membranous area.

Description. Head, antennae, prothorax, scutellum, and legs reddish, ventral side dark brown, elytra black, lustrous.

Head. Eyes small, rounded, convex; vertex smooth, nearly flat medially; supraantennal suturae deep, clear, their sides with setiferous punctures, reached to frontal calli; frontal calli average in size, flat, smooth, almost adjoined to each other or separated by frontal ridge; interspace between frontal callus and eye wide, longer than length of callus, moderately concave, covered with coarse sculpture; frontal ridge wide and long, convex, smooth, partly jut into frontal calli, joined with anterofrontal ridge, apically narrower than basally, anterofrontal ridge convex, smooth, anterior part of frons above labrum moderately concave; length of gena of about half diameter of eye; labrum is average in size, wide; antennal sockets separated by about 1.5 times of their diameter. Antennomeres short, not longer than twice of their length, second antennomere slightly shorter than third, fifth one slightly longer than fourth and sixth.

Pronotum. Large, moderately convex, maximal width at about middle (Fig. 8); anterior margin thin, posterior one thick and convex, well visible; lateral margins nearly wide, smooth; posterior side rounded to almost straight medially, lateral sides rounded; anterolateral callosity small, poorly to well projected, posterolateral ones small, forming sharp angular projection; basal transversal impression short, well developed, deep and narrow, distinct, moderately curved, its bottom with a row of sparse punctures; basal longitudinal impressions poorly developed, shallow or represented by large and deep punctures; pronotal surface covered with small punctures, their size many

fewer than elytral ones, punctation dense, punctures separated by 1.0–1.5 their diameter, somewhat varies in size; interspaces between punctures smooth.

Elytra. Scutellum large and wide. Humeral calli small, poorly developed, barely protruding; elytral apices rounded when seen from behind, covered with sparse and short hairs, sutural angle gently obtuse; strial punctures large and deep, much larger than pronotal ones, basal punctures slightly smaller than apical; punctures form regular striae, first sutural stria short, not reaches the middle of elytra; striae on disc engraved with convex interstices between each other, apical interstices flattened; distance between punctures in striae not exceed half of their diameter; distance between striae equal to 1–1.5 time diameter of puncture; interstices covered with a small secondary punctation being present by minute and sparse punctures with somewhat irregular arrangement.

Abdomen. The fifth sternite of male bears of large and deep cavity of roundish shape.

Legs. Male legs short and thick (Figs 5, 6), particularly tibiae and tarsi; fore tibia thickened, gradually widened towards apex, protarsal segments enlarged, first protarsomere large and wide (Fig. 7), somewhat asymmetric.

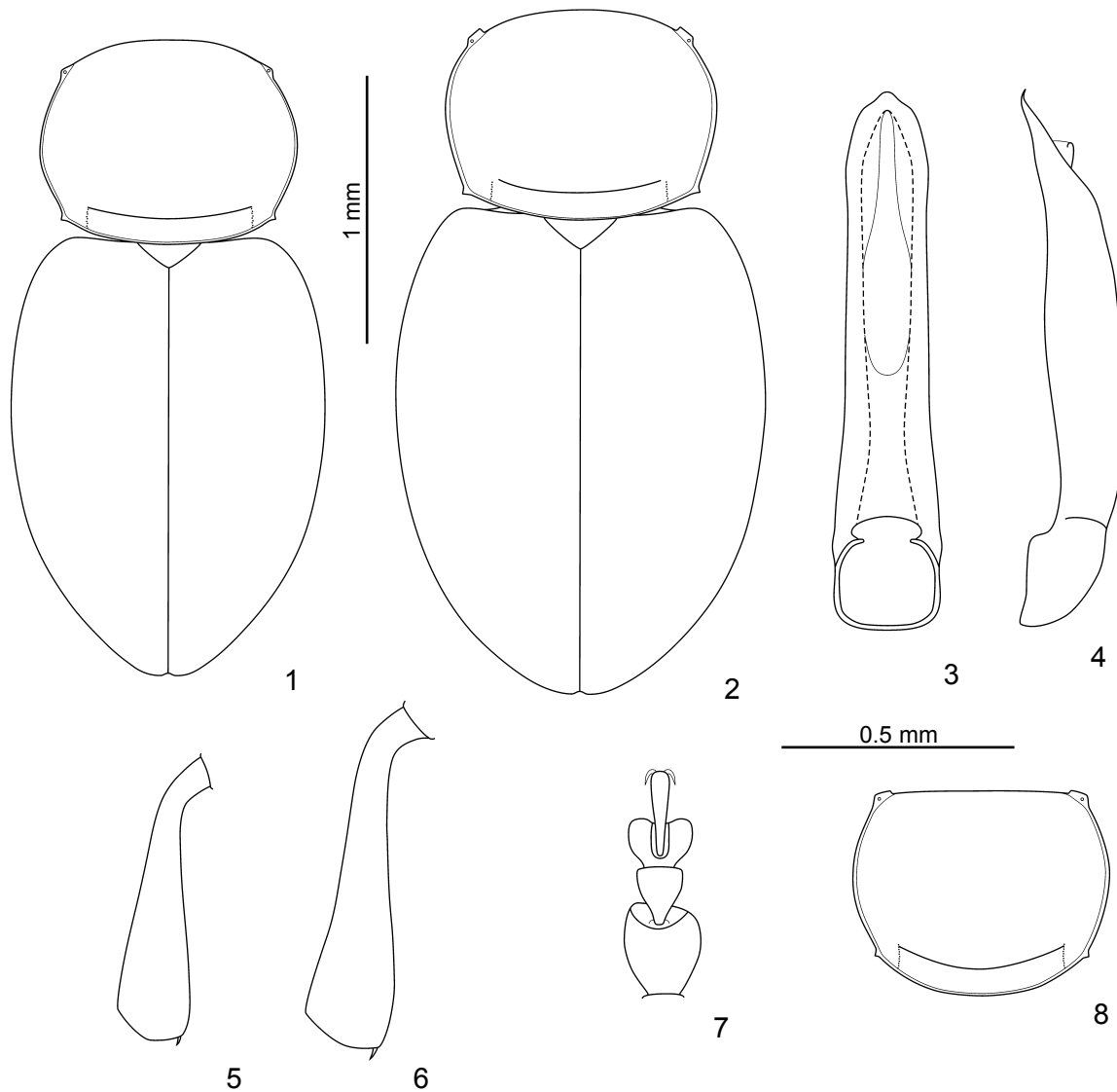
Aedeagus. Ventral view (Fig. 3): apex with obtuse projection, apical sides narrowing; median lobe slightly narrowed medially; ventral side with longitudinal groove along the full length, it is narrowed in apical part and widened medially being represented by membranous area; lateral view (Fig. 4): median lobe nearly straight with bent apical part and basal orifice, apical projection curved dorsally.

Sexual dimorphism. The female mainly differs from male by following features: proportions of a body (Figs 1–2): ratio of pronotum to elytra length 2.40 in female and 2.0–2.03 in male; pronotum shorter: ratio of length to width 1.25 in female and 1.12–1.14 in male; elytra longer; tibiae thinner, especially fore and middle ones; first protarsomere not enlarged, short and narrow.

Measurements. Male: body length 2.3–2.5 mm, width 1.1–1.2 mm; female: length – 2.8 mm, width – 1.3 mm.

Distribution. Turkey: Denizli Prov., Buldan.

Habitat and host plant. Nothing is known so far about its ecology by reason of the new species is described from only three specimens. However, the members of the genus *Aeschrocnemis* are specialized feeders on Fabaceae (Gruev and Tomov 1986, Medvedev and Roginskaya 1988, Aslan and Gök 2006). Although the host plants of the new species had not been determined, most probably, that its host plants are member of Fabaceae similarly. The species of the genus occur on woodless areas, usually in meadows and glades.



Figures 1–8. *Aeschrocnemis turcica* sp. nov. (1–2) Body outline, male and female; (3–4) aedeagus, ventral and lateral view; (5–6) tibiae of male, fore and hind tibia; (7) protarsus of male, (8) pronotum of male. Scale bar: Figs 1–2: 1 mm; Figs 3–8: 0.5 mm.

DISCUSSION

Alticens, known as flea beetles (Alticinae or Alticini), is one of the largest groups of Chrysomelidae that have no tribal or subtribal classification. For this reason, researches on these are really important. Studies of relationships between genera are necessary for development of the classification of this large group. In some cases, due to morphological specialization, convergence and parallelism, it is rather difficult to determine true relatives of any genus. However, it is not a real problem in other cases.

The relatives of the genus *Aeschrocnemis* can easily be determined. The genera closely related to genus

Aeschrocnemis are *Derocrepis* Weise, 1886, *Neocrepidodera* Heikertinger, 1911, *Orestia* Germar, 1845. These genera can be combined in a group based on similarities of the shape of body and proportions, structure of head, thorax, legs, and genitalia.

The genus *Aeschrocnemis* closely related with aforementioned genera is in similarity of head structure, i.e. shape and position of antennal calli, frontal ridge, eyes; structure of prothorax, especially in shape of basal transversal and longitudinal impressions; structure of meso- and metathorax; shape of elytra with usually regular striae of punctures; presence of longitudinal ridge on the last abdominal sternite; type of structure of male and female genitalia.

A new species described in this paper together with *Aeschrocnemis whiteheadi* constitutes a separate species group within the genus. This group has somewhat intermediate position between species with hairless elytra and those one with elytral pubescence. It differs from the group with hairless elytra in structure of aedeagus: apical part with rounded or straight narrowing sides, absence of convexities at ventral side of apical part; proportions of a body, poorly developed basal longitudinal impressions on pronotum, antennal sockets separated by larger distance from each other, flattened and wider frontal ridge, shape and position of frontal calli, rounded eyes, shorter antennae with short segments. It differs from the group with elytral pubescence in the same characters as well as absence of hairs on elytra and pronotum, legs thicker, secondary punctuation of elytra small and fine.

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