



Discovery of a second species of Aesalini from continental China, with description of the new species and its third instar larva (Coleoptera: Scarabaeoidea: Lucanidae)

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Abstract

Aesalus zhejiangensis Huang & Bi, **sp. nov.** is described from Mt. Fengyangshan, southern Zhejiang, China. It is the second species of the lucanid genus *Aesalus* Fabricius known from continental China. This new species is similar to the Indo-Chinese species *Aesalus satoi*, but can be distinguished by the longer canthus, male with shorter non-sclerotized distal portion of penis (medial lobe of parameres), and female genitalia with longer styli. A checklist of Aesalini and a key to the Old World species are given. Female genitalia and larval morphology are described in detail for the new species and discussed for the higher classification of Aesalini. The current state of Aesalini systematics and phylogeny is discussed.

Key words: Coleoptera, Lucanidae, *Aesalus*, Aesalini, new species, China

Introduction

Lucanid beetles of the tribe Aesalini (Coleoptera: Lucanidae: Aesalinae) are very small (usually 4–6 millimeters long), rare stag beetles known from both the Old and New World. This tribe has relictual distributions in Europe, Asia, Central America, and Central Africa (an undescribed species was recently reported from the Democratic Republic of the Congo, according to Araya 2004a, 2004b). Four genera (including a fossil genus) and one subgenus have been erected, but most of them were thought to be invalid by Araya (2004b). Twenty-three species (including a fossil species) have been described, mostly in Eurasia. A checklist of the species is given below.

Only one species of *Aesalus* was previously recorded from continental China, even though China is located nearly in the center of the known range of Aesalini in Eurasia and appears to have many suitable habitats for this group. During a recent entomological expedition to southern Zhejiang conducted in July–August of 2008, the second author collected some specimens of the genus *Aesalus* (adults, pupae, and larvae) from high altitude localities of Mount Fengyangshan.

As Mount Fengyangshan is remote from the other known species of *Aesalus* but just between the distributional ranges of *Aesalus imanishii* Inahara & Ratti and *Aesalus sichuanensis* Araya, Tanaka, & Tanikado; both of which constitute a peculiar species-group. However, this new species of *Aesalus* more closely resembles *Aesalus satoi* Araya & Yoshitomi from Indo-China in most external features like the distinct canthus; the elongated third antennomere; the presence of scattered, stick-like bristles; the absence of clumps of erect, scale-like bristles; the oval outline of the body; and the lack of a pair of cavities on the metasternum. The new species described herein can be distinguished from *Aesalus satoi* by having canthus reaching the lateral tip of eye, male with penis more convex on ventral surface with distal non-sclerotized portion more constricted, and female genitalia with styli longer.