

## FIRST RECORD OF *GARDENA MELINARTHURUM* DOHRN (HETEROPTERA: REDUVIIDAE: EMESINAE) FROM INDIA

Paramita Mukherjee\* and Goutam Kumar Saha\*\*

\* Zoological Survey of India, 'M' Block, New Alipore, Kolkata-700053, INDIA. E-mail: paramitamukho@gmail.com

\*\* Department of Zoology, University of Calcutta, 35, Ballygunge Circular Road, Kolkata-700019, INDIA. E-mail: gkszoo@gmail.com

[Mukherjee, P. & Saha, G. K. 2017. First record of *Gardena melinarthrum* Dohrn (Heteroptera: Reduviidae: Emesinae) from India. *Munis Entomology & Zoology*, 12 (1): 254-257]

ABSTRACT: *Gardena melinarthrum* Dohrn, 1859, belonging to subfamily Emesinae of family Reduviidae recorded for the first time from West Bengal (Jalpaiguri dist.), India and redescribed along with additional diagnostic characters and measurements of different body parts.

KEY WORDS: Reduviidae, Reduviinae, *Gardena melinarthrum*, new record, India

The genus *Gardena* Dohrn belonging to the division Emesaria of the subfamily Emesinae under the family Reduviidae of Heteroptera (Hemiptera). The genus *Gardena* was named by Dohrn in 1859 with Ceylonese *melinarthrum* (sic) as the only species included, but this species and the genus itself were not described by Dohrn until 1860. Numerous additional species of *Gardena* have since been described from many parts of the world. Distant (1903) has described and recorded species, *bicolour* Distant, near Rangoon: Myanmar and recorded the species *melinarthrum* Dohrn from Sri Lanka under the genus *Gardena*. He further (1909) described the species *fasciata* under the genus *Gardena*. McAtee & Malloch (1926) expressed their doubt about the status of the species *Gardena bicolour* Distant, considering it is a probable synonym of *melinarthrum* described by Dohrn from Myanmar. Wygodzinsky (1966) synonymized the species *fasciata* with *Gardena brevicollis* of Stal (1871) as described and recorded from Sri Lanka, Japan, Formosa, Philippines, Malaya, Indonesia, Soemba, Australia, Bismarck, Archipelago and Solomon Island. Bergroth (1906) has described the smallest Emesinae *viz. muscipapa* ranging from 9-11mm, recorded from Japan, Philippines, Malaya, Indonesia, New Guinea, South and East Africa. Ambrose (2006) in his checklist included only one species *viz. Gardena muscipapa* (Bergroth), recorded from India (Tamil Nadu: Kumili), Brazil, Cameroon, Indonesia, Japan, Malayasia, Philippines, Russian Islands, Selangor, South Africa and Zaire, till to date. Wygodzinsky in his monograph of Emesinae has divided the subfamily Emesinae Amyot and Serville into 6 tribes *viz. Collartidini* Wygod., *Leistarchini* Stal, *Emesini* Amyot and Serville, *Ploiariolini* Van Duzee, *Deliastini* Villiers and *Metapterini* Stal and included a total of 32 species from the world in four groups *viz. melinarthrum, brevicollis, longimana, and pipara*, excluding the species *bicolour* & *seychellensis* of this genus owing to the lack of sufficient data.

Although only one species *Gardena muscipapa* (Bergroth) has been recorded so far from India, the present study reports one more species *Gardena melinarthrum* Dohrn from India (West Bengal: Jalpaiguri dist.) which was earlier recorded from Sri Lanka to Formosa and Australia.

## MATERIALS AND METHODS

*Gardena melinarthrum* Dohrn, 1859, was collected from Garumara National Park, North Range, Murti forest, Jalpaiguri district of West Bengal by the hand picking method at day time. The specimen was set pinned, dried. The specimen is deposited in the National Zoological Collection of Zoological Survey of India, Hemiptera Section, Kolkata. Different body parts were measured and their ratios were calculated for the establishment of additional diagnostic characters. Measurement and photographs of the species were taken with the aid of Leica M 205A. All measurements are in millimetres.

## OBSERVATION AND RESULTS

### *Gardena* Dohrn, 1859

1859. *Gardena* Dohrn, *Stettin*, 112 pp.

**Type Species:** *Gardena melinarthrum* Dohrn: By monotypy.

**Distribution:** All zoogeographical region.

### *Gardena melinarthrum* Dohrn, 1859 (Plate 1, Figs. 1-6)

1859. *Gardena melinarthrum* Dohrn, *Stettin*, 52 pp. (nomen nudum).

1860. *Gardena melinarthrum*, Dohrn, *Linnaea Ent.*, 14: 214.

1904. *Gardena melinarthrum*, Distant, *Fauna Brit. India, Rhynchota*, 2: 215.

1926. *Gardena melinarthrum* var. *femorialis* McAtee & Malloch, *Philippine J. Sci.*, 30: 136.

1966. *Gardena melinarthrum*, Wygodzinsky, *Bull. Amer. Mus. Nat. Hist.*, 133: 262-264.

1990. *Gardena melinarthrum*, Maldonado, *Caribbean J. Sci. (special ed.)*, 87 pp.

2006. *Gardena melinarthrum*, Ambrose, *Zoos' Print Journal*, 21 (9): 4.

**Description:** Body black, shining; head brownish yellow, black at base, rostrum yellowish brown, darker at base; coxae, trochanters and bases of intermediate and posterior femora brownish yellow; apices of intermediate and posterior femora and bases of intermediate and posterior tibiae creamy white; head elongate, antecular region (AO=0.47 mm) slightly shorter than postocular region (PO=0.35 mm) (1.00:0.74); eyes moderate, interocular furrow not extending posterior border of eyes; antennae inserted near apex of head, first segment of antennae (A1=4.48 mm) about as long as abdomen (ABL=4.55 mm), ratio of antennal segments: I:II:III:IV = 1.00:0.72:0.05:0.41; rostrum bent between first and second segment, first segment short (R1=0.21 mm), second segment (R2=0.29 mm) shorter than third segment (R3=0.51 mm) which is longest, ratio of rostral segments: I:II:III = 0.41:0.56:1.00; pronotum pedunculate and covering abdomen completely, posterior lobe (PP=1.68 mm) longer than anterior lobe (AP=1.48 mm) (1.00:0.88); scutellum small, not spined; hind femora (HF=6.44 mm) much shorter than hind tibiae (HT=9.58 mm) (0.67:1.00) but considerably passing apex of abdomen; hemelytra absent.

**Measurements:** (1 male in mm). Body length 10.00 mm; head length, 0.83, width across eye 0.49; length of antecular region 0.47, postocular region 0.35; length of antennae 9.79, lengths of antennal segments I : 4.48, II : 3.25, III : 0.25, and IV : 1.84; rostral length 1.019, length of rostral segments I : 0.21, II : 0.29 and III : 0.51; length of pronotum 3.16; length of anterior pronotal lobe 1.48, posterior pronotal lobe 1.68, width of anterior pronotal lobe 0.28, posterior pronotal lobe 0.20; length of fore coxa: 1.67, trochanter: 0.44, femur: 2.80, tibia: 1.68, tarsus: 0.37, claws: 0.05; mid coxa: 0.27, trochanter: 0.30, femur: 4.94, tibia: 7.221, tarsus: 0.32, claw: 0.04; hind coxa: 0.33, trochanter: 0.34, femur: 6.44, tibia: 9.588, tarsus: 0.32, claw: 0.04. Female (15.37 mm) larger than male.

**Material examined:** 2exs., West Bengal: Jalpaiguri District: Murti: Garumara National Park, North range, 6.III.2012, Coll. Paramita Mukherjee.

**Distribution:** INDIA: West Bengal. Elsewhere: Auatralian and Oriental regions.

### ACKNOWLEDGEMENTS

Authors are grateful to Dr. Kailash Chandra, Director, Zoological Survey of India and Head, Department of Zoology, University of Calcutta for encouragements and laboratory facilities. We sincerely thank Dr. K. C. Gopi, Additional Director and Divisional-in-charge, Entomology Division-B, Zoological Survey of India for his valuable suggestions and support. The helpful co-operation of the staff members of Hemiptera Section are thankfully acknowledged.

### LITERATURE CITED

- Ambrose, D. P.** 2006. A Checklist of Indian Assassin bugs (Insecta: Hemiptera: Reduviidae) with taxonomic status, distribution and diagnostic morphological characteristics. *Zoo' Print Journal*, 21 (9): 2388-2406.
- Bergroth, E.** 1906. Neve Hemiptera aus Madagaskar. II. *Ann. Soc. Ent. Belgique*, 50: 254-270.
- Dohrn, A.** 1859. *Catalogus Hemipterorum*, Stettin, 112 p.
- Dohrn, A.** 1860. Beitrage zu einer monographischen Bearbeitung der Familie der Emesina. *Linnea Ent.*, 14: 206-255.
- Distant, W. L.** 1903. Undescribed Oriental Rhynchota. *Entomologist*, 36: 1-2.
- Distant, W. L.** 1904. The Fauna of British India including Ceylon and Burma, Rhynchota, 2: 198-389.
- Distant, W. L.** 1909. Oriental Rhynchota, Heteroptera. *Ann. Mag. Nat. Hist.*, (8) 3: 491-507.
- Distant, W. L.** 1910. The Fauna of British India including Ceylon and Burma, Rhynchota, 5: 181-182.
- Dispons, P. & Stichel, W.** 1959. Fam. Reduviidae Lat. Subfam. Emesinae A & S. In Stichel, W., *Illustrierte Bestimmungsta bellen der Wanzen*. II. Europa. Berlin, 3 (3-4): 82-106.
- Maldonado, C.** 1990. Systematic Catalogue of the Reduviidae of the World (Insecta: Heteroptera), A special edition of *Caribbean Journal of Science*, Puerto Rico, 694 pp.
- McAtee, W. L. & Malloch, J. R.** 1926. Philippine and Malayan Ploiariinae (Hemiptera, Reduviidae). *Philippine J. Sci.*, 30: 117-152.
- Wygodzinsky, P.** 1966. A monograph of the Emesinae (Reduviidae: Hemiptera). *Bull. Amer. Mus. Nat. Hist.*, 133: 246-268.
- Stal, C.** 1871. Hemiptera insularum Philippinarum. *Bigrag till Philippinska oarnes Hemipter fauna*. Ofvers. K. Vetensk. Akad. Forhandl., 27 (7): 607-776.

## PLATE : 1



Fig. 1



Fig. 2



Fig. 3



Fig. 4

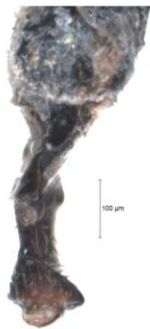


Fig. 5

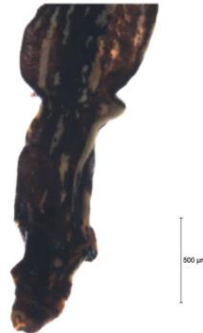


Fig. 6

Plate 1: Figures 1-6: *Gardena melinarthrum* Dohrn: 1. Lateral view of male; 2. lateral view of female; 3. head and fore legs, lateral view; 4. head and pronotum, dorsal view; 5. abdominal tip of male, ventral view; 6. abdominal tip of female, ventral view.