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Revision of the Asian species of *Afidentula* Kapur, 1958 (Coleoptera: Coccinellidae: Epilachnini)

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Abstract

The Asian species of *Afidentula* Kapur are revised, diagnosed and illustrated. The following new synonyms are proposed: *Afidentula stephensi* (Mulsant, 1850) (= *Afidentula erberi* Fürsch, 1984); *Afidentula thanhsonensis* Hoang, 1977 (= *Afidentula cucphuongensis* Hoang, 1977). The status of *Afidentula herbigrada* (Mulsant, 1850) as a synonym of *Afidentula bisquadripunctata* (Gyllenhal, 1808) is confirmed. One new species: *Afidentula semisqualens* sp. nov. and three new sub-species: *A. manderstjernae bielawskii* ssp. nov., *A. manderstjernae bhutani* ssp. nov. and *A. manderstjernae bahraini* ssp. nov. are described. The lectotype is designated for: *Epilachna minima* Gorham, 1894. A key for species identification is presented. Nomenclatural history and distribution are provided for each species. *Afidentula decimaculata* Wang & Cao, 1992 is treated here as *incertae sedis*, due to the unavailability of material for study.

Key words: Entomology, taxonomy, revision, Cucujoidea, Epilachnini, *Afidentula*

Introduction

The tribe Epilachnini Mulsant, 1846 is a large group of phytophagous ladybird beetles that contains 23 recognized genera with about 1050 species worldwide (Jadwiszczak & Węgrzynowicz 2003). Traditionally this group was treated as a subfamily, Epilachninae, but recently Ślipiński (2007) and Seago *et al.* (2011) recognized it as a tribe within the broadly defined subfamily Coccinellinae. Epilachnini is mostly a pantropical group, but many species are distributed in temperate regions. The main distinguishing features of adults are mandibles apically multidentate and without a mola, and labium with mentum trapezoidal and narrowing anteriorly.

Four species from mainland Asia, described in 19th century as *Coccinella* Linnaeus or *Epilachna* Chevrolat, now belong to the genus *Afidentula* (Jadwiszczak & Węgrzynowicz 2003): *Coccinella bisquadripunctata* Gyllenhal, 1808, *Epilachna stephensi* Mulsant, 1850, *E. manderstjernae* Mulsant, 1853 and *E. minima* Gorham, 1894. Their taxonomic placement has been changed several times over the decades.

Dieke (1947) transferred *E. manderstjernae* to his new genus, *Afissa* Dieke, and described *Afissa quindecimguttata* Dieke, overlooking that both these species have claws with basal angulation, while *Afissa* was established for species with claws bifid and without basal angulation. At the same time, he (Dieke 1947) placed *E. bisquadripunctata* and *E. minima* in his new genus, *Afidenta* Dieke, based on a similarity of genitalia, although he noted that their mandibles differ considerably from the type species, *Afidenta mimetica* Dieke (= *A. misera* Weise).

Kapur (1958) established the genus *Afidentula* for *E. manderstjernae* (as the type species) and *E. minima*, recognizing two key characters separating *Afidentula* species from *Epilachna*: tarsal claw with basal tooth and female abdominal ventrite 6 not divided longitudinally. He recognized the main differences separating *Afidentula* from *Afidenta* as the antennae subequal to the width of the head with a relatively thick and compact club and mandibles sub-triangular in shape, provided with three teeth which are without any denticulations or serrations. Subsequently, two new species have been described, *A. himalayana* Kapur, 1963 from India and *A. thanhsonensis* Hoang, 1977 from Vietnam, and several other mainland Asian species were added to *Afidentula*, e.g. *A. bisquadripunctata* was transferred to *Afidentula* by Pang and Mao (1979) and *A. stephensi* by Booth and Pope (1989).