

## A new genus and species of cryptocephaline leaf beetle (Coleoptera: Chrysomelidae) from Costa Rica

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**Abstract.** *Aulacothoracicus costaricensis* Watts, new genus and new species of cryptocephaline Chrysomelidae, is described from Costa Rica. Illustrations and an updated key to the genera of the subfamily in North and Central America are provided.

### Introduction

While going through the Florida State Collection of Arthropods (FSCA) a specimen of an unusual cryptocephaline leaf beetle caught the author's attention. This new species belongs to a new genus in the tribe Cryptocephalini near *Cryptocephalus* Müller herein described.

The family Chrysomelidae is the fourth largest family of beetles worldwide, after the curculionids, staphylinids, and carabids (White 1983). As the common name suggests most members of this family feed on living plant vegetation both as adults and larvae. One subfamily, the Cryptocephalinae however, have many species that feed as larvae on decaying vegetation, detritus, and decomposing animal feces. The Cryptocephaline leaf beetles are distributed worldwide in both temperate and tropical regions but are absent on Antarctica and numerous remote islands.

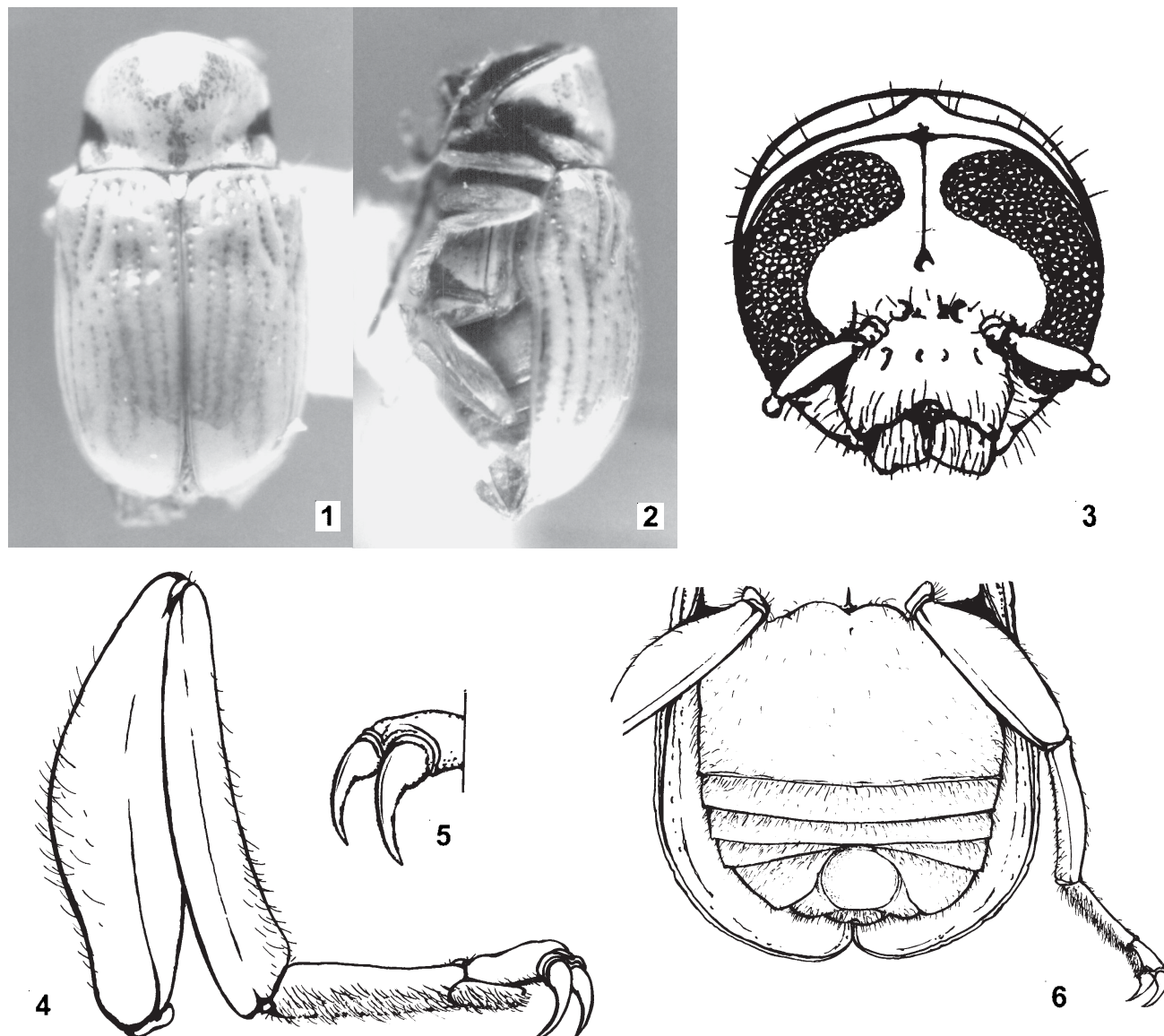
### *Aulacothoracicus* Watts, new genus

**Description:** The characters typical for the subfamily Cryptocephalinae are exhibited by this species in that the body is robust, nearly cylindrical and the disklike head is retracted into the prothorax. The antennae are threadlike, not saw-toothed as in the Clytrinae. The last abdominal segment bears the characteristic deep impression found in the female gender of this subfamily used in producing the egg case. The individual is similar to *Cryptocephalus* but differs in the following characters: prothorax with a distinct oblique sulcus or groove running from the base dorsolaterally to the apex ventrolaterally (Figs. 1 and 2), lacking in *Cryptocephalus*; pronotum not as wide as elytral base (pronotum usually as wide as elytral base in *Cryptocephalus*); scutellum not raised above the plane of the elytra (raised above in *Cryptocephalus*); elytral striae end in apical fifth (striae

complete to end of elytra or at least punctured to apex in *Cryptocephalus*); and the base of the pronotum appears to be lacking the crenulations present in *Cryptocephalus*. This last character may be misleading, as most specimens of *Cryptocephalus* do not show the crenulations easily when the prothorax is firmly attached to the mesothorax.

### *Aulacothoracicus costaricensis* Watts, new species

**Description:** Holotype female; length 2.5mm; width 1.5mm; color flavous yellow; shining. Head (Fig. 3) sunk into prothorax up to eyes; creamy yellow; impunctate; compound eyes deeply emarginate, upper lobes separated by 0.33 their width; vertex with dark brown coronal suture that extends down 0.38 the length of head capsule, to just below upper lobe of reniform compound eyes; distance between compound eyes approximately 0.5 length of first antennal segment; antennal scape fuscous, remainder of segments flavous becoming increasingly dark fuscous toward apex; antennae reaching base of first abdominal segment; labrum and clypeus dark brown, basal suture of clypeus absent; lateral sutures starting from lower edge of antennal socket and extending in a arcuate manner to edges of mandibles; labrum 0.5 width of clypeal apex, equal to the width between antennal insertions. Pronotum approximately 0.6 width of elytral base, with distinct oblique sulcus running from base dorsolaterally to apex ventrolaterally; sulcus dark brown; lateral margin sharp and distinctly raised, meeting anterior angle at nearly 75 degrees; pair of medially placed suffused spots and central basal suffused stripe of fuscous color; impunctate, shining flavous; base edge of pronotum lacking visible crenulations. Prosternum very slightly rounded between procoxae, appearing nearly flat. Scutellum



Figures 1-6. *Aulacothoracicus costaricensis*, new species. 1) Dorsal view; 2) Lateral view; 3) Anterior view of head; 4) Metathoracic leg; 5) Tarsal claws; 6) Ventral view of abdomen.

elongate, not raised above plane of elytra, base concave.

Elytra 0.75 as wide as long with 10 rows of punctures in striae; striae abruptly absent at apical fifth; first (or scutellar) row extends two-fifths elytral length; 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> striae interrupted in basal third; sub-basal depression present; humeri distinct and extending above and outward from elytra; color flavous, shining; punctures darker.

Venter pale flavous, thoracic segments somewhat granulate, otherwise shining; tibiae with numerous setae; tarsi, including apical segment with scattered setae; undersurface of first 3 segments densely pubescent; third segment deeply bilobed, lobes longer than

wide; tarsal claws simple (Fig. 4, 5); abdominal segments with occasional setae along center, becoming denser towards sides, all setae directed caudad; first abdominal segment as long as remaining 4 exposed segments combined; second segment 0.33 length of first, third segment 0.5 length of second, fourth segment bowed with apical edge appearing absent medially from general view due to very large egg pouch, fifth segment with egg pouch occupying entire length medially; fourth and fifth segments with numerous setae over surface; egg pouch large and deep (Fig. 6), darkened medially, apical portion densely pubescent around edge; pygidium rudimentary. The description of the abdominal sclerites may be

an artifact of the preservation of the individual, which appears to be emaciated and resulting in the abdominal segments retracting into the body cavity. More specimens are in need to clarify this trait as well as the pronotal crenulation trait.

**Holotype:** Costa Rica: Golfito, 26-VII-1981, B. K. Dozier (FSCA).

**Etymology:** The genus name comes from the Greek *aulaco*, meaning furrowed or grooved and *thoracicus*, meaning thorax, denoting the main generic character. The species name *costaricensis* denotes the place of origin, Costa Rica.

### Discussion

Suffrian (1852) described numerous species of cryptocephalines from Mexico, none of which appears to fit the insect described above. Even though Suffrian described as *Cryptocephalus* species now placed in other genera (such as *Diachus* and *Triachus*), there is no mention of thoracic sulci in any species.

Baly (1877) described a new genus, *Stegnocephala* to include species of South American cryptocephalines that Suffrian (1866) had placed in *Cryptocephalus*. Baly noted that they were close to *Monachus* (equal to *Lexiphanes*) which belongs to the tribe Monachulini, not the Cryptocephalini to which *Aulacothoracicus* apparently belongs.

Jacoby (1882, 1891) lists only the following clearly defined genera: *Monachus* (*Lexiphanes*), *Cryptocephalus*, *Stegnocephala*, *Scolochrus* (*Griburius*), and *Pachybrachys* (*Pachybrachis*) in the subfamily Cryptocephalinae. None of the species mentioned were described as having sulci. Suffrian (1866) described numerous cryptocephalines from South America in the following genera: *Heptarthrius*, *Stegnocephala* (both Monachulini), *Cryptocephalus* (Cryptocephalini), *Sternoglossus*, *Scolochrus* (*Griburius*), *Metalactus*, *Pachybrachys* (*Pachybrachis*), and *Ambrotodes* (all Pachybrachini). None of the literature viewed seems to indicate that there are any Central or South American species of Cryptocephalinae that have been described with distinct lateral grooves on the pronotum.

There has never been a key to the genera of Central American Cryptocephalinae and so one is given to include *Aulacothoracicus*.

### Key to the genera of Cryptocephalinae occurring in North and Central America

1. Prosternum longer than wide ..... 2
- Prosternum wider than long (Tribe Monachulini) ..... 3
- 2(1). Pronotum margined at base, basal edge even, never crenulate (Tribe Pachybrachini) ..... 4
- Pronotum not margined at base, basal edge usually crenulate (Tribe Cryptocephalini) ..... 5
- 3(1). Anterior border of pronotum produced ..... *Stegnocephala*
- Anterior border of pronotum simple arcuate ..... *Lexiphanes*
- 4(2). Prosternum flat anteriorly, but posteriorly depressed along the lateral edges ..... *Griburius*
- Prosternum sulcate, shallowly depressed medially ..... *Pachybrachis*
- 5(2). Tarsal claws simple ..... 6
- Tarsal claws appendiculate ..... 8
- 6(5). Front edge of pronotum laterally sinuous or toothed ..... *Bassareus*
- Front edge of pronotum laterally straight ..... 7
- 7(6). Pronotum with lateral sulcus .... *Aulacothoracicus*
- Pronotum without lateral sulcus *Cryptocephalus*
- 8(5). Antennal segments 6 to 11 widened ..... *Diachus*
- Antennal segments 7 to 11 widened ..... *Triachus*

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### Literature Cited

- Baly, J. S.** 1877. III. Descriptions of new genera and species of phytophagous beetles belonging to the family Cryptocephalidae, together with diagnoses and remarks on previously described genera. Transactions of the Entomological Society Part I: 23-36.
- Jacoby, M.** 1882. Phytophaga (Part). Biologia Centrali-Americana 6(1) i-xix, 1-625.

**Jacoby, M.** 1891. Phytophaga (Part). *Biologia Centrali-Americana* 6(1) Supplement: 1-374.

**Suffrian, E.** 1852. Zur Kenntniss der nordamerikanischen Cryptocephalen. *Linnaean Entomologische* 6: 198-318; 7: 1-238.

**Suffrian, E.** 1866. Zur Kenntniss der sudamerikanischen Cryptocephalen. *Linnaean Entomologische* 16: 1-483.

**R. E. White.** 1983. *A Field Guide to Beetles of North America*. Boston: Houghton Mifflin Co. 368 p.