

***APLOSONYX CHALYBEUS* (HOPE) (COLEOPTERA: GALERUCINAE): FIRST TIME DESCRIBED FROM PAKISTAN**

SYEDA GHAZALA RIZVI¹, SYED KAMALUDDIN¹ AND NADEEM BAIG²

¹Department of Zoology, Federal Urdu University of Arts Sciences and Technology

²Govt. Degree Science and Commerce College,

Corresponding author e-mail: ghazala_rizvi@yahoo.com

Abstract

Aplosonyx chalybeus (Hope) is first time described in detail with reference to its male and female genitalia from Pakistan. The relationship is also briefly discussed with its closest allies.

Introduction

Maulik (1936) described and keyed out 12- species of the genus *Aplosonyx* dupenchel and Cheverlot including *A. Chalybeus* (Hope) from British India including Ceylon and Burma. Kimto (1967) listed the above species and recorded it from Darjeling, Simla, and the Indian Himalayas. Kimto (1989) keyed out and listed 12 species including one new combination and one species of the genus *Aplosonyx* from Thailand, Cambodia and Vietnam. Hashmi and Tashfeen (1992) did not mention any single species of the above genus in their checklist Coleoptera of Pakistan. Darling (2007) studied the circular trenching behavior by a leaf beetle *Aplosonyx ancora*. Mohammedsaid (2008) described a new species of *Aplosonyx amorphallus* from Timor Indonesia with their different feeding behavior from other species of *Aplosonyx*. Information on bionomics is provided. Yadev and Lalramlina (2012) described the efficacy of three entomopathogenic nematodes against the larvae of two taro leaf beetle (*Aplosonyx*)

Materials and Methods

The specimen of *Aplosonyx chalybeus* was collected from wild bushes from Muree, Bhorban by searching technique. For the study of genitalia the abdomen was removed from base and boiled in 10% KOH solution for about 3-5 minutes on bench lamp, then washed with tap water & dissected in the same medium. The examination of various structures & their diagrams were made placing these on cotton threads under glycerine. The abdomen and genitalia were reserved in microvials with a drop of glycerine & pinned with specimen (Kamaluddin, 1993; Rizvi and Kamaluddin 2011; Rizvi *et.al.*, 2012).

Results and Discussion

***Species examined: Aplosonyx chalybaeus* (Hope)**

(Figs. 1-4)

Galeruca chalybaeus Hope, 1831, in Gray, *Zool.*:28; Maulik, 1936, *Faun. Brit. Ind.* 4:614.

Haplosonyx chalybacus Hope, 1892, *Ann. Soc. Ent. Belg.* 34: 440 ; Baly, 1879, *Cist. Ent.* 2 :452

Aplosonyx elongata Baly, 1863, *Trans. Ent. Soc. Lond.* 3(i) : 6 24

Body shape and coloration: Body moderately oblongated, generally bluish with red, green, brown and violet tinge except dark blue head, antennae and scutellum.

Head: Head distinctly broader than long, length anteoocular distance about half the length posterior of head including eyes, ante-ocular distance 0.50mm, posterior of head including eyes 1.0mm, width of head 2.0mm, interocular distance 1.25mm, antennae 11-segmented, basal shortest, second longest, length of segments i 0.3mm, ii 0.5mm, iii to v 4mm.

Thorax: Pronotum almost rectangular-shaped, length longer than broad, length of pronotum 2.5mm, width 3.0mm, scutellum triangular-shaped, slightly longer than broad, length of scutellum 0.5mm, width 0.35mm, elytra large, broad at base, apex rounded, length of elytra 6.5mm, width 2.0mm.

Abdomen: Convex beneath, basal segment truncately produced. Total body length 11.0mm.

Male genitalia (Figs. 2 -3) Aedeagus (Figs. 2) tube-like, anterior to posterior gradually narrowed, medially smooth, anteriorly truncately produced, posteriorly sub-roundly produced, genital orifices elongated.

Female genitalia (Figs. 4): Spermatheca curved, hook-like, apex narrowed, tubular, proximally dilated, proximal spermathecal duct short, curved.

Material examined: One male, one female, Pakistan : Murree, Bhoorban, July 2003, on wild bush, det. Syeda Ghazala Rizvi, lodged at author's supervisor collection.

Comments: *Aplosonyx chalybeus* is most closely related to *Aplosonyx sub laevicollis* by their similar characters like body with greenish tinge and aedeagus with minute or without thecal appendage but it can be easily differentiated by width of pronotum slightly longer than its length, aedeagus posteriorly sub-rounded ,anteriorly truncated and by the other characters as mentioned in key and description. ,

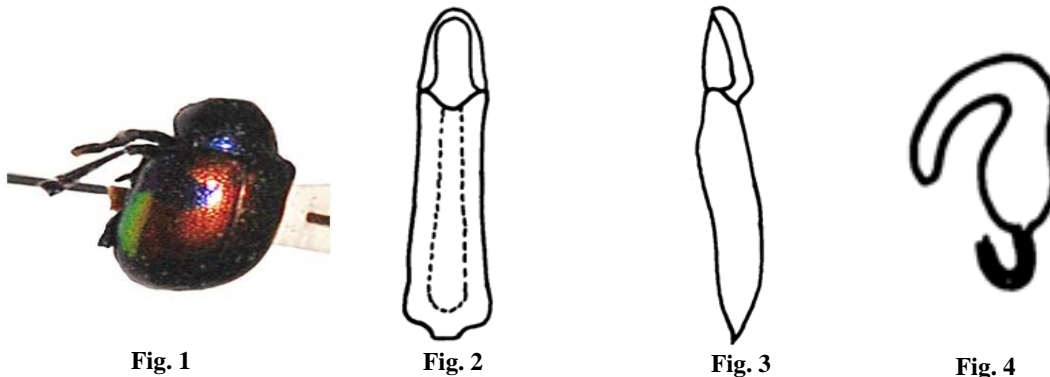


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig.1. Habit

Fig. 2 and 3: Male Genitalia

Fig. 4: Female Genitalia

0.5mm

Discussion

The representatives of the genus *Aplosonyx* are distributed in Australian and Oriental regions. In Pakistan they are recorded from Muree and Bhorban. Presently the only one species is recorded from the areas now included in Pakistan. *Aplosonyx chalybeus* plays sistergroup relationship with *A. laevicollis* by their *synapomorphies* like body with greenish tinge and aedeagus with minute or without thecal appendage and outgroup relationship by its *autapomorphies* like width of pronotum slightly longer than its length with four raised areas in front of the median transverseline, aedeagus posteriorly sub-rounded anteriorly truncated and in females spermatheca highly curved with much dilated at proximal end

References

- Darling, C.D. (2007). Holey Aroids: Circular trenching Behavior by a leaf beetle in Vietnam. *Biotropica*. 39(4): 555-558.
- Hashmi, A.A and Tashfeen, A.(1992) . Coleoptera of Pakistan. *Proc. Pakistan . Congr. Zool.* 12 : 133-170.
- Kamaluddin, S. (1993). Rediscription of *Radinosa raticulata* Baly (Coleoptera: Chrysomelidae: Hispinae) with a key to the Indo- Pakistani species and their cladistic analysis. *Proc. Pakistan. Congr. Zool.* 13: 379-386.
- Kimto, S. (1967). A List of the Chrysomelid specimens from Himalyas and Kashmir, preserved in the zoological, Museum, Berlin. *Esakia* 27: 1-241.
- Kimoto, S. (1989). Chrysomelidae (Coleoptera) of Thailand, Cambodia,, Laos and Vietnam 1v . Galerucinae. *Esakia* 6: 65-75.
- Maulik, S. (1936). The fauna of British India including Ceylon and Burma. *Faun. Brit. Ind.* 4: 612-623.
- Mohammedsaid, M.S. (2008). *Aplosonyx amorphophallus*, an interesting new species of Galerucinae from Timor , Indonesia (Coleoptera : Chrysomelidae) *Zootaxa*. 1910: 53-58.
- Rizvi, S.G. and Kamaluddin, S. (2011). *Oides neobengalensis*: A new species of the genus *Oides* Weber (Coleoptera: Chrysomelidae: Galerucinae) from Pakistan. *Pak . J. Entomol. Karachi*. 26(1): 57-60.
- Rizvi, S.G., Kamaluddin, S., Naz, S. and Shakira. (2012). Revision of the genus *Aulacophora* (Chevorlet) (Coleoptera: Chrysomelidae) from Pakistan with Cladistic relationship. *Pak. J. Entomol. Karachi* 27(1): 67-73.
- Yadav, K.A. and Lalramlina. (2012). Efficacy of indigenous entomopathogenic nematodes from Meghalya, India against the larvae of Taro beetle, *Aplosonyx chalybeus*. *J. Par. Dis.* 36(2): 149-154.