

**A NEW *LINYPHIA* LATREILLE, 1804  
(ARANEAE: LINYPHIIDAE) FROM WEST BENGAL, INDIA**

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ABSTRACT: *Linyphia bilobata* sp. nov. recorded from the tea estates and forest reserves of Dooars, West Bengal, India is described and illustrated.

KEY WORDS: *Linyphia bilobata* sp. nov., Tea Estates, Forest Reserves, Dooars, India.

Linyphiids, the sheet weavers, spin flat, dome or hammock shaped sheet webs. This cosmopolitan family is known by 4490 species under 591 genera (Platnick, 2014). These include 68 Indian species belonging to 36 genera (Keswani et al., 2012).

Five out of the 68 species are known to compose the genus *Linyphia* Latreille, 1804 of India (O. P.-Cambridge, 1885; Tikader, 1970, 1977). Indian *Linyphia* are highly endemic (Platnick, 2014).

During our sustained survey on spiders of the tea ecosystem and forest reserves of Dooars, West Bengal, we came across with a *Linyphia* species from Kailashpur Tea Estate, Gorumara National Park and Chapramari Wildlife Sanctuary. The species after critical examination is considered as new to science and accordingly described and illustrated.

#### MATERIAL AND METHODS

Linyphiids were collected and preserved following Tikader (1987) and Barrion & Litsinger (1995). The material were studied under Stereo Zoom Binocular Microscopes, model Olympus SZX-7 and Zeiss SV-11. The measurements indicated in the text are in millimeters, made with an eye piece graticule. Leg measurements are shown as: total length (femur, patella, tibia, metatarsus, tarsus).

Abbreviations used: AL= abdominal length, ALE= anterior lateral eye, AME= anterior median eye, AW= abdominal width, CL= cephalothoracic length, CW= cephalothoracic width, PLE= posterior lateral eye, PME= posterior median eye, TL= total length, KTE= Kailashpur tea estate, CWLS= Chapramari Wildlife Sanctuary, GNP= Gorumara National Park, WB= West Bengal.

**TAXONOMY****Family** Linyphiidae Blackwall, 1859**Genus** *Linyphia* Latreille, 1804***Linyphia bilobata*** sp. nov.

(Figs. 1-7)

**Type material:** Holotype: 1 female, KTE, Dooars, 31.I.2010, coll. T. K. Roy; Paratypes: 1 female, Gorumara, GNP, 18.III.2007, coll. S. Sen; 1 female, Gorumara, GNP, 18.III.2007, coll. D. Raychaudhuri; 2 females, Khunia, GNP, 05.V.2008, coll. S. Saha; 1 female, Dhupjhora, GNP, 20.IX.2009, coll. S. Sen; 2 females, Chapramari, CWLS, 03.XI.2007, coll. D. Raychaudhuri.

**Description:**

Female (Holotype):

CL - 1.79, CW - 1.43, AL - 3.58, AW - 2.64, TL - 5.38. Cephalothorax (Fig. 1) yellow brown, elongate oval, cephalic region raised, convex, cervical furrows well marked by red brown, thoracic region round, somewhat flat with fovea broadly U shaped, radii distinct. Eyes 8, homogenous, transparent, arranged in 2 rows, anterior strongly recurved, posterior weakly so or straight as viewed dorsally, ocular quad nearly square, weakly wider in front, laterals contiguous, eye diameter: AME > PME > ALE ≥ PLE. Interocular distances: AME - AME = 0.32, ALE - AME = 0.25, ALE - ALE = 0.70, PME - PME = 0.17, PLE - PME = 0.26, PLE - PLE = 0.66, ALE - PLE = 0.11, AME - PME = 0.21. Clypeus reddish brown, broad, sub rectangular. Chelicerae (Fig. 2) red brown, moderate, dorsum with small, brown hairs, both pro and retromargin with 1 tooth, fang brown, curved, sharp and stout. Labium (Fig. 3) close, brown, wider than long, constricted sub basally, apically broad, triangular, margins pale, truncate and scopulate. Maxillae (Fig. 3) brown, converging, nearly twice longer than wide, outer margins weakly concave, inner margins constricted basally, apically pale scopulate. Sternum (Fig. 3) long triangular, red brown, margins more red, clothed with fine, moderate, brown hairs, lateral margins weakly indented at each coxae, tip produced between coxae IV, blunt, margin straight. Legs long, stout, yellow brown, banded, clothed with pale brown, moderate hairs, at times in rows and spines, tarsi with 2 superior claws, 1 inferior claw and many accessory claws, superior claws pectinate throughout, inferior claw also pectinate, leg measurements: I 15.00 (4.60, 0.80, 4.00, 4.20, 1.40); II 8.40 (2.60, 0.80, 1.80, 2.20, 1.00); III 5.60 (1.80, 0.60, 1.00, 1.40, 0.80); IV 9.00 (2.80, 0.80, 2.00, 2.40, 1.00). Leg formula 1423.

Abdomen (Figs. 1 & 4) off white, sub pentagonal, converging at both ends, widest at the middle, each end marked by a black hump, tip black, blunt and round. Dorsum decorated with silvery white specks, anteriorly with few irregular black patches, entirely clothed with long, erect, shiny white hairs. Venter off white with silvery white specks, shiny white hairs and a black band enclosing the spinnerets at the middle.

Epigynum - Internal genitalia (Figs. 5-6): Epigynal plate marked by 2 transverse, nearly parallel lines, spermatheca bilobed, fertilisation duct short, anteriorly projected, hood like, copulatory duct long, convergent.

**Type deposition:** Entomology Laboratory, Department of Zoology, University of Calcutta, registration no. **EZC 0034-14**.

**Distribution:** India: West Bengal. The species is so far known from the type locality.

**Etymology:** The species name is derived from the bilobed nature of spermatheca.

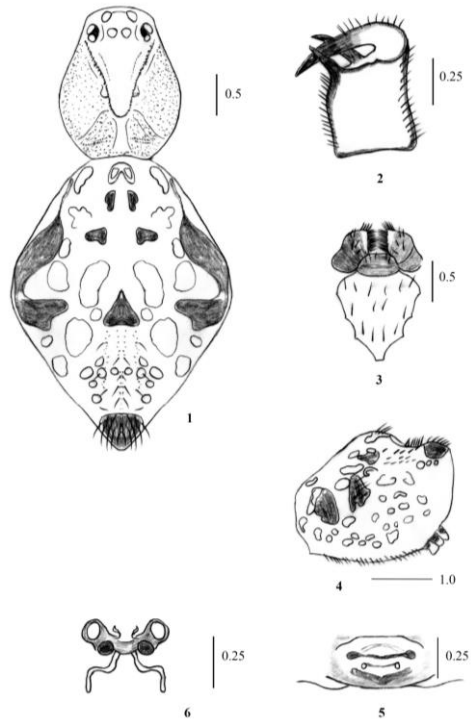
**Remarks:** The closest ally of the species is *Linyphia urbanasae* Tikader, 1970 but can be separated by i) sternum long, triangular, tip blunt, produced between coxae IV (sternum cordate, acute between coxae IV in *L. urbanasae*); ii) abdomen sub pentagonal, widest ends marked by black humps, tip black, blunt and round (abdomen elongate oval, without any hump, dorsum otherwise decorated); iii) epigynal plate marked by 2 transverse, nearly parallel lines (epigynal plate with 2 black markings in *L. urbanasae*); iv) spermatheca bilobed, fertilization duct short, anteriorly projected, hood like, copulatory duct long, convergent (aforesaid features absent in *L. urbanasae*). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.

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Figures 1-6. *Linyphia bilobata* sp. nov. (Holotype): 1. Dorsal habitus; 2. Chelicerae, ventral view; 3. Maxillae, labium and sternum, ventral view; 4. Abdomen, lateral view; 5. Epigynum, ventral view; 6. Internal genitalia, dorsal view.



Figure 7. Photographic image: *Linyphia bilobata* sp. nov. (Holotype): General habitus.