



Unidentified species of Tribe *Halyini* Genus (Amyot & Serville, 1843) in India with a short note

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Abstract

With an unidentified species of *Pentatomidae* family from Madurai district, Tamilnadu, India. This is the first report of Superfamily Pentatomoidea (*Heteroptera*). The *Pentatomidae* causes many difficulties for systematists, not least of which is that the higher taxonomy is a “morass of poorly defined higher taxa, particularly the tribes”. In this species, a new distribution is recorded in this area.

Keywords: First report, New record, South India, Tribe *halyini*

Introduction

The Superfamily Pentatomoidea (*Heteroptera*) has a global fauna of ca. 7200 species in 15 families (Henry, 2017). *Pentatomidae* Leach, 1815 (stink bugs) are the most specious group (4700 species in 900 genera (Henry, 2009) with 953 species in the Palaearctic region (Rider, 2006; Aukema et al., 2013). Scutelleridae Leach, 1815 has also a global fauna of 450 species in ca. 80 genera (Henry, 2009) with 180 species in the Palaearctic region. *Cydnidae* with almost 700 species in 80 genera, worldwide (Lis, 2013), represented by five subfamilies and more than 37 genera in the Palaearctic region (Lis, 1994, 1999; Pluot-Sigwalt & Lis, 2008). Halys species are polyphagous and 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*), *Albizzia 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.

The name is *Pentatomidae* is from the Greek pente meaning five and tomos meaning section, which refers to the five segments of their antennae. The representatives of this family are hard to differentiate but can be identified by these characters. The large, triangular scutellum, is well extended to cover half of the back but does not cover the abdomen. The antennae are five-segmented. Their body is usually broad and shield-shaped. The head is relatively small and often “tucked into” a concavity in the anterior margin of the pronotum. Ocelli present. These insects eject a foul-smelling glandular substance secreted from pores in the thorax when disturbed. The chemicals involved include aldehydes, making the smell similar to that of coriander (Jadhav & Hegde, 2018).

This report of the first time record of unidentified stink bugs in Tamilnadu, India. Hence the paper was given status with their notes. Based on a critical literature review and the study of recently collected specimens and museum collections, references. Information is also provided for each species on the distribution in the India and scenario of past workers.



Figure 1. Unidentified species Tribe *Halyini* (Amyot & Serville, 1843).

Distribution: Europe - Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Croatia, Czech Republic, Turkey, France, Germany, Great Britain, Greece, Hungary, Italy, Liechtenstein, Macedonia, Moldavia, Montenegro, Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Switzerland and Ukraine. Asia - Azerbaijan, Armenia, Turkey, Georgia, and Iran (Aukema et al., 2013).

Diagnosis of Tribe Halys

Members of the genus Halys are large and dull-colored, usually similar to the color 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 the daytime and are active during dusk. The author has found a large number of bugs, sometimes more than one species coexisting, in congregations on the tree trunks, especially during spring and summer (Salini, 2019). In this regard, Found in a new distribution record of Uthankudi village, Madurai district, Tamilnadu. India. This is the undescribed species of the Halys genus (Fig. 1).

Discussion

To date, the genus Halys is represented by eight species from the Indian subcontinent, though the species and their distribution need verification: *H. fabricii* Memon, Ahmad & Perveen, 2002, *H. serrigera*, *H. sulcata*, *H. shaista*, *H. sindilla*, *H. spinosa*, *H. mulberriensis*, *H. hyderabadiensis* and *H. naokoatensis*. The Indian subcontinent is located on the Indian tectonic plate and covers 10% area of Asia. It includes India, Pakistan, Bangladesh, Nepal, Bhutan, Sri Lanka, and the Maldives. The type localities of the species of *Halys*, which are known to occur in the Indian subcontinent, are restricted to India and Pakistan. The author has studied more than 300 specimens of *Halys* collected from various localities in India apart from the type images of *Halys dentata* obtained from Henrik Engoff, Natural History Museum of Denmark. (Memon et al., 2006) supplemented the morphological characters with DNA sequence information, resulting in the description of *H. sindilla* Memon, Meier & Manan, 2006, based on a series of specimens with unusual morphological variability, collected from Pakistan. (Shaikh et al., 2011) described *Halys spinosa* on *Acacia arabica* Wild. From Miani Forest, Pakistan. Recently, Memon et al. (2016) described *Halys mulberriensis* from Lahore, Punjab, collected on *Morus Alba* L. Later, (Memon et al., 2017) described *Halys hyderabadiensis* and *Halys naokoatensis* from Sindh province of Pakistan, gave a key to nine Asian species of Halys and followed (Memon et al., 2002) for rejecting the conspecificity of *H. serrigera* and *H. dentata*. A perusal of pertinent literature shows that a total of 14 species described under Halys from various parts of Asia, namely *H. dentata*, *H. hedenborgi* Stål, 1865, *H. hyderabadiensis* (Memon, et al., 2017), *H. jizanus* Linnavuori, 1986, *H. mulberriensis* (Memon, et al., 2016), *H. neelgiriensis*, *H. noakoatensis* (Memon, et al., 2017), *H. persa*, *H. rugosa*, *H. serrigera*, *H. shaista* Ghauri, 1988, *H. sindilla*, *H. spinosa* (Shaikh, et al., 2011) & *H. sulcata*.

In addition, Ghauri (1988) described Halys Shaista from Coonoor, south India, and stated that the species *H. neelgiriensis* Distant, 1893, *H. rugosa* Distant, 1921, and *H. persa* Bergroth,

1919, do not belong to *Halys*, but did not specify another generic affiliation for these species. Ahmad and Perveen (1982) erected *Neohalys* with *Neohalys acuticornis*, as a type species and described three species from Pakistan. Azim (2002) treated the genus *Neohalys* as a subgenus of *Halys*, and also included *H. serricollis*. These changes in the status of the species in *Halys* are mainly due to confusion related to the inherent phenotypic plasticity associated with these species. Unidentified species of tribe *Halyini* genus, in this distribution, found one from Uthankudi village, Madurai district, Tamilnadu, India (Figure 1). Other species of the Subfamily *Asopinae* are predators and help to suppress pest species including other species of pentatomids species (De Clercq, 2008). More studies from different localities will be required to understand the true diversity of the *Pentatomidae* fauna of the region and India.

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