

**A NEW RECORD OF *APHELOCHEIRUS NEPALENSIS* ZETTEL,
1998 FROM NORTHEASTERN HIMALAYAN REGION OF
INDIA (HETEROPTERA: APHELOCHEIRIDAE)**

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ABSTRACT: *Aphelocheirus (Aphelocheirus) nepalensis* Zettel, 1998 of the family Aphelocheiridae was earlier described from Nepal. During a recent expedition to Arunachal Pradesh, the second author had collected this species from Talley Valley Wildlife Sanctuary. This is the first record of this species from India and with this new record, a total of nine species of the genus *Aphelocheirus* Westwood now reported from India.

KEY WORDS: Aphelocheiridae, *Aphelocheirus*, Himalayan, Northesatern States, Arunachal Pradesh, India

Aphelocheirus Westwood, of the family Aphelocheiridae inhabiting the bottom substratum of streams or lakes, shows its greatest diversity on the Southeast Asian mainland (Zettel & Tran, 2009). Most of the species are restricted to small distributional ranges. They have poor dispersal abilities and hence restricted geographic distribution. Globally, this species contain single genus *Aphelocheirus* Westwood accommodated under two subgenera *Aphelocheirus* Westwood and *Micraphelocheirus* Hoberlandt & Štys, 1979 (Polhemus & Polhemus, 1989; Thirumalai, 2008).

Among the 91 described species described globally, a total of eight species were described from India (Basu et al., 2013). However, a good number of species still remain undescribed and unexplored. The present study extends the geographic distribution of *Aphelocheirus (Aphelocheirus) nepalensis* Zettel, 1998 to Arunachal Pradesh of India, which was earlier, described from Nepal.

MATERIALS AND METHODS

The materials were collected from Pange stream flowing at the periphery of Talley Valley Sanctuary of Arunachal Pradesh. The specimens were collected from under the cobbles and gravel of fast flowing cold water stream and preserved in 75% ethyl alcohol. The materials were examined under Leica M205A and the photographs were taken by the same. The genitalia of male individuals were dissected and kept for 30 minutes in 10% KOH. All the measurements of body parts were taken in millimeters (mm).

RESULTS

***Aphelocheirus (Aphelocheirus) nepalensis* Zettel, 1998**

Material examined: 1 female, India: Arunachal Pradesh, Pange stream (upstream), Talley Valley Sanctuary, Lower Subanshri, 12.04.2015, Coll: Dr. K. A. Subramanian; 3 males, 2 females, 2 nymphs, India: Arunachal Pradesh, Pange

stream (downstream), Talley Valley Sanctuary, Subanshri, 10.4.2015, Coll: Dr. K.A. Subramanian. Alt: 1875 m. Lat. N27.546781; Long. E93.89648.

Diagnostic characters.

Size: Male (Figs. 1, 2), body length ranges from 9.15 to 9.30 and maximum body width across 3rd abdominal segment varies from 5.98 to 6.14. Female (Fig. 3) attains a length of 9.98 to 10.08 and maximum body width across 3rd abdominal segment varies from 6.47 to 6.64.

Colour: Head yellowish brown with black distinct markings in the middle. Pronotum dark brown with yellowish margin laterally on each side and with central yellowish spot. Scutellum yellowish. Hemelytra dark brown, coarsely rugose and embolium pale dirty brown. Abdominal tergites dark brown. Ventrally head including antenna yellow. Abdominal sternites dark brown with bright yellow genital segment in male.

Description: Head shining yellow with pale fine spots. Length of head 1.16 and width 2.15 (including eyes), head is much longer and wider in females. Eye length 0.65 and width 0.43. Interocular width 1.17. Rostrum 4.12 in length and reaches upto mid coxa. Length of antennal segments 1st to 4th: 0.11:0.23:0.33:0.39. Pronotum rugose with dense pale dots, slightly elevated on disc, length 1.04 and width 4.60. Lateral margins pale yellow, without erect setae. Scutellum 1.23 in length and 3.38 in width, tip acuminate. Hemelytra touching each other medially, 2.61 in length and 1.94 in width, with projected corners on embolar margin. Abdominal tergites symmetrical, with a pair of glandular openings on posterior margin of 3rd segment, corners of each segment more or less acuminate on both sides. Propleura acuminate tip posteriorly with blunt inner propleural projection as in fig. no. 6. Metasternum carinated medianly. Metaxyphus small, tip pointed. Fore femora long, 1.92 in length. Fore, mid and hind leg golden with shining long golden setae, claws well developed and curved. Abdominal sternites IV-VI elevated medianly, with 5 peg-like setae on anterior margin. VII and VIII abdominal sternites bent downward medially. Genital segments shining and enlarged.

Genitalia: Male genital capsule with aedagus and left and right parandria as in fig.9. Left and right paramere elongated, as in fig.10 and 11, right paramere is sickle-shaped. Female subgenital plate (Fig. 8) with one pair of long setae laterally and one pair of small erected setae medially on posterior margin, dense golden setae distributed throughout the subgenital plate.

Distribution. Nepal (Kotku, Tikabhairab, Bagmati, Kathmandu valley), India (Arunachal Pradesh).

DISCUSSION

Aphelocheirus (A.) nepalensis Zettel was first described by Zettel on 1998. The present study reports the occurrence of this cryptic species from north-eastern Himalayan ecosystems of India (Arunachal Pradesh). These benthic water bugs are mainly associated with freshwater habitats and found mostly under the stones or pebbles. Hence, they are very difficult to collect and can easily escape routine collections. Consequently, it is suggested that an extensive survey should be carried out in the Eastern Himalayan Ecosystems of India as it might harbor many more diverse and elusive species which were hitherto unknown from India or new to science.

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Figures 1-11. 1. Dorsal view of male, 2. Ventral view of male, 3. Dorsal view of female, 4. Head, pronotum and hemelytra of male, 5. Propleura and inner propleural projection, 6. Metaxyphus, 7. Male genital segment, ventral view, 8. Female genital segment, ventral view, 9. Male genital capsule, 10. Left paramere of male, 11. Right paramere of male.