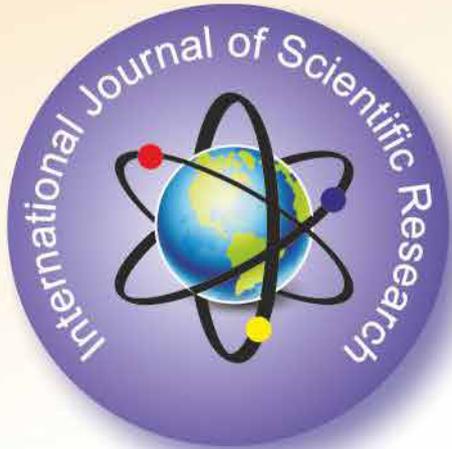


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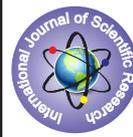
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## A new species of *Microvelia* Westwood, 1834 from India



### Zoology

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### ABSTRACT

*Microvelia* Westwood, 1834 is an important genus of family Veliidae. 1834. It is hereto represented by seven species viz. *M.repentina* Distant, 1904, *M. singalensis* Kirkaldy, 1903, *M. albomaculata* Distant, 1909, *M. kumaonensis* Distant, 1909, *M. diluta* Distant 1909 and *M. annandelei* Distant, 1909. One new species of the genus *Microvelia* (*s.str.*) *distanti* sp. nov. is described from Haridwar, India

The Veliidae are best known of all aquatic hemiptera of the world and are extremely common in Indian waters. The members of the family are easily differentiated from the related family Gerridae based on hind leg not surpassing beyond the tip of abdomen and the presence of median longitudinal groove on vertex. *Microvelia* Westwood, 1834 belongs to the subfamily *Microveliinae* China & Usinger, 1949 of the family Veliidae. The genus *Microvelia* Westwood, 1834 are easily recognized from the members of other genera due to subangular and posteriorly produced pronotum.

**Material and Methods:** Specimens for the present study have been collected from the crevices of holy riverbank of Yamuna and in order to study the specimens, dried specimens were softened in alcohol and macerated in 10% KOH solution to remove the genital capsule and dissected to study the structural details of mouthparts, eyes, antennae, genitalia etc. All drawings were being made from camera lucida. For comparative study, the data collected from World Wide Web.

**Disribution:** The Oriental realm (Burma, Ceylon, India, Java, Malaya, Philippines), Australian realm, Southern Eastern United State into Central Mexico. Japan (Honshu and Kyushu)

***Microvelia distanti* sp. nov.**

(PL.1, Figs.1-11)

**Description:** Size: Male, Apterous, 2.22-2.42 mm length, width of head across eyes 0.51-0.54mm; Female, Apterous 2.42-2.52mm in length, width across metathorax 0.45-1.02mm.

**Colour:** Apterous male black with silvery hair patches. Head blackish or brownish. eyes dark red. Antennae dark brown in colour. Pronotum brownish with bright yellowish spots and dark punctures. Pro and mesosternum dark yellow. Abdominal tergites and latero tergites black with small bright dots. Apterous female similar with male except abdomen with few grey dark spots.

#### Relative length of leg segments:

**Apterous male (2.22-2.42mm)**

	Femur	tibia	tarsus	First tarsal segment	Second tarsal segment
Fore leg	51	41	21	-	-
Mid leg	61	51	31	11	19
Hind leg	70	72	35	12	21

**Apterous female (2.42-2.52 mm)**

	Femur	tibia	tarsus	First tarsal segment	Second tarsal segment
Fore leg	48	39	21	-	-
Mid leg	58	58	30	10	19
Hind leg	70	78	31	11	20

**Abdomen:** Abdominal tergites together a little more than three times as long as pronotum (124:36 in male and 138:34 in female) 7<sup>th</sup> tergite longer than first two segment (36:30 in male and 42:32 in female). Connexivum slightly raised above. Seventh sternum with apical margin slightly concave with deep pit in the middle. Oval tubercle with many denticles situated between the raised margins.

**Male genitalia:** Eighth segment a little longer than seventh tergite (44:39), ventral apical margin concave with a long process, slightly curved with numerous denticles in side view. Ninth segment relatively small, only slightly asymmetrical. Claspers nearly identical, small, subconical with numerous small hairs on the antero-

#### Structural Characteristics:

**Head:** Head across eyes about two third as long as wide (28:44 in Apterous male and 22:42 in Apterous female). Eyes small, antennae relatively long and slender, about half the total length. Relative length of antennal segments of Apterous male Ist:IIInd:IIIrd:IVth :: 24:16:22:30 and of female Ist:IIInd:IIIrd:IVth :: 21: 16:21:30. Antenniferous tubercle ill developed. Basal margin of clypeus distinct. Mandibular and Maxillary plates well separated with each other. Rostrum slender, reaching middle of mesosternum, third segment a little more than twice the length of last segment (6:2 in male and 6:1 in female)

**Thorax:** Pronotum long (31:68 in Apterous male and 28:65 in Apterous female). Pronotum broad round. Intersegmental suture between Mesonotum and Meganotum well demarcated with midline longitudinal sulcus. Legs relatively long and slender.

dorsally directed surface. Phallus with a very complicated set of ill-defined sclerite and thus not useful for taxonomic purpose.

**Female genitalia:** Genital segment completely withdrawn into cylindrical 7<sup>th</sup> abdominal segment and bent downward, covering velifers. Eighth segment with first valvula long, narrow, rounded apex, second valvula with lateral margin broadly sclerotized, narrow, long extending beyond apical margin of intervalvular membrane. An inverted "V" shaped spot above base of apical process of intervalvular membrane.

**Material examined:** *Holotype* Apterous one female, *allotype* Apterous one male on pins. *Paratype* Apterous 4 males, 4 females in spirit. Mathura 30.viii.2012 (V.K.Khandelwal).River Yamuna 2 males and 3 Apterous females collected from Bengali ghat area Mathura24.X.2012 (Joseph)

**Distribution:** INDIA, Mathura: UTTAR PRADESH

**Remark:** This species is closely related to *Microvelia mjobergi* Hale (1925) but somewhat larger than *Microvelia distanti* sp. nov. The vertical process of 8<sup>th</sup> segment is broad basally with a slender and pointed apex not evenly tapering as in *Microvelia distanti* sp.nov.

The species is named after Dr. W.L.Distant for his outstanding contribution in the study of Hemiptera

**Acknowledgement:** The author is grateful to Dr.Ajay Tyagi, Principal K.R.(P.G.) College, Mathura for providing necessary library and laboratory facilities. Thanks are due to Dr. Y.C. Gupta, Former HOD and Director B.S.A. College, Mathura for valuable suggestions.



***Microvelia distanti* sp.nov.**

(PL.I, Figs.1-10)

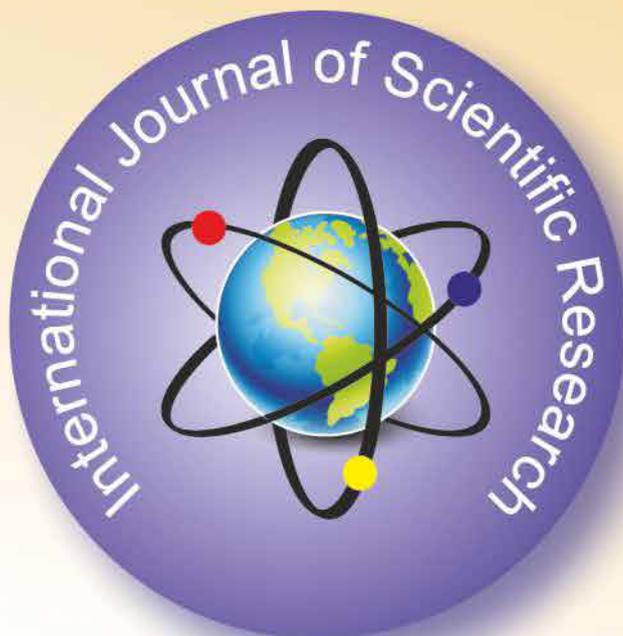
- Fig.1 Dorsal view of apterous male
- Fig.2 Head in lateral view
- Fig.3 Lateral view of 9<sup>th</sup> segment of male
- Fig.4 Lateral view of apical abdominal segment (male)
- Fig.5 Lateral view of apical abdominal segment ( female)
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- Fig.7 Left clasper
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- Fig.9 Apical segment of endosoma
- Fig.10 Female genitalia

**Abbreviations:**

**VU=Vulva, R<sup>1</sup>=Rami<sup>1</sup>, INV=Inner valvulae,OUV=Outer valvulae**  
**VII=Valvifer, SEG=Segment,CE=Compound eye,**  
**MXPL=Maxillary plate,ANTT=Antiniferrous tubule,CL=Clypeus,LM=Labrum,**  
**GR=Grasping comb,DPL=Dorsalplate,LPL=Lateralplate,**  
**APPL=Apical plate,VPL=Ventral plate,BP=Basal plate**

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