

A New Litter Dwelling *Oxyopes* Latreille (Araneae: Oxyopidae) Species from Jaldapara Wild Life Sanctuary, India

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ABSTRACT

Oxyopes fabae, a new lynx spider (Araneae: Oxyopidae) from forest litter of Jaldapara Wild Life Sanctuary, India, is described and illustrated.

Key Words: Litter dweller, *Oxyopes fabae* sp. nov., Jaldapara, India.

1. INTRODUCTION

Lynx spiders have extreme bioresource potential and are recognized as excellent biological pest management candidates (Huseynov, 2006, Raychaudhuri *et al.*, 2012). Globally *Oxyopes* Latreille comprises 299 species (Platnick, 2014) while nationally, they are represented by 47 species (Gajbe, 2008; Sebastian & Peter, 2009; Keswani *et al.*, 2012). Some important revisionary works on the genus were done by Sherriffs, 1951; Eshyudin and Tuneva, 2009. The species described by Sen *et al.* (2011) is however, still awaiting inclusion in the global list. During our study on the lynx spiders of the reserve forests and adjoining tea gardens of Dooars, India, we could find one more new *Oxyopes* Latreille namely *O. fabae*, which is described and illustrated.

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Comparison: It is a work about the proposition of a new litter inhabitant oxyopid from Jaldapara Wild Life Sanctuary. It is collected by hand from the area. *Oxyopes fabae* sp. nov. appears as the sibling of *O. kusumae* Gajbe, 1999.

2. 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 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 funnel. 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.

2.1. Abbreviations

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.

Lynx spiders:

Small to large, three clawed, foliage dwellers. Eight eyes in a hexagon, with wide clypeus. Prominent spines on legs.

Cymbium:

Dorsal part of male papal tarsus, most often hollow, carrying the usually complex bulbus, used to pick up sperm and transfer it to the female.

Clypeus:

Region between the front edge of carapace and anterior eyes.

Epigynum-Internal genitalia:

Female genital structure, a hardened plate (ventral) on the underside of the abdomen in front of the genital opening. Internal genitalia (dorsal) includes copulatory ducts, receptacles (spermathecae), fertilization ducts and atrium.

2.2. Diagnosis

Lynx spiders are now diagnosed by the presence of AME over half way up to the front of face, PME just beyond the top of front face, posterior eye row strongly procurved and equidistant from each other, clypeus and femora usually lined with black, cheliceral retromargin with at least single tooth, male palp without tegular lobe, retrolateral margin of cymbium without basal apophysis (Esyunin and Tuneva, 2009).

2.3. Type Material

Holotype: 1♀, Jaldapara, JWLS, Jalpaiguri, West Bengal, India, 12. iv. 2009, coll. D. C. Dhali.

2.4. Type Deposition

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3. DESCRIPTION: Female (Holotype)

Measurements: CL- 2.26, CW- 1.96, AL- 3.09, AW- 1.57, TL- 5.35. Cephalothorax (fig. 1): reddish brown, ocular area white, longer than wide, convex, anteriorly narrowed and subtruncate, medially widest, posteriorly rounded, clothed with pubescence; cephalic region marked by distinct furrows, highly raised at middle. Eyes: Eight, transparent, ringed with black, in two rows, anterior row strongly recurved, posterior row strongly procurved; ocular quad very much longer than wide, basally broader. Eye diameter and inter ocular distance: PLE >PME >ALE >AME; AME-AME- 0.22, ALE-AME- 0.17, ALE-ALE- 0.39, PME-PME- 0.34, PLE-PME- 0.39, PLE-PLE- 0.87, AME-PME- 0.70, ALE-PLE- 0.34. Clypeus: reddish brown, sloped, height high, with 2 faint, black, midlongitudinal, nearly parallel lines, extending from AME up to the base of cheliceral fang, anterolateral corners black. Thoracic region: with a midlongitudinal, distinct, dark fovea; radii indistinct, diverging. Chelicerae (fig. 2): reddish brown, subtriangular, short, robust, promargin with two and retromargin with single black, similar teeth, scopulate; fang: brown short, robust, erect. Labium (fig. 3): brown to deep brown, longer than wide, medially constricted, base pedunculate, apically weakly concave, scopulate. Maxillae (fig. 3): light brown, longer than wide, inner margin with a concavity at lower submedian, outer margin medially incurved weakly, scopulate. Sternum (fig. 3): light brown, cordate, anteriorly concave, posteriorly narrow and pointed beyond coxae IV, clothed with short hairs and pubescence.

Legs: yellow, long, slender, three clawed, each superior with ten pectinations while inferior without any such, claw tufts absent; femora with 3-0-2-2, tibia with 2-4(2-2)-1-1 spination. of the Leg measurements are indicated in Table 1. Leg formula - 1243.

Abdomen (fig. 1): grayish brown, silvery white, midlongitudinal band enclosing a basal grey brown, lance shaped, longitudinal, marking, distally radiating, each posterolateral side with few dark patches, elongately oval, clothed with white, short hairs and pubescence; dorsum: with two pairs of sigilla medially; venter: pale brown, midlongitudinally with a broad, black band, extending from epigastric furrow to the spinnerets.

Epigynum-Internal genitalia (figs. 4-5 & 7): Epigynum black, highly sclerotized, with a apically rounded hood; septum medially concave weakly; copulatory ducts long, thick, coiled; spermathecae bean shaped; fertilization ducts short, basally thick, apically thin, coiled, extending up to epigastric furrow.

Distribution

India: West Bengal.

Etymology

The specific epithet is derived from the bean shaped nature of spermathecae.

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Sigilla:

Impressions on sternum in Mygalomorphae and Araneomorphae, corresponding with internal muscle attachment.

4. DISCUSSION

Most of the lynx spiders are considered as tourist species for their usual habitats of bush or trees but they are often found in ground or litter. *Oxyopes fabae* sp. nov., a litter dweller shows a close affinity to *Oxyopes kusumae* Gajbe, 1999 but can be separated by (i) abdominal dorsum with 2 pairs of sigillae (no such sigilla in *O. kusumae*), (ii) copulatory openings on the median septum apically (2 copulatory openings apically but on the both side of median septum in *O. kusumae*), (iii) long copulatory ducts extending over the bean shaped spermathecae (short copulatory ducts not extending over the tubular, curved spermathecae in *O. kusumae*). Such differences justify the erection of the new species.

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REFERENCES

1. Esyunin SL, Tuneva TK. A review of Palaearctic lynx-spiders of the heterophthalmus group of the genus *Oxyopes* (Aranei, Oxyopidae), *Zoolog Zhurn*, 2009, 88, 164-75
2. Gajbe UA. Studies on some spiders of the family Oxyopidae (Araneae: Arachnida), *Zool Surv India*, 1999, 97(3), 31-79
3. Gajbe UA. Fauna of India and the adjacent countries: Spider (Arachnida: Araneae: Oxyopidae), *Zool Surv India*, 2008, 1-117
4. Huseynov EFO. The Prey of the Lynx Spider *Oxyopes globifer* (Araneae, Oxyopidae) Associated with a Semidesert Dwarf Shrub in Azerbaijan, *J Arachnol*, 2006, 34, 422-26
5. Keswani S, Hadole P, Rajoria, A. Checklist of Spiders (Arachnida: Araneae) from India-(2012), *Indian J Arachnol*, 2012, 1 (1), 1-129
6. Platnick NI. The World spider catalog, version 14.5. *American Mus Nat Hist*, 2014, On line at [http:// research. amnh. org/ entomology/ spiders/catalog/ index.html](http://research.amnh.org/entomology/spiders/catalog/index.html). (Accessed on 3rd October, 2014)
7. Raychaudhuri D, Saha S, Sen S. *Spider Bioresources : Reserve Forests, Dooars & Darjeeling, West Bengal, 2012*, On line at spiderbioresource.com. (Accessed on 3rd October, 2014)
8. Sebastian PA, Peter, KV. *Spiders of India*, 2009 Universities Press (India) Pvt Ltd
9. Sen S, Saha S, Raychaudhuri D. New Species and New Combination of *Oxyopes* Latreille 1804 (Araneae: Oxyopidae) Females from India, *World J Zool*, 2011, 6 (4), 339-45
10. Sherriffs WR, Some oriental spiders of the genus *Oxyopes*, *Proc Zool Soc London*, 1951, 120, 651-77

Table 1

Leg measurements (in mm) : Holotype : *Oxyopes fabae* sp. nov.

Leg segment	Leg I	Leg II	Leg III	Leg IV
Femur	2.20	2.07	1.67	2.02
Patella	0.60	0.60	0.60	0.60
Tibia	2.27	2.02	1.60	1.80
Metatarsi	2.40	1.93	1.67	1.87
Tarsi	0.87	0.67	0.60	0.73
Total	8.34	7.29	6.14	7.02

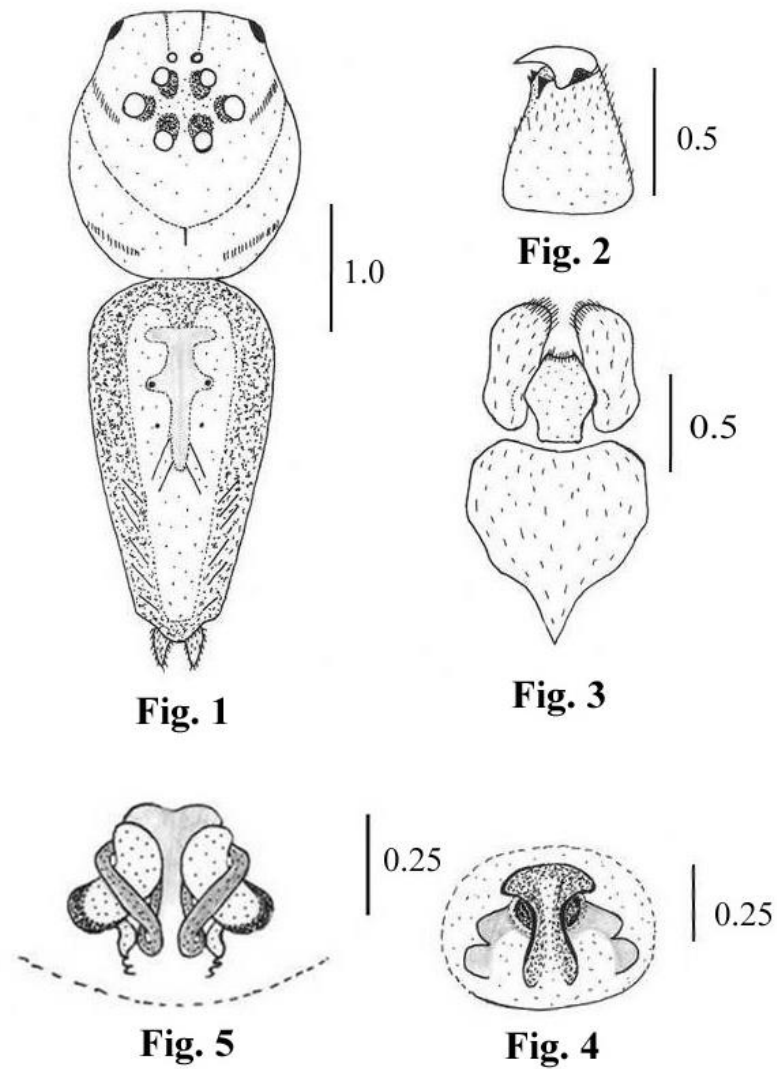


Figure 1
Cephalothorax and Abdomen, dorsal view.

Figure 2
Chelicerae, ventral view.

Figure 3
Maxillae, Labium and Sternum, ventral view.

Figure 4
Epigynum ventral view.

Figure 5
Internal Genitalia, dorsal view.



Figure 6
Photographic Image: General Habitus.

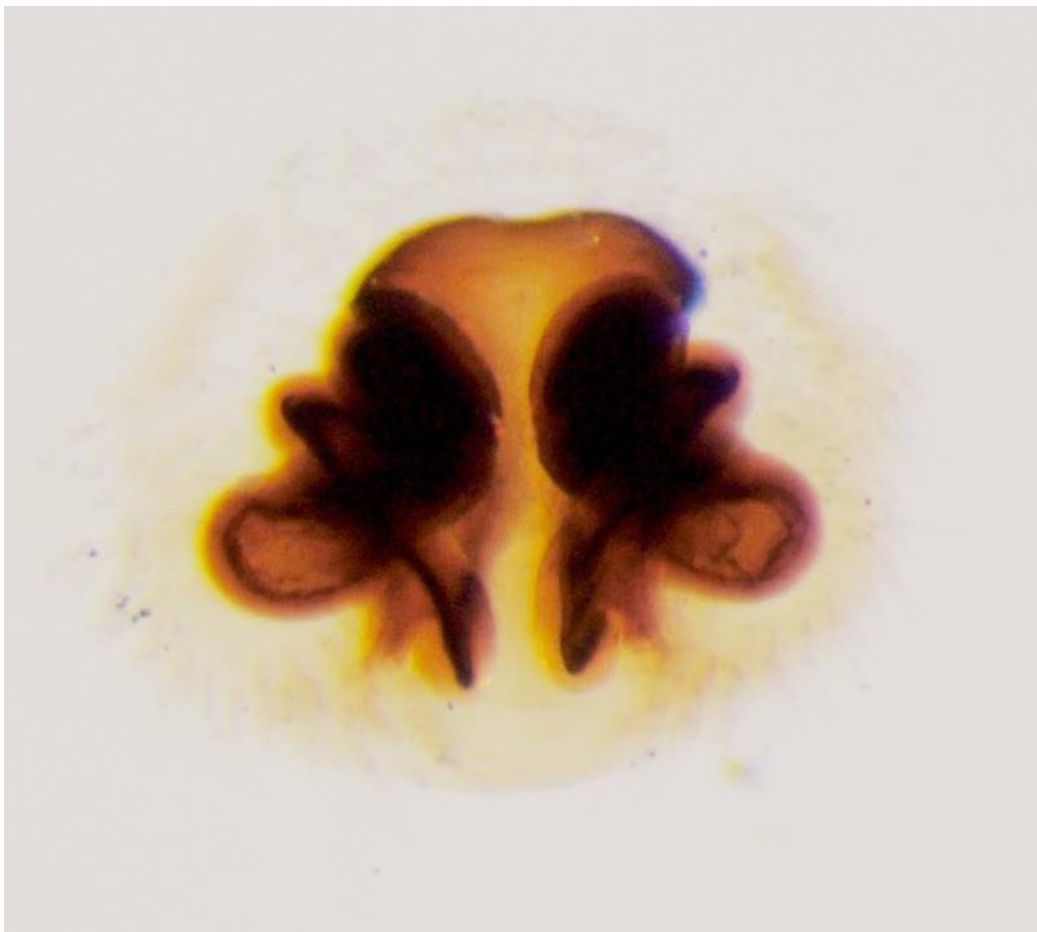


Figure 7

Photographic Image: Internal Genitalia.