

NEW RECORD OF NURSERY WEB SPIDER, *POLYBOEA*
VULPINA THORELL, 1895 (ARANEAE: PISAURIDAE)
FROM INDIA WITH A KEY TO INDIAN SPECIES

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Polyboea vulpina Thorell is recorded for the first time from India. Female of the newly recorded species is described and illustrated. A key to the Indian *Polyboea* species is also provided.

Keywords: Araneae, Pisauridae, *Polyboea vulpina*, new record, India.

INTRODUCTION

The nursery web spiders of family Pisauridae are known for their unique behavior of carrying egg sac by jaws and pedipalps. They are displaying great variations in habitus, size and life style (Sierwald, 1997; Jäger, 2011). Pisaurids are distributed throughout the world and presently contain 356 species under 51 genera (World Spider Catalog, 2020). In India, they are represented by 24 species distributed over 11 genera (Keswani *et al.*, 2012; World Spider Catalog, 2020). The genus *Polyboea* Thorell, 1895 is endemic to Asia and having only two known species viz. *Polyboea vulpina* Thorell 1895 and *Polyboea zonaformis* (Wang) 1993. Sen *et al.* (2010) reported *P. zonaformis* (Wang) from India. *P. vulpina* has wrongly been included in the Indian checklist by Sebastian & Peter (2009), but later Keswani *et al.* (2012) rectified the same. Till date there is no report of *P. vulpina* from India according to World Spider Catalog (2020). Our attempt to assess the faunal diversity of Agasthyamalai Biosphere Reserve of India has resulted in the recognition of the rare species, *Polyboea vulpina* Thorell. It is a new record for India, therefore, described and illustrated here. A key to the Indian species is also provided.

MATERIAL AND METHODS

The collected spiders were examined under LEICA M205C stereo zoom binocular microscope and images captured with the camera model LEICA DFC 500 and processed using extended focus montage LAS software (version 3.8.0). The female genitalia were cleared under 10% KOH. The measurements indicated in the text are in millimeters. Leg measurements are indicated as: total length (femur, patella, tibia, metatarsus, tarsus). Leg spination patterns are shown as: prolateral, dorsal, retrolateral and ventral spines. The terminology used in the text mainly follows Sierwald (1997) and Zhang *et al.* (2004).

The specimens are deposited in the National Zoological Collections of Zoological Survey of India, Western Ghat Regional Centre, Kozhikode.

Abbreviations: CL=Cephalothorax length, CW=Cephalothorax width, AL= Abdominal length, AW=Abdominal width, TL=Total length, AME=Anterior median eyes, ALE=Anterior lateral eyes, PME=Posterior median eyes, PLE=Posterior lateral eyes.

TAXONOMY

Polyboea Thorell, 1890

Type species: *Polyboea vulpina* Thorell

Diagnosis: For diagnostic features and description, see Sierwald (1997) and Zhang *et al.* (2004).

Polyboea vulpina Thorell

Polyboea vulpina Thorell, 1895, *Descriptive catalogue of the spiders of Burma*: 229

Material examined: 3♀♀ (Reg. No. ZSI/WGRC/IR.INV/12485, ZSI/WGRC/IR.INV/12486, ZSI/WGRC/IR.INV/12487), India: Tamil Nadu, Thirunelveli, Kalakad Mundanturai Tiger Reserve (08°35'44"N & 77°21'37"E, 1086m), 24/VIII/2019, Coll. B.H.C.K. Murthy.

Description: Female:

CL-3.24, CW-2.47, AL-5.14, AW-2.28, TL-8.38. Cephalothorax (Figs. 1–2) yellowish brown, longer than wide, anteriorly narrowed and posteriorly globose, two median brown longitudinal bands extending from PME upto base of cephalothorax; cephalic region raised, thoracic fovea longitudinal, radii distinct.

Eyes 8, white, rimmed with black, except anteromedians all on tubercles, posterior row strongly recurved and anterior row nearly procurved, thus forming 3 rows of eyes, MOA longer than wide, ALE>PLE=PME>AME; inter ocular

distance: AME–AME=0.17, ALE–AME=0.30, ALE–ALE=0.78, PME–PME=0.30, PLE–PME=0.51, PLE–PLE=1.03, ALE–PLE=0.53, AME–PME= 0.18.

Clypeus yellowish brown, longer than wide, clothed with setae. Chelicerae yellowish brown, with a dorsal black line, longer than wide; promargin with 3 teeth, retromargin with 2 equal sized teeth; fangs brown, curved.

Sternum yellow, longer than wide, apically broad, distally pointed, margins clothed with setae.

Both maxillae and labium yellow, anterior margin pale and scopulate;

maxillae elongate, basally narrow, apically broad; labium longer than wide, with median notch.

Legs yellowish brown, slender, femora with ventrolateral black line, tarsal claw three, third one toothless, leg spination: femur I–III 4240, femur IV 2220; tibia I–IV 4333, metatarsus I–IV 2332, femoral spines shorter than tibial and metatarsal spines; leg measurements: I 14.44 (2.46, 0.98, 5.10, 3.72, 2.18); II 15.59 (2.80, 1.00, 4.97, 4.51, 2.31); III 11.62 (2.69, 0.94, 3.45, 3.15, 1.39); IV 13.89 (2.22, 1.71, 3.96, 4.28, 1.72), leg formula 2143.

Abdomen (Figs. 1–2) yellow, elongate oval, dorsum with a black, median, longitudinal ‘y’ shaped band, clothed with white hairs; venter greyish brown with a pair of longitudinal and 3 pairs of lateral black thin bands, yellowish white reticulation in between longitudinal bands, clothed with white hairs; spinnerets greyish brown with black shades.

Epigynum-Internal genitalia (Figs. 3–4): Epigynal lateral lobe opening anteriorly and joining posteriorly with distinct sclerotised marking, median field of epigynum wider than long, carnia of epigynum entire, fossa deep and close together; copulatory ducts long, membranous and form two saccate loops, head of spermatheca bend anteriorly, base of spermatheca broadly oval, with distinct transverse fertilization ducts.

Distribution India (New Record): Myanmar, Malaysia, Singapore, Thailand.

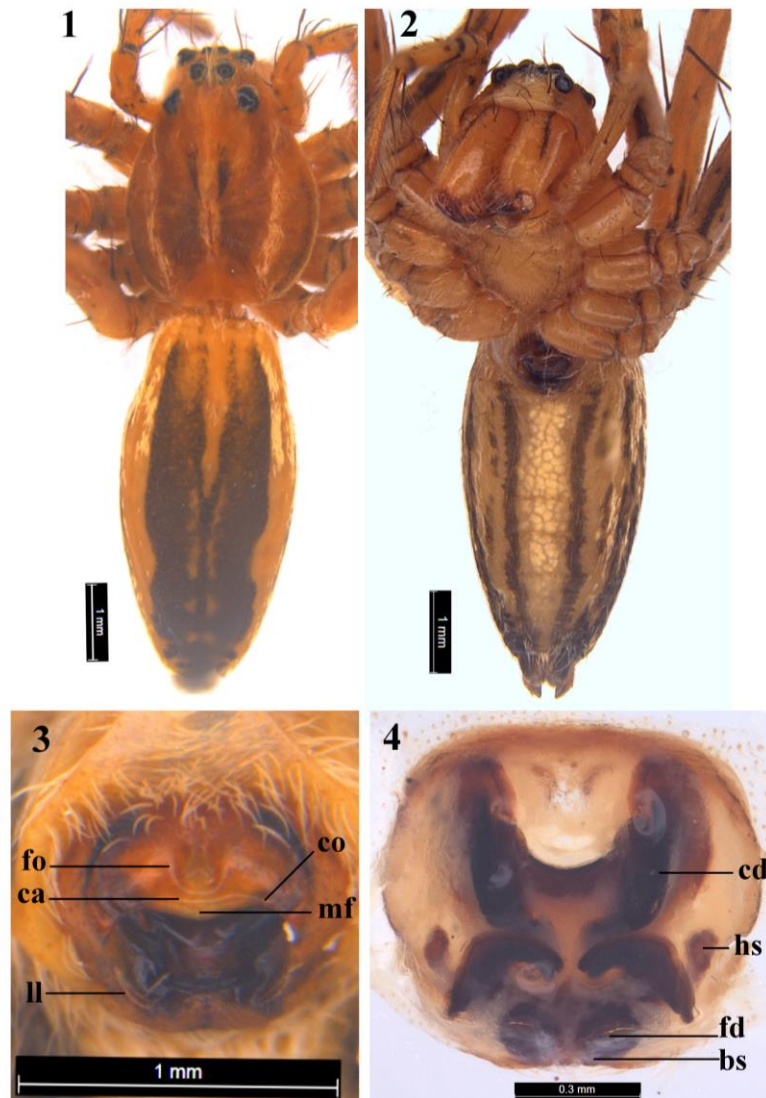
Key to Indian species of *Polyboea* Thorell

Epigynal lateral lobe joining posteriorly with distinct sclerotised marking, median field of epigynum wider than long, carnia of epigynum less curved, head of spermatheca bend anteriorly, base of spermatheca broadly oval, with distinct transverse fertilization ducts; chelicerae with a dorsal black line; femora with ventrolateral black line (Figs. 1–4).

..... *P. vulpina* Thorell

Epigynal lateral lobe completely fused posteriorly without any marking, median field of epigynum longer than wide, carnia of epigynum ripple like, head of spermatheca bifid and directed upwardly, base of spermatheca small, globular, with cylindrical sub parallel fertilization duct; chelicerae and femora without any black line (Zhang *et al.*, 2004; Sen *et al.*, 2010).

..... *P. zonaformis* (Wang)



Figs. 1–4. *Polyboea vulpina* Thorell female:

1 - Dorsal habitus; 2 - Ventral habitus; 3 - Epigynum, ventral view; 4 - Internal genitalia, dorsal view.

Abbreviations: bs = base of spermatheca; ca = carina; cd = copulatory duct; co = copulatory opening; fd = fertilization duct; fo = fossa; hs = head of spermatheca; ll = lateral lobe; mf = median field.

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