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Revision of the genus *Halys* (Hemiptera: Pentatomidae) with description of a new species from India

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Abstract

The species of the genus *Halys* Fabricius, 1803 (Hemiptera: Heteroptera: Pentatomidae: Pentatominae: Halyini) from India are redescribed and revised. Examination of more than 300 specimens collected from all over the country revealed the presence of four species, including a new species: *Halys mudigerensis* sp. nov., *H. serrigera* Westwood, 1837, *H. shaista* Ghauri, 1988 and *H. sulcata* (Thunberg, 1783). The following synonymies are proposed: *H. sulcata* (Thunberg, 1783) = *Halys sindillus* Memon, Meier & Manan, 2006, **syn. nov.** = *Halys spinosus* Shaikh, Memon & Shah, 2011, **syn. nov.** = *Halys mulberriensis* Memon, Parveen, Ahmad & Shaikh, 2016, **syn. nov.** = *Halys noakoatensis* Memon, Parveen, Ahmad & Shah, 2017, **syn. nov.**; *H. serrigera* Westwood, 1837 = *Halys fabricii* Memon, Ahmad & Perveen, 2002. *Halys neelgiriensis*, *Halys rugosa* and *Halys persa* are considered as *incertae sedis*. The diagnostic characters of species of *Halys* are compared and keys to males and females of *Halys* species occurring in India are provided. [Species Zoobank url: urn:lsid:zoobank.org:author:18A62E8C-4AFE-4180-AD5B-7F502BB819F2]

Key words: Asia, Africa, Saudi Arabia, *Atelocera*, new synonymy, Halyini

Introduction

The genus *Halys* Fabricius, 1803 belongs to Halyini, a tribe of the nominotypical subfamily of Pentatomidae. The tribe is primarily restricted to tropical and subtropical parts of the Old World, though a few genera extend into southern portions of the Palearctic Region and endemic genera occur in North and Central America (Wall 2007). It is one of the diverse and species rich tribes of Pentatominae including 91 genera and about 430 species (Rider *et al.* 2018). This tribe is a heterogeneous and widespread group requiring taxonomic revision on a world basis Memon *et al.* (2002, 2011, 2016, 2017).

Halys species are polyphagous, feed on a variety of plant species, including a few of the economically important trees of timber value, like *Acacia arabica* L. (Fabaceae), *Casuarina equisetifolia* L. (Casuarinaceae), *Albizia lebbek* Benth. (Fabaceae), *Santalum album* L. (Santalaceae), *Butea frondosa* Koen. ex Roxb. (Fabaceae), *Shorea robusta* Gaertn. (Dipterocarpaceae), *Spathodea campanulata* Beauv. (Bignoniaceae), *Tabebuia rosea* Zhang (Bignoniaceae), *Tamarindus indica* L. (Fabaceae), *Zizyphus oenoplia* (L.) Mill. (Rhamnaceae) etc. (Rider 2018), even though no serious crop damage has been reported.

Members of the genus *Halys* are large and dull coloured, usually similar to the colour of tree bark, probably a form of crypsis to hide from natural enemies. They hide in cracks and crevices of tree bark or on tree holes during daytime and are active during dusk. The author has found large number of bugs, sometimes more than one species coexisting, in congregations on the tree trunks, especially during spring and summer.

Among the various genera of Halyini inhabiting tree trunks, *Halys* shows considerable morphological variation causing confusion in distinguishing the various included species. Ghauri (1988) attributes the less active habits of species of *Halys* as one of the reasons for their structural, geographical, and ecological variation. Various past workers (Fabricius 1775, 1803; Westwood 1837; Atkinson 1887; Distant 1893, 1902, 1918, 1921; Bergroth 1919) mainly relied on the external colouration and a few morphological characters to delineate the species within this genus; lack of examination of male and female genitalia by past researchers lead to confusion in the group.