



First record of *Metrocoris quynhi* Tran and Zettel, 2005 (Insecta: Heteroptera: Gerridae) from India

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ABSTRACT: *Metrocoris quynhi* Tran and Zettel of the genus *Metrocoris* Mayr was described from Vietnam in the year 2005. During the recent surveys to explore the diversity of water striders (Gerridae) in the State of West Bengal and in Himachal Pradesh, *Metrocoris quynhi* Tran and Zettel, 2005, was collected from different localities of Bengal and Himachal Pradesh. This species is widespread in Himalayan region of Bengal but not previously known from India. Hence, it is a new record to India after Vietnam.

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Key words: Gerridae, New record, West Bengal, Himachal Pradesh, India

INTRODUCTION

Metrocoris Mayr, 1865 is the most diverse genus among the water striders of the family Gerridae in India. The species diversity of *Metrocoris* Mayr is highest in southern China and Southeast Asia (Tran and Zettel, 2005). These are very small insects with characteristics black markings on yellowish to orange body and are inhabitants of small forested pools, hill streams, slow flowing rivers, waterfalls, shady seepage rocks, and riffles with cobbles.

A total of 65 species are presently reported globally, of which 15 species are known from India (Thirumalai, 2002; Jehamalar and Chandra, 2013). Here, we report *Metrocoris quynhi* Tran and Zettel, 2005 from West Bengal and Himachal Pradesh which was originally described from Vietnam. This species is a new record to India.

MATERIALS AND METHODS

The specimens were collected using a short rectangle-shaped aquatic net from different

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freshwater bodies like rivers, slow-flowing streams and forest pools etc. of Darjeeling Himalaya of West Bengal and Kangra district of Himachal Pradesh. The collected specimens were preserved in 70% ethyl alcohol. The morphological studies were done using a Leica M205A stereozoom binocular microscope. All the measurements were in millimeters (mm). The male genital segment was dissected and immersed in 10% KOH for 30 minutes to dissolve muscles. The photographs were taken with the same Leica microscope. Terminology mainly followed of Chen & Nieser (1993). The specimens (35 males and 36 females) are deposited to National Zoological collection of Zoological Survey of India, Kolkata.

***Metrocoris quynhi* Tran and Zettel, 2005**

Material examined: 1M, 3F, 5 nymphs, India: Himachal Pradesh, Kangra district, Panthend village near Saibaba Mandir, Baijnath, 32 02 27 N, 076 38 743 E, 3117 ft, 13.09. 2014, Coll: Dr. K. Valarmathi; 9M, 9F, 6 nymphs, India: Himachal Pradesh, Kangra district, Shahpur, Teh, Rajol Road, Rajol River, 32 10 350 N, 076 14 915 E, 14.09. 2014, Coll: Dr. K. Valarmathi; 12M, 8F, 11 nymphs, India: West Bengal, Darjeeling District, Rishi River, Rishikhola, 27.17357 N, 88.631104 E, 23.03.2013, Coll: Srimoyee Basu; 1F, 7 nymphs, India: West Bengal, Darjeeling District, Stagnant pool beside Rishi River, Rishikhola, 27.169677 N, 88.635109 E, 23.03.2013, Coll: Srimoyee Basu; 5M, 4F, 1nymph, India: West Bengal, Darjeeling District, Teesta River, Chitre Bridge, 22.03.2013, Coll: S. Basu; 3M, 4F, 3nymphs, India: West Bengal, Darjeeling District, Manjukhola, Phuguri tea estate, 26.85575 N, 88.2091 E, 21.03.2013, Coll: S. Basu; 2M, 4F, 11 nymphs, India: West Bengal, Darjeeling District, Falls near Bunkulung, 26.86776 N, 88.22882 E, 20.03.2013, Coll: S. Basu; 3M, 5F, India: West Bengal, Darjeeling District, Srikhola, 27.132452 N, 88.076729 E, 4.05.2013, Coll: S. Basu.

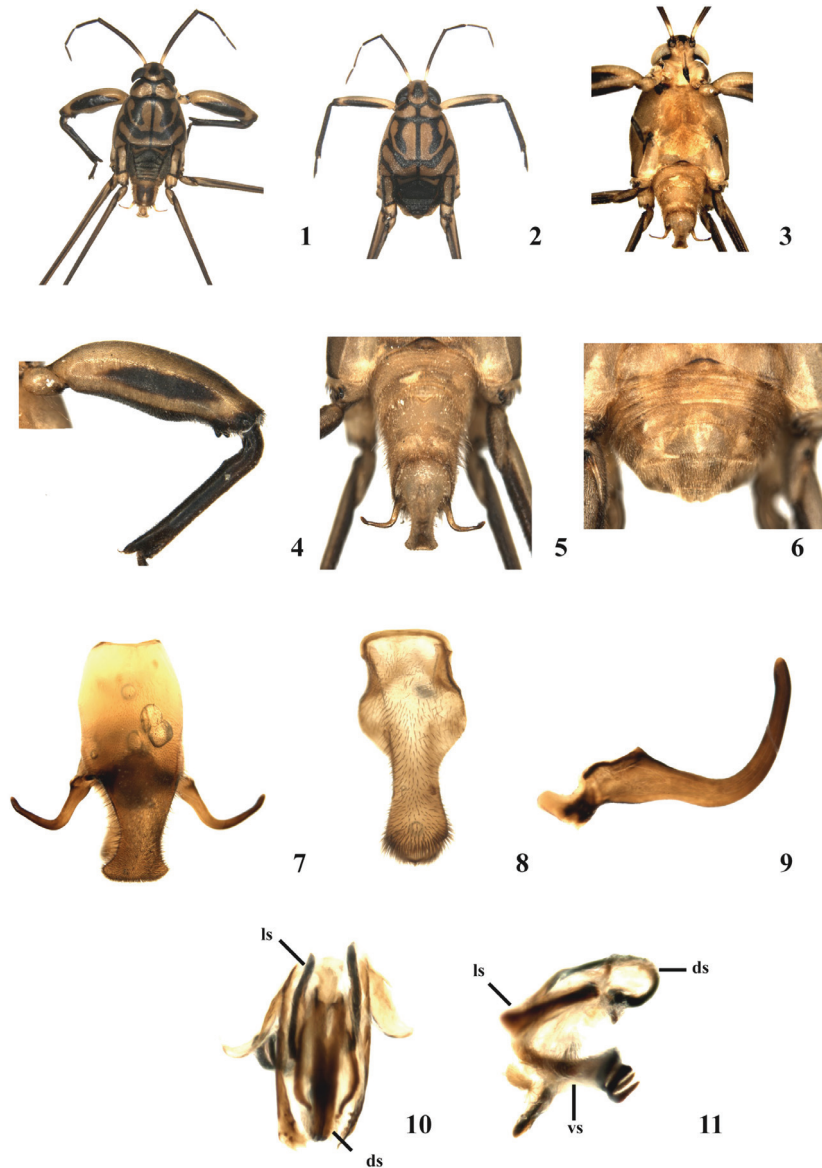
RESULTS AND DISCUSSION

Diagnostic Characters:

Size: Apterous males (35M): Body length 6.1- 6.9, maximum body width 2.64-3.20. Apterous females (35F): Body length 5.3-5.72, maximum body width 3.27-3.40. Macropterous female (1F): Body length 5.4, maximum body width 3.11.

Description of apterous forms

Colour: Dorsally body yellowish orange with distinct black markings. Interocular area with broad arrow shaped marking medially. Antennomere 1 yellow basally, 2nd, 3rd and 4th antennomeres black. Pronotum with 'T' shaped black marking, anterolateral margins with two broad black markings. Sublateral stripes broader than lateral stripes in mesonotum. Fore femora with black apical ring and four longitudinal marks, fore tibia and tarsus black. Mid and hind femora slightly yellowish, but tibiae and tarsae dark brown. Ventrally body is bright yellowish orange in colour. Females show similar colour pattern as males.



***Metrocoris quynhi* Tran and Zettel, 2005 (apterous)**

1. Dorsal view of male; 2. Dorsal view of female; 3. Ventral view of male; 4. Ventral view of fore femur and fore tibia; 5. Male abdominal sternites including genitalia; 6. Abdominal sternum VII in female; 7. Male genital capsule showing pygophore and paramere, ventral view; 8. Proctiger in dorsal view; 9. Left Paramere; 10. Male endosomal structure, dorsal view; 11. Male endosomal structure, lateral view (ds- dorsal sclerite, ls-lateral sclerite, vs-ventral sclerite)

Structure: Head length of male (apterous) 0.94 and width 1.54, wider than long, with arrow shaped black marking medially; interocular width 0.72; eye length 0.60 and width 0.35. Length of antennal segments 1st – 4th: 2.46: 0.61: 0.68: 0.67, first antennal segment longer than the combine length of rests. Pronotum wider than long, length 0.553 and width 1.59, slightly bulbous in apterous male. Mesonotum and metanotum 2.47 in width and 1.94 in length. Fore femur strongly incrassate, ratio length/ width: 3.22(2.68/0.83), constricted in apical third, with bipartite apical tooth, without any ventral indentation, with distinct dense short, erected hairs throughout. Inner margin of fore tibia with sub-basal tooth like elevation, with rows of short hairs in both outer and inner margin; fore tibia 2.27 in length; fore tarsomere 1st and 2nd 0.21 and 0.72 in length. Fore femora of female slender, with long stout hairs at basal half. Length of abdomen 2.87 and width 1.62, abdominal segments black, elongated, with dense golden pubescences dorsally and ventrally, longer than wide. In macropterous forms, wing surpassing apex of abdomen.

Genitalia: Male (apterous) abdominal sternite VIII (containing genitalia) elongated, large, rectangular in dorsal view, length 1.45 and width 1.04. Dorsally pygophore prolonged and sub apically constricted, with straight apical margin. Proctiger long distally narrowed, convex on each side anteriorly, with prominent setae distributed throughout, but density increases posteriorly. Paramere long, hook shaped, slightly pointed apically (however, more curved and slender than in the original description and structure may slightly vary among individuals). Endosoma as in fig.10 and 11, dorsal sclerite long and recurved proximally. Female genital segment VII with large medial lobe, with longitudinal ridge laterally from anterior end of hind margin and with small wing shaped lobes, medial lobe sub-trapezoidal, with distinctly notched posterior margin.

Remarks:

Tran and Zettel (2006) have stated that this species belongs to *Metrocoris anderseni* group and is close relative of *Metrocoris genitilis* Chen and Nieser, 1993 from Thailand. The male of *M. quynhi* differs from other species in having hook-shaped paramere and the endosomal sclerite.

Distribution

Vietnam, India.

The distribution *M. quynhi* Tran and Zettel common in the Northern India (Darjeeling Himalayan region of West Bengal and Himachal Pradesh). So far there is no evidence of this species from Southern India. This new record to India was collected mostly from high altitude streams of West Bengal and Himachal Pradesh. It is expected that other Himalayan States of India may also harbor this species.

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