



## Research Article

## Identification and Description of Copulatory Complex in *Tarsotrechus polhemi* Anderson, 1980

Jagvir Singh<sup>1</sup>, V.K. Khandelwal<sup>2</sup> and Kanhiya Mahour<sup>\*</sup>

<sup>1</sup>Department of Zoology, B.S.A. College, Mathura-281004 (U.P.), India.

<sup>2</sup>Department of Zoology, K.R. (P.G.) College, Mathura-281004 (U.P.), India.

<sup>\*</sup>Department of Zoology, R.P.P.G. College, Kamalganj, Farrukhabad-209724 (U.P.), India.

**Abstract:** The genus *Tarsotrechus* described by Anderson. Belonging to subfamily *Eotrechinae* Anderson, 1975 is represented by a single species, *Tarsotrechus polhemi* Anderson, 1980. The present contribution provides an account of copulatory complex of the species for the first.

**Keywords:** *Tarsotrechus polhemi*, *Eotrechinae*, Anderson, Copulatory complex.

### Introduction

Arthropods are forms the major part of the faunal world. It is the largest phylum consisting of highest species. Phylum arthropods having a major correlation ship with the ecosystem. Considering all these facts present study has been designed to identification of copulatory complex in *Tarsotrechus polhemi*, Anderson, 1980.

This genus *Tarsotrechus* Anderson was first described by Anderson, 1980 with *Tarsotrechus polhemi* Anderson as type species and genus is represented by single species *Tarsotrechus polhemi* Anderson, 1980.

### Taxonomy

#### *Tarsotrechus* Anderson, 1980

*Tarsotrechus* Anderson, 1980. *Strenstnupia*, 6(10): 113-146.

**Description:** Body elongate. Head directed forwards, antenniferous tubercles small. Antennae subequal in length to body; first segment longer than second segment, with two closely set, dark spine-like hairs in apical fourth; second and third segments subequal in length, fourth segment longer than third. Anterior pronotum not as wide as head. First segment of middle and hind tarsi together longer than second segment;

claws small, inserted very close to but distinctly before apex of tarsus. Wings slightly surpassing abdominal apex in both sexes. Males with abdominal venter about one fourth of the body length. Pygophore well exposed, without much modifications. Proctiger without lateral projections. Claspers small.


**Distribution:** India. This genus is represented by single species *Tarsotrechus polhemi* Anderson, 1980.

#### *Tarsotrechus polhemi* Anderson, 1980

(Pl. I, Figs. 1-2)

**Male genitalia:** Males with abdominal venter about one fourth of body length; sternum seventh a little shorter than preceding two sterna together; hind margin of seventh and eighth sterna deeply concave; pygophore well exposed ventrally, without modifications; proctiger without lateral projections; parameres small, elongate. Endosoma with dorsal plate fused with paired round apical plates apically, lateral plates long; ventral long membranous.

**Female genitalia:** Abdominal venter about one third of the body length. Sternum seventh subequal to preceding two sterna together; genital segments ventrally partly exposed; proctiger cone shaped, directed obliquely upwards. First valvulae with inner lobe narrow apically; outer lobe relatively longer, acute apically. Second valvulae narrow, round, weakly sclerotized, excluding

\*Corresponding Author: Dr. Kanhiya Mahour  0000-0001-7059-6274.

E-mail: [kris\\_mathura@yahoo.com](mailto:kris_mathura@yahoo.com).

Phone No.: +91-9412404655.

up to just a little beyond intervalvular membrane. Vulva membranous.

winged 7 males, 3 females, 9.viii.1993 (Y.C. Gupta), Rajasthan, Udaipur, Fateh Sagar, winged 11 males, 6 females, 3.ix.1988 (Y.C. Gupta).

**Material examined:** India: Karnataka, Mysore, winged 6 males, 9 females, 27.ix.1972 (Mayank Gupta), Kerala, Coimbatore, winged 13 males, 21 females 11.x.1992 (Anshul Agrawal), Maharashtra, Mahabaleshwar,

**Distribution:** India: Karnataka, Kerala, Maharashtra and Rajasthan. It is the first of the species from Maharashtra and Rajasthan.

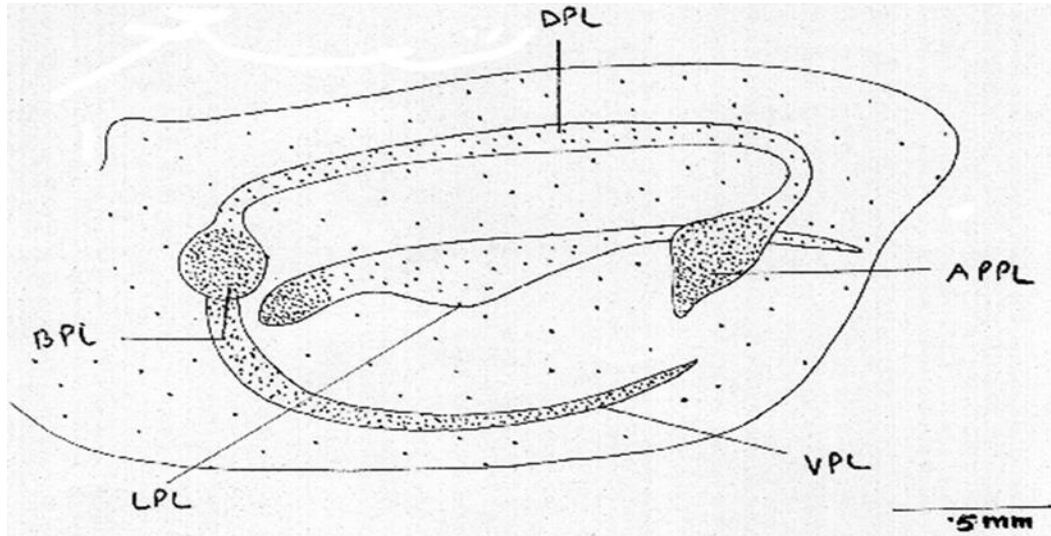


Fig. 1. Male copulatory complex.

(APPL = Apical Plate; BPL = Basal Plate; DPL = Dorsal Plate; LPL = Lateral Plate; Py = Pygophore; SEG = Segment; SUAPL = Suranal Plate; VPL = Ventral Plate).

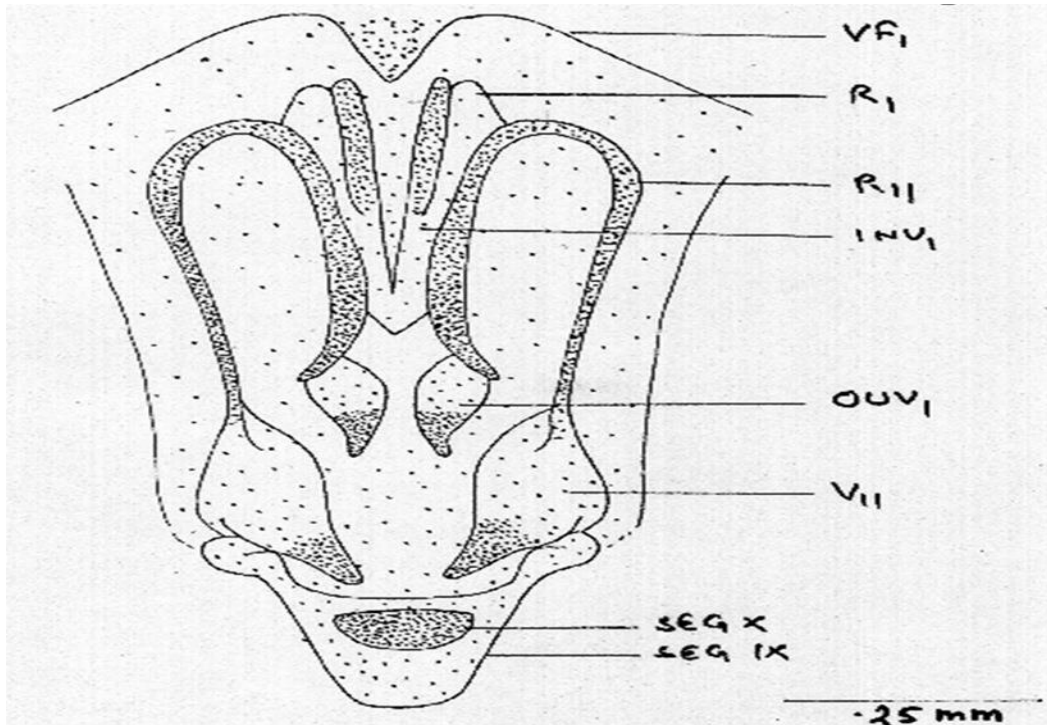


Fig. 2. Female copulatory complex.

(Ri/Rii = Ramus; VU = Vulva; V = Valvula; OUV = Outer valvulae; INV = Inner Valvulae; VF = Valvifer).

**Remarks:** The previous description of the species by Anderson (1975 & 1980) is inadequate and lacks in the description of copulatory complex, a feature of great taxonomic significance.

### **Acknowledgment**

The authors are thankful to Dr. Suman Kumar, Principal B.S.A. College, Mathura for laboratory and library facilities and to Dr. Sunil Jain, Head, Zoology Department, Agra College, Agra for critical suggestions during course of studies.

### **References**

- [1]. Anderson, N.M. (1975). The *Limnogonus* and *Neogerris* of the old water with character analysis and a reclassification of the Gerrinae (Hemiptera: Gerridae). *Ent. Scand. suppl.*, 7:1-96.
- [2]. Anderson, N.M. (1980). Hygroscopic water striders of the genus *Onychotrechus* Kirkaldy with description of a related genus (Insecta, Hemiptera: Gerridae). *Strenstrupia*, 6(10): 113-146.