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Dorylus orientalis Westwood, 1835: New record for Pakistan (Hymenoptera: Formicidae)

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Abstract

As a result of our study on the ant's fauna of Poonch district Azad Kashmir, Pakistan, one species of genus *Dorylus* Fabricius, 1793 (*D. orientalis* Westwood, 1835) is reported for the first time from Azad Kashmir as new record for Pakistan. The photographs of the diagnostic characters, synonymy, distribution and habitats are briefly discussed.

Keywords: Biology, brinjal, leucinodes orbonalis, morphometry

Introduction

Among subfamilies of family Formicidae, Dorylinae is considered as old army ants which include the mainly Australasian Aenictini and African Dorylini [1]. It has one of the most impressive features of wildlife in tropics [2]. According to Bolton [3] and Gotwald [2], the Aenictinae are to be superior to the subfamily status. Genus *Dorylus* belongs to subfamily Dorylinae. The male is large, wasp mimic having wings. Sting is present in Indian workers with large compound eyes while female is blind [4]. Individual of genus *Dorylus* is concolorous yellowish brown. Red ants *Dorylus orientalis* and *Dorylus labiatus* have termite like habit of attacking plants underground. The pest appears during December and remains active till April, causing more than 10 % damage in irrigated crop. Dry weather and high temperature help population buildup [5]. The pest damages stem and tubers by making holes. Harshly damages plants show flaccid during bright sunshine and eventually plants dry up [6]. *D. orientalis* is considered as one of the most key soil pests of potato decreasing the yield up to 35- 40% in West Bengal [7]. Red ants are reported as a pest of potato, cauliflower, sugarcane and coconut seedlings in northern eastern states, Bihar and Uttar Pradesh [8]. *Dorylus orientalis* has long been known as an important pest of potato in middle and higher hills of Nepal [9]. About 127 species belonging to this genus have been reported throughout the world. Various scientists have been recorded different species of genus from various parts of the world like China, India, Bangladesh, Sri Lanka, Thailand, Vietnam and here in Pakistan we report first time from Poonch district Azad Kashmir.

Materials and Methods

Individual of *Dorylus* (*Dorylus orientalis*) were collected from different localities of district Poonch. Sampled areas include Mondhol, Lat. 33°40'47.85"N, Long. 73°57'23.60"E, Alt. 3200 ft., Jandali, Lat. 33°48'35.92"N, Long. 73°48'56.05"E, Alt. 5973 ft., University of Poonch, Lat.33°51'42.18"N, Long. 73°45'33.70"E, Alt. 5500 ft., Rawalakot, Lat. 33°48'35.92"N, Long. 73°48'56.05"E, Alt. 5500 ft. Surveys were conducted during mid of May to September 2018. Ants were collected from home and near cemented floor by hand picking. Taxonomic analysis was done by using Stereomicroscope and identified up to species level with the help of the following literature; Bingham [4] and Bolton [10]. Identified ant specimens were mounted on triangular card and also preserved in 70% ethanol.

Results and Discussion

Subfamily Dorylinae: Diagnostic characters (♂): Petiole one segmented; the male is large, wasp mimic having wings; acidopore absent; sting is present in worker (Indian species) with large compound eyes; female blind. Worker of this subfamily also blind, possesses stings but wings are absent (Apterous) and oval head. Genus *Dorylus* Fabricius, 1793

Dorylus orientalis Westwood, 1835

Material Examined: Azad Kashmir: Mondhol, Lat. 33°40'47.85"N, Long. 73°57'23.60"E, Alt. 3200 ft, 25.v.2018, (10 ♂), leg. Hussain; 16.vii.2018, (05♂), leg. Hussain; Jandali, Lat. 33°48'35.92"N, Long. 73°48'56.05"E, Alt. 5973 ft, 08.viii.2018, (14♂), leg. Nazir; University of Poonch, Lat.33°51'42.18"N, Long. 73°45'33.70"E, Alt. 5500 ft, 30.vii.2018, (9♂), leg. Hassan; Rawalakot, Lat. 33°48'35.92"N, Long. 73°48'56.05"E, Alt. 5500 ft, 05.v.2017, (11♂), leg Ashiq.

Diagnostic Characters: (♂): Wasp mimic having narrow head with compound eyes (Fig. 1a). Wings present, hairs are not present underside of second segment of flagellum of antennae (Fig. 1b). Short and broad mandibles. Alitrunk short but almost broad as long. Dense yellowish hairs present on under head and side of alitrunk while pale and silky pubescence present at apex of gaster (Fig. 1c). Legs stout and brown in color. Node of pedicel convex and square slightly tapered anteriorly. Gaster long and cylindrical, curved downward.

Habitat: Collected from soil, home, wood and cemented floors.

Distribution: This specie is new record for Poonch district Azad Kashmir and Pakistan. India: Bharti *et al.* [11]

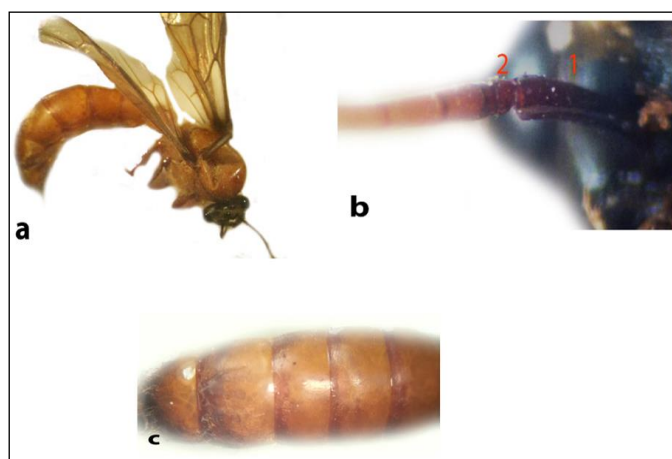


Fig 1: *Dorylus orientalis* Westwood, 1835; A) lateral view, B) head & C) dorsal view of abdomen.

Remarks: This specie was collected from soil, cemented floor during day time, wood, and from home during night. Bharti [12] gave the altitudinal diversity of this species is 120-2300 m in India.

References

1. Holldobler B, Wilson EO. The Ants. Cambridge, MA: Harvard University Press, 1990, 732.
2. Gotwald WH. Army ants. The Biology of Social Predation. Comstock Publishing Associates, Ithaca, London, 1995; 211-225.
3. Bolton B. Army ants reassessed: the phylogeny and classification of Dorylinae section (Hymenoptera: Formicidae). Ann. Entomol. Soc. 1990; 57:793-794.
4. Bingham CT. The fauna of British India, including Ceylon and Burma. Hymenoptera, Ants and Cuckoo-wasps. London: Taylor and Francis. 1903; 2:506.
5. Ram K, Misra SS, Singh L. Incidence of red ant. *Dorylus*

orientalis on different genotypes. J. Indian Potato Assoc. 1993; 20:62.

6. Trivedi TP, Rajagopal D. Integrated Pest Management in Potato. In: IPM System in Agriculture, Cash Crops. 1999; 6:299-313.
7. Konar A, Paul S, Basu A, Chattri M. Integrated management of mole cricket attacking potato in Eastern Gangetic plains of West Bengal. Potato J. 2005; 32(250).
8. Roonwal ML. Plant pest status of root eating ants. *Dorylus orientalis* with notes on taxonomy, distribution and habits (Insects: Hymenoptera). J. Bombay Nat. Hist. Soc. 1976; 72:305-313.
9. Butani DK, Verma S. Pest of vegetables and their control: sweet potato. Pestic. 1976; 10(2):36-38.
10. Bolton B, 2014. An online catalog of the ants of the world. <http://antcat.org>.
11. Bharti H, Guénard B, Bharti M, Economo EP. An updated checklist of the ants of India with their specific distributions in Indian states (Hymenoptera; Formicidae). ZooKeys. 2016; 551:1-83.
12. Bharti H. Altitudinal diversity of ants in Himalayan regions (Hymenoptera: Formicidae). Sociobiology. 2008; 52(2):305.