

**ON TWO *EUOPHRYS* C. L. KOCH SPECIES  
NEW TO INDIA (ARANEAE: SALTICIDAE)**

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**ABSTRACT:** Till date *Euophrys frontalis* (Walckenaer, 1802) and *E. omnisuperstes* Wanless, 1975 were not known to occur in India. These have recently been recorded from the reserve forests and their adjoining Tea Estates (T.E.) of Dooars, West Bengal. Descriptions and necessary illustrations of the Indian representatives are provided.

**KEY WORDS:** New record, *Euophrys*, Dooars, West Bengal, India.

Salticidae is one of the most diverse families in Araneae and currently represented by 5615 species belonging to 592 genera in the world (Platnick, 2013). Several genera contain large number of species with poor taxonomic data. *Euophrys* C. L. Koch is one such (Zabka and Prószyński, 1997). Metzner (2013) listed 135 nominal species while Platnick (2013) considered 117 nominal species to exist in the world. This raises a doubt on the composition of the genus which now might include few or several unrelated species simply because of small size and some convergent similarities in genitalic patterns [coiled base of embolus, meandering spermophore, one-chambered and round or oval spermathecae—quite common in salticids and even in distantly related subfamilies/groups] (Zabka, 1995). Indian *Euophrys* are known by, *E. concolorata* Roewer, 1951 and *E. minuta* (Prószyński, 1992) (Sebastian & Peter, 2009; Keswani et al., 2012).

During our study on the diversity of spiders in the reserve forests and their adjoining Tea Estates (T.E.) of Dooars, West Bengal, we came across with two *Euophrys* species, namely, *E. frontalis* (Walckenaer, 1802) from Buxa Tiger Reserve and Nepuchapur tea estate and *E. omnisuperstes* Wanless, 1975 from Gorumara National Park. Both the species are the first report from India. The recorded taxa are described and illustrated in the interest of Indian Arachnology.

### MATERIAL AND METHODS

Materials were mainly collected by hand from the ground and litter and under stone during the surveys conducted in the reserve forests of Dooars viz. Chapramari Wild Life Sanctuary (CWLS), Gorumara National Park (GNP), Jaldapara Wild Life Sanctuary (JWLS), Buxa Tiger Reserve (BTR) and their adjoining tea gardens. They were also collected by pitfall traps and Berlese extraction.

Spider specimens thus sampled were preserved following Tikader (1987) and were studied under Stereo Zoom Binocular Microscopes, model Olympus SZX-7 and Zeiss SV-11. The measurements indicated in the text are in millimeters (mm), made with an eye piece graticule. Materials are in the deposition of Entomology

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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.

## TAXONOMIC ACCOUNT

### Genus: *Euophrys* C. L. Koch

- *Euophrys* C. L. Koch, 1834: Ann. Soc. Ent. France, 3: 7-8.

**Diagnosis:** Small spiders (3–5 mm long). Cephalothorax as dark as eye field or only slightly lighter, moderately high and convex, accommodating the eyes in 2/5 area. Abdomen with light mosaic pattern on dark grey background. Male palp with thin tibia and long apophysis, bulbous much longer than wide and with posterior lobe, spermophore meandering, embolus base coiled and set on distal haematodocha, spermathecae oval or round.

**Type species:** *Aranea frontalis* Walckenaer, 1802.

**Distribution:** Throughout except Nearctic (Metzner, 2013; Platnick, 2013).

### Key to species:

1. Abdominal dorsum with 2 pairs of sigilla; cheliceral promargin with 3 teeth, fangs serrate; spermathecae curved, both ends swollen.....*frontalis* Walckenaer  
-Abdominal dorsum without any sigilla; cheliceral promargin with 2 teeth, fangs not serrate; spermathecae round.....*omnisuperstes* Wanless

### *Euophrys frontalis* (Walckenaer)

(Figs. 1-5 & 11)

- *Aranea frontalis* Walckenaer, 1802. Faune parisienne. Insectes. ou Histoire abrégée des insectes de environs de Paris. Paris 2: 246.
- *Euophrys frontalis* (Walckenaer, 1802); C. L. Koch, 1834. Arachniden. In Herrich-Schäffer, G. A. W., Deutschlands Insekten. Heft. 123.

### Description: Female

CL- 2.00, CW- 1.50, AL- 2.89, AW- 1.93, TL- 5.07. Cephalothorax (Fig. 1) brown to dark brown, margins deep brown, ocular area anteriorly and laterally black, longer than wide, anteriorly subtruncate, medially widest, posteriorly U-shaped, clothed with pubescence, black setae, white long, erect hairs anteriorly and black, long, erect hairs on lateral side of ocular area; cephalic region anteriorly sloped, flat, wider than long. Eyes 8, pearly white, in 3 rows, anterior recurved, on black tubercles, frontally directed, rests straight; ocular quad wider than long. Eye diameter- AME>ALE>PLE>PME. Inter ocular distance: AME-AME- 0.46, ALE-AME- 0.43, ALE-ALE- 1.14, PME-PME- 1.14, PLE-PME- 0.43, PLE-PLE- 1.39, AME-PME- 0.61, and ALE-PLE- 0.71. Clypeus pale, vertical, height small. Thorax posteriorly strongly sloped, with a black midlongitudinal, small, prominent fovea; radii distinct. Chelicerae (Fig. 2) yellow, longer than wide, robust, promargin with 3 and retromargin with 1 brown teeth, scopulate; fang pale brown, long, strong and inner margins serrated. Labium (Fig. 3) dark brown, apically yellow, basally broader and with a black, broad, V-shaped marking, longer than wide, scopulate. Maxillae (Fig. 3) yellow, basal margins brown, longer than wide, apically subtruncate, wider, outer margins medially concave, scopulate. Sternum (Fig. 3)

yellow, longer than wide, parallel sided, anteriorly truncate, posteriorly broadly V-shaped, clothed with yellow setae and brown, erect hairs. Legs yellow, moderate, strong, 2 clawed, each with 6 pectinations and with claw tufts; femora with 3-0-2(2)-2(2), tibia I-II with 1-6(2-2-2)-2-2 and III- IV with 1-4(2-2)-2-2 spination. Leg measurements: I 3.47(1.04, 0.50, 0.89, 0.54, 0.50); II 3.28(0.96, 0.57, 0.79, 0.64, 0.32); III 3.89(1.18, 0.68, 0.71, 0.82, 0.50); IV 3.83(1.18, 0.54, 0.79, 0.93, 0.39). Leg formula- 3412.

Abdomen (Fig. 1) creamy white, marked by grey patches, elongately oval, clothed with pubescence and few pale brown, long, erect hairs anteriorly; dorsum, with 2 depressions, each with a brown, tiny, sigilla, anteriorly with 2 sigilla; venter creamy white, laterally and posteriorly with black patches, midlongitudinally with a faint, pale yellow band, extending from epigastric furrow to spinnerets.

**Epigynum-Internal genitalia** (Figs. 4-5): Epigynal plate distinct, capsule like, with 2 pockets; copulatory ducts short, triangular; spermathecae curved, both ends swollen; fertilization ducts short, opening into a broad atrium.

**Material examined:** 1female, Jayanti, BTR, Jalpaiguri, West Bengal, India, 10. x. 2009, coll. D. C. Dhali. 1 female, Nepuchapur T. E., Jalpaiguri, West Bengal, India, 01. xi. 2010, coll. T. K. Roy.

**Distribution:** India (new record): West Bengal; Afghanistan, Austria, Azerbaijan, Belgium, China, Croatia, Czech Republic, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Kyrgyzstan, Libya, Lithuania, Macedonia, Netherlands, Poland, Portugal, Romania, Russia, Sakhalin, Serbia, Slovakia, South Korea, Switzerland, Turkey, Turkmenistan, Ukraine (Prószyn'ski, 2007; Metzner, 2013; Platnick, 2013).

**Remarks:** Saving body colour the present samples are a copy of what has been described by Logunov et al. (1993), Logunov (1997) and Zabka & Prószyn'ski (1998).

**Habitat:** The species is a common resident of litters of both the surveyed habitats.

### ***Euophrys omnisuperstes* Wanless**

(Figs. 6-10 &12)

- *Euophrys omnisuperstes* Wanless, 1975. Bull. British Arachnol. Soc., 3: 132.

#### **Description:** Female

CL- 1.51, CW- 1.30, AL- 2.41, AW- 1.30, TL- 3.81. Cephalothorax (Fig. 6) brown, ocular area deep brown, excepting black lateral and anterior margins, longer than wide, anteriorly truncate, posteriorly little wider and U-shaped, clothed with white pubescence; cephalic region anteriorly sloped, with long pale brown hairs on sides, longer than wide, with a midlongitudinal thoracic fovea. Eyes 8, pearly white, on tubercles, excepting PME, in 3 rows, anterior recurved, each fringed with white, long hairs, forwardly directed, rests straight; ocular quad wider than long, anteriorly little wider. Eye diameter- AME>ALE>PLE>PME. Inter ocular distance: AME-AME- 0.38, ALE-AME- 0.27, ALE-ALE- 0.86, PME-PME- 0.86, PLE-PME- 0.29, PLE-PLE- 0.89, AME-PME- 0.43, and ALE-PLE- 0.59. Clypeus deep brown, vertical, height medium, with pale brown, long hairs. Thorax strongly sloped posteriorly, midlongitudinally with a black, prominent fovea; radii absent. Chelicerae (Fig. 7) deep brown, rectangular, robust, promargin with 2 and retromargin with 1 black teeth, scopulate; fang dark brown, short, robust. Labium (Fig. 8) brown, midlaterally marked by black, basally truncate, apex round, scopulate. Maxillae (Fig. 8) yellowish brown, longer than wide, apically round,

posterolateral margins constricted with pedunculate base, concave, scopulate. Sternum (Fig. 8) yellow, margins pale brown, subcordate, clothed with pubescence. Legs yellow, medium, slender, excepting robust leg I, 2 clawed, with claw tufts; femora I with 3-0-2(2)-3(2-1), II-IV with 3-0-0-0, tibia I with 0-6(2-2-2)-3-3, II with 0-8(2-2-2-2)-0-0, and II-IV without any spination. Leg measurements: I 3.35(1.09, 0.39, 0.91, 0.61, 0.35); II 4.23(1.04, 0.48, 0.87, 1.45, 0.39); III 3.78(1.26, 0.48, 0.74, 0.91, 0.39); IV 3.95(1.30, 0.39, 1.04, 0.87, 0.35). Leg formula- 2431.

Abdomen (Fig. 6) creamy white, decorated with grey, longer than wide, anteriorly narrower and round, medially widest, posteriorly narrowing and pointed, clothed with pubescence and setae; venter creamy white.

**Epigynum-Internal genitalia** (Figs. 9-10): Epigynum nearly oval with a ring like pockets in each side, with prominent duct system; copulatory ducts very long, thin, coiled; spermathecae round; fertilization ducts short, basally thick, outwardly directed.

**Material examined:** female ♀, Dhupjhora, GNP, Jalpaiguri, West Bengal, India, 12. iv. 2009, coll. D. C. Dhali.

**Distribution:** India (new record): West Bengal; Nepal (Prószyński, 2007; Metzner, 2013; Platnick, 2013).

**Remarks:** The recorded individual is very much akin to that of Wanless (1975), excepting (i) body colouration and abdominal decoration, (ii) leg formula 2431 (leg formula 142=3 in male and 41=32 in female) and (iii) no sigilla on abdomen (1 pair of sigilla in male and 2 pairs in female).

**Habitat:** The species is a common resident of forest litter.

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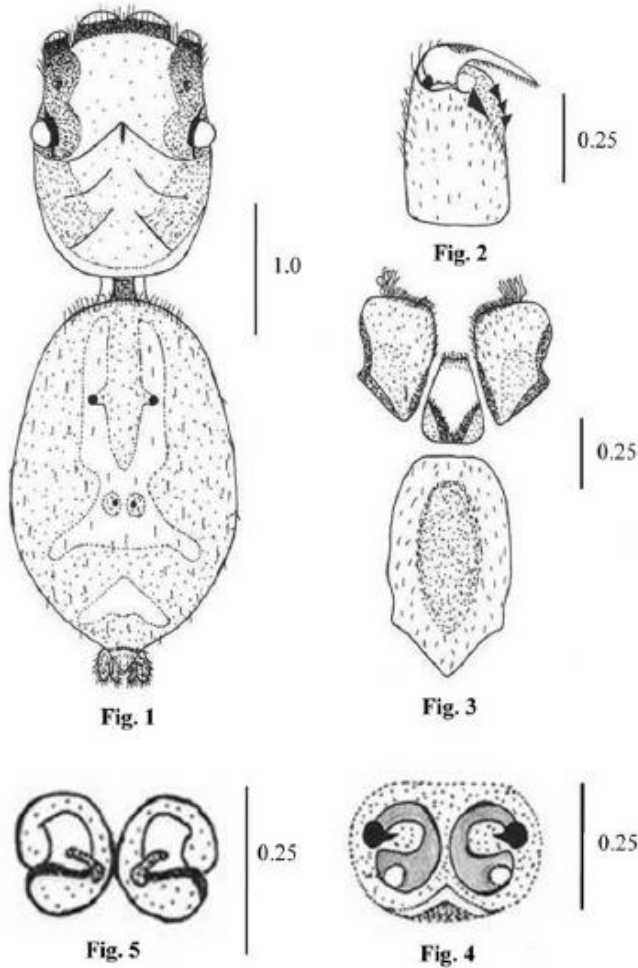
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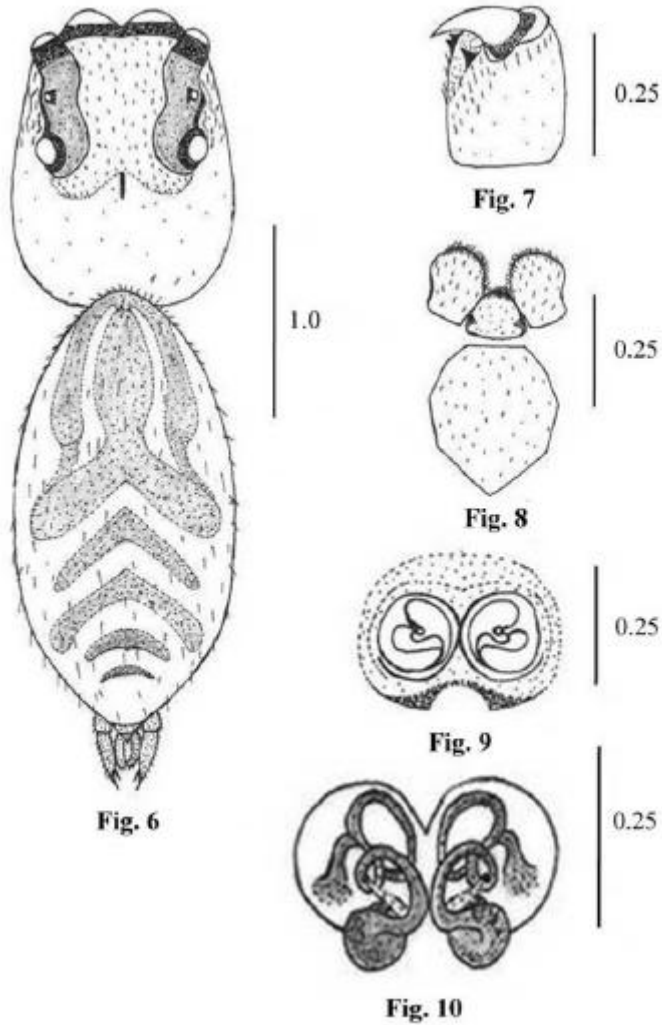
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Figs. 1-5: *Euophrys frontalis* (Walckenaer); 1. Cephalothorax and abdomen, dorsal view; 2. Chelicerae, ventral view; 3. Maxillae, labium and sternum, ventral view, 4. Epigynum, ventral view, 5. Internal genitalia, dorsal view.



Figs. 6-10: *Euophrys omnisuperstes* Wanless 6. Cephalothorax and abdomen, dorsal view; 7. Chelicerae, ventral view; 8. Maxillae, labium and sternum, ventral view, 9. Epigynum, ventral view, 10. Internal genitalia, dorsal view.



Figs. 11-12: Photographic images: 11. General habitus of *Euophrys frontalis* (Walckenaer); 12. General habitus of *Euophrys omnisuperstes* Wanless.