7. TAXONOMY

Order: Araneae


Suborder: Araneomorphae

Diagnosis: Cheliceral fangs diaxial i.e. opposing each other. Book lungs 1 pair. Spinnerets 3 pairs. Cribellum (modified median spinnerets) and colulus (transformed Cribellum) usually present. Sternum without any sigillae.

Key to families:

1. Cribellum (Fig. XXVII) and calamistrum (Fig. XXII) present, sometimes absent or reduced in male
   - Cribellum and calamistrum absent
     --------------- Cribellate ----------- 2
     --------------- Ecribellate ----------- 4

2. Posteromedian eyes enlarged, at least 2 to 4 times large of anteromedians (Fig. X), anterior legs very large and slender (Plate-XI)
   --------------- Deinopidae C. L. Koch
   - Posteromedian eyes not greatly enlarged; anterior legs not so, only the 1st pair greatly elongate

3. Femora with rows of long trichobothria (Plate-XI); metatarsi IV compressed and curved under the line of calamistrum (Fig. XXII); cephalothorax variable
   --------------- Uloboridae Thorell
   - Femora without rows of long trichobothria; metatarsi IV not compressed and curved; carapace rectangular; ocular area long with anterolateral eyes at angles and posterolaterals far away from the rest, at the posterior half (Fig. IX)
     --------------- Eresidae C. L. Koch

4. Tarsi with 2 claws and claw tufts (Fig. XVIII)
   ------------------------------------------ 5
   - Tarsi with 3 claws, claw tuft absent (Fig. XIX)
     ------------------------------------------ 11
5. Cephalothorax dome like; abdomen with dorsal scutum (Plate-XI); fang short and stout (Fig. XXV), ant eaters

------------------Zodariidae Thorell

- Cephalothorax, abdomen and fang variable

6. Eyes usually in 3 rows, occupying the entire cephalic area, 1\textsuperscript{st} row of eyes large on vertical face with anteromedians largest, anterolaters smaller, in some genera moved into separate row behind anteromedians, posteromedians of 2\textsuperscript{nd} row minute, located between anterolaters and medium sized posterolaters of 3\textsuperscript{rd} row (Fig. VII)

------------------Salticidae Blackwall

- Eyes in 2 rows

7. Legs I and II usually laterigrade (Fig. XX), in few less evident or never

-----------------------------g

- Legs usually prograde (Fig. XXI)

8. Metatarsal apex with soft trilobate membrane (Fig. XV); epigynum with paired lateral lobes, often with a median piece; all metatarsi and tarsi with dense scopulae (Fig. XVIII)

----------------Sparassidae Bertkau

- Metatarsal apex without any such membrane; epigynum otherwise, usually with hood or guide pocket; metatarsi and tarsi III and IV never scopulate

------------------Thomisidae Sundevall

9. Anterior spinnerets long, cylindrical, heavily sclerotised and widely separate (Fig. XXIX); eyes heterogenous with anteromedians dark (Fig. XII)

-------------------Gnaphosidae Pocock

- Anterior spinnerets short, conical, not more sclerotised than others, close together; eyes usually homogenous

-----------------------------10

10. Posterior spinnerets 2 segmented with distal segment distinctly conical (Fig. XXXI); cribellum entire or divided, male palp with expanded retrotibial apophysis (Fig. XXXVII)

-------------------Miturgidae Simon

- Posterior spinnerets 2 segmented with distal segment not conical (Fig. XXXII), cribellum if present not so; male palp with variable retrolateral apophysis

-------------------Clubionidae Wagner
11. Posterior spinnerets enormously long, usually longer than abdomen (Fig. XXVIII)
   ------------------------------------------ Hersiliidae Thorell
   - Posterior spinnerets short and thick, always shorter than abdomen

12. Eyes hexagonal (Fig. VI), anterior row strongly procurved and posterior row strongly recurved; clypeus very high (Fig. VI); leg spines long and prominent (Plates- XIV & XV)
   ------------------------------------------ Oxyopidae Thorell
   - Eyes never hexagonal, if approximately close then clypeus narrow

13. Trochanters ventrally with a curved notch (Fig. XIV)
   ------------------------------------------ 13
   - Trochanters not notched

14. Eyes arranged in 2 rows, often stalked (Fig. V); median tarsal claw with 2-3 teeth, anterior piece of lorum with a notch into which posterior piece fits
   ------------------------------------------ Pisauridae Simon
   - Eyes arranged in 3 rows, not stalked (Fig. VIII); median tarsal claw smooth or with a single tooth, anterior piece of lorum rounded behind and fits into a notch of the posterior piece
   ------------------------------------------ Lycosidae Sundevall

15. Tarsus IV ventrally with a distinct comb of strong, curved serrated bristles (Fig. XXIII), may be poorly developed in male; labium not rebordered
   ------------------------------------------ Theridiidae Sundevall
   - Tarsus IV without such comb; labium rebordered

16. Eyes heterogenous with anteromedians dark (Fig. XI); clypeus usually as high as or higher than median ocular area (Fig. XI); chelicerae with stridulating ridges
   ------------------------------------------ Linyphiidae Blackwall
   - Eyes homogenous; clypeus usually lower than the height of median ocular area; chelicerae without stridulating ridges
17. Epigastric furrow procurved (Fig. XXXVI); chelicerae usually very large and powerful (Fig. XXIV), devoid of boss; anterior and posterior spinnerets similar, epigyne without scape

--------- **Tetragnathidae** Menge

- Epigastric furrow nearly straight (Fig. II); chelicerae moderate, usually with a boss (Fig.XXVI); anterior and posterior spinnerets dissimilar; epigyne with scape

----------------------- 18

18. Cephalothorax usually longer than wide (Plate-XVII); trichobothria present on tibiae only (Fig. XVI); male paracymbium usually flat and rectangular

--------- **Nephilidae** Simon

- Cephalothorax flat, variable (Plates- XVIII, XIX & XX); trichobothria present on all leg segments except tarsi (Fig. XVII); paracymbium usually with a sclerotised hook (Fig. XXXVIII)

--------- **Araneidae** Clerck
DEINOPIDAE C. L. Koch  
(NET CASTING SPIDERS)


Diagnosis: Cephalothorax longer than wide, clothed with dense setae, fovea varies from shallow depression to deep oval pit. Eyes 8, in 3 rows with posteromedians largest, anteromedians smallest and anterolaterals on small tubercles. Sternum elongate, oval to triangular. Labium as wide as long, narrowly rebordered. Legs 3 clawed, uniserrate, calamistrum on metatarsi IV, leg formulae 1234. Abdomen elongate, with 1 or 2 median humps. Cribellum narrow, undivided. Epigyne complex, with a semicircular to triangular plate, male palp with spiral embolus, palpal tibia varies from very long and cylindrical to club shaped.

Biological note: Most deinopids construct a sticky web. The web is held at the corner by the long front legs, the size of which can be varied up to 5 times while casting on to the prey. They are usually found near the ground on piles of dead twigs or among the lower leafless branches of shrubs near marshy places. They hang in a head down position in the web and at rest, their anterior legs remain extended forward while posterior backward. Such highly cryptic behaviour keeps them concealed in nature.

Distribution: Throughout excepting Palaearctic and Nearctic regions (Platnick, 2013).
Genus: *Deinopis* MacLeay


**Diagnosis:** Medium to large sized spiders with carapace elongate, abdomen flattened and usually clothed with dense plumose setae. Sternum triangular, cheliceral promargin with 4 teeth and retromargin with 6-7 teeth. Front legs nearly 3 times and rear legs nearly 2 times longer than total length. In resting position, anterior pairs remain stretched out forward and posterior pairs extended to the rear, giving the spider an appearance of a twig.

**Type species:** *Deinopis lamia* MacLeay, 1839.

**Distribution:** Throughout excepting Palaearctic and Nearctic regions (Platnick, 2013).

*Deinopis goalparaensis* Tikader & Malhotra

(Figs. 1-5; PL XI)


**Interocular distance:** AME - AME $= 0.33$, ALE - AME $= 0.67$, ALE - ALE $= 1.63$, PME - PME $= 0.75$, PLE - PLE $= 0.75$, PLE - PLE $= 1.08$, ALE - PLE $= 0.92$, AME - PME $= 0.25$

**Legs:** I 23.8 (7.2, 1.2, 6.2, 7.0, 2.2); II 22.2 (7.2, 1.2, 5.8, 5.8, 2.2); III 12.8 (5.2, 0.8, 3.2, 2.4, 1.2); IV 11.8 (4.4, 0.8, 3.2, 2.4, 1.0). Leg formula 1234.

**Material examined:** 1 $\varphi$, KTE, 07.IX.2008, coll. T. K. Roy

**Distribution:** India: Assam, West Bengal (New record) (Tikader & Malhotra, 1978; Platnick, 2013).
Deinopis goalparaensis Tikader & Malhotra
Family: Uloboridae
**ULOBORIDAE** Thorell

(HACKLED WEB SPIDERS)


**Diagnosis:** Cephalothorax frequently flat, shape variable. Eyes 8, dark, homogenous, in 2 well separated rows; sometimes 4, only in single row, placed posteriorly with laterals at times on tubercles. Sternum long, oval to triangular; sometimes separated into 2 between coxae II and III. Labium free, semicircular or long, distally pointed. Chelicerae moderately robust, nearly parallel sided, fang margin with one to several small teeth. Anterior legs largest, femora with dorsal trichobothria, tarsal claws 3; metatarsi IV with calamistrum, bearing a row of macrosetae ventrally, weakly curved along its dorsal edge; tarsi with similar setae. Abdomen slender, narrow and elongate, with 1 or 2 humps, rarely extending beyond spinnerets. Anal tubercle dull, large, 2 segmented. Cribellum prominent in females, absent or degenerate in adult males. Male palp with 2 apical cymbial setae.

**Biological note:** Uloborids spin modified version of orb webs, ranging from triangular to a single thread, consisting of cribellate silk in low bushes or between objects near the ground or in buildings. They prefer cool and shady places. The web is usually tugged forcefully to locate and entangle the prey while approaching to it. Usually the first pairs of legs and to a lesser extent second pairs are used to tug and lightly touch the prey. Hanging from the first and second pair of legs, the spider uses the fourth pair to cast silk onto the prey and subdue it. The genus *Uloborus* is found to be one of the dominant groups in tea ecosystem.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Cephalothorax longer than wide; eyes 4, arranged in a single posterior row, anterior row absent, posterolaterals often on tubercles; sternum divided; abdomen elongate, tubular, truncate anteriorly and blunt posteriorly
   -- **Miagrammopes** O. P.-Cambridge

2. Cephalothorax wider; eyes 8, arranged in 2 rows, posterolaterals not on tubercles; sternum undivided; abdomen longer than wide
   ---------------------- **Uloborus** Latreille

Genus: **Miagrammopes** O. P.-Cambridge


Diagnosis: Cephalothorax weakly raised, nearly twice longer than broad and parallel sided, posteriorly truncate, cephalic region broader, anteriorly obtuse. Eyes 4, unequal, in a transverse, recurved row only, with medians usually widely separate; laterals on tubercles, protruding sideways. Clypeus broad, sloping. Sternum elongate, divided into 2 unequal sternites seemingly joined to carapace between II and III coxae by narrow selerite; coxae II closer to I than III. Legs long, slender; I\(^{st}\) pair longest, robust, apical segments laterally compressed; II\(^{nd}\) and III\(^{rd}\) pair short and thin; IV\(^{th}\) pair long, metatarsus laterally compressed with calamistrum bearing single row of macrosetae ventrally along most length. Abdomen elongate, tubular, truncate anteriorly and blunt posteriorly.

Type species: *Miagrammopes thwaitesii* O. P.-Cambridge, 1870.


*Miagrammopes* sp. nr. *kirkeensis* Tikader

(Figs. 6-11; PI. XI)


Measurements (♀): CL - 2.02, CW - 1.47, AL - 4.84, AW - 1.28, TL - 6.91.

Interocular distance: AME - AME = 0.77, ALE - AME = 0.35, ALE - ALE = 1.44

Legs: I 8.00 (2.89, 0.67, 2.22, 1.78, 0.44); II 4.44 (1.78, 0.44, 0.89, 0.89, 0.44); III 3.55 (1.11, 0.44, 0.67, 0.89, 0.44); IV 6.22 (1.78, 0.67, 2.22, 1.11, 0.44). Leg formula 1423.

Miagrammopes sp. nr. *kirkeensis* Tikader

Genus: *Uloborus* Latreille


Diagnosis: Cephalothorax brown, high; in male relatively flat, with narrowing anterior end. In both sexes, 1st pair of legs much longer and more robust; tibia 1 in male with 6-7 dorsal teeth like spines, while in female both dorsal and ventral surfaces with fringes of hairs. Abdomen longer than broad, spear shaped, anteriorly round and pointed at rear, with 2 substantial but well separate humps at widest part; females in profile appear hunch-backed with prominent anal tubercle but diminished in male.

Type species: *Uloborus walckenaerius* Latreille, 1806.


Key to species:

1. Abdominal dorsum anteromedially with 2 large humps, projected backward and outward, mid longitudinally reticulate, marked by dark brown; spermathecae bilobed, copulatory ducts short, nearly straight, opening at the base of spermathecae, fertilization ducts knob like

-------------------

--- *khasiensis* Tikader

- Abdomen not so but anteriorly high up with a hump, mid longitudinal reticulation pale, clothed with hairs; spermathecae globose, single lobed, copulatory ducts much long, curved, looped and finally opening at the apex of spermathecae, fertilization ducts short, nearly straight, horizontal

-------------------

--- *danolisus* Tikader

*Uloborus khasiensis* Tikader

(Figs. 12-21; Pl. XI)


Interocular distance: AME - AME= 0.17, ALE - AME= 0.17, ALE - ALE= 0.51, PME - PME= 0.30, PLE - PME= 0.19, PLE - PLE= 0.62, ALE - PLE= 0.26, AME - PME= 0.23

78
Legs: I 4.36 (1.00, 0.36, 1.00, 1.45, 0.55); II 2.82 (0.64, 0.36, 0.64, 0.73, 0.45); III 2.36 (0.45, 0.27, 0.55, 0.64, 0.45); IV 3.36 (0.45, 0.27, 1.00, 1.00, 0.64). Leg formula 1423.

Description: Male

CL - 0.88, CW - 0.90, AL - 1.47, AW - 0.73, TL - 2.35. Cephalothorax (Fig. 17) brown, globose, flatterish, laterally clothed with small, shiny, white hairs; cephalic region weakly produced anteriorly, medially with shallow depression, cervical furrows distinct, marked by brown; thoracic region convex, fovea V shaped, yellow, radii distinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 recurved rows as viewed dorsally, anterior strongly so with anteromedians largest, projected outwardly; posterior well but not so the former, eyes subequal, nearly evenly spaced, ocular quad squarish, eye diameter AME>AME>PME>PLE>ALE. Interocular distance: AME – AME= 0.19, ALE – AME= 0.11, ALE – ALE= 0.35, PLE – PLE= 0.38, ALE – PLE= 0.14, AME – PME= 0.17. Clypeus pale brown, narrow. Chelicerae (Fig. 18) pale brown, small; fang brown, closed in the fang groove. Labium (Fig. 19) close, weakly longer than wide, basally brownish black, constricted medially, apically broad, triangular, scopulate. Maxillae (Fig. 19) basally constricted, apically broad, middorsally dark brown, marginally pale, inner margin scopulate. Sternum (Fig. 19) somewhat round, brownish black with a mid longitudinal pale brown stripe, marginally clothed with white, shiny white hairs, weakly indented at each coxal region, tip blunt, round. Legs long, stout, banded, dorsally pale brown, ventrally dark, clothed with pale brown hairs and spines, tarsal claws 3, leg measurements: I 3.63 (1.21, 0.38, 0.92, 0.83, 0.29); II 2.66 (0.83, 0.33, 0.63, 0.58, 0.29); III 1.75 (0.50, 0.17, 0.25, 0.54, 0.29); IV 2.71 (0.67, 0.25, 0.54, 0.79, 0.46). Leg formula 1423.

Abdomen (Fig. 17) brown, elongate, parallel sided, posteriorly narrow, anteriorly truncate, apical margins lined with white hairs. Dorsum decorated with a pair of humps anterolaterally, cardiac area marked by creamy white broad band, running throughout the length, medially enclosing brownish black markings, sub laterally with brown hairs, distributed in longitudinal series, further laterally with off white hairs. Venter yellow brown with a dark brown, broad, longitudinal band extending from epigastric furrow to spinnerets, clothed with small, brown and white hairs.

Palp (Figs. 20 & 21): Cymbium long incurved, embolus long, upwardly curved, sharply pointed, parallel to prominent tegulum and subtégulum, conductor lateral to embolus, median apophysis broad, incurved and strongly acute.


**Distribution:** India: Assam, Meghalaya, West Bengal (New record) (Tikader, 1969b; Dhali *et al.*, 2010b; Platnick, 2013).

**Remarks:** The male morph is first recorded. So it is described and illustrated.
Uloborus khasiensis Tikader
Uloborus khasiensis Tikader

17

18

19

20

21
**Uloborus danolisus** Tikader
(Figs. 22-26; Pl. XI)


**Measurements** (♀): CL - 0.68, CW - 1.06, AL - 2.30, AW - 1.55, TL - 2.98.

**Interocular distance:** AME – AME = 0.17, ALE – AME = 0.19, ALE – ALE = 0.53, PME – PME = 0.17, PLE – PME = 0.15, PLE – PLE = 0.47, ALE – PLE = 0.19, AME – PME = 0.19

**Legs:** I 3.33 (0.79, 0.21, 0.79, 1.00, 0.54); II 1.80 (0.42, 0.17, 0.33, 0.46, 0.42); III 1.75 (0.50, 0.17, 0.29, 0.50, 0.29); IV 3.01 (0.75, 0.25, 0.71, 0.67, 0.63). Leg formula 1423.


ERESIDAE C. L. Koch
(SOCIAL SPIDERS)

Eresidae C. L. Koch, 1851, *Übersicht des Arachniden systems* : 70.

**Diagnosis:** Cephalothorax convex, transversely rectangular, clothed with setae; cephalic region raised; clypeus low, protruding centrally; fovea circular, variable in depth. Median eyes close, forming a small quadrangle, narrower in front; anterolaterals at angles, posterolaterals far away from the rest, at the posterior half. Sternum narrowed in front with distinct labiosternal groove. Labium apically round. Maxillae convergent, with distinct serrula. Cheliceral promargin with serrate keel. Legs short, stout, metatarsi IV usually with entire uniseriate calamistrum. Abdomen oval, overhanging cephalothorax, densely clothed with setae, frequently with patterns formed of white, orange or red setae. Anterior spinnerets thick, conical and multi segmented. Cribellum oval, thick, transversely divided. Epigyne complex with a median septum and linear depression latero-caudally. Male palp short and thick, tibial apophysis absent or large.

**Biological note:** Most cresids construct a sheet web made up of a retreat and regular array of radiating threads, covered with zigzag bands of cribellate silk. They commonly live on bushes where their sheet webs are accompanied by a tubular retreat or they build a sac shaped nest in which many individuals live together and feed on the same prey and hence called social spiders.

**Distribution:** Throughout excepting Australian and Nearctic regions (Platnick, 2013).
Genus: Stegodyphus Simon


**Diagnosis:** Cephalic region broad, raised, anteriorly round. Clypeus low, anterolateral eyes at edges; posterolaterals far away from the rest, situated high up at the posterior half. Chelicerae flat, fang groove rarely toothed. Legs stout and strong with spines. Abdomen elongate oval, anterior spinnerets thick.

**Type species:** Eresus lineatus Latreille, 1817.

**Distribution:** Throughout excepting Australian and Neartic regions (Platnick, 2013).

*Stegodyphus sarasinorum* Karsch

(Figs. 27-31; Pl. XI)


**Measurements** (?): CL - 2.29, CW - 2.29, AL - 4.57, AW - 3.00, TL - 6.86.

**Interocular distance:** AME – AME= 0.29, ALE – AME= 0.61, ALE – ALE= 1.54, PME – PME= 0.36, PLE – PME= 0.75, PLE – PLE= 1.21, ALE – PLE= 0.82, AME – PME= 0.21

**Legs:** I 6.46 (1.73, 0.55, 1.73, 1.36, 1.09); II 5.09 (1.36, 0.55, 1.09, 1.27, 0.82); III 4.46 (1.27, 0.73, 0.91, 0.82, 0.73); IV 6.18 (1.55, 0.91, 1.45, 1.36, 0.91). Leg formula 1423.

**Material examined:** 1♀, STE, 12.IV.2010, coll. T. K. Roy

**Distribution:** India: Chhattisgarh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, West Bengal; Nepal, Sri Lanka (Tikader, 1981; Gajbe, 2004a; Majumder, 2007; Sebastian & Peter, 2009; Platnick, 2013).
ZODARIIDAE Thorell

(BURROWING SPIDERS)


**Diagnosis:** Small to large size, pale to dark brown or black spiders. Cephalothorax strongly convex, high anteriorly and sometimes sloping in the well developed longitudinal fovea. Eyes 6 or 8, in 2 or 3 rows, anterior slightly procurved, posterior vary in curvature. Legs moderately long, without spines; tarsal claw 2-3, superior claw inserted onto lateral side facing opposite claw. Abdomen usually ovoid, variably decorated. Anterior spinnerets large, obscuring the other 4. Epigyne complex often with a central plate and copulatory ducts originating medially.

**Biological note:** Zodariids are commonly called as burrowing or ant spiders. They are usually found in leaf litters, soil debris, underneath the stones and logs. They possess morphological as well as behavioural resemblance to the ant species that form its prey. They walk with 3 rear pairs of legs and when encounter an ant during their forage, touch the front pair of legs to the ant’s antennae in the same way as another ant would do it.

**Distribution:** Throughout except Nearctic (Platnick, 2013).
Genus: **Suffasia** Jocqué


**Diagnosis:** Medium size Spiders. Cephalothorax short, oval, weakly narrowed in front, widest between coxae II and III with indistinct thoracic groove. Eyes 8, in 2 procurved rows with posterior strongly so, ocular quad nearly twice as long as wide, weakly wider behind; anteromedians dark, rest pale. Clypeus high, nearly 5 times of anterolateral eyes. Maxillae slender, strongly tapering; labium triangular, weakly longer than wide. Legs long, slender, pale yellow with brown rings and patches. Abdomen pale oval, with dark pattern. Colulus with a small group of hairs. Epigyne simple, with strongly sclerotised copulatory ducts, with a dead end on one side, other side forward to anterior thick walled spermathecae.

**Type species:** *Suffucia tigrina* Simon, 1893.

**Distribution:** Oriental region only (Platnick, 2013).

*Suffasia* sp. nr. *keralaensis* Sudhikumar *et al.* (Figs. 32-36; PI. XI)


**Measurements:** $\varphi$: CL - 2.67, CW - 1.83, AL - 3.33, AW - 2.17, TL - 6.20.

**Interocular distance:** AME - AME= 0.20, ALE - AME= 0.23, ALE - ALE= 0.67, PME - PME= 0.23, PLE - PME= 0.33, PLE - PLE= 0.87, ALE - PLE= 0.17, AME - PME= 0.20

**Legs:** I 6.40 (1.70, 0.50, 1.50, 1.50, 1.20); II 5.50 (1.20, 0.50, 1.20, 1.40, 1.20); III 5.30 (1.20, 0.50, 1.20, 1.40, 1.00); IV 7.10 (1.50, 0.50, 1.70, 2.10, 1.30). Leg formula 4123.

**Material examined:** 1 $\varphi$, STE, 12.IV.2010, coll. T. K. Roy; 1 $\varphi$, NATE, 10.IV.2010, coll. T. K. Roy

**Distribution:** India: Kerala, West Bengal (New record) (Sudhikumar *et al.*, 2009; Platnick, 2013).
*Suffasia* sp. *nr. keralaensis* Sudhikumar *et al.*
Family: Salticidae
SALTICIDAE Blackwall (JUMPING SPIDERS)


Diagnosis: Small to medium sized, compact, brightly coloured, usually clothed with thick hairs or scales, at times elongate or ant like. Eyes usually arranged in 3 rows, occupying the entire cephalic area; eyes of anterior row large on vertical face with anteromedians very large and smaller anterolaterals in some genera moved into separate row behind anteromedians, posteromedians of II nd minute, located between anterolaterals and medium sized posterlaterals of III rd row. Chelicerae stout, margined with strong teeth. Legs short or moderately long, spiny, metatarsi and tarsi with trichobothria, tarsal claws 2 with claw tufts. Abdomen variable. Anterior spinnerets usually stronger. Epigyne highly variable, sometimes complex.

Biological note: Due to impressive optical properties of highly specialized anteromedian eyes, salticids are diurnal and expert of visually based stalking attack of their prey. They are usually found on plants, within folded leaves, trunk, logs, hedges and walls of the buildings. They are typically non-weaving but make silken retreats in the form of a tube or sac fastened to various substrata to moult, sometimes to mate, egg laying or night shelter. In tea ecosystem, they are found in tea plants, fencing trees and shade trees and in most of the species maximum adult population occurs during monsoon and winter.

Key to genera:

1. Retromargin of chelicerae with one tooth
   2. Retromargin of chelicerae with more than one tooth

2. Cephalothorax flattened
   3. Cephalothorax not flattened

3. Beetle like spiders; cephalothorax somewhat rounded with thick mouse like hairs, posteriorly wider; 1st pair of legs in males robust with tibia broad and flat
   \[ \text{Rhene} \text{ Thorell} \]
   - Not beetle like; cephalothorax and 1st pair of legs in male otherwise

4. Tibiae and metatarsi I and II with 3 and 2 pairs of ventral spines respectively
   \[ \text{Marpissa} \text{ C. L. Koch} \]
   - Tibiae and metatarsi I and II not so

5. Pale, brownish grey, broad band extending from the middle of cephalothorax up to the tip of abdomen; body entirely with lateral brown band along the lateral sides of entire body
   \[ \text{Menemerus} \text{ Simon} \]
   - No such bands; abdomen metallic, slender, ovoid, with flat setae

6. Cephalothorax circular or U shaped
   7. Cephalothorax neither circular nor U shaped

7. Cephalothorax yellow brown to black, moderately high, with eye field darker
   \[ \text{Euophrys} \text{ C. L. Koch} \]
   - Cephalothorax not so, eye field not darker

92
8. 1st pair of legs in male robust, with tibia flat, fringed with stiff hairs alongside dorsal and ventral face

--- Siler Simon

- Both 1st and 2nd pairs of legs a little more robust than 3rd and 4th pair, tibiae not so

--- Hasarius Simon

9. Cephalothorax swollen or spherical, with horn like tuft of long, stiff, slightly curved bristles laterad to anterolateral eyes

---

- Cephalothorax otherwise, without any hornlike tuft of long, stiff, curved bristles

---

10. Abdomen of female pale with a pair of longitudinal dark lines, male slender with mid dorsal white band on abdomen

--- Telamonia Thorell

- Abdomen with different pattern


---

11. Embolus usually short, sometimes with compound terminal apophysis

--- Evarcha Simon

- Embolus long, often with pars pendula; tibial apophysis sometimes with a few spur like projection at the flat tip

--- Hyllus C. L. Koch

12. Cephalothoracic length always more than 1.2 x its width

---

- Cephalothoracic length never more than 1.2 x its width

---

13. Cephalothorax convex with cephalic margins nearly parallel; abdomen of female pale with series of chevron marks and white bands, in male such bands extending throughout the body

--- Plexippus C. L. Koch

- Cephalothorax slopping posteriorly; males usually black with 2 longitudinal white bands extending from thoracic region to tip of abdomen, females brownish, with pale yellow chevron pattern on abdomen

--- Carrhotus Thorell

14. Chelicerae slender, with fangs long, sometimes longer than chelicerae, curved at tip; abdomen often with gray, indistinct, linear pattern

--- Phintella Strand

- Cheliceral fang never so, abdomen of female with a series of chevron marks

--- Epocilla Thorell

93
15. Cheliceral retromargin with 2 teeth
- Cheliceral retromargin with many teeth

16. Eyes in 4, 2, 2 arrangement

17. Eyes of 2nd and 3rd rows never on tubercles; cephalothorax convex, almost oval with a white, broad band along the rim; abdomen spherical with lustrous flat setae
- Eyes of 2nd and 3rd rows always on small tubercles; cephalothorax not so; abdomen slender with short, scanty, soft hairs

18. Ant like spiders; cephalic - thoracic region distinctly marked by a constriction; pedicel long, conspicuous, visible from above
- Not ant like; cephalic - thoracic region fused, without any constriction; pedicel short, inconspicuous, not visible from above

19. Ocular quad with a prominently elevated lump like mound at the centre; abdomen elongate, conical; tibia of male palp with finger like apophysis
- Ocular quad without any mount; abdomen nearly oval; tibial apophysis of male palp blunt, spine like

Genus: *Rhene* Thorell


**Diagnosis:** Small, beetle like salticids with attractive colour pattern. Cephalothorax somewhat rounded, usually clothed with thick mouse like hairs, posteriorly wider with cephalic region flattened, nearly square. Anterior row of eyes basally ringed with black, posterior row marginal, situated far behind the anterior row. Leg I robust, spiny with tibia broad and flat. Abdomen longer than wide, narrowing behind, clothed with hairs and spines, often variably decorated. Epigyne not very conspicuous. Palpal organ with swollen, bulbous, short and curved conductor.
Type species: *Rhanis flavigera* C. L. Koch, 1846.


Key to species:

1. Body highly pale brown, not metallic, thickly clothed with white hairs, these posteriorly forming transverse zigzag, narrow bands; abdomen medially with 2 pairs of sigillae, anterior pair more prominent

---------------------
\[ \text{decorata} \text{ Tikader} \]

- Body brown black, metallic, clothed with yellowish hairs leaving large area free, this at the posterior half forming 2 broad transverse bands; sigillae absent

-----------------------
\[ \text{danieli} \text{ Tikader} \]

\[ \text{Rhene decorata} \text{ Tikader} \]

(Figs. 37-41; Pl. XI)


Intercocular distance: AME - AME= 0.33, ALE - AME= 0.29, ALE - ALE= 0.86, PME - PME= 0.94, PLE - PME= 0.53, PLE - PLE= 1.27, ALE - PLE= 0.73, AME - PME= 0.45

Legs: I 2.36 (0.80, 0.33, 0.53, 0.40, 0.30); II 1.83 (0.67, 0.23, 0.33, 0.33, 0.27); III 1.39 (0.53, 0.13, 0.20, 0.33, 0.20); IV 2.33 (0.77, 0.33, 0.50, 0.43, 0.30). Leg formula 1423.


\[ \text{Rhene danieli} \text{ Tikader} \]

(Figs. 42-47; Pl. XI)


Intercocular distance: AME - AME= 0.53, ALE - AME= 0.39, ALE - ALE= 1.27, PME - PME= 1.43, PLE - PME= 1.12, PLE - PLE= 2.16, ALE - PLE= 1.39, AME - PME= 0.59
Legs: I 4.60 (1.70, 0.80, 1.00, 0.60, 0.50); II 2.80 (1.00, 0.40, 0.60, 0.40, 0.40); III 2.70 (0.90, 0.40, 0.60, 0.50, 0.30); IV 3.60 (1.20, 0.50, 0.90, 0.60, 0.40). Leg formula 1423.


Genus: *Marpissa* C. L. Koch


Diagnosis: Cephalothorax longer than wide with cephalic region flat and low. Eye region occupying nearly 1/3 of cephalothorax, ocular quad nearly 1.5 times wider than long, parallel sided. Cheliceral promargin with 2 and retromargin with 1 teeth. In both sexes, tibiae and metatarsi I and II with 3 and 2 pairs of ventral spines respectively.

Type species: *Araneus muscosus* Clerck, 1757.

Rhene decorata Tikader

37

0.5

38

0.25

39

0.25

40

0.25

41

0.25

97
**Marpissa decorata** Tikader

(Figs. 48-52; Pl. XII)


**Interocular distance:** AME – AME = 0.67, ALE – AME = 0.58, ALE – ALE = 1.75, PME – PME = 1.67, PLE – PME = 0.54, PLE – PLE = 1.83, ALE – PLE = 1.04, AME – PME = 0.96

**Legs:** I 4.60 (1.50, 0.70, 1.40, 0.50, 0.50); II 4.30 (1.60, 0.60, 1.20, 0.50, 0.40); III 4.20 (1.50, 0.50, 1.20, 0.50, 0.50); IV 4.00 (0.80, 0.60, 1.30, 0.90, 0.40). Leg formula 1234.

**Material examined:** 1 ♀, NTE, 01.XI.2010, coll. T. K. Roy


Genus: *Menemerus* Simon


**Diagnosis:** Medium to large spiders, 4-10 mm, body flattened, densely clothed with hairs. Carapace usually with white lateral margins. Male pedipalp with very long tegular furrow and characteristic tegular protuberance; females with sclerotised entrance bowls and distinctive accessory glands.

**Type species:** *Attus semilimbatus* Hahn, 1829.

**Distribution:** Ethiopian and Oriental regions (Metzner, 2013; Platnick, 2013).

**Menemerus brevibulbis** (Thorell)

(Figs. 53-57; Pl. XII)


**Interocular distance:** AME – AME = 0.54, ALE – AME = 0.46, ALE – ALE = 1.32, PME – PME = 1.46, PLE – PME = 0.39, PLE – PLE = 1.57, ALE – PLE = 1.00, AME – PME = 0.89

**Legs:** I 5.10 (1.64, 1.00, 1.18, 0.73, 0.55); II 4.54 (1.45, 0.82, 1.09, 0.73, 0.45); III 4.83 (1.55, 0.55, 1.09, 1.00, 0.64); IV 6.28 (2.00, 0.73, 1.64, 1.18, 0.73). Leg formula 4132.
Marpissa decorata Tikader

Distribution: India: West Bengal (New record); Djibouti, Senegal, Somalia, Yemen (Thorell, 1887; Wesolowska, 1999; Prószyński, 2007; Metzner, 2013; Platnick, 2013).

Genus: Thiania C. L. Koch


Diagnosis: Medium size salticids. Cephalothorax broad, flattened, comparatively thin with clypeus moderately broad. Posteromedian eyes either midway between anterolaterals and posterolaterals or slightly closer to posterolaterals; anterior row almost as long as posterior row. 1st pair of legs comparatively stout and thick. Sternum anteriorly as wide as base of labium and posteriorly pointed between coxae IV; maxillae broad apically and narrowed basally. Abdomen flat, anteriorly broad and round, with pointed tip. Palpal organ thick and sclerotised, with conductor and lateral tibial apophysis curved. Epigyne broad, conspicuous, sclerotised, nearly in the form of eye shaped broad plates, separated by a median ridge.

Type species: *Thiania pulcherrima* C. L. Koch, 1846.


**Thiania bhamoensis** Thorell

(Figs. 58-62; Pl. XII)


Interocular distance: AME - AME= 0.53, ALE - AME= 0.49, ALE - ALE= 1.47, PME - PME= 1.58, PLE - PLE= 0.35, PLE - PLE= 1.60, ALE - PLE= 0.81, AME - PME= 0.84

Legs: I 4.92 (1.57, 0.50, 1.14, 1.07, 0.64); II 3.79 (1.29, 0.50, 0.86, 0.64, 0.50); III 4.15 (1.36, 0.43, 1.00, 0.86, 0.50); IV 3.93 (1.00, 0.43, 1.00, 1.00, 0.50). Leg formula 1342.


102
Thiania bhamoensis Thorell
**Distribution:** India: Nicobar Islands, West Bengal; Burma, China, Krakatau, Malacca, Malaysia, Myanmar, Singapore, Sumatra, Vietnam (Proszyn'ski, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).

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

*Euophrys* C. L. Koch, 1834, *Deutschlands Ins.* Heft: 122-127.

**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 region (Metzner, 2013; Platnick, 2013).

*Euophrys frontalis* (Walckenaer) (Figs. 63-67; PI. XII)


*Euophrys frontalis* (Walckenaer) C. L. Koch, 1834, *Deutschlands Insekten.* Heft: 123.

**Description:** Female

CL - 2.05, CW - 1.54, AL - 2.92, AW - 2.05, TL - 5.13. Cephalothorax (Fig. 63) brown to dark brown, margins deep brown, ocular area anteriorly and laterally black, longer than wide, anteriorly subtruncate, mediwally 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 > PME > PLE. Interocular distance: AME - AME = 0.51, ALE - AME = 0.41, ALE - ALE = 1.28, PME - PME = 1.33, PLE - PME = 0.36, PLE - PLE = 1.38, ALE - PLE = 0.82, AME - PME = 0.72. Clypeus pale, vertical, height small. Thorax posteriorly strongly sloped, with a black midlongitudinal, small, prominent fovea; radii distinct. Chelicerae (Fig. 64) 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. 65) dark brown, apically yellow, basally broader and with a black, broad, V-shaped marking, longer than wide, scopulate. Maxillae (Fig. 65) yellow, basal margins brown, longer than wide, apically subtruncate, wider, outer...
margins medially concave, scapulate. Sternum (Fig. 65) 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. Leg measurements: I 4.50 (1.58, 0.67, 0.92, 0.75, 0.58); II 3.51 (0.92, 0.42, 1.00, 0.75, 0.42); III 3.25 (0.67, 0.33, 0.92, 0.83, 0.50); IV 3.42 (0.75, 0.33, 0.92, 0.92, 0.50). Leg formula 1243.

Abdomen (Fig. 63) creamy white, marked by grey patches, elongate 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. 66 & 67): 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: 1♀, NTE, 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 (Prószyński, 2007; Metzner, 2013; Platnick, 2013).
Euophrys frontalis (Walckenaer)
Genus: *Siler* Simon


**Diagnosis:** Small, colourful salticids. Cephalothorax circular or U shaped, usually clothed with soft, population specific colourful hairs; cephalic region high with sides vertical, ocular quad nearly rectangular. Legs slender with short, stiff spines; in some species 1st pair of legs in male robust, tibia flat, bearing fringe of stiff hairs along the dorsal and ventral line. Abdomen elongate or oval, with soft hairs or lustrous setae. Palpal organ moderately sclerotised, embolus swollen, with a thick, short, curved conductor and a pouch pointing downward. Epigyne moderately sclerotised, with spermathecae spherical and a short, curved, copulatory canal.

**Type species:** *Siler cupreus* Simon, 1889.

**Distribution:** Oriental and Palaearctic (Metzner, 2013; Platnick, 2013).

*Siler semiglaucus* (Simon)

(Figs. 68-72; Pl. XII)


**Measurements** (♀): CL - 2.10, CW - 1.50, AL - 3.77, AW - 2.03, TL - 6.27.

**Interocular distance:** AME - AME = 0.45, ALE - AME = 0.33, ALE - ALE = 1.07, PME - PME = 1.00, PLE - PME = 0.42, PLE - PLE = 1.27, ALE - PLE = 0.80, AME - PME = 0.57

**Legs:** I 3.77 (1.37, 0.51, 0.69, 0.69, 0.51); II 3.15 (1.03, 0.46, 0.63, 0.63, 0.40); III 3.15 (1.03, 0.57, 0.69, 0.57, 0.29); IV 4.86 (1.60, 0.69, 1.14, 0.97, 0.46). Leg formula 412=3.


**Distribution:** India: West Bengal; China, Krakatau, Nepal, Philippines, Singapore, Sri Lanka, Sumatra, Vietnam (Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).
Siler semiglaucus (Simon)
Genus: *Hasarius* Simon


**Diagnosis:** Squat, dull brown salticids. Cephalothorax thick, flat, U shaped, modestly truncate. Legs uniformly dark brown, long, moderately spiny, with legs I and II a little more robust than III and IV. Abdomen broad, oval, round in front and weakly tapering to rear. A white crescent shaped collar around the shoulders and abdomen with a vague, brown lighter area and several white spots, 2 of which prominent. Palpal tibia often longer than tarsus.

**Type species:** *Attus adansonii* Audouin, 1826.

**Distribution:** Cosmopolitan (Metzner, 2013; Platnick, 2013).

*Hasarius* sp. nr. *adansonii* (Audouin)

(Figs. 73-77; Pl. XII)


**Interocular distance:** AME – AME= 0.64, ALE – AME= 0.64, ALE – ALE= 1.71, PME– PME= 1.64, PLE – PME= 0.57, PLE – PLE= 1.71, ALE – PLE= 1.00, AME – PME= 0.93

**Legs:** I 6.09 (2.00, 1.00, 1.27, 1.27, 0.55); II 5.82 (2.00, 0.91, 1.18, 1.18, 0.55); III 5.73 (2.00, 0.91, 0.91, 1.27, 0.64); IV 6.63 (2.09, 1.09, 1.27, 1.36, 0.82). Leg formula 4123.

**Material examined:** 1♀, KTE, 06.X.2009, coll. T. K. Roy

**Distribution:** India: West Bengal (New record); Algeria, Australia, Belgium, Canary Islands, Cape Verde, China, Cook Islands, Costa Rica, Czech Republic, Egypt, France, French Polynesia, Galapagos Islands, Gambia, Germany, Great Britain, Greece, Hawaii, Hispaniola Island, Hungary, Italy, Japan, Krakatau, Libya, Malaysia, Malta, Morocco, Marquesas Islands, Marshall Islands, Mexico, Midway Atoll, Nepal, Netherlands, New Zealand, Palmyra Atoll, Panama, Peru, Poland, Reunion, Seychelles, Singapore, Slovakia, South Korea, Sri Lanka, Switzerland, Tunisia, Turkey, United Arab Emirates, USA, Vietnam, Yemen, Zimbabwe (Barrion & Litsinger, 1995; Prószyński, 2007; Sebastian & Peter, 2009; Metzner, 2013; Platnick, 2013).
Hasarius sp. nr. adansoni (Audouin)
Genus: **Telamonia** Thorell


**Diagnosis:** Cephalothorax large, swollen, slender and elongate. Legs long, stout, hairy and spinous. Males dark, females pale, their abdomen with single or paired white longitudinal lines respectively. Cymbium on its lateral edge with short, thick bristles, just above the tip of stout, sclerotised, often apically toothed tibial apophysis, Epigyne conspicuous, encircled by sclerotised semicircular plate.

**Type species:** *Telamonia festiva* Thorell, 1887.

**Distribution:** Ethiopian and oriental regions (Metzner, 2013; Platnick, 2013).

**Key to species:**

1. Only femur I dorsally decorated with spines; cephalothorax creamy white to light brown; abdomen elongate, oval, with 2 longitudinal, mid dorsal, chocolate bands

   ----------------------
   *Telamonia dimidiata* (Simon)

   - All legs dorsally decorated with spines; cephalothorax reddish brown; abdomen slender, elongate, almost parallel sided, the 2 longitudinal mid dorsal chocolate brown bands enclosing a band of thick white

   --------------------------
   *Telamonia festiva* Thorell

**Telamonia dimidiata** (Simon)

(Figs. 78-82; Pl. XII)


**Interocular distance:** AME – AME= 0.79, ALE – AME= 0.64, ALE – ALE= 1.86, PME – PME= 1.71, PLE – PME= 0.71, PLE – PLE= 1.71, ALE – PLE= 1.14, AME – PME= 0.93

**Legs:** I 8.33 (2.11, 1.67, 2.22, 1.44, 0.89); II 7.45 (2.22, 1.56, 1.89, 1.11, 0.67); III 9.33 (3.22, 1.22, 1.89, 1.11); IV 8.78 (3.00, 1.00, 2.11, 1.78, 0.89). Leg formula 3412.

**Material examined:** 1 $\varphi$, STE, 12.IV.2010, coll. T. K. Roy; 2 $\varphi$, STE, 02.XI.2010, coll. T. K. Roy; 1 $\varphi$, KTE, 14.VII.2008, coll. D. C. Dhal; 1 $\varphi$, KTE, 07.IX.2008, coll. S. Saha; 2 $\varphi$ (I), KTE, 06.X.2009, coll. T. K. Roy; 2 $\varphi$ (I), KTE, 31.I.2010, coll. T. K. Roy; 1 $\varphi$, KTE,
Telamonia festiva Thorell

(Figs. 83-87; Pl. XII)


Description: Female

CL - 3.60, CW - 3.26, AL - 5.26, AW - 2.11, TL - 9.03. Cephalothorax (Fig. 83) brown, elongate oval, anteriorly truncate, broadest at middle, cephalic region somewhat flat with ocular area yellowish brown, sides sloping, thoracic region posteriorly depressed with distinct, medium, reddish brown, longitudinal fovea, either side of which with broad, whitish, downward and outwardly directed yellow band, immediately behind the posterolateral eye row, radii distinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 4 transverse rows, anteromedians (AME) forming the anterior row, occupying the frontal region, 2nd row or anterolaterals nearly 1/3 of AME, 3rd row of eyes or posteromedians smallest, widest, situated closer to ALE than PLE, 4th row of eyes or posterolaterals nearly equal to anterolaterals, ocular quad almost rectangular, formed by PME and PLE, eye diameter AME > ALE > PLE > PME. Intercocular distances: AME - AME= 0.80, ALE - AME= 0.63, ALE - ALE= 1.77, PME - PME= 1.60, PLE - PME= 0.66, PLE - PLE= 1.74, ALE - PLE= 1.20, AME - PME= 1.03. Clypeus narrow, nearly equal to the diameter of ALE, clothed with long, white hairs. Chelicerae (Fig. 84) yellow brown, moderately long, stout, more or less parallel, promargin with 2 and retromargin with 1 teeth; fang brown, curved, sharp and stout. Labium (Fig. 85) yellowish, longer than wide, constricted sub basally,
Apically truncate and scopulate. Maxillae (Fig. 85) elongate, basally brown, outer margin concave, inner margin weakly so, apically yellowish, round, bulged and scopulate with brown hairs. Sternum (Fig. 85) yellow brown, margin darker, slightly indented at each coxae, longer than wide, clothed with long, pale brown hairs, apically weakly concave, tip round. Legs yellow brown, moderately long, stout, clothed with brownish black hairs and spines, tarsal claw 2 with claw tufts, each with 7 pectinations. Leg measurements: I 6.85 (2.00, 0.97, 1.71, 1.31, 0.86); II 6.28 (1.94, 0.91, 1.37, 1.26, 0.80); III 7.14 (2.11, 0.97, 1.83, 1.43, 0.80); IV 7.20 (1.43, 0.86, 2.34, 1.77, 0.80). Leg formula 4312.

Abdomen (Fig. 83) yellow brown, long, parallel sided, anteriorly truncate, margined with long, brown, erect hairs, cardiac spot white, antero-laterally with a pair of distinct yellowish sigillae. Dorsum decorated with a pair of more or less parallel brown black band, anal tubercle distinct, triangular. Venter yellow, with irregular grey black patch extending from epigastric furrow to almost near tip, spinnerets yellow brown, covered with brown hairs, posterior pair distinctly longer than anterior.

**Epigynum - Internal genitalia** (Figs. 86 & 87): Epigyne sclerotised, a convex shield, depressed anteriorly with parallel longitudinal lines evident medially, spermatheca heavily sclerotised; copulatory openings medial; fertilization duct long, heavily coiled, divergent apically.

**Material examined:** 1♀, NTE, 19.III.2009, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; Burma, Celebes, China, Indonesia, Java, Malaysia, Myanmar, New Guinea, Singapore, Vietnam (Prószyński, 2007; Metzner, 2013; Platnick, 2013).

**Remarks:** Wanless (1980) questioned on the status of *Lyssomanes sikkimensis* Tikader primarily relying on unidentate nature of retromarginal teeth of chelicerae. Logunov later in 2004c assigned the species to *Telamonia* (Thorell) basing on the total length (8 mm), characteristic v shaped colour pattern on the abdominal dorsum, other than the number of cheliceral teeth. He further believed the limit of *Lyssomanes* in the palaearctic only. They however had to depend on the illustrations of Tikader (1967).

Present species appears to be a replica of *Lyssomanes sikkimensis* Tikader other than the internal genitalia (illustration not available in Tikader, 1967). Intense study on the species leads to conclude that the species is *Telamonia festiva* Thorell [Metzner, 2013]. *Lyssomanes sikkimensis* Tikader is therefore proposed as the junior synonym of *Telamonia festiva* Thorell.
Telamonia dimidiata (Simon)
Telamonia festiva Thorell
Genus: **Evarcha** Simon


**Diagnosis:** Small salticids. Cephalothorax swollen but weakly wider, with horn like tuft of long, stiff, slightly curved bristles on the lateral sides of anterolateral eyes. Epigyne with 2 pockets near epigastric furrow. Embolus usually short, sometimes with compound terminal apophysis.

**Type species:** *Araneus falcatus* Clerck, 1757.

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

_Evarcha flavocinta_ (C. L. Koch)

(Figs. 88-92; Pl. XII)

_Maevia flavocinta_ C. L. Koch, 1846, *Die Arachniden*: 74.


**Description:** Female

CL - 3.43, CW - 2.46, AL - 3.43, AW - 2.09, TL - 7.06. Cephalothorax (Fig. 88) brown, longer than wide, elongate oval, clothed with brown hairs, cephalic region somewhat flat, transversely rectangular with ocular area brown black, sides vertical, thoracic region posteriorly depressed with distinct, medium, brown longitudinal fovea, radii faintly marked. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 3 transverse rows, anterior row recurved as viewed dorsally, ocular quad trapezoid, a little wider behind, formed by posteromedian (PME) and posterolateral (PLE) eyes, anteromedians (AME) largest, anterolaterals (ALE) nearly 1/3rd of AME, 2nd row of eyes or PME smallest, both PME and PLE set on the slope of a single tubercle, PME slightly inward to the lateral margin of ocular quad, situated almost at the centre of ALE and PLE, PLE= ALE, set on tubercles, eye diameter AME> ALE> PLE> PME. Interocular distance: AME – AME= 0.71, ALE – AME= 0.60, ALE – ALE= 1.74, PME – PME= 1.77, PLE – PME= 0.49, PLE – PLE= 1.83, ALE – PLE= 1.09, AME – PME= 1.06. Clypeus narrow, margined with white, long hairs. Chelicerae (Fig. 89) moderately long, brown, more or less parallel, promargin with 2 and retromargin with 1 teeth, fang dark brown, curved, sharp, stout and stumpy. Labium (Fig. 90) brown, longer than wide, constricted sub-basally, apically truncate and scopulate. Maxillae (Fig. 90) brown, longer than wide, anteriorly bulged, pale yellowish, scopulate with dark brown hairs, both outer and inner margins concave. Sternum (Fig. 90) yellow brown, rebordered, longer than wide, clothed with long, sub marginal and fine, brown hairs, outer margins dark, slightly indented at each coxae, apical margins nearly straight, tip rounded. Legs moderately long,
stout, yellow brown, clothed with hairs and spines, tarsal claws 2 with claw tufts, each with 4 pectination. Leg measurements: I 5.57 (1.71, 1.00, 1.29, 0.93, 0.64); II 5.00 (1.71, 0.79, 1.00, 0.93, 0.57); III 5.57 (2.00, 1.00, 1.14, 0.86, 0.57); IV 6.07 (2.07, 1.07, 1.36, 0.93, 0.64). Leg formula 41=32.

Abdomen (Fig. 88) hirsute, brown, anteriorly truncate, posteriorly narrowing, apical margins with long, erect, brown hairs. Dorsum decorated with 2 pairs of indistinct sigillae in anterior half, one pair of semilunar black patch posteriorly, ventral pale with black, median marking.

**Epigynum - Internal genitalia** (Figs. 91 & 92): Spermatheca tubular, highly coiled, fertilization duct short, downwardly directed, copulatory duct lateral, transverse.

**Material examined:** 1♂, KTE, 24.VIII.2010, coll. T. K. Roy; 1♀, NTE, 12.X.2009, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; Bintan Island, China, Indonesia, Japan, Java, Lombok, Malaysia, Singapore, Vietnam (Prószyński, 2007; Metzner, 2013; Platnick, 2013).

**Genus:** *Hyllus* C. L. Koch


**Diagnosis:** Medium to large salticids. Cephalothorax spherical, clearly wider than eye field, ocular quad distinct with eyes large, round; tuft of long, stiff, slightly curved bristles on the lateral sides of anterolateral eyes horn like. Legs stout, strong, with sharp spines and thick hairs. Abdomen broad at base, blunt towards tips. Male palpal organ simple, with roughly rectangular cymbium, embolus long, often with accompanying pars pendula, sometimes tibial apophysis with a few spur like projections at the flat tip. Epigyne not much conspicuous, nearly semicircular.

**Type species:** *Hyllus giganteus* C. L. Koch, 1846.

**Distribution:** Throughout except Nearctic and Neotropical regions (Metzner, 2013; Platnick, 2013).
Evarcha flavocinta (C. L. Koch)
Hyllus semicupreus (Simon)

(Figs. 93-97; Pl. XII)


Interocular distance: AME - AME= 0.83, ALE - AME= 0.71, ALE - ALE= 2.06, PME - PME= 2.03, PLE - PME= 0.83, PLE - PLE= 2.40, ALE - PLE= 1.34, AME - PME= 1.06

Legs: I 6.69 (2.23, 1.09, 1.49, 0.97, 0.91); II 5.60 (1.77, 0.97, 1.20, 0.86, 0.80); III 6.52 (2.40, 1.03, 1.09, 1.20, 0.80); IV 7.54 (2.57, 1.26, 1.54, 1.26, 0.91). Leg formula 4132.


Distribution: India: West Bengal; Sri Lanka (Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).

Genus: Plexippus C. L. Koch


Diagnosis: Cephalothorax moderately convex, longer than wide, raised, with cephalic margins nearly parallel; thoracic region broad, rounded. Height of cephalothorax less than ½ of length. Ocular quad occupies nearly 1/3 of cephalothorax, wider than long, weakly broad in front. Anterior row moderately recurved, either weakly or not at all wider than 2nd row, with laterals close to 2nd row. Sternum anteriorly slightly wider than base of labium. Leg I> III, I=II, tibia I with 3 pairs of ventral spines. Epigyne with a transverse base and a median upward canal.

Type species: Attus paykullii Audouin, 1826.

Plexippus paykullii (Audouin)

(Figs. 98-102; Pl. XII)

Attus paykullii Audouin, 1826, Explication sommaire des planches d'arachnides de l'Egypte et de la Syrie publées ... in "Description de l'Egypte..."; 409.


Interocular distance: AME - AME = 0.74, ALE - AME = 0.57, ALE - ALE = 1.71, PME - PME = 1.77, PLE - PME = 0.51, PLE - PLE = 1.71, ALE - PLE = 1.02, AME - PME = 0.97

Legs: I 5.00 (1.60, 0.87, 1.20, 0.80, 0.53); II 4.54 (1.60, 0.80, 1.07, 0.67, 0.40); III 4.74 (1.67, 0.80, 1.00, 0.67, 0.60); IV 5.60 (1.73, 0.87, 1.27, 1.13, 0.60). Leg formula 4132.


Plexippus paykullii (Audouin)
Genus: *Carrhotus* Thorell


**Diagnosis:** Small to medium sized spiders. Cephalothorax longer than wide, sloping posteriorly, ocular quad wider than long with posteromedians midway between anterolaterals and posterolaterals. Abdomen oval. Females usually brownish with pale yellow chevron pattern on abdomen, male black often with 2 longitudinal white bands extending from thoracic region to tip of abdomen.

**Type species:** *Plexippus viduus* C. L. Koch, 1846.

**Distribution:** Ethiopian, Oriental and Palaearctic regions (Metzner, 2013; Platnick, 2013).

*Carrhotus viduus* (C. L. Koch)

(Figs. 103-107; Pl. XII)

*Plexippus viduus* C. L. Koch, 1846, *Die Arachniden*: 104.


**Interocular distance:** AME - AME= 0.60, ALE - AME= 0.49, ALE - ALE= 1.43, PME - PME= 1.43, PLE - PME= 0.49, PLE - PLE= 1.51, ALE - PLE= 0.96, AME - PME= 0.83

**Legs:** I 4.80 (1.40, 0.90, 1.25, 0.75, 0.50); II 4.45 (1.40, 0.80, 1.00, 0.80, 0.45); III 4.15 (1.40, 0.75, 1.15, 0.50, 0.35); IV 4.65 (1.00, 0.70, 1.25, 1.05, 0.65). Leg formula 1423.

**Material examined:** 1♀, MTE, 28.1.2010, coll. T. K. Roy; 1♀, NTE, 29.1.2010, coll. T. K. Roy

**Distribution:** India: Assam (New record), West Bengal (New record); Bintan Island, China, Indonesia, Java, Malacca, Malaysia, Myanmar, Nepal, Penang Island, Singapore, Sri Lanka, Sumatra, Sumbawa (Prószyński, 2007; Metzner, 2013; Platnick, 2013).

Genus: *Phintella* Strand


**Diagnosis:** Small, slender salticids with iridescent colour pattern and scale like setae. Cephalothorax short, broad, with ocular region nearly half of cephalothorax. Chelicerae slender with fang long, sometimes longer than chelicerae, curved at tip. Abdomen often with transverse, light and dark streaks or pale with gray indistinct linear patterns. Epigyne not
conspicuous, sclerotised, spermathecae with copulatory duct curved. Palpal organ simple, with single tibial apophysis, tegulum extending posteriorly towards tibia.

**Type species:** *Telamonia bifurcilinea* Bösenberg & Strand, 1906.

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

*Phintella vittata* (C.L. Koch)  
(Figs. 108-112; Pl. XII)


**Measurements** ($\varphi$): CL - 1.35, CW - 1.00, AL - 1.76, AW - 1.10, TL - 3.31.

**Interocular distance:** AME - AME = 0.39, ALE - AME = 0.29, ALE - ALE = 0.84, PME - PME = 0.84, PLE - PME = 0.29, PLE - PLE = 0.84, AME - PME = 0.55, AME - PME = 0.47

**Legs:** I 2.54 (0.80, 0.27, 0.60, 0.40, 0.47); II 2.40 (0.80, 0.33, 0.47, 0.40, 0.40); III 2.54 (0.80, 0.20, 0.60, 0.47, 0.47); IV 2.80 (0.80, 0.20, 0.73, 0.60, 0.47). Leg formula 41=32.


**Distribution:** India: Nicobar Islands, West Bengal; China, Indonesia, Malaysia, Penang Island, Philippines, Singapore, Sri Lanka, Sumatra, Vietnam (Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).
Carrhotus viduus (C. L. Koch)
Phintella vittata (C. L. Koch)
Genus: *Epocilla* Thorell


**Diagnosis:** Sexual dimorphic. Males usually slender, brownish orange, abdomen narrow, with longitudinal white band. Palp elongate, sometimes slender, with moderately broad cymbium and tubular embolus. Tibial apophysis may be double. Females bright orange with broad abdomen. Epigyne weakly sclerotised.

**Type species:** *Epocilla praetextata* Thorell, 1887.

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

*Epocilla aurantiaca* (Simon)

(Figs. 113-117; Pl. XII)


**Measurements** ($\varphi$): CL - 2.30, CW - 1.77, AL - 2.94, AW - 1.66, TL - 5.36.

**Interocular distance:** AME - AME$=$ 0.60, ALE - AME$=$ 0.42, ALE - ALE$=$ 1.28, PME - PME$=$ 1.25, PLE - PME$=$ 0.38, PLE - PLE$=$ 1.25, ALE - PLE$=$ 0.79, AME - PME$=$ 0.72

**Legs:** I 4.23 (1.31, 0.57, 1.09, 0.80, 0.46); II 3.60 (1.14, 0.40, 0.80, 0.80, 0.46); III 4.28 (1.54, 0.63, 0.91, 0.74, 0.46); IV 4.85 (1.66, 0.51, 0.91, 1.31, 0.46). Leg formula 4312.


**Distribution:** India: Kerala, West Bengal (New record); Burma, Malacca, Malaysia, Sri Lanka, Vietnam (Prószyński, 2007; Sebastian & Peter, 2009; Metzner, 2013; Platnick, 2013).

Genus: *Cheliceroides* Zabka


**Diagnosis:** Cephalothorax oval, moderately high, atmost 1/3 longer than wide, sloping posteriorly and on the sides from caput, occupying nearly half of its area. Eyes in 4 transverse rows, each with 2, 1st row of eyes close together, occupying the entire face, 2-3 times larger than the next, 2nd situated just behind, 3rd row with 2 very small eyes, close to 2nd, little wider than the last, 4th row of eyes nearly as large as the 2nd, ocular quad formed by 2nd and 4th rows,
as long as wide or 1/4 to 1/2 wider. Sternum somewhat heart shaped. Coxae separate by width of labium and part or all of maxillae. Maxillae enlarged at extremity. Labium as long as or little longer than wide. Abdomen long, slender, tapering; spinnerets short. Legs usually long and slender, 4th with long and fine spines on femora, tibia, metatarsus and usually patella.

Type species: *Cheliceroides longipalpis* Zabka, 1985.


*Cheliceroides brevipalpis* sp. nov.

(Figs. 118-123; Pl. XII)

Description: Male (Holotype)

CL - 2.98, CW - 2.42, AL - 3.53, AW - 1.72, TL - 6.70. Cephalothorax (Fig. 118) round, robust, brown, clothed with dark brown and white hairs, margins encircled with 2 overlapping rims, gradually broadened posteriorly, outer one black brown and inner white, cephalic region moderately high, thoracic region posteriorly depressed with distinct, short, black, longitudinal fovea, few small white hairs beset in front of it, radii faintly marked. Eyes 8, homogenous, transparent, basally ringed with black, with white hairs in between anterior eyes, arranged in 3 transverse rows, anterior recurved, ocular quad trapezoid, a little wider behind, formed by posteroomedian (PME) and posterolateral (PLE) eyes, anteromedians (AME) largest, anterolaterals (ALE) half the diameter of AME, set on tubercles, 2nd row of eyes or posteroomedians (PME) smallest, set on tubercles, slightly inward to lateral margins of ocular quad, situated almost at the centre of anterolaterals (ALE) and posterolaterals (PLE), PLE = ALE, situated on tubercles, eye diameter AME > ALE > PLE > PME. Interocular distance: AME - AME= 0.67, ALE - AME= 0.58, ALE - ALE= 1.70, PME - PME= 1.72, PLE - PME= 0.47, PLE = PLE= 1.72, ALE - PLE= 1.00, AME - PME= 0.95. Clypeus narrow, brown black, clothed with white hairs. Chelicerae (Fig. 119) long, stout, robust, dorsally black, ventrally brown, distally divergent, promargin with 8 teeth, 1 close to the base of fang, rest at the base of chelicerae, retromargin with 2 teeth, located near the base of fang and the other almost at the middle, fang long, stout, wavy, strongly curved near acute apex, basally with a black prominence, apical ¼ th red brown, rest brown black. Labium (Fig. 120) dark brown, long, basally broad, apically narrowing and truncate. Maxillae (Fig. 120) elongate, basally dark brown, apically red brown to off white, scopulate, outer margins concave. Sternum (Fig. 120) red brown, elongate, anterior margin nearly straight, clothed with fine, brown hairs. Legs long, strong, yellowish excepting dark brown femur I-III and metatarsi I-II, usually clothed with hairs and spines, tarsal claw 2, with claw tufts, claw pectinate throughout. Leg measurements: I 8.88 (2.44, 1.11, 2.33, 2.11, 0.89); II 7.45 (2.33,
Abdomen (Fig. 118) elongate, yellow brown, midlongitudinally with a pale yellow band clothed with white and brown, long, erect spiny hairs, marginally with broad, pale brown band tinged with red leaving the apex. Dorsum decorated with 2 pairs of black spots in the posterior half and 2 pairs of distinct yellowish sigillae near middle. Venter yellow brown, medially with a broad, dark brown band, spotted with 2 white longitudinal lines, clothed with dark brown hairs extending from epigastric furrow to the base of blackish yellow spinnerets.

**Palp** (Figs. 121 - 123): Small, genital bulb within the rounded cymbium, RTA comparatively short, basally broad, apically narrowed, embolus coiled, apically sharply pointed, bulbous pocket distinct, distal haematodocha tubular.

**Material examined:** 1♀, KTE, 07.X.2009, coll. T. K. Roy

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

**Etymology:** The specific epithet is derived from small palp.

**Remarks:** *Cheliceroides brevipalpis* sp. nov. resembles the monotypic species *Cheliceroides longipalpis* Zabka but can be separated by i) chelicerae long, distally divergent, with 8 promarginal teeth, 1 close to base of fang, rest at its base and with 2 retromarginal teeth, 1 located near base of fang and the other almost at the middle (chelicerae not so long and divergent distally, each marginal teeth 2, promarginals small, distal to base of fang, of the retromarginals larger one located near base of fang in *C. longipalpis*); ii) cephalothorax round, margins encircled with 2 overlapping rims (cephalothorax subrectangular, margins darker in *C. longipalpis*); iii) abdomen long, medially wide, narrowed at both ends, dorsum with 2 pairs of black spots in the posterior half and 2 pairs of distinct yellowish sigillae near middle (abdomen oval, narrowed posteriorly, dorsum with a midlongitudinal stripe in the middle enclosing 5 sigillae, 2 semi lunar, transverse bands, anterior one continuous and posterior one discontinuous in *C. longipalpis*); iv) structurally different male palp (from *C. longipalpis* Zabka). Such differences appear to justify the erection of a new species.
*Epocilla aurantiaca* (Simon)
Cheliceroidea brevipalpis sp. nov.
Genus: **Brettus** Thorell

*Brettus* Thorell, 1895, *Descriptive catalogue of the spiders of Burma*, Lond.: 355.

**Diagnosis:** Medium size salticids. Cephalothorax convex, nearly oval, widest at the middle, with a marginal white band and a long fovea. Anterior row of eyes so strongly recurved that eyes appear to be in 4 rows, with posteromedians smallest. Legs long, slender; femur, patella and tibia of 1st pair robust, with fringe of hairs on the ventral margin and sharp spines on tibia. Abdomen spherical or oval, clothed with lustrous flat setae. Epigyne conspicuous, sclerotised, with a small, spherical spermathecae laterally and those of 2 sides unite together to a vertical, median limb forming an anchor like pattern. Male palpal organ complex, bulbous, spherical; conductor hair like, long and placed around the bulbous; tibia flat, lobe like, laterally extended with a pointed apophysis.

**Type species:** *Brettus cingulatus* Thorell, 1895.

**Distribution:** Ethiopian and Oriental regions (Metzner, 2013; Platnick, 2013).

* Brettus albolimbatus Simon

   (Figs. 124-128; Pl. XII)


**Measurements** (♀): CL - 2.11, CW - 1.66, AL - 2.91, AW - 1.92, TL - 5.09.

**Interocular distance:** AME - AME = 0.45, ALE - AME = 0.38, ALE - ALE = 1.06, PME - PME = 0.83, PLE - PME = 0.49, PLE - PLE = 0.94, ALE - PLE = 0.75, AME - PME = 0.53

**Legs:** I 5.82 (1.82, 0.55, 1.45, 1.27, 0.73); II 4.45 (1.64, 0.36, 1.18, 0.82, 0.45); III 4.55 (1.55, 0.36, 1.09, 1.00, 0.55); IV 5.73 (1.27, 0.45, 1.73, 1.64, 0.64). Leg formula 1432.

**Material examined:** 1 ♀, NATE, 13.X.2009, coll. T. K. Roy

**Distribution:** India: West Bengal; Celebes, China, Sri Lanka, Sumatra (Prószyński, 2007; Sebastian & Peter, 2009; Dharli et al., 2010a; Metzner, 2013; Platnick, 2013).
Brettus albolimbatus Simon
Genus: **Asemonea** O. P.-Cambridge


**Diagnosis:** Small to medium size spider. Cephalothorax longer than wide, distinctly high; cephalic region broad, almost circular, thoracic region weakly elongate. Eyes in 4 rows, both anterolaterals and posteromedians on well developed tubercles; ocular quad raised, longer than wide. Chelicerae moderately robust, promargin usually with 2-3 and retromargin with 5 - 7 teeth. Labium wider than long; sternum cordate, margin indistinct. Abdomen slender, ovoid, clothed with short, scanty, soft hairs. Legs slender, elongate, with long spines. Epigyne sclerotised, spermathecae ovoid. Palpal tibiae with dorsal and retrolateral apophysis; embolus long, slender; cymbium broad, with long setae.

**Type species:** *Lyssomanes tenuipes* O. P.-Cambridge, 1869.

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

*Asemonea tenuipes* (O. P.-Cambridge) (Figs. 129-133; PI. XIII)


**Measurements** (♀): CL - 1.92, CW - 1.21, AL - 2.87, AW - 1.25, TL - 4.79.

**Interocular distance:** AME – AME= 0.45, ALE – AME= 0.30, ALE – ALE= 0.87, PME – PME= 0.57, PLE – PME= 0.30, PLE – PLE= 0.64, ALE – PLE= 0.42, AME – PME= 0.30

**Legs:** I 5.79 (1.79, 0.43, 1.57, 1.50, 0.50); II 5.01 (1.57, 0.36, 1.29, 1.29, 0.50); III 5.36 (1.50, 0.36, 1.43, 1.50, 0.57); IV 6.29 (1.79, 0.36, 1.43, 2.07, 0.64). Leg formula 4132.

**Material examined:** 1♀, NTE, 16.VII.2008, coll. T. K. Roy; 1♀, NTE, 01.XI.2010, coll. T. K. Roy

**Distribution:** India: Andaman Islands, West Bengal; Burma, Myanmar, Singapore, Sri Lanka, Thailand (Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).
Asemonia tenuipes (O. P.-Cambridge)
Genus: **Myrmarachne** MacLeay


**Diagnosis:** Long, slender, reddish-orange to brown or black, ant like salticids with variably developed cephalothorax. Eyes 8, brown, unequal, in 2 recurved rows, posterior row equal to or wider than anterior; ocular quad roughly rectangular and marked from thoracic region by a constriction. Cheliceral margin with many teeth, these strongly developed in male. Maxillae elongate, slightly divergent, labium elongate, sternum long and narrow. Legs slender, anterior 2 pairs ventrally spined, leg formulae 4132. Abdomen variable, usually elongate and constricted. Epigyne simple, sclerotised, usually with spermathecae kidney shaped and copulatory ducts anteriorly projecting. Pedipalp with bulb round and swollen, embolus long, coiled and roughly oval cymbium.

**Type species:** *Myrmarachne melanocephala* MacLeay, 1839.

**Distribution:** Cosmopolitan (Metzner, 2013; Platnick, 2013).

**Key to species:**

1. Typical ant like spider; abdomen oval, weakly constricted in female
   
   --------- **orientalis** Tikader

   - Atypical ant like; abdomen deeply constricted, apparently bilobed; chelicerae robust, dumble shaped, as long as cephalothorax (male)
   
   ------ **plataleoides** O. P.-Cambridge

---

**Myrmarachne orientalis** Tikader

(Figs. 134-139; Pl. XIII)


**Measurements (♂):** CL - 3.12, CW - 1.53, AL - 2.93, AW - 1.35, TL - 6.56.

**Interocular distance:** AME – AME = 0.47, ALE – AME = 0.40, ALE – ALE = 1.19, PME – PME = 1.21, PLE – PME = 0.47, PLE – PLE = 1.35, ALE – PLE = 0.93, AME – PME = 0.79

**Legs:** I 4.66 (1.63, 0.42, 1.21, 0.93, 0.47); II 3.56 (1.26, 0.51, 1.00, 0.51, 0.28); III 4.09 (1.26, 0.56, 1.11, 0.88, 0.28); IV 6.74 (2.14, 0.70, 1.95, 1.53, 0.42). Leg formula 4132.


136
Distribution: India: Andaman Islands, West Bengal; Pakistan (Tikader & Biswas, 1981; Biswas & Biswas, 1992; Majumder, 2005, 2007; Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).

*Myrmarachne plataleoides* (O. P.-Cambridge) (Figs. 140-146; Pl. XIII)


Measurements (♂): CL - 2.46, CW - 1.21, AL - 2.46, AW - 1.04, TL - 5.58.

Interocular distance: AME - AME= 0.38, ALE - AME= 0.33, ALE - ALE= 0.92, PME - PME= 0.96, PLE - PME= 0.46, PLE - PLE= 1.08, ALE - PLE= 0.71, AME - PME= 0.50

Legs: I 6.20 (2.10, 0.70, 1.80, 1.00, 0.60); II 4.50 (1.40, 0.50, 1.30, 0.90, 0.40); III 4.60 (1.40, 0.50, 1.10, 1.20, 0.40); IV 7.20 (2.30, 0.60, 2.00, 1.70, 0.60). Leg formula 4132.

Material examined: 1♂, NATE, 01.II.2010, coll. T. K. Roy; 1♂, KUTE, 27.VIII.2010, coll. T. K. Roy

Distribution: India: Bihar, Maharashtra, Tamil Nadu, West Bengal; China, Malaysia, Singapore, Sri Lanka, Thailand (Biswas & Biswas, 1992; Prószyński, 2007; Sebastian & Peter, 2009; Dhali et al., 2010a; Metzner, 2013; Platnick, 2013).
Myrmarachne orientalis Tikader

134

135

136

137

138

139
Myrmarachne plauleoides (O. P.-Cambridge)
Genus: **Cocalus** C. L. Koch


**Diagnosis:** Medium sized, moderately high, compact salticids, usually clothed with soft, small hairs. Cephalothorax slightly longer than wide, elongate with low elevation in the centre of posterior ocular quad. Abdomen conical. Palpal retrolateral apophysis with curious finger like projection.

**Type species:** *Cocalus concolor* C. L. Koch, 1846.

**Distribution:** Australian and Oriental regions (Metzner, 2013; Platnick, 2013).

**Cocalus murinus** Simon

(Figs. 147-151; Pl. XIII)


**Description:** Female

CL - 3.36, CW - 2.57, AL - 5.21, AW - 2.29, TL - 8.71. Cephalothorax (Fig. 147) brown, elongate, oval, moderately high, clothed with brown hairs with sides sloping, cephalic region elevated, thoracic region posteriorly depressed with moderate longitudinal fovea immediately behind the posterolateral eye row. Eyes 8, homogenous, transparent, basally ringed with black and clothed with thick hairs, arranged in 3, transverse rows, with anterior row recurved as viewed dorsally, ocular quad trapezoid, a little wider behind, formed by PME and PLE, a small tubercle at its centre, anteromedians (AME) largest, anterolaterals (ALE) half the diameter of anteromedians (AME), posteromedians (PME) or 2nd row of eyes smallest, set on small tubercles, slightly inward to lateral margins of ocular quad, situated almost at the centre of anterolaterals (ALE) and posterolaterals (PLE), posterolaterals (PLE) equal to anterolaterals (ALE), situated on tubercles, eye diameter AME > ALE ≥ PLE > PME. Interocular distance: AME - AME = 0.64, ALE - AME = 0.54, ALE - ALE = 1.64, PME - PME = 1.79, PLE - PME = 0.71, PLE - PLE = 2.00, ALE - PLE = 1.29, AME - PME = 1.00. Clypeus narrow, equal to the diameter of anterolateral eyes, usually clothed with brown hairs. Chelicerae (Fig. 148) reddish brown, more or less parallel, elongate, promargin with 3 and retromargin with 4 comparatively small teeth. Labium (Fig. 149) basally wide, brown, medially swollen, apically pale, scopulate. Maxillae (Fig. 149) yellowish brown, elongate, outer margin concave, anteriorly pale yellowish, scopulate. Sternum (Fig. 149) yellow brown, elongate, margins with long dark brown hairs and rest with fine pale brown ones. Legs moderately long, pale yellowish, clothed with hairs and spines, tarsal claw 2, with claw tufts, claw pectinate throughout excepting at apex. leg measurements: I 7.21 (2.21, 1.07, 1.86, 1.21,
Abdomen (Fig. 147) long, brown, medially paler, basally more so, clothed with long, white hairs and fine, pale brown ones. Venter brown, marginally with a broad, longitudinal, white band accommodating largely with white, long and few brown hairs, medially with 4 rows of white spots running from epigastric furrow to spinnerets, spinnerets brown, clothed with hairs, posterior with 2 equal segments.

**Epigynum — Internal genitalia** (Figs. 150 & 151): Epigynum sub rectangular, chocolate brown, anteriorly clothed with small dark brown hairs, orifice indistinct, evidently plugged, spermatheca reniform, compact, fertilization duct short, downward.

**Material examined:** 1♀, NATE, 11.IV.2010, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; Indonesia, Singapore, Sumatra (Wanless, 1981b; Prószyński, 2007; Metzner, 2013; Platnick, 2013).
Cocalus murinus Simon

147

1448

149

151

150
Genus: *Phaeacius* Simon


**Diagnosis:** Medium to large spiders of 7.5-11.5 mm. Carapace longer than broad, widest between coxae II and III, lateral margins with distinct membranous border; fovea long and sulciform, behind the posteromedians. Eyes in 3 transverse rows, ocular quad formed by posteromedians and posterolaterals, broader than long and widest posteriorly; clypeus clothed with hairs. Chelicerae robust, nearly parallel, promargin with 3 and retromargin with 3-5 teeth. Sternum elongate, scutiform, margins not deeply excavate. Legs moderately long, robust, with numerous spines and pectinate claws; in females tarsi and metatarsi I and II with ventral setae and on the underside of coxae IV a specialized patch of spatulate setae of unknown function, Abdomen elongate ovoid, with 2 pairs of impressed spots, anterior pair least conspicuous. Epigyne large and dark, orifice paired, ovoid to furrowed, opening of looped copulatory ducts lying alongside inner margin. Male palp with massive retrolateral tibial apophysis and filamentous secondary conductor.

**Type species:** *Phaeacius fimbriatus* Simon, 1900.

**Distribution:** Oriental and Palaearctic (Metzner, 2013; Platnick, 2013).

*Phaeacius fimbriatus* Simon

(Figs. 152-156; Pl. XIII)


**Description:** Female

CL - 4.64, CW - 3.86, AL - 6.14, AW - 3.07, TL - 10.79. Cephalothorax (Fig. 152) brown, oval, longer than wide, clothed with fine white and brown hairs, thoracic region somewhat flat, weakly concave, in front of distinct, long, brown, mid longitudinal fovea, with gradually sloping sides and distinct radii. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 3 transverse rows, anterior row recurved as viewed dorsally, with white hairs between eyes, ocular quad trapezoid, a little wider behind, formed by posteromedian (PME) and posterolateral (PLE) eyes, anteromedians (AME) largest, anterolaterals (ALE) almost half the diameter of AME, 2nd row of eyes or PME smallest, set on tubercles, slightly inward to lateral margin of ocular quad, situated closer to ALE than PLE, PLE - ALE = ALE, set on tubercles, eye diameter AME> ALE> PLE> PME. Interocular distances: AME - AME= 0.68, ALE - AME= 0.61, ALE - ALE= 1.82, PME - PME= 1.64, PLE - PME= 0.79, PLE - PLE= 1.79, ALE - PLE= 1.36, AME - PME= 0.93. Clypeus narrow, margins with white, long hairs, clypeal angles obtuse, weakly produced. Chelicerae (Fig. 153) long, brown, roughly
cylindrical, margins with long, pale brown hairs, promargin with 3 teeth, 1 close to the base of fang, rest 2 slightly lower, retromargin with 4 equidistantly placed teeth, fang stout, stumpy, curved, basally dark brown, apically paler. Labium (Fig. 154) brown, longer than wide, constricted sub-basally, apically off white, truncate and scopulate. Maxillae (Fig. 154) elongate, brown, anteriorly weakly bulged, pale brown, scopulate, outer margin concave, inner one yellow brown. Sternum (Fig. 154) yellow, longer than wide, covered with long pale brown hairs, outer margin thin, dark, slightly indented at coxae III & IV, apical margins nearly straight, tip round. Legs long, slender, dorsally brown, banded, clothed with brownish hairs and spines, ventrally yellowish, tarsal claw 2, with claw tufts, claws pectinated. Leg measurements: I 10.34 (3.11, 1.22, 2.67, 2.56, 0.78); II 10.56 (3.11, 1.22, 2.78, 2.56, 0.89); III 10.00 (2.89, 1.22, 2.56, 2.33, 1.00); IV 11.00 (2.89, 1.22, 3.00, 2.78, 1.11). Leg formula 4213.

Abdomen (Fig. 152) pale yellow, longer than wide, elongate oval, anteriorly truncate, marginally brown, clothed with both brown and white hairs. Dorsum grey, decorated with 2 pairs of distinct, yellowish sigillae, 2nd pair large, deeply grooved, both pairs marked by brown hairs. Venter yellowish, medially spotted with 4 longitudinal lines, running from epigastric furrow to spinnerets, clothed with pale brown and lateral white hairs. Spinnerets pale brown, clothed with brownish hairs, posterior pair laterally extended.

Epigynum – Internal genitalia (Figs. 155 & 156): Epigynum reddish brown, roughly triangular, spermatheca elongate oval, fertilization duct short, straight, mid basally attached to spermatheca, copulatory duct long, outwardly curved, terminally coiled.

Material examined: 1♀, KUTE, 11.IV.2010, coll. T. K. Roy

Phaeacius fimbriatus Simon
Family: Sparassidae
Diagnosis: Cephalothorax oval, usually broader than long, clothed with dense setae, thoracic groove longitudinal. Eyes 8, in 2 rows, medians usually largest, forming a quadrangle. Sternum cordate, pointed behind; labium free, short and rebordered distally, never beyond the half length of maxillae; maxillae with thick scopulae and serrula. Chelicerae with 2 rows of teeth on fang furrow and boss. Legs long, laterigrade, powerful and spiny; tarsi and metatarsi ventrally with thick scopulae, metatarsal apex with soft trilobate membrane; tarsal claw 2, toothed. Abdomen variable, clothed with dense setae; spinnerets 3 pairs, colulus absent. Epigyne with paired lateral lobes, often with a median piece, male palp with strong tibial apophysis.

Biological note: Sparassids are usually found under bark, in dry leaf litter, within folded leaves and sometimes on the wall of manmade construction. These nocturnal, grey brown and black spiders are often with enough mottling to provide camouflage when resting. Being laterigrade, they move sideways and frontwards. Females of some species carry their egg sac underneath the body by clasping with pedipalp. They do not spin webs, however make silken retreats. Maximum adult population occurs in summer.

Genus: *Olios* Walckenaer


**Diagnosis:** Cephalothorax distinctly high and convex, thoracic groove indistinct or absent. Anterior row of eyes weakly recurved, with anteromedians largest; posterior row slightly procurred, with posterolaterals sessile; ocular quad squarish. Clypeus very low, labium rounded at apex. Leg II longer than I, tibia I ventrally with 2 pairs of spines. Abdomen oval or elongate oval.

**Type species:** *Sparassus argelasius* Walckenaer, 1805.

**Distribution:** Throughout excepting Palaearctic region (Platnick, 2013).

**Key to species:**

1. Body pale yellowish; pro and retromargin of chelicerae with 2 and 5 teeth respectively; copulatory ducts incurved with openings wide apart; fertilization ducts short, downwardly curved

   ------------------ kirane Sethi & Tikader

   - Body red brown; pro and retromargin of chelicerae with 2 and 4 teeth respectively; copulatory ducts outwardly curved, with openings close; fertilization ducts long, distally hook like

   ------------------------- tetter (Thorell)

*Olios kirane* Sethi & Tikader

(Figs. 157-161; Pl. XIII)


**Interocular distance:** AME – AME= 0.51, ALE – AME= 0.43, ALE – ALE= 1.37, PME – PME= 0.71, PLE – PME= 0.57, PLE – PLE= 1.80, ALE – PLE= 0.46, AME – PME= 0.51

**Legs:** I 14.45 (4.22, 1.67, 3.78, 3.56, 1.22); II 16.78 (4.67, 1.89, 4.56, 4.22, 1.44); III 11.88 (3.44, 1.44, 3.22, 2.67, 1.11); IV 13.44 (3.89, 1.89, 3.11, 3.22, 1.33). Leg formula 2143.

**Material examined:** 1 ♀, NTE, 08.IV.2010, coll. T. K. Roy

**Distribution:** India: Gujarat, West Bengal (New record) (Sethi & Tikader, 1988; Platnick, 2013).
Olios kirane Sethi & Tikader

157

158

159

160

161
Olios tener (Thorell)
(Figs. 162-166; Pl. XIII)


Measurements (♀): CL - 3.36, CW - 4.09, AL - 7.64, AW - 5.82, TL - 11.00.

Interocular distance: AME - AME= 0.50, ALE - AME= 0.36, ALE - ALE= 1.23, PME - PME= 0.55, PLE - PME= 0.45, PLE - PLE= 1.50, ALE - PLE= 0.45, AME - PME= 0.55

Legs: I 15.57 (4.57, 1.71, 4.29, 3.86, 1.14); II 19.15 (5.57, 2.29, 4.86, 5.00, 1.43); III 12.58 (3.86, 1.14, 3.43, 2.86, 1.29); IV 14.58 (4.43, 1.29, 3.57, 3.86, 1.43). Leg formula 2143.


Distribution: India: Bihar, Karnataka, Maharashtra, Tamil Nadu, West Bengal; Burma, Myanmar, Pakistan (Sethi & Tikader, 1988; Platnick, 2013).
*Olios tener* (Thorell)
Family: Thomisidae
THOMISIDAE Sundevall

(CRAB SPIDERS)

Thomisidae Sundevall, 1833, Conspectus Arachnidum. Londini Gothorum: 27.

**Diagnosis:** Small to medium sized spider, usually not exceeding 10-12 mm. Cephalothorax variable, clothed with erect setae. Eyes 8, small, dark, homogenous, in 2 recurved rows, often with a white outline, laterals usually on raised contiguous tubercles. Sternum cordate, labium and maxillae longer than wide; chelicerae with boss, not or weakly scopulate, teeth usually absent on fang furrow. Legs laterigrade, I and II pair with ventral spines, stout and much longer than posterior pair, tarsi 2 clawed, claw tuft absent or with simple hairs. Book lung single pair, median tracheal opening single, near spinnerets. Spinnerets 3 pairs, anterior pair short, conical and close together; colulus present in the form of group of short hairs. Abdomen usually short and broad, but more variable than cephalothorax. Epigyne usually with hood or guide pocket and bordered atrium. Tibia of male palp with ventral and retrolateral apophysis, tegulum disc shaped with ridge.

**Biological note:** Thomisids construct no webs, but hunt by stealth and ambush with their powerful spinose legs and concealing colours. They habitually run sideways or crablike with the first two pair of laterigrade legs. They are primarily diurnal, usually live on plants and foliage and in winter hide in the cracks under stones and bark. On bark the spider body surface achieves a roughened texture to improve camouflage.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Cephalic region as wide as thoracic region; median eyes closer to laterals
   ------------------------- **Camaricus** Thorell
   - Cephalic region narrower than thoracic region; median eyes may or may not be close to laterals
     ---------------------------------------- 2

2. Lateral eyes on strong conical protuberance; abdomen nearly pentagonal, anteriorly narrow and truncate, posteriorly much broad with lateral, blunt, conical protuberance
   ---------------- **Thomisus** Walckenaer
   - Lateral eyes not on strong conical protuberance; abdomen may or may not be pentagonal, broadened behind but devoid of any lateral protuberance
     ------------------------------------------- 3

3. Integument clothed with some clavate setae; eyes black, posteromedians closer to each other; tibiae I and II ventrally with 2 pairs of spines
   ---------------- **Ozyptila** Simon
   - Integument not clothed with any clavate setae
     ------------------------------------------- 4

4. Both cephalothorax and abdomen tuberculate; spermatheca reniform
   ---------------- **Phrynarachne** Thorell
   - Neither cephalothorax nor abdomen tuberculate
     ------------------------------------------- 5

5. Abdomen dorsally patterned; epigyne posteriorly excavated, hood quite wide, insignificant or absent
   ---------------- **Mastira** Thorell
   - Abdomen not so patterned; epigyne usually with a pair of posterior sclerotised plates
     ---------------- **Epidius** Thorell

Genus: **Camaricus** Thorell


**Diagnosis:** Cephalothorax moderately high, wider in front, parallel sided, clothed with hairs. Eyes in 2 recurved rows, medians nearer to laterals than to each other, median ocular quad wider behind. Clypeus height distinctly large. Legs moderately long and strong, with spines on femora and tibia. Abdomen broad, oval, slightly wider behind the centre, decorated with dorsal markings and hairs.

**Type species:** *Thomisus maugi* Walckenaer, 1837.
Distribution: Ethiopian and Oriental regions (Platnick, 2013).

*Camaricus formosus* Thorell
(Figs. 167-171; Pl. XIII)


**Measurements** (♀): CL - 2.72, CW - 2.41, AL - 3.44, AW - 2.97, TL - 6.16.

**Interocular distance:** AME - AME = 0.82, ALE - AME = 0.46, ALE - ALE = 1.74, PME - PME = 1.08, PLE - PME = 0.51, PLE - PLE = 2.00, ALE - PLE = 0.41, AME - PME = 0.36

**Legs:** I 7.06 (2.13, 0.53, 1.80, 1.53, 1.07); II 7.14 (2.27, 0.60, 1.80, 1.47, 1.00); III 4.80 (1.80, 0.47, 1.00, 0.80, 0.73); IV 4.94 (1.87, 0.53, 0.87, 1.00, 0.67). Leg formula 2143.


**Genus:** *Thomisus* Walckenaer


**Diagnosis:** Cephalothorax high, convex, nearly as long as wide, truncated in front with the upper corners strongly and conically protuberant bearing lateral eyes. Eyes small, anterior row recurved with medians usually closer to each other than laterals, posterior row straight or slightly recurved with medians further from each other than laterals, ocular quad anteriorly narrow, laterals on single common large tubercle but not on its tip. Legs long, I and II much longer than III and IV, claws with denticles. Abdomen pentagonal, anteriorly narrow and truncate, widest posteriorly where at either dorsal corner with short, blunt, conical protuberance.

**Type species:** *Thomisus onustus* Walckenaer, 1805.

153

Thomisus andamanensis Tikader
(Figs. 172-181; Pl. XIII)


Interocular distance: AME - AME = 0.38, ALE - AME = 0.54, ALE - ALE = 1.42, PME - PME = 0.67, PLE - PME = 0.50, PLE - PLE = 1.67, ALE - PLE = 0.25, AME - PME = 0.25

Legs: I 9.73 (3.47, 1.06, 2.40, 1.60, 1.20); II 9.59 (3.33, 1.06, 2.13, 1.87, 1.20); III 5.34 (1.60, 0.80, 1.47, 0.80, 0.67); IV 5.87 (2.00, 0.93, 1.47, 0.67, 0.80). Leg formula (♀) 1243.

Description: Male

CL - 1.13, CW - 1.28, AL - 1.23, AW - 1.47, TL - 2.37. Cephalothorax (Fig. 177) red brown except yellow brown transverse ocular ridge forming lateral tubercles, globose, granulate, cephalic region yellowish brown, weakly marked, sub triangular, medially with shallow depression; thoracic region round, laterally darker with dense granulations, posteriorly depressed, fovea invisible, radii indistinct. Eyes 8, homogenous, pearly white, arranged in 2 recurved rows, anterior strongly so, weakly narrower than posterior, lateral eyes on tubercular projections, ocular quad trapezoid, wider than long, frontally narrower, eye diameter: ALE > AME > PME > PLE. Inter ocular distances: AME - AME = 0.22, ALE - AME = 0.27, ALE - ALE = 0.73, PME - PME = 0.38, PLE - PME = 0.30, PLE - PLE = 0.95, ALE - PLE = 0.20, AME - PME = 0.17. Clypeus brown, broad, sub rectangular, granulate, margins black, lined with small hairs, clypeal angles obtusely produced. Chelicerae (Fig. 178) brown, small, granulate, more or less parallel, fang brown, small, stout and stumpy. Labium (Fig. 179) brown, nearly twice longer than wide, triangular, basally broad, apically truncate. Maxillae (Fig. 179) converging, brown, margins dark, both inner and outer lateral margins weakly concave, apically pale, scopulate. Sternum (Fig. 179) cordate, rebordered, brown, margins more dark, lateral margins weakly indented at coxae, apical margin strongly concave, tip slightly projected between coxae IV, blunt, margin straight, clothed with small brown hairs. Legs long, stout, brown, granulate, ringed with creamy white at each joint, usually clothed with pale brown hairs and spines, first 2 pairs more darker, tarsal claw 2 without clawtuft, claw pectinate throughout, Leg measurements: I 3.12 (0.97, 0.41, 0.77, 0.51, 0.46); II 3.02 (0.92, 0.36, 0.77, 0.51, 0.46); III 1.54 (0.46, 0.15, 0.41, 0.26, 0.26); IV 1.54 (0.41, 0.15, 0.41, 0.26, 0.31). Leg formula (♂) 123=4.
Abdomen (Fig. 177) brown, sub pentagonal, margins sharply crenulate, each with a spine, clothed with small, brown hairs. Dorsum decorated with 5 brown sigillae, anterior one single, behind the posterior pair abdomen depressed, transversely corrugate beyond the spinnerets. Venter yellow brown, clothed with small brown hairs, mid longitudinally with 2 rows of punctures (muscular apodemes), laterally with brown corrugations.

**Palp** (Figs. 180 & 181): Longer than femur I, RTA long, apically narrowed, ITA narrow, VTA broad extended, embolus long, bulb simple.


**Distribution:** India: Andaman Island, West Bengal (New record) (Tikader, 1980; Platnick, 2013).

**Remarks:** The male morph is first recorded. So, it is described and illustrated.

**Genus: Ozyptila** Simon


**Diagnosis:** Integument clothed with some clavate or spatulate or erect hairs but clypeus with a row of clavate hairs of variable number. Eyes black, ocular quad longer than broad, posteromedians closer to each other than to laterals. Legs short and stout, tibiae I and II ventrally armed with 2 pairs of spines.

**Type species:** *Thomisus claveatus* Walckenaer, 1837.

**Distribution:** Throughout excepting Australian and Neotropical regions (Platnick, 2013).

*Ozyptila manii* Tikader

(Figs. 182-186; Pl. XIII)


**Measurements** (♀): CL - 1.77, CW - 1.70, AL - 2.73, AW - 2.73, TL - 4.63.

**Interocular distance:** AME - AME= 0.27, ALE - AME= 0.30, ALE - ALE= 0.87, PME - PME= 0.30, PLE - PME= 0.37, PLE - PLE= 0.90, ALE - PLE= 0.37, AME - PME= 0.20
Camaricus formosus Thorell
Thomisus andamanensis Tikader

172

173

174

175

176

157
Thomisus andamanensis Tikader
*Ozyptila manii* Tikader
Legs: I 7.46 (2.13, 0.53, 2.00, 2.00, 0.80); II 6.66 (1.60, 0.53, 2.13, 1.73, 0.67); III 3.47 (0.80, 0.27, 1.07, 0.80, 0.53); IV 3.20 (0.67, 0.40, 0.93, 0.67, 0.53). Leg formula 1234.


Genus: Phrynarachne Thorell


Diagnosis: Large thomisids, male usually 1/3 of female. Cephalothorax nearly as long as wide, granulate; eyes small, subequal, with AME – AME > AME – ALE, PME – PME ≥ PME – PLE and ocular quad nearly square; clypeus slightly longer than AME – AME. Chelicerae with 2 promarginal and 1 large retromarginal teeth, labium longer than wide, sternal oval, longer than wide. Abdomen with many tubercles. Epigyne simple, with a sclerotised plate, spermathecae reniform. Tibia of male palp much developed, long.

Type species: Thomisus rugosus Latreille, 1804.

Distribution: Throughout excepting Neotropical and Nearctic regions (Platnick, 2013).

Phrynarachne tuberosa (Blackwall)


Interocular distance: AME – AME= 0.57, ALE – AME= 0.18, ALE – ALE= 1.14, PME – PME= 0.54, PLE – PME= 0.43, PLE – PLE= 1.60, ALE – PLE= 0.29, AME – PME= 0.29

Legs: I 10.38 (3.23, 1.93, 2.16, 1.81, 2.15); II 10.45 (3.18, 1.93, 2.16, 1.93, 1.25); III 6.58 (2.05, 1.25, 1.36, 1.02, 0.90); IV 5.56 (1.36, 1.31, 1.36, 0.85, 0.68). Leg formula 2134.


Distribution: India: West Bengal (Blackwall, 1864; Simon, 1895; Roy et al., 2010a; Platnick, 2013).
Phrynarachne tuberosa (Blackwall)
Genus: **Mastira** Thorell


**Diagnosis:** Abdomen dorsally patterned. Tegulum variably modified, with 1 or 2 apophyses to a conical tegulum as such. Palpal apophyses variable. Cymbial margin at the level of RTA tip, with a group of tightly spaced sensory hairs. Legs annulated, tibiae and metatarsi sometimes completely dark. Epigyne posteriorly excavated, hood quite wide, insignificant, or even absent. Epigynal area most often with a pair of distinct conical projections representing dried sperms.

**Type species:** *Mastira bipunctata* Thorell, 1891.

**Distribution:** Australian and Oriental regions (Platnick, 2013).

*Mastira septemapodemata* sp. nov.

(Figs. 192-196; Pl. XIII)

**Description:** Female (Holotype)

CL - 1.92, CW - 2.04, AL - 2.69, AW - 2.49, TL - 4.61. Cephalothorax (Fig. 192) brown, margined by broad, inverted 'U' shaped, dark band, medially enclosing the pale brown, broad area; globose, usually clothed with small, pale brown hairs, cephalic region weakly elevated, mid longitudinally with shallow depressions extending up to the middle, thoracic region laterally with pale yellow, longitudinal interrupted patches, posteriorly depressed, radii indistinct. Eyes 8, homogenous, transparent, arranged in 2 recurved rows, anterior strongly so, narrower than posterior, anterolaterals largest, ocular quad trapezoid, wider than long, anteriorly narrow, lateral eyes on creamy white raised area, eye diameter: ALE> PLE> AME> PME. Interocular distances: AME - AME= 0.29, ALE - AME= 0.29, ALE - ALE= 0.86, PME - PME= 0.49, PLE - PME= 0.33, PLE - PLE= 1.10, ALE - PLE= 0.24, AME - PME= 0.24. Clypeus brown, broad, sub rectangular, margins with long, pale brown hairs, clypeal angles obtuse. Chelicerae (Fig. 193) long, dorsally pale brown with long, pale brown hairs, ventrally creamy white, promargin scopulate with 2 teeth and retromargin with 1 tooth, fang pale brown, curved, sharp and stout. Labium (Fig. 194) yellow brown, distinctly longer than wide, constricted sub medially, apically broad, triangular, margins creamy white, scopulate. Maxillae (Fig. 194) creamy white, clothed with pale brown hairs, convergent, twice longer than wide, both outer and inner margins concave, apically weakly bulged, scopulate. Sternum (Fig. 194) creamy white, cordate, longly acutely produced between coxae II and III, III and IV, clothed with pale brown hairs, apical margin strongly concave, tip triangular, not produced. Legs long, stout, pale brown, banded in distal tibia of...
anterior 2 pairs, clothed with small, pale brown hairs and spines, tarsal claws 3, each with 2/3 pectination. Leg measurements: I 6.79 (2.40, 0.73, 1.73, 1.20, 0.73); II 6.40 (2.07, 0.87, 1.60, 1.13, 0.73); III 3.07 (1.20, 0.33, 0.8, 0.47, 0.27); IV 3.33 (1.33, 0.33, 0.87, 0.47, 0.33). Leg formula 1243.

Abdomen (Fig. 192) white, sub pentagonal, laterally corrugate, anteriorly black, posteriorly pale, this at tip continuing transversely on the middle, usually clothed with fine, moderate, white hairs. Dorsum reticulate, decorated with 7 brown sigillae, except the posterior pair remaining 5 distinctly large. Venter pale brown clothed with fine, pale brown hairs, mid longitudinally with a broad, creamy white band spotted with 2 longitudinal rows of punctures extending from epigastric furrow to spinnerets.

Epigynum – Internal genitalia (Figs. 195 & 196): Epigynum with long, tubular atrium, spermatheca transversely oval, fertilization duct nearly straight, copulatory duct long, inverted 'W' shaped.

Material examined: 1♀, KTE, 06.X.2009, coll. T. K. Roy

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

Etymology: The species name is derived from 7 muscular apodemes on abdominal dorsum.

Remarks: The closest ally of the species is Mastira serrula Tang & Li, 2010 but can be separated by i) cephalothorax margined by broad, inverted ‘U’ shaped, dark brown band, medially enclosing the pale brown area (cephalothorax uniformly brown to pale yellowish brown in M. serrula); ii) leg formula 1243, first 2 pairs of legs banded in distal tibia (leg formula 2143, not banded, in M. serrula); iii) abdominal dorsum white, antero laterally blackish, venter pale brown with a mid longitudinal, broad, creamy white band (abdominal dorsum yellowish white, ventrally yellow in M. serrula); iv) atrium long, tubular (atrium round in M. serrula); v) spermatheca transversely oval, fertilization duct nearly straight, copulatory duct long, inverted ‘W’ shaped (spermatheca tube shaped, fertilization duct inverted coma shaped, copulatory duct twisted, in M. serrula). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.
Mastira septemapodemata sp. nov.
Genus: *Epidius* Thorell


**Diagnosis:** Small to medium size spiders. Cephalic area narrow, eye tubercles of each side continuous. Chelicerae with 3 promarginal and 2 retromarginal teeth, the larger retromarginal one bifid. Legs slender with many spines. Epigyne usually with a pair of posterior sclerotised plates. Male tibia with ventral tibial apophysis and 4-6 macrosetae in a row.

**Type species:** *Epidius longipalpis* Thorell, 1877.

**Distribution:** Ethiopian and Oriental regions (Platnick, 2013).

*Epidius bazarus* (Tikader)

(Figs. 197-201; Pl. XIV)


**Interocular distance:** AME – AME= 0.20, ALE – AME= 0.20, ALE – ALE= 0.60, PME – PME= 0.47, PLE – PME= 0.27, PLE – PLE= 1.00, ALE – PLE= 0.33, AME – PME= 0.30

**Legs:** I 16.40 (4.80, 1.20, 5.00, 4.00, 1.40); II 17.60 (5.40, 1.40, 5.20, 4.00, 1.60); III 8.40 (2.60, 1.00, 2.20, 1.80, 0.80); IV 8.00 (2.60, 0.80, 2.40, 1.40, 0.80). Leg formula 2134.

**Material examined:** 1♀, KTE, 03.XI.2010, T. K. Roy; 1♀, NTE, 13.X.2009, coll. T. K. Roy

**Distribution:** India: Sikkim, West Bengal (New record); China (Tikader, 1970, 1980; Platnick, 2013).
Epidius bazarus (Tikader)
Family: Gnaphosidae
**GNAPHOSIDAE** Pocock

*(MOUSE SPIDERS)*


**Diagnosis:** Cephalothorax ovoid, rarely elevated, cephalic furrow indistinct. Eyes 8, heterogeneous, in 2 transverse rows. Chelicerae with a boss, scopulate, margins oblique and usually armed with teeth, at times reduced to denticles or retromargin into a keeled lamina. Labium longer than wide, maxillae nearly converging, scopulate, usually obliquely depressed ventrally with serrula. Sternum flat, ovoid, anteriorly truncate and produced between the posterior coxae. Legs with spines, tarsi scopulate, with 2 similar, pectinate claws and claw tufts. Abdomen oval, rather flattened. While some males with dorsal scutum. Anterior spinnerets large, cylindrical, more heavily sclerotized and widely separate. Epigyne complex with conspicuous cuticular margins. Male palp variable, usually with a stout, pointed retrolateral tibial apophysis, convex bulb, large tegulum, smaller subtegulum and slender embolus.

**Biological note:** Gnaphosids are commonly found under stones, surface debris and bark, within folded leaves and in moss where they construct irregular silken retreat. Usually they do not spin web but adopt speed, force and agility to catch prey. As the eye sight is poor, prey is perceived by tactile or chemo tactile stimuli. Their prey include ants, termites and other ground dwelling insects or animals.

**Distribution:** Cosmopolitan (Platnick, 2013).
Genus: *Zelotes* Gistel


**Diagnosis:** Cephalothorax oval, anteriorly narrowed, with fine hairy cloth and widening streak diverging from short longitudinal thoracic fovea. Eyes 8, in 2 curved rows, anterior one slightly procured as viewed frontally with laterals larger than medians; posterior straight, slightly longer than anterior, with medians irregular, sometimes longer than laterals and close to each other or equidistant. Chelicerae moderately strong, vertical, with promarginal teeth 3-6 while atmost 2 retromarginal teeth. Sternum ovoid, pointed posteriorly. Legs moderately long, tibia and metatarsi III and IV with or without ventral spines, scopulate from midhalf to the base of metatarsi I and II and to the apices of metatarsi III and IV. Abdomen dark to black, clothed with fine short hairs and with or without 3 pairs of dorsal markings.

**Type species:** *Melanophora subterranea* C. L. Koch, 1833.

**Distribution:** Cosmopolitan (Platnick, 2013).

*Zelotes pseudopusillus* Caporiacco

(Figs. 202-206; Pl. XIV)


**Measurements** ($\varphi$): CL - 2.14, CW - 1.49, AL - 2.67, AW - 1.54, TL - 4.87.

**Interocular distance:** AME - AME = 0.13, ALE - AME = 0.10, ALE - ALE = 0.31, PME - PME = 0.13, PLE - PME = 0.09, PLE - PLE = 0.29, ALE - PLE = 0.11, AME - PME = 0.14

**Legs:** I 4.75 (1.42, 0.83, 1.00, 0.75, 0.75); II 4.09 (1.17, 0.67, 0.83, 0.75, 0.67); III 3.58 (1.08, 0.42, 0.58, 0.75, 0.75); IV 5.83 (1.58, 0.83, 1.17, 1.33, 0.92). Leg formula 4123.

**Material examined:** 1 $\varphi$, MTE, 16.III.2009, coll. T. K. Roy

**Distribution:** India: Kashmir, West Bengal (New record) (Tikader, 1982; Platnick, 2013).
Zelotes pseudopusillus Caporiacco
Family: Miturgidae
MITURGIDAE Simon
(DARK SAC SPIDERS)


**Diagnosis:** Cephalothorax reddish brown to dark brown, ovoid, longer than wide. Eyes 8, nearly equal, in 2 transverse rows, anterior row weakly recurved. Sternum oval, flat; labium long, truncate anteriorly; maxillae enlarged, with or without lateral notch. Chelicerae strong, with teeth on fang furrow. Legs prograde with 2 claws and claw tufts or 3 claws, tarsal trichobothria arranged in rows, trochanter shallow to deeply notched, tibiae of front legs with paired setae. Abdomen elongate, oval, dull yellow to pale green, with markings, bands and chevrons. Posterior spinnerets 2 segmented, with distal segment conical, apical equal or shorter than distal; anterior spinnerets conical. Colulus present. Epigyne complex, with a small median plate of anterior extension and heavily sclerotised internal duct. Male palp with distally expanded retrotibial apophysis and prolateral embolus.

**Biological note:** Miturgids construct white, flattened, tubular sac with silk. Types of sacs vary depending upon their biological need e.g., resting, mating and breeding. These nocturnal, non-weaving spiders usually inhabit loose bark of trees, foliages and under stone. Their usual habit of capturing prey is by sudden jumping and seizing with stout chelicerae. Females lay yellowish egg mass in folded leaves and remain within until maturity. Maximum adult populations occur in summer.

**Distribution:** Cosmopolitan (Platnick, 2013).
Genus: **Cheiracanthium** C. L. Koch


**Diagnosis:** Cephalothorax ovoid, convex anteriorly with no median fovea, when present very inconspicuous. Posterior row weakly longer than anterior, posteromediafar away from posterolaterals than each other, laterals very close, ocular quad wider behind. Sternum cordate, labium longer than wide, maxillae enlarged, with lateral notch. Retromargin with 2-3 teeth. Legs long, slender, leg I> IV, trochanter IV with a distinct ventral notch. Epigyne flat or a concave plate, with lateral copulatory openings. Palpal tibia noticeably longer, a long spur at the basal end of palpal bulb, extending back over tibia.

**Type species:** *Aranea punctoria* Villers, 1789.

**Distribution:** Throughout excepting Nearctic and Neotropical region (Platnick, 2013).

**Key to species:**

1. Tibia with 2 long, sharp, retro lateral apophyses and one short ventral apophyses; cymbium with elongated spur at its base, tegulum convex with tegular apophyses, embolus long and slender

   --------------- **indicum** O. P.-Cambridge

   - Cymbium, tegulum and embolus otherwise (From Literature)

   ----------------------------------------

2. Spermathecae large, bean shaped, copulatory tube long, coiled

   --------------- **murinum** Thorell

   - Spermathecae neither large nor bean shaped, copulatory tube either long or short

   ----------------------------------------

3. Spermathecae small, sac like with pointed tip, copulatory tube long and spring like

   --------------- **triviale** Thorell

   - Spermathecae small, round, copulatory tube moderate, tube like

   --------------- **melanostomum** (Thorell)

**Cheiracanthium indicum** O. P.-Cambridge

(Figs. 207-212; Pl. XIV)


**Measurements (♂):** CL - 4.21, CW - 2.96, AL - 5.25, AW - 2.50, TL - 9.61.

**Interocular distance:** AME - AME= 0.43, ALE - AME= 0.54, ALE - ALE= 1.39, PME - PME= 0.46, PLE - PME= 0.50, PLE - PLE= 1.43, ALE - PLE= 0.21, AME - PME= 0.29

171
Legs: I 26.57 (6.89, 2.01, 7.23, 8.00, 2.44); II 19.34 (5.33, 1.33, 5.56, 5.56, 1.56); III 12.89 (3.56, 1.33, 3.11, 3.33, 1.56); IV 20.45 (5.56, 1.56, 5.33, 6.00, 2.00). Leg formula 1423.


*Cheiracanthium murinum* (Thorell)

(Figs. 213-217; Pl. XIV)

_Eutitha murina_ Thorell, 1895, *Descriptive catalogue of the spiders of Burma*. Lond.: 50.


Interocular distance: AME – AME= 0.41, ALE – AME= 0.77, ALE – ALE= 1.91, PME – PME= 0.50, PLE – PME= 0.77, PLE – PLE= 2.05, ALE – PLE= 0.23, AME – PME= 0.36

Legs: I 26.66 (6.67, 2.44, 7.11, 8.00, 2.44); II 18.67 (4.67, 2.00, 4.89, 5.33, 1.78); III 12.45 (3.11, 1.56, 3.11, 3.11, 1.56); IV 18.89 (4.89, 2.00, 4.67, 5.33, 2.00). Leg formula 1423.

Material examined: 1♀, NTE, 09.IV.2010, coll. T. K. Roy


*Cheiracanthium triviale* (Thorell)

(Figs. 218-222; Pl. XIV)

_Eutitha trivialis_ Thorell, 1895, *Descriptive catalogue of the spiders of Burma*. Lond.: 49.


Interocular distance: AME – AME= 0.36, ALE – AME= 0.39, ALE – ALE= 1.11, PME – PME= 0.43, PLE – PME= 0.39, PLE – PLE= 1.25, ALE – PLE= 0.18, AME – PME= 0.25

Legs: I 11.76 (2.88, 0.78, 3.33, 3.33, 1.44); II 7.12 (1.89, 0.56, 1.89, 2.00, 0.78); III 5.67 (1.11, 0.67, 1.33, 1.78, 0.78); IV 7.89 (1.78, 1.11, 2.44, 1.89, 0.67). Leg formula 1423.

172


Cheiracanthium melanostomum (Thorell)

(Figs. 223-227; Pl. XIV)

Eutittha melanostoma Thorell, 1895, Descriptive catalogue of the spiders of Burma. Lond.: 44.


Interocular distance: AME – AME = 0.43, ALE – AME = 0.36, ALE – ALE = 1.18, PME – PME = 0.61, PLE – PME = 0.39, PLE – PLE = 1.36, ALE – PLE = 0.18, AME – PME = 0.29

Legs: I 12.15 (2.86, 1.29, 3.00, 3.43, 1.57); II 8.71 (2.14, 1.00, 2.14, 2.43, 1.00); III 6.72 (1.43, 0.86, 1.43, 2.00, 1.00); IV 9.86 (2.43, 1.00, 2.43, 3.00, 1.00). Leg formula 1423.


Cheiracanthium indicum O. P.-Cambridge
Cheiracanthium murinum (Thorell)
Cheiracanthium triviale (Thorell)
Cheiracanthium melanostomum (Thorell)
Family: Clubionidae
CLUBIONIDAE Wagner

(SAC SPIDERS)


Diagnosis: Cephalothorax pale yellowish-white to brownish, ovoid, distinctly longer than wide, with chelicerae and clypeus usually dark brown. Eyes 8, small, homogenous, in 2 rows; posterior row slightly longer than anterior. Chelicerae long, slender or stout, promargin with 2-7 and retromargin with 2-4 small teeth, fang long and strongly developed in male. Thoracic fovea usually shallow or absent. Maxillae usually longer than wide, midlaterally obliquely indented, apex truncate and scopulate. Labium longer than wide. Legs long, strongly spined, tarsi and metatarsi scopulate, trochanters with or without notches, leg formulae 1423. Abdomen oval, male sometimes with dorsal scutum and covered with short, semi erect setae anteriorly. Anterior spinnerets conical or cylindrical, contiguous and close together; median cylindrical in both sexes and posterior spinnerets 2 segmented, with apical segment short. Epigynal plate usually convex, rarely sclerotised. Males with variably developed retrolateral apophysis.

Biological note: Clubionids are aggressive, hunting spiders commonly found on foliage or on the ground where they make a tubular retreat in rolled up leaves or under stones. The flattened egg sac remains suspended within the retreat while the female guards it. Front legs are used to detect and grab the prey.

Genus: *Clubiona* Latreille


**Diagnosis:** Cephalothorax long, weakly convex anteriorly, broad posteriorly, usually covered with fine silky hairs and a few long hairs in front. Thoracic fovea usually short, radii outwardly directed. Anterior row of eyes slightly recurved with medians closer to each other, posterior row longer, slightly procurred or straight, with eyes nearly equidistant or medians closer to laterals. Sternum attenuated in front and pointed behind. Cheliceral retromargin in females with 2-6 teeth, often reduced in size and number in males. Legs unicolourous, with formulae 4123. Abdomen with a noticeable dagger shaped cardiac area.

**Type species:** *Araneus pallidulus* Clerck, 1757.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Body brown; cephalothorax anterolaterally marbled below the posterior row of eyes; abdominal dorsum with a brown, mid longitudinal band in anterior half which distally margined with 2 pairs of small, yellowish sigillae in longitudinal rows

   ---------------------

   *tridentata* sp.nov.

   - Body pale; cephalothorax not marbled; abdomen without any band and sigilla

   ----- *rama* Dankittipakul & Singtripop

**Clubiona tridentata** sp.nov.

(Figs. 228-232; Pl. XIV)

**Description:** Female (Holotype)

CL - 2.67, CW - 1.79, AL - 2.72, AW - 1.64, TL - 5.49. Cephalothorax (Fig. 228) red brown, convex, sub rectangular, cephalic region brown, parallel sided, clothed with small, pale brown and long dark brown hairs, caput rectangular with dark brown margins, midlongitudinally marked by brown black line running below the anteromedians (AME) to distinct, red brown, longitudinal fovea, antero-laterally marbled below the posterior row of eyes, thoracic region pale brown, round, depressed posteriorly, radii indistinct, with fine pale brown hairs. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 transverse rows, anterior recurved, posterior procurred, weakly wider, ocular quad trapezoid, slightly wider behind, anterolaterals (ALE) largest, anteromedians (AME) smallest, eye diameter ALE>PLE>PME>AME. Interocular distances: AME - AME= 0.26, ALE - AME= 0.23, ALE - ALE= 0.69, PME - PME= 0.41, PLE - PME= 0.31, PLE - PLE= 1.03, ALE -
PLE = 0.23, AME - PME = 0.21. Clypeus dark brown, margins sclerotised, lined with pale brown hairs, clypeal angles obtusely produced. Chelicerae (Fig. 229) brown, stout, elongate, frontal bulge weakly developed with marble pattern, promargin with 3 teeth, scopulate by long, dark, brown hairs, retromargin with 2 teeth, fang long, brown, curved, sharp and serrate. Labium (Fig. 230) red brown, longer than wide, constricted sub basally, apically paler, scopulate with dark brown hairs. Maxillae (Fig. 230) elongate, red brown, both outer and inner margin concave, anteriorly weakly bulged, scopulate with brown hairs. Sternum (Fig. 230) pale yellowish, reordered, elongate oval, with long, submarginal and small, fine hairs, anterior margin weakly elevated medially, outer lateral margins dark, more at blunt triangular projection at each coxae. Legs long, yellowish brown, clothed with hairs and spines, ventral sides of tarsi and metatarsi I & II with calamistrum, tarsal claw 2 with claw tufts, each with 6 pectinations. Leg measurements: I 5.99 (1.83, 0.67, 1.41, 1.33, 0.75); II 6.08 (1.92, 0.50, 1.33, 1.50, 0.83); III 5.33 (1.75, 0.67, 1.08, 1.33, 0.50); IV 8.42 (2.33, 0.92, 1.92, 2.50, 0.75). Leg formula 4213.

Abdomen (Fig. 228) pale yellowish, clothed with hairs, apex truncate, margined with long, erect, curved, brown hairs, widest near middle, posteriorly narrowed. Dorsum decorated with a brown, mid-longitudinal band in anterior half, tapering gradually, distally margined with 2 pairs of small, yellowish sigillae in longitudinal rows, anterior distinct, lateral sides with discontinuous chevrons. Venter creamy white, clothed with hairs, marginal hairs long, brown spinnerets covered with pale brown hairs.

Epigynum — Internal genitalia (Figs. 231 & 232): Epigynum without any sense organ, atrium nearly triangular, tip round and weakly reordered, spermatheca lobular, soft, fertilization duct horn like, copulatory duct short and broad.

Material examined: 1♀, KTE, 31.1.2010, coll. T. K. Roy

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

Etymology: The specific epithet is derived from the three promarginal teeth of chelicerae.

Remarks: The species shows a close affinity to Clubiona lala Jager & Dankittipakul, 2010 but can be separated by i) cephalothorax without any marginal band (cephalothorax with dark marginal band in C. lala); ii) legs without any distinct dark patches (legs with distinct dark patches in C. lala); iii) epigyne without any sense organ (epigyne with two long slit sense organs lateral of atrium in C. lala); iv) atrium nearly triangular, tip round and weakly reordered (atrium rectangular and entirely reordered in C. lala); v) spermatheca lobular, soft (spermatheca compact, rather hard in C. lala). Such differences appear to justify the erection of a new species.
**Clubiona rama** Dankittipakul & Singtripop

(Figs. 233-238; PI. XIV)


**Description:** Female

CL - 2.67, CW - 1.90, AL - 2.82, AW - 1.49, TL - 5.54. Cephalothorax (Fig. 233) creamy white, convex, sub rectangular, cephalic region faintly dark, parallel sided, clothed with fine, small, long, erect pale brown hairs, thoracic region round, depressed posteriorly with distinct, red brown longitudinal fovea. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 transverse rows, anterior recurved, posterior procured, weakly wider, ocular quad trapezoid, slightly wider behind, anterolaterals (ALE) largest, posteromediannes (PME) smallest, eye diameter ALE> AME> PLE> PME. Interocular distance: AME - AME= 0.26, ALE - AME= 0.21, ALE - ALE= 0.64, PME - PME= 0.36, PLE - PME= 0.28, PLE - PLE= 0.92, ALE - PLE= 0.26, AME - PME= 0.23. Clypeus narrow, yellow brown, margin medially lined with long, pale brown setae, clypeal angles weakly obtusely produced. Chelicerae (Fig. 234) yellow brown, moderately long and stout, promargin with 4 teeth, scopulate, retromargin with 2 teeth, fang pale brown, long, sharp, curved. Labium (Fig. 235) pale yellow, rectangular, basally notched, constricted sub basally, apically paler, scopulate. Maxillae (Fig. 235) pale yellow, longer than wide, outer margin concave, anteriorly weakly bulged, scopulate. Sternum (Fig. 235) creamy white, longer than wide with long, pale brown, sub marginal and small, fine, pale brown hairs, anterior margin weakly elevated medially, lateral margins with pale brown, blunt, triangular projections at each coxae, tip produced. Legs long, stout, dorsally pale brown, ventrally white, clothed with pale brown hairs and spines, tarsal claw 2 with claw tufts, each with 7 pectination. Leg measurements: I 6.00 (1.75, 0.92, 1.58, 1.08, 0.67); II 5.91 (1.83, 0.75, 1.75, 1.00, 0.58); III 5.50 (1.67, 0.75, 1.25, 1.33, 0.50); IV 8.00 (2.25, 1.00, 1.83, 2.25, 0.67). Leg formula 4123.

Abdomen (Fig. 233) pale brown with long, pale brown, erect and flat setae, both ends truncate, anterior margin medially with long, pale brown erect hairs. Venter uniformly pale yellow with small brown hairs.

**Epigynum – Internal genitalia** (Figs. 236 - 238): Atrium anteriorly cordiform, posteriorly narrow, genital orifices lateral to atrium, bursa ovoid, large, semi transparent, spermaphraea strongly convoluted, fertilization duct short.

**Material examined:** 1 ♂, STE, 02.XL2010, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; Thailand (Dankittipakul & Singtripop, 2008; Platnick, 2013).
Clubiona tridentata sp.nov.
Clubiona rama Dankittipakul & Singtripop
Family: Hersiliidae
**HERSILIIDAЕ Thorell**

**(TWO TAILED SPIDERS)**


**Diagnosis:** Cephalothorax ovoid, cephalic region anteriorly narrowing, elevated, with a distinct semicircular sulcus, clothed with plumose setae. Eyes 8, unequal, in 2 strongly recurved rows, on a large tubercle, anteromedians larger than posteromedians, anterolaterals situated high up, half way between the two medians. Sternum heart shaped, with anterior edge straight or weakly concave. Labium free with rounded tip. Maxillae converging. Chelicerae weak, with small, soft retromarginal teeth. Legs very long and slender, particularly in males; 3 clawed, patella-tibia joint autospasous. Abdomen flat, nearly round, posteriorly broad, with plumose setae. Posterior spinnerets longer than abdomen, cylindrical, apical segment greatly elongated and attenuated, inner surface with a series of tubules producing thin silk thread; anterior spinnerets close together between posterior pair, distinctly separated by a triangular colulus. Epigyne complex with broad central septum. Male palp without tibial apophyses; bulb tubular, ovoid or circular; conductor filiform, pointed.

**Biological note:** Hersiliids are active hunters, usually inhabiting the tree trunk where they mimic the dry bark and spread the silk over the nearby area. When an insect comes close, the spider rush around in circle, with the prey in the centre and lays more silks, until it is trapped. In tea ecosystem, they are found on the shade trees and maximum adult population occurs in summer.

**Distribution:** Cosmopolitan (Platnick, 2013).
Genus: **Hersilia** Audouin, 1826


**Diagnosis:** Cephalothorax round or nearly so, flat, angular laterally. Ocular quad limited by anterior row of eyes, parallel sided. Clypeus very high. Metatarsi I, II and IV bisegmented. Abdomen dark, nearly round, posteriorly broad, dorsally decorated. Posterior spinnerets longer than abdomen, tail like; distinct colulus separates anterior pair of spinnerets.

**Type species:** *Hersilia caudata* Audouin, 1826.

**Distribution:** Throughout excepting Nearctic and Neotropical regions (Platnick, 2013).

*Hersilia savignyi* Lucas

(Figs. 239-243; Pl. XIV)


**Measurements (♀):** CL - 2.43, CW - 2.50, AL - 5.29, AW - 4.43, TL - 8.07.

**Interocular distance:** AME - AME = 0.29, ALE - AME = 0.36, ALE - ALE = 0.71, PME - PME = 0.39, PLE - PME = 0.29, PLE - PLE = 0.75, ALE - PLE = 0.18, AME - PME = 0.21

**Legs:** I 19.77 (5.11, 1.33, 5.11, 7.11, 1.11); II 19.11 (5.33, 1.11, 5.33, 6.67, 0.67); III 7.34 (1.78, 1.11, 1.78, 2.00, 0.67); IV 17.98 (4.65, 0.89, 4.44, 7.11, 0.89). Leg formula 1243.


**Distribution:** India: Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal; Burma, Myanmar, Philippines, Sri Lanka (Tikader & Biswas, 1981; Biswas & Biswas, 1992; Gajbe, 2004a; Majumder, 2005, 2007; Sebastian & Peter, 2009; Platnick, 2013).
Hersilia savignyi Lucas

240

0.5

239

0.5

241

0.5

243

0.25

242

0.25

186
Family: Oxyopidae
OXYOPIDAE Thorell

(LYNX SPIDERS)


Diagnosis: Cephalothorax oval, high, narrowing anteriorly, sloping sharply to thoracic declivity and sides. Clypeus very high, vertical, usually with conspicuous stripes and spots. Eyes 8, unequal, anterior row strongly recurved, anteromedians smallest; posterior row weakly procurved and thus form a hexagon. Sternum cordate, acute between posterior coxae. Chelicerae long, tapered distally; fang short with grooves unarmed or weakly armed. Labium longer than wide. Maxillae long and converging. Legs slender, with long, semierect dorsal and lateral spines; tarsal claw 3, paired claws pectinate with many teeth; trochanters shallowly notched; without scopulae. Abdomen elongate, oval, posteriorly tapering, with patches, bands, non-iridescent setae and sometimes with pigments. Spinnerets usual, colulus present. Epigyne complex, variably developed among genera with a semicircular dark rim surrounding a shallow median depression or a deep pit in front with paired projections or median depression with scape like process. Male palp with tibial apophysis and paracymbium.

Biological note: Most oxyopids chase their prey with great rapidity over crop canopy, jumping in habit and usually hide from a flying insect until within stalking distance, a few centimeters or more. Others lie in wait near flowers and spring upon insects that visit flowers. These diurnal hunting spiders make no web but quickly detect the prey with good vision and catch it with legs. They are mainly plant dwelling, commonly found in grass, shrubs and trees. Females guard the egg masses laid in foliage and covered by a cottony mass. Maximum adult populations occur in monsoon.

Key to genera:

1. Anteromedian eyes more than their diameter apart; clypeus and femora usually lined with black band; male palp without tegular lobe and retrolateral margin of cymbium without basal apophysis
   -------------------------- **Oxyopes** Latreille
   - Anteromedian eyes less than their diameter apart or equal; clypeus and femora not so; male palp with tegular lobe; epigyne with a chitinised U shaped rim
   --------------------------------------------------------------- 2

2. Carapace dorsally flat, nearly parallel sided; front face narrower, rear face receding; abdomen at most 1/5\* longer than carapace; tegular lobe sharply curved or hooked, not looped; abdomen rarely with geometric colour pattern; total length 3-9 mm
   ------------------------------------------------ **Hamataliwa** Keyserling
   - Carapace dorsally convex, not parallel sided, posteromedially with a saddle; abdomen at least 1/2 longer than carapace, narrow distally; tegular lobe looped, with pit; abdomen dorsally often with geometric colour pattern; total length 7-15 mm
     -- **Hamadruas** Deeleman-Reinhold

Genus: **Oxyopes** Latreille


**Diagnosis:** Anteromedian eyes more than their diameter apart. Posterior row strongly procurred, nearly equidistant to each other. Ocular quad limited by posteromedians and anterolaters. Thin black line extending from anteromedians to the base of chelicerae, along the ventral side of femora and other leg segments. Patellae, tibiae and metatarsi of legs I-IV bear numerous long and thin erect dorsal and lateral spines. Abdomen elongate, oval, posteriorly tapering, with patches and bands. Tegular lobe absent, retrolateral margin of cymbium without basal apophysis.

**Type species:** *Aranea heterophthalma* Latreille, 1804.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Cephalic region with two longitudinal black line on either side, spermatheca bilobed, fertilization duct outwardly and upwardly curved, copulatory duct lateral
   -------------------------- **shweta** Tikader
   - Cephalic region without any black lines
     --------------------------------------------------------------- 2
2. Cephalothorax with two light red hair bands extending from posterolateral eyes to just above the posterior end of carapace, spermatheca bilobed, upper lobe large, lower lobe small, fertilization duct strongly upwardly prolonged, parallel, copulatory duct lateral very short.

-------- *matiensis* Barrion & Litsinger

- Cephalothorax without any such band

3. Femora of all legs ventrally with two longitudinal black lines, spermatheca comma shaped, fertilization duct outwardly and downwardly directed, copulatory duct lateral

-------- *sita* Tikader

- Femora of all legs ventrally at most with one longitudinal black line

4. Femora I and II with 2 pairs of robust, ventral spines (male); femora of all legs ventrally with conspicuous longitudinal brown or black stripes

-------- *pandae* Tikader

- Femora I and II without any such spine

5. Abdomen anteromedially with a light brown lance shaped patch margined by more brown, laterally with dark brown bands; epigynum tongue shaped

-------- *kanalae* Gajbe

- Abdomen with 4 or 5 pairs of diagonal grey bands, interspersed with white; epigynum 'V' shaped with bluntly rounded posterior margin

-------- *ojanusa* Thorell

*Oxyopes shweta* Tikader

(Figs. 244-248; Pl. XIV)


**Intercocular distance**: AME - AME = 0.32, ALE - AME = 0.11, ALE - ALE = 0.46, PME - PME = 0.50, PLE - PME = 0.50, PLE - PLE = 1.18, ALE - PLE = 0.43, AME - PME = 0.61

**Legs**: I 19.12 (4.67, 1.44, 5.56, 5.56, 1.89); II 18.21 (4.88, 1.33, 5.00, 5.33, 1.67); III 13.56 (3.22, 1.11, 3.78, 3.89, 1.56); IV 15.99 (4.33, 0.78, 4.44, 5.11, 1.33). Leg formula 1243.

Oxyopes matiensis Barrion & Litsinger, 1995

(Figs. 249-253; Pl. XIV)

Oxyopes matiensis Barrion & Litsinger, 1995, Riceland Spiders of South and Southeast Asia: 329. (Figs. 195a-h, 196a-g)


Interocular distance: AME - AME= 0.17, ALE - AME= 0.13, ALE - ALE= 0.29, PME - PME= 0.38, PLE - PME= 0.33, PLE - PLE= 0.83, ALE - PLE= 0.38, AME - PME= 0.50

Legs: I 10.89 (2.78, 0.78, 2.44, 3.78, 1.11); II 9.00 (2.11, 1.00, 2.67, 2.44, 0.78); III 6.12 (1.67, 0.67, 2.44, 0.67, 0.67); IV 8.67 (2.33, 0.89, 2.56, 1.89, 1.00). Leg formula 1243.


**Oxyopes sitae** Tikader

(Figs. 254-258; Pl. XIV)


**Interocular distance**: AME - AME= 0.29, ALE - AME= 0.23, ALE - ALE= 0.54, PME - PME= 0.54, PLE - PME= 0.57, PLE - PLE= 1.31, ALE - PLE= 0.51, AME - PME= 0.97

**Legs**: I 16.57 (5.00, 0.86, 4.29, 4.71, 1.71); II 13.71 (3.86, 0.71, 4.14, 3.71, 1.29); III 10.28 (3.14, 0.71, 2.43, 1.00); IV 12.29 (3.28, 1.29, 3.57, 2.86, 1.29). Leg formula 1243.


**Oxyopes pandae** Tikader

(Figs. 259-263; Pl. XV)


**Interocular distance**: AME - AME= 0.26, ALE - AME= 0.12, ALE - ALE= 0.40, PME - PME= 0.37, PLE - PME= 0.37, PLE - PLE= 0.95, ALE - PLE= 0.40, AME - PME= 0.58

**Legs**: I 15.29 (2.86, 1.14, 4.29, 4.71, 2.29); II 13.15 (2.29, 1.00, 3.71, 4.29, 1.86); III 8.57 (1.86, 1.00, 2.71, 2.00, 1.00); IV 11.28 (2.71, 1.14, 3.00, 2.86, 1.57). Leg formula 1243.


**Oxyopes kamalae** Gajbe

(Figs. 264-268; Pl. XV)


**Interocular distance:** AME - AME= 0.31, ALE - AME= 0.20, ALE - ALE= 0.46, PME - PME= 0.40, PLE - PME= 0.51, PLE - PLE= 1.14, ALE - PLE= 0.46, AME - PME= 0.80

**Legs:** I 12.33 (3.67, 0.78, 3.22, 3.44, 1.22); II 11.22 (3.44, 0.78, 2.89, 3.00, 1.11); III 8.88 (2.33, 0.78, 2.33, 2.44, 1.00); IV 10.78 (2.78, 0.78, 2.78, 3.22, 1.22). Leg formula 1243.

**Material examined:** 1♀, NTE, 18.III.2009, coll. T. K. Roy; 1♀, NTE, 08.IV.2010, coll. T. K. Roy

**Distribution:** India: Madhya Pradesh, West Bengal (New record) (Gajbe, 2008b; Platnick, 2013).

**Oxyopes javanus** Thorell

(Figs. 269-273; Pl. XV)


**Interocular distance:** AME - AME= 0.29, ALE - AME= 0.17, ALE - ALE= 0.51, PME - PME= 0.60, PLE - PME= 0.43, PLE - PLE= 1.17, ALE - PLE= 0.43, AME - PME= 0.69

**Legs:** I 12.56 (3.14, 1.00, 3.57, 3.57, 1.28); II 7.01 (1.86, 0.43, 1.86, 2.00, 0.86); III 9.58 (2.86, 0.86, 2.00, 3.00, 0.86); IV 11.71 (3.57, 0.71, 2.43, 3.86, 1.14). Leg formula 1432.


**Distribution:** India: Assam (New record), Nicobar Island, West Bengal; Bangladesh, China to Java, Malaysia, Myanmar, Philippines, Singapore, Sumatra, Thailand (Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Majumder, 2005; Gajbe, 2008b; Sebastian & Peter, 2009; Platnick, 2013).

192
Oxyopes shweta Tikader
Oxyopes matiensis Barrion & Litsinger
Oxyopes sitae Tikader
Oxyopes pandae Tikader
Oxyopes kamalae Gajbe
Oxyopes javanus Thorell

273
198
272
Genus: *Hamataliwa* Keyserling


**Diagnosis:** Cephalothorax very high, almost square. Anteromedian eyes close, less than their diameter apart, situated in front of the space between anterolaterals; posteromedians 1-4 times their diameter apart. Black lines on clypeus, along ventral side of femora and other leg segments absent. Patellae, tibiae and metatarsi of legs I-IV with numerous long, thin, erect, dorsal and lateral spines; posterior legs nearly 1/3 shorter than anterior; I> II> III> IV. Abdomen elongate, oval, posteriorly tapering with non-iridescent, flattened and appressed setae. Epigyne appearing a more or less U shaped chitinised rim, with a pair of spermatheca anterior to it. Male palp with U-shaped tegular lobe, black, spermaphore traversing it along posterior margin; embolus long, thin, flattened and shiny black; distally strongly thread like and completely hidden by conductor.

**Type species:** *Hamataliwa grisea* Keyserling, 1887.

**Distribution:** Throughout except Palaearctic region (Platnick, 2013).

*Hamataliwa reticulatus* (Biswas et al.)

(Figs. 274-278; PI. XV)


**Measurements** ($\varphi$): CL - 3.34, CW - 2.80, AL - 5.54, AW - 3.66, TL - 9.03.

**Interoculal distance:** AME - AME = 0.26, ALE - AME = 0.20, ALE - ALE = 0.60, PME - PME = 0.51, PLE - PME = 0.49, PLE - PLE = 1.31, ALE - PLE = 0.49, AME - PME = 0.71

**Legs:** I 12.85 (4.00, 1.00, 3.86, 2.71, 1.28); II 10.85 (3.71, 0.71, 3.00, 2.43, 1.00); III 5.85 (2.00, 0.57, 1.71, 1.00, 0.57); IV 8.14 (2.71, 0.71, 1.86, 1.86, 1.00). Leg formula 1243.


**Distribution:** India: West Bengal (Biswas et al., 1996; Gajbe, 2008b; Sen et al., 2011c; Platnick, 2013).
*Hamataliwa reticulatus* (Biswas et al.)
Genus: *Hamadruas* Deeleman-Reinhold


**Diagnosis:** Large spiders, 7-15 mm, females usually larger than males. Cephalothorax lower, head 3/4th of carapace width, with straight sides sinuating to thorax, this with a shallow saddle, higher in front than behind. Legs relatively much longer, I> II> III> IV. Abdomen 1.5-2.0 or more longer than carapace, parallel sided, pigmented and dorsally often with species-specific geometric colour pattern. Epigyne indistinguishable from that in *Hamataliwa* and *Tapponia*. Male palp with tegular lobe in which the spermaphore loops around, crossing itself around a pit, a thick flange on the basal part of embolus.

**Type species:** *Oxyopes hieroglyphicus* Thorell, 1887.

**Distribution:** Oriental *(Platnick, 2013)*.

**Key to species:**

1. Cephalothorax encircled by narrow white bands of soft hairs; abdomen slightly longer than cephalothorax with an irregular pattern
   
   ---------------------
   **baruni** sp. nov.

   - Cephalothorax not encircled with such band; abdomen almost twice longer than cephalothorax with characteristics geometrical pattern

   ---------------
   **sikkimensis** *(Tikader)*

**Hamadruas baruni** sp. nov.

(Figs. 279-283; Pl. XV)

**Description:** Female

CL - 2.26, CW - 2.04, AL - 2.87, AW - 2.21, TL - 5.28. Cephalothorax *(Fig. 279)* red brown, elongate oval, usually clothed with pale brown hairs; cephalic region convex, truncate in front, cervical furrows faintly marked; thoracic region laterally slopped gradually, posteriorly vertical, with long, red brown, mid longitudinal thoracic fovea; radii distinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 rows, anterior row strongly recurved with medians smallest, laterals close, posterior procured, eyes subequal, ocular quad distinctly longer than wide, formed by anterolaterals and posteromedians, eye diameter: ALE> PME> PLE> AME. Interocular distances: AME - AME= 0.17, ALE - AME= 0.19, ALE - ALE= 0.42, PME - PME= 0.40, PLE - PLE= 0.85, ALE - PLE= 0.34, AME - PME= 0.68. Clypeus broad, yellow brown, usually clothed with pale brown hairs, clypeal angles marked by dark brown. Chelicerae *(Fig. 280)* reddish brown, moderate, more or less parallel, dorsally clothed with long, pale brown hairs, fang red brown,
curved, sharp, stout and stumpy, promargin with 2 and retromargin with 1 teeth. Labium (Fig. 281) pale brown, laterally darker, nearly twice longer than wide, basally broad, constricted sub basally, widest at the middle, apically truncate, pale and scopulate. Maxillae (Fig. 281) pale brown, outer lateral margins dark, nearly thrice longer than wide, inner margins constricted sub basally, outer margins concave, anteriorly weakly bulged, pale, scopulate. Sternum (Fig. 281) cordate, brownish yellow, outer lateral margins pale brown with blunt triangular projections at each coxae, anterior margin weakly concave, tip well produced between coxae IV, bluntly round. Legs long, stout, pale brown, usually clothed with pale brown hairs and long, erect spines, tarsal claw 3 with 2 superior claws and 1 inferior claw, superior claws pectinate throughout, leg measurements: I 8.71 (2.71, 0.86, 2.28, 1.86, 1.00); II 7.71 (2.57, 0.71, 1.86, 1.57, 1.00); III 5.57 (2.00, 0.57, 1.43, 1.14, 0.43); IV 3.99 (0.71, 0.71, 1.14, 0.86, 0.57). Leg formula 1234.

Abdomen (Fig. 279) brown, elongate oval, anteriorly truncate, posteriorly tapering, usually clothed with white and few brown hairs, cardiac area yellowish, laterally with irregular brownish patches at times marked by brown hairs. Venter pale brown, with a mid longitudinal, broad, brown band extending from epigastric furrow to spinnerets, usually clothed with fine, small, brown hairs; further laterally with pale brown hairs.

Epigynum — Internal genitalia (Figs. 282 & 283): Epigynum comparatively wide and circular, spermatheca small, round, copulatory duct long, slender, anteriorly incurved.

Material examined: 1♀, NATE, 22.III.2009, coll. T. K. Roy

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

Etymology: The species name is after Late Dr. Barundeb Banerjee, Advisor, National Tea Research Foundation, Mins. of Commerce, Govt. of India.

Remarks: It is the 2nd congeners from India and in no way appears close to the Hamadruas sikkimensis (Tikader) [Deelman- Reinhold, 2009] chiefly because of the epigynum and internal genitalia. The species however, shows affinity to H. superba (Thorell, 1887) but can be separated by: i) epigynum comparatively wide and circular (epigynum narrow, elongate, vase like in H. superba); ii) spermatheca small, round (spermathecae large, weakly oval in H. superba); iii) copulatory duct long, slender, anteriorly incurved (copulatory duct thick, anteriorly sac like in H. superba); iv) abdomen oval (abdomen narrow elongate in H. superba). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.
Hamadruas baruni sp. nov.
**Hamadruas sikkimensis** (Tikader)

(Figs. 284-288; Pl. XV)


**Measurements** ($\varphi$): CL - 4.18, CW - 3.50, AL - 6.29, AW - 2.21, TL - 10.64.

**Interocular distance:** AME – AME= 0.21, ALE – AME= 0.25, ALE – ALE= 0.64, PME – PME= 0.75, PLE – PME= 0.50, PLE – PLE= 1.39, ALE – PLE= 0.50, AME – PME= 0.82

**Legs:** I 18.00 (4.86, 1.28, 5.14, 4.86, 1.86); II 16.43 (4.86, 0.86, 4.57, 4.43, 1.71); III 15.42 (4.86, 1.28, 4.14, 3.86, 1.28); IV 15.86 (4.71, 1.00, 4.14, 4.43, 1.57). Leg formula 1243.

**Material examined:** 1$, KTE, 06.IX.2008, coll. T. K. Roy

**Distribution:** India: Meghalaya, Sikkim, Tripura, West Bengal; China (Tikader, 1970; Biswas & Biswas, 1992; Majumder, 2005, 2007; Gajbe, 2008b; Platnick, 2013).
Family: Pisauridae
**PISAURIDAE** Simon

*(NURSERY WEB SPIDERS)*


**Diagnosis:** Cephalothorax oval, anteriorly truncate, posteriorly round, often with a broad longitudinal dark brown stripe throughout and plumose setae. Cephalic region weakly raised, with distinct cervical grooves; thoracic region with mid longitudinal fovea. Eyes 8, dark, homogenous, large, often stalked, with at least one pair of shallow tubercles, in 2 or 3 curved rows, anterior row variable, posterior strongly recurved. Clypeus often with blunt tubercles on anterolateral edge. Sternum and labium longer than wide. Chelicerae long, stout, toothed with boss and scopulae. Legs long, unequal with numerous spines, tarsi slender, flexible, with 3 claws and sometimes onychium, inferior claws with 2-3 teeth; tarsal apically with a semicircular, bordered notch in lower margin. In pedicel, 2 piece of lorum either united by a transverse suture or anterior piece with a notch behind into which posterior piece fits. Abdomen elongate, oval with longitudinal bands or spots. Spinnerets similar. Epigyne complex. Male palp with tibial apophysis, cymbium elongate anteriorly, bulbous, oval; median apophysis present.

**Biological note:** Pisaurid females carry egg sac underneath the sternum and before the emergence of young, construct a framework of silk, the nursery web in which eggs and young’s remain until dispersal commences. They prefer open areas of grass, dwarf shrub as well as marshy places like edges of streams and ponds.

**Distribution:** Cosmopolitan (Platnick, 2013).
Genus: *Dendrolycosa* Doleschall


**Diagnosis:** Small to large (6–21 mm) size. Carapace much longer than wide; ocular area inclined at an angle to clypeus, quadrangle longer than wide, exceeding clypeus; anterior and posterior median eyes subequal, anterior eye row straight or weakly recurved, much wider than those of posterior row. Cheliceral promargin with 3 teeth. Legs straight; tarsi short and rigid. Sheet webers with a funnel retreat in vegetation. Epigynum with 1 or 2 depressions in the anterior, intromittent ducts wide. Male palp without embolar membrane.

**Type species:** *Dendrolycosa fusca* Doleschall, 1859.

**Distribution:** Throughout excepting Neotropical and Nearctic regions (Platnick, 2013).


**Measurements** (♀): CL - 4.36, CW - 3.64, AL - 7.57, AW - 4.00, TL - 11.93.

**Interocular distance:** AME - AME= 0.50, ALE - AME= 0.29, ALE - ALE= 1.00, PME - PME= 0.54, PLE - PME= 0.54, PLE - PLE= 1.36, ALE - PLE= 0.71, AME - PME= 0.50

**Legs:** I 15.55 (4.22, 1.78, 4.22, 3.33, 2.00); II 15.11 (4.00, 1.78, 4.22, 3.33, 1.78); III 14.90 (4.22, 1.78, 3.56, 3.56, 1.78); IV 16.88 (4.44, 1.78, 4.44, 4.22, 2.00). Leg formula 4123.


**Distribution:** India: Andaman Island, Sikkim, West Bengal (Tikader, 1970; Biswas & Biswas, 1992; Sebastian & Peter, 2009; Platnick, 2013).
Dendrolycosa sp. nr. gitae (Tikader)
Family: Lycosidae
LYCOSIDAE Sundevall
(WOLF SPIDERS)


**Diagnosis:** Cephalothorax convex, longer than wide, clothed with pubescence and dense setae; cephalic region narrowed anteriorly, fovea elongate. Eyes unequal, homogenous, dark; anterior row straight or weakly curved, posterior row so strongly recurved as to form two rows of 2 eyes each making an arrangement of 4, 2, 2; anterolaterals usually smallest, posteromedians (2nd row) largest. Sternum oval. Chelicerae relatively strong, scopulate with margins toothed and boss. Labium free, as wide as long and half the length of maxillae. Maxillae nearly parallel, scopulate. Legs 3 clawed, superior claws similar, pectinate with few teeth in single row; 3rd claw either smooth or with single tooth, with spines, scopulate, and trochanters with semicircular notch. Abdomen oval, with dense setae; mothers of some species with characteristics hairs for carrying spiderlings. Spinnerets usual, colulus absent. Epigyne complex with well sclerotised median septum. Pedipalp without tibial apophysis; embolus short, rarely extended, variably developed.

**Biological note:** These highly mobile spiders with their good vision and exceptionally well developed sense of touch chase their prey vigorously and crush them with their stout chelicerae. Most species are diurnal while some are nocturnal. They are typically non-weavers but make tunnel on cracks and crevices by weaving, usually found under stones or debris, at the plant base; good swimmers too. Others prefer moist habitat. Females of some species carry egg sac by attaching to spinnerets.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Cephalothorax usually with broad, pale, sub marginal band; anterior row of eyes weakly wider than 2nd row; sternum with mid longitudinal dark markings; posterior spinnerets distinctly longer than anterior

----------------------------- Hippasa Simon

- Cephalothorax not so; anterior row of eyes shorter than 2nd row; sternum without dark markings; posterior spinnerets weakly longer than anterior

-------------------------------------- 2

2. Clypeus vertical; tibia I with 3 pairs of ventral spines; metatarsus IV usually longer than or at least as long as patella plus tibia

------------------------ Pardosa C. L. Koch

- Clypeus not vertical; both tibia I and II with 3 pairs of ventral spines; metatarsus IV never longer than patella plus tibia

-------------------------------------- Lycosa Latreille

Genus: Hippasa Simon


Diagnosis: Cephalothorax convex, elongate, cephalic region narrowed anteriorly with pale submarginal bands and streak radiating nearly from fovea. Anterior row of eyes little wider than 2nd row. Sternum cordate, usually with mid longitudinal dark markings. Legs dark brown with pseudo annulations. Abdomen elongate oval, with brown cardiac mark, paired light spots and longitudinal lines. Posterior spinnerets distinctly longer than anterior, with apical segment conical and as long as basal.

Type species: Pirata agelenoides Simon, 1884.

Distribution: Ethiopian, Oriental and Palaearctic regions (Platnick, 2013).

Key to species:

1. Abdomen pale brown with irregular markings, chevrons absent; vulval plate strongly invaginated

----------------------------- agelenoides (Simon)

- Abdomen with blackish brown and chalk white chevrons; vulval plate otherwise

-------------------------------------------------------------------------------- 2
2. Vulval pit nearly triangular in front; labium laterally constricted at basal 1/3 without forming any stalk; body robust

------------- **himalayensis** Gravely

- Vulval pit transversely semilunar; labium laterally notched at basal 1/3 forming stalk; body slender

------------- **olivacea** (Thorell)

**Hippasa agelenoides** (Simon)

(Figs. 292-296; Pl. XV)


**Measurements** ($\varphi$): CL - 3.12, CW - 2.79, AL - 3.02, AW - 1.86, TL - 6.21.

**Interocular distance:** AME - AME = 0.21, ALE - AME = 0.16, ALE - ALE = 0.53, PME - PME = 0.58, PLE - PME = 0.65, PLE - PLE = 0.95, ALE - PLE = 0.79, AME - PME = 0.26

**Legs:** I 13.15 (3.36, 0.93, 2.86, 4.29, 1.71); II 9.00 (2.36, 0.93, 2.07, 2.14, 1.50); III 8.30 (2.43, 0.79, 1.43, 2.29, 1.36); IV 8.15 (2.64, 0.79, 1.79, 2.07, 0.86). Leg formula 1234.

**Material examined:** 2$\varphi\varphi$, STE, 12.IV.2010, coll. T. K. Roy; 1$\varphi$, MTE, 18.VII.2008, coll. T. K. Roy

**Distribution:** India: Karnataka, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal; Taiwan (Tikader & Malhotra, 1980; Dhali et al., 2012; Platnick, 2013).

**Hippasa himalayensis** Gravely

(Figs. 297-301; Pl. XV)


**Measurements** ($\varphi$): CL - 7.27, CW - 4.91, AL - 10.27, AW - 6.27, TL - 18.18.

**Interocular distance:** AME - AME = 0.50, ALE - AME = 0.41, ALE - ALE = 1.36, PME - PME = 0.95, PLE - PME = 0.82, PLE - PLE = 1.59, ALE - PLE = 1.09, AME - PME = 0.55

**Legs:** I 23.34 (6.22, 2.67, 5.56, 5.33, 3.56); II 22.44 (6.00, 2.67, 5.11, 5.33, 3.33); III 21.77(5.78, 2.22, 5.15, 5.33, 3.33); IV 30.01 (7.78, 2.67, 6.89, 9.11, 3.56). Leg formula 4123.

**Material examined:** 4$\varphi\varphi$, STE, 12.IV.2010, coll. T. K. Roy

211
**Distribution:** India: Himachal Pradesh, Karnataka, West Bengal (Tikader & Malhotra, 1980; Platnick, 2013).

**Hippasa olivacea** (Thorell)

(Figs. 302-306; Pl. XV)


**Measurements** (♀): CL - 6.36, CW - 4.73, AL - 8.73, AW - 4.09, TL - 15.73.

**Interocular distance:** AME – AME= 0.50, ALE – AME= 0.45, ALE – ALE= 1.27, PME – PME= 0.82, PLE – PME= 0.73, PLE – PLE= 1.45, ALE – PLE= 0.82, AME – PME= 0.27

**Legs:** I 17.68 (4.56, 1.56, 4.56, 4.22, 2.78); II 16.12 (4.00, 1.78, 4.00, 3.67, 2.67); III 16.23 (4.56, 1.78, 3.67, 4.00, 2.22); IV 18.34 (4.67, 1.11, 4.00, 5.89, 2.67). Leg formula 4132.

**Material examined:** 1♀, STE, 12.IV.2010, coll. T. K. Roy

**Distribution:** India: West Bengal (New record); Burma, Myanmar (Tikader & Malhotra, 1980; Platnick, 2013).

**Genus: Pardosa** C. L. Koch

*Pardosa* C. L. Koch, 1847, *Die Arachniden*, 14: 100.

**Diagnosis:** Cephalic region somewhat weakly elevated, clypeus vertical, chelicerae relatively smaller. Anterior row of eyes shorter than the 2nd row, posterior 2 rows occupy entire cephalic region. Labium usually wider than long, with basal articular notches. Legs relatively long and thin, with long spines, tibia I with 3 pairs of ventral spines; metatarsus IV usually longer than or at least as long as patella and tibia together. Abdomen greyish or brown, mottled, cardiac mark edged with white and followed towards rear by dark chevrons.

**Type species:** *Lycosa alacris* C. L. Koch, 1833.

**Distribution:** Throughout excepting Australian region (Platnick, 2013).
Hippasa agelenoides (Simon)
Hippasa himalayensis Gravely

297

298

299

300

301
Hippasa olivacea (Thorell)
Key to species:

1. Cephalothorax dorsally with a median longitudinal, broad, pale band; sternum pale; each of cheliceral margin with 3 teeth; spermathecae broad, elongate, vertical, copulatory ducts much long
   
   "sumatrana" (Thorell)

- Cephalothorax black brown without any median longitudinal band; sternum dark brown; cheliceral pro and retromargins with 2 and 3 teeth respectively; spermathecae broad, squarish, transverse, copulatory ducts short
   
   "birmanica" Simon

\textit{Pardosa sumatrana} (Thorell)

(\textit{Figs. 307-311; PI. XV})


Interocular distance: AME - AME = 0.19, PME - PME = 0.56, PLE - PME = 0.60, PLE - PLE = 0.88, AME - PME = 0.23

Legs: I 8.88 (2.33, 1.00, 2.11, 2.00, 1.44); II 8.33 (2.33, 0.89, 1.89, 1.89, 1.33); III 7.78 (2.22, 0.89, 1.67, 1.89, 1.11); IV 11.8 (2.44, 1.00, 2.22, 2.33, 1.22). Leg formula 4123.


Pardosa birmanica Simon

(Figs. 312-316; Pl. XV)


**Measurements** (♀): CL - 2.49, CW - 1.77, AL - 2.98, AW - 1.75, TL - 5.66.

**Interocular distance:** AME – AME = 0.25, ALE – AME = 0.19, ALE – ALE = 0.60, PME – PME = 0.64, PLE – PME = 0.55, PLE – PLE = 0.87, ALE – PLE = 0.68, AME – PME = 0.26

**Legs:** I 6.36 (1.79, 0.86, 1.50, 1.21, 1.00); II 5.65 (1.71, 0.79, 1.29, 1.00, 0.86); III 5.70 (1.64, 0.64, 1.14, 1.57, 0.71); IV 9.14 (2.21, 0.93, 2.00, 2.79, 1.21). Leg formula 4132.


**Genus:** Lycosa Latreille


**Diagnosis:** Cephalothorax elongate, dark brown with a pale, broad, longitudinal median strip, facial area vertical, with sides slanting. Eyes unequal, anterior row straight or weakly procurved, anteromedians larger than anterolaterals. Clypeus not vertical. Labium always longer than wide, with distinct basal excavation, usually 1/3rd or more of labium. Tibiae I and II with 3 pairs of ventral spines, metatarsus IV never longer than tibia and patella together. Abdomen overall greyish.

**Type species:** Aranea tarantula Linnaeus, 1758.

**Distribution:** Cosmopolitan (Platnick, 2013).
Pardosa sumatrana (Thorell)
*Pardosa birmanica* Simon
Key to species:

1. Spiders of less than 10 mm; abdominal dorsum chocolate brown with irregular markings, brown spot absent; fertilization ducts short, downwardly and outwardly curved, copulatory ducts long, basally outcurved, apically incurved
   -----------------------
   bistriata Gravely
   
   - Spiders of more than 10 mm; abdominal dorsum pale with some brown spots, irregular markings absent
   -----------------------
   2

2. Eyes of 1st row equal; labium laterally constricted at basal 1/3; pro and retromargins of chelicerae with 2 and 3 teeth respectively; copulatory ducts opening at the base, wide apart
   -----------------------
   phipsoni Tikader
   
   - Anteromedians larger than anterolaterals; labium laterally notched at basal 1/3 forming a stalk; each cheliceral margin with 3 teeth; fertilization ducts short, downward, nearly straight, copulatory ducts long, distally outwardly curved
   -----------------------
   shillongensis Tikader

Lycosa bistriata Gravely
(Figs. 317-321; Pl. XVI)


Interocular distance: AME – AME= 0.23, ALE – AME= 0.20, ALE – ALE= 0.63, PME – PME= 0.57, PLE – PME= 0.54, PLE – PLE= 0.89, ALE – PLE= 0.74, AME – PME= 0.29

Legs: I 8.54 (2.55, 1.45, 1.82, 1.45, 1.27); II 8.18 (2.36, 1.09, 1.82, 1.64, 1.27); III 7.81 (2.36, 0.91, 1.82, 1.45, 1.27); IV 10.72 (2.73, 1.45, 2.18, 2.91, 1.45). Leg formula 4123.


220
Lycosa bistriata Gravely

317 0.5

318 0.5

319 0.5

320 0.25

321 0.25
**Lycosa phipsoni** Pocock

(Figs. 322-326; PL XVI)


**Interocular distance**: AME - AME= 0.36, ALE - AME= 0.32, ALE - ALE= 0.93, PME - PME= 0.93, PLE - PME= 0.86, PLE - PLE= 1.50, ALE - PLE= 1.11, AME - PME= 0.43

**Legs**: I 16.45 (4.89, 2.22, 3.56, 3.11, 2.67); II 15.33 (4.44, 2.00, 3.33, 2.89, 2.67); III 14.23 (3.78, 2.00, 2.67, 3.56, 2.22); IV 20.45 (5.56, 2.67, 4.00, 5.33, 2.89). Leg formula 4123.

**Material examined**: 2♀, NTE, 01.XI.2010, coll. T. K. Roy; 1♀, KUTE, 23.III.2009, coll. T. K. Roy

**Distribution**: India: Maharashtra, West Bengal; China (Tikader & Malhotra, 1980; Sebastian & Peter, 2009; Dhali *et al.*, 2012; Platnick, 2013).

---

**Lycosa shillongensis** Tikader & Malhotra

(Figs. 327-331; PL XVI)


**Interocular distance**: AME - AME= 0.56, ALE - AME= 0.44, ALE - ALE= 1.44, PME - PME= 1.33, PLE - PME= 1.33, PLE - PLE= 2.22, ALE - PLE= 1.94, AME - PME= 0.78

**Legs**: I 25.56 (7.78, 3.78, 4.89, 5.33, 3.78); II 23.35 (6.67, 3.56, 4.67, 4.67, 3.78); III 22.21 (6.22, 2.89, 4.44, 5.33, 3.33); IV 29.78 (8.22, 3.78, 6.00, 7.78, 4.00). Leg formula 4123.

**Material examined**: 1♀, NATE, 22.II.2009, coll. T. K. Roy

**Distribution**: India: Meghalaya, West Bengal (Tikader & Malhotra, 1980; Biswas & Biswas, 1992; Sebastian & Peter, 2009; Dhali *et al.*, 2012; Platnick, 2013).
Lycosa phipsoni Pocock
Lycosa shillongensis Tikader & Malhotra
Family: Theridiidae
THERIDIIDAE Sundevall

(COMB FOOTED OR COBWEB SPIDERS)

Theridiidae Sundevall, 1833, Conspectus Arachnidum: 15.

**Diagnosis:** Cephalothorax variable, clypeus relatively high, frontal region at times modified. Eyes 8, heterogenous, in 2 more or less parallel rows, with anteromedians dark and rest pale. Sternum scutiform to triangular, posteriorly attenuated; maxillae usually convergent slightly. Chelicerae small, vertical, without boss; cheliceral teeth absent, when present small, few in no., without or with weakly developed scopulae. Legs relatively long, 3 clawed, without spines on femur, tibia and metatarsi; each tibia with 2 rows of trichobothria and tarsi IV with a row of slightly curved, serrate bristles present in female but reduced or absent in male or smaller species. Abdomen variable, usually oval to round, high to elongate, extending beyond spinnerets. Sometimes males and females of many species with dorsal stridulating plate near pedicel that match with darker patterns on a brownish grey background. Colulus present or absent. Epigyne complex, with single or double pairs of spermathecae. Male palp without apophysis, paracymbium forming a hook on distal margin of cymbium.

**Biological note:** Most theridiids construct differently shaped 3D space webs, consisting of criss-cross viscid threads to catch flying insects. The threads break easily and glued prey becomes more entangled while trying to escape. Some species build special retreats within or out of the frame and use plant or soil particles to camouflage the web. Some lead a kleptoparasitic life on the webs of *Nephila* and *Cyrtophora*, while others make no web.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Colulus present or reduced to a pair of setae only
   1. Colulus and paired setae absent
      Argyrodes Simon

2. Abdomen longer than wide, high, with distinct long spines posterodorsally above spinnerets, often subtriangular in lateral view; male palp with distinct radix
   2. Such spines absent; male palpal radix may or may not be present

3. Anteromedian eye diameter greater than posteromedians, posterior eye row usually straight to slightly recurved; radix absent
   3. Anteromedian eye diameter equal to or smaller than posteromedians, posterior eye row usually straight and lateral eye contiguous; radix present
      Theridion Walckenaer

4. Anterior eye row slightly procurved in frontal view, ocular quad squarish; abdomen balloon shaped with its axis almost vertical
   4. Anterior eye row strongly recurved; ocular quad wider in front; abdomen subglobose with variable no. of white spots; cephalothorax with black sub median longitudinal stripes
      Achaearanea Strand

      Genus: Argyrodes Simon


Diagnosis: Cephalothorax flat, posteriorly low, usually with a transverse thoracic furrow, ocular region and clypeus high. In males, ocular region or clypeus or both modified to bear snout like projection or horn. Chelicerae with 2-3 promarginal and 1-2 retromarginal teeth. Legs long, thin, with leg formulae 1423. Abdomen variable, colouration uneven, usually silvery or with silvery patches, often greatly elevated above spinnerets, anterior margin with stridulating ridges and a pair also in carapace, colulus tiny or replaced by 2 setae. Epigyne with a sclerotised plate, covered with resinous material and 2 ovoid to globose receptacles. Pedipalp with less sclerotised median apophysis, cymbium spoon shaped to triangular.

Type species: Linyphia argyrodes Walckenaer, 1841.
**Distribution:** Cosmopolitan (Platnick, 2013).

*Argyrodes gazedes* Tikader

(Figs. 332-337; Pl. XVI)


**Measurements** (♀): CL - 1.39, CW - 0.90, AL - 2.37, AW - 1.88, TL - 3.92.

**Interocular distance:** AME – AME= 0.20, ALE – AME= 0.16, ALE – ALE= 0.41, PME – PME= 0.16, PLE – PME= 0.14, PLE – PLE= 0.43, ALE – PLE= 0.08, AME – PME= 0.14

**Legs:** I 7.25 (2.17, 0.33, 1.75, 2.00, 1.00); II 6.75 (2.08, 0.39, 1.42, 1.92, 1.00); III 3.84 (1.25, 0.25, 0.75, 0.92, 0.67); IV 6.51 (2.00, 0.25, 1.67, 1.67, 0.92). Leg formula 1243.


**Distribution:** India: Sikkim, West Bengal (New record); Krakatau, Myanmar to Japan (Tikader, 1970; Sebastian & Peter, 2009; Platnick, 2013).

**Genus: Chrysso** O. P.-Cambridge


**Diagnosis:** Cephalothorax variable, longer than wide. Eyes subequal with anteromedians slightly larger or smaller than rest, anterior row slightly procured with anteromedians closer to anterolaterals than to each other, posterior row straight or slightly procured or recurved with posteromedians closer to each other than to laterals. Chelicerae as long as clypeus height, cheliceral promargin with 2 teeth and retromargin toothless. Leg I longest, each patella with a retrolateral tubercle, tarsi IV combed. Abdomen longer than wide, extends beyond spinnerets, with hump or posterior extension, often subtriangular in lateral view. Copulatory openings usually indistinct. Male palp with distinct radix, base of embolus curved, its length supported by radix and tip by both radix and conductor.

**Type species:** *Chrysso albomaculata* O. P.-Cambridge, 1882.

**Distribution:** Almost throughout excepting Australian and Ethiopian regions (Platnick, 2013).
Chrysso angula (Tikader)
(Figs. 338-342; Pl. XVI)


Measurements (♀): CL - 0.78, CW - 1.02, AL - 2.57, AW - 2.24, TL - 3.35.

Interocular distance: AME – AME= 0.16, ALE – AME= 0.12, ALE – ALE= 0.35, PME – PME= 0.16, PLE – PME= 0.12, PLE – PLE= 0.39, ALE – PLE= 0.08, AME – PME= 0.12

Legs: I 7.42 (2.50, 0.33, 1.67, 2.00, 0.92); II 4.58 (1.50, 0.33, 0.83, 1.25, 0.67); III 3.16 (1.00, 0.33, 0.58, 0.75, 0.50); IV 5.32 (1.83, 0.33, 1.25, 1.33, 0.58). Leg formula 1423.


Distribution: India: Sikkim, West Bengal (Tikader, 1970; Sebastian & Peter, 2009; Sen et al., 2011b; Platnick, 2013).

Genus: Theridion Walckenaer


Diagnosis: Cephalothorax slightly longer than wide with indistinct fovea. Eyes subequal, anteromedians either slightly larger or smaller than rest, anterior row straight or slightly procurred and posterior row straight as viewed frontally. Sternum usually bluntly pointed between coxae IV. In female cheliceral promargin with 1 or 2 teeth and retromargin without teeth, chelicerae enlarged in male. Leg formule 1423 in female and 1243 in male. Abdomen usually spherical, longer than high, sometimes wider than long, colulus absent. Epigyne weakly sclerotised with indistinct opening and one pair seminal receptacles. Median apophysis and embolus of male palp distinct as separate sclerites, conductor and radix present.

Type species: Aranea picta Walckenaer, 1802.

**Key to species:**

1. Abdomen higher than wide, dorsum decorated with a mixture of chalk white and brown patches; fertilization duct downwardly and upwardly curved

---------------------- indicum Tikader

- Abdomen wider than high, dorsum with irregular white and black patches; cephalic region comparatively wider; fertilization duct coiled and upwardly directed

---------------------- manjithar Tikader

*Theridion indicum* Tikader

(Figs. 343-347; Pl. XVI)


**Measurements (♀):** CL - 1.35, CW - 1.20, AL - 2.47, AW - 2.45, TL - 3.96.

**Interocular distance:** AME - AME= 0.20, ALE - AME= 0.12, ALE - ALE= 0.43, PME - PME= 0.24, PLE - PME= 0.12, PLE - PLE= 0.49, ALE - PLE= 0.10, AME - PME= 0.14

**Legs:** I 6.33 (2.00, 0.58, 1.33, 1.75, 0.67); II 4.59 (1.42, 0.58, 0.92, 1.17, 0.50); III 3.08 (1.00, 0.25, 0.58, 0.75, 0.50); IV 5.08 (1.50, 0.50, 1.00, 1.50, 0.58). Leg formula 1423.


*Theridion manjithar* Tikader

(Figs. 348-352; Pl. XVI)


**Measurements (♂):** CL - 0.87, CW - 0.83, AL - 1.40, AW - 1.63, TL - 2.27.

**Interocular distance:** AME - AME= 0.17, ALE - AME= 0.10, ALE - ALE= 0.32, PME - PME= 0.13, PLE - PME= 0.13, PLE - PLE= 0.37, ALE - PLE= 0.05, AME - PME= 0.13

**Legs:** I 4.36 (1.38, 0.26, 1.23, 1.08, 0.41); II 3.80 (1.28, 0.21, 1.08, 0.87, 0.36); III 2.62 (0.92, 0.21, 0.46, 0.62, 0.41); IV 2.88 (1.03, 0.21, 0.56, 0.72, 0.36). Leg formula 1243.


Genus: Achaearanea Strand


Diagnosis: Eyes subequal, anterior row slightly procurved, posterior straight or slightly recurved, with squarish ocular quad. Leg formula 1423 in females and 1234 in males. Abdomen balloon shaped with its axis almost vertical, often with a hump, higher than long, spinnerets at the bottom, pedicel near the middle of the wide area, colulus and paired setae absent. Median apophysis of palp broadly attached to the tegulum or embolus into single sclerite, radix absent and cymbium often extends beyond the alveolus.

Type species: Argyrodes trapezoidalis Taczanowski, 1873.

Distribution: Almost throughout excepting Nearctic region (Platnick, 2013).

Achaearanea budana Tikader

(Figs. 353-358; Pl. XVI)


Measurements (♀): CL - 1.44, CW - 1.18, AL - 2.77, AW - 2.72, TL - 4.28.

Interocular distance: AME - AME = 0.18, ALE - AME = 0.13, ALE - ALE = 0.38, PME - PME = 0.18, PLE - PME = 0.13, PLE - PLE = 0.44, ALE - PLE = 0.08, AME - PME = 0.15

Legs: I 7.41 (2.33, 0.58, 1.58, 2.25, 0.67); II 4.58 (1.42, 0.42, 0.83, 1.33, 0.58); III 3.24 (1.00, 0.33, 0.50, 0.83, 0.58); IV 5.66 (1.75, 0.58, 1.08, 1.58, 0.67). Leg formula 1423.


Argyrodes gazelles Tikader

---

231
Chrysso angula (Tikader)

338

339

0.5

0.25

340

341

0.25

0.25

342

232
*Theridion indicum* Tikader
*Theridion manjithar* Tikader
Achaearanea budana Tikader

353

354

355

356

357

358

235
Genus: **Achaearyopa** Barrion & Litsinger


**Diagnosis:** Small size spider, usually black with legs yellow. Cephalothorax moderately high anteriorly. Eyes 8, large, in 2 rows, anterior strongly recurved, posterior straight or weakly so. Median ocular quad wider in front. Clypeus height very large, longer than anteromedian eye diameter. Chelicerae feeble, promargin with 2 strong teeth and a minute one located at base of basal one. Sternum slightly wider than long, broadly produced between coxae IV. Legs without strong spines, metatarsi longer than tarsi, tibia L/d=7.33 and metatarsi I/tarsus I=1.36. Tarsal claw moderately sickle shaped, superior claw each with 2/3 pectinations. Leg formulae 1423. Abdomen sub globose, with variable no of white spots, sometimes absent. Colulus and paired setae absent. Epigynum with a broad posterior plate and narrow circular openings.

**Type species:** *Achaearyopa pnaca* Barrion & Litsinger, 1995.

**Distribution:** Only Oriental region (Platnick, 2013).

*Achaearyopa pnaca* Barrion & Litsinger

(Figs. 359-365; Pl. XVI)


**Description:** Female

CL - (0.53 - 0.67), CW - 0.67, AL - (1.27 - 1.37), AW - (1.70 - 2.20), TL - (1.83 - 2.07). Cephalothorax (Figs. 359, 364 & 365) blackish brown, sub triangular, posteriorly broad, anteriorly truncate, cephalic region raised, weakly produced, parallel sided, medially with a longitudinal, shallow depression extending from posteromedian eye to the middle; thoracic region almost round, posteriorly depressed, radii indistinct. Eyes 8, homogenous, pearly white, arranged in 2 recurved rows, anterior strongly so with anteromedians largest, posteriors sub equal, laterals contiguous, ocular quad trapezoid, weakly wider than long, posteriorly narrower, eye diameter: AME ≥ PME ≥ PLE ≥ ALE. Interocular distances: AME - AME = 0.13 - 0.17, ALE - AME = 0.07 - 0.08, AL – ALE = 0.23 – 0.27, PME – PME = 0.10, PLE – PME = 0.08, PLE – PLE = 0.27, ALE – PLE = 0.05 – 0.07, AME – PME = 0.05 – 0.12. Clypeus pale brown, broad, sub rectangular, clypeal angles obtuse. Chelicerae (Fig. 360) pale brown, moderately long, more or less parallel, promargin with 2 teeth, fang pale brown, short and curved. Labium (Fig. 361) close, wider than long, basally brown, constricted sub
basally, apically pale, truncate and scopulate. Maxillae (Fig. 361) brown, converging, distinctly longer than wide, apically pale, triangular and scopulate. Sternum (Fig. 361) brown, sub triangular, clothed with pale brown hairs, lateral margins weakly indented at each coxal region, tip broad, margin nearly straight. Legs long, feeble, pale brown, usually clothed with small, fine hairs, tarsi with 2 superior and 1 inferior claws. Leg measurements: I 2.94 (1.03, 0.27, 0.67, 0.57, 0.40); II 2.13 (0.80, 0.23, 0.40, 0.40, 0.30); III 1.60 (0.60, 0.17, 0.23, 0.30, 0.30); IV 2.30 (0.90, 0.27, 0.50, 0.40, 0.23). Leg formula 1423.

Abdomen (Figs. 359, 364 & 365) chocolate brown, sub pentagonal, widest at the region of paired lateral tubercle, both ends slopped, posteriorly more so, beyond the spinnerets. Dorsum decorated with many sigillae in transverse rows, variably developed white patches and moderate pale brown hairs. Venter brown with pale brown hairs, spinnerets nearly at the middle.

Epigynum – Internal genitalia (Figs. 362 & 363): Spermatheca oval, fertilization duct short, transverse, copulatory duct long, thick.


Distribution: India (New record): West Bengal; Philippines (Barrion & Litsinger, 1995; Platnick, 2013).
Achaearyopa pnaca Barrion & Litsinger
Family: Linyphiidae
LINYPHIIDAE Blackwall

(SHEET WEB SPIDERS)


**Diagnosis:** Cephalothorax variable, clypeus usually longer than median ocular region. Eyes 8, heterogenous, arranged in 2 rows with anteromedians slightly darker. Sternum variable, usually cordate and posteriorly pointed or truncate. Labium rebordered by parallel sided maxillae. Chelicerae usually with strong teeth on fang furrow and lateral stridulating file. Legs 3 clawed, slender, with setae especially on tibiae and metatarsi. Abdomen usually longer than wide or with a scutum in male. Epigyne complex, variable, male palp without tibial apophyses, paracymbium well developed.

**Biological note:** Linyphiids spin flat, dome or hammock shaped sheet webs with isolated threads forming scaffolding. The spider hangs upside down under the sheet without any retreat. Prey is bitten from below through the sheet and pulled through it, before being consumed. Webs are found in almost every habitat between the branches of trees or shrubs, in tall grass, moss, detritus vegetables and occasionally close to ground.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Eyes distinctly small, anteromedians larger than posteromedians; epigyne without scape
   ------------------------- Linphyia Latreille
   - Eyes distinctly large, anteromedians smaller than posteromedians; epigyne with scape
   -------------------------- Lepthyphantes Menge

Genus: *Linphyia* Latreille


**Diagnosis:** Eyes distinctly small, widely spaced, on large black spots. Chelicerae in male often long and apically attenuated. Sternum longer than wide. Legs elongate with metatarsi almost twice longer than tarsi. Abdominal dorsum decorated. Epigynal scape absent. Palpal paracymbium very slender but conspicuous.

**Type species:** *Araneus triangularis* Clerck, 1757.

**Distribution:** Cosmopolitan (Platnick, 2013).

Key to species:

1. Sternum cordate, posteriorly bifurcate; pro and retromargins of chelicerae with 3 and 4 teeth respectively; abdomen anteriorly high with a pair of shoulder humps, dorsally decorated with rows of silvery white pigmentation
   -------------------------- *nicobarensis* Tikader
   - Sternum nearly triangular, posteriorly not bifurcate; each margin of chelicerae with one tooth; abdomen without a pair of anterior shoulder humps but mid laterally with a pair of humps marked by black patch, dorsally decorated with silvery white speck and few irregular black patches anteriorly
   -------------------------- *bilobata* sp. nov.

*Linphyia nicobarensis* Tikader

(Figs. 366-371; Pl. XVI)


**Measurements** (♀): CL - 1.51, CW - 1.37, AL - 3.11, AW - 2.06, TL - 4.62.

**Interocular distance:** AME - AME= 0.20, ALE - AME= 0.23, ALE - ALE= 0.60, PME - PME= 0.20, PLE - PME= 0.20, PLE - PLE= 0.60, ALE - PLE= 0.11, AME - PME= 0.17

240
Legs: I 13.10 (3.64, 0.73, 4.18, 3.64, 0.91); II 8.19 (2.00, 0.55, 2.00, 2.55, 1.09); III 3.64 (0.91, 0.36, 0.73, 1.09, 0.55); IV 7.28 (1.64, 0.55, 2.00, 2.18, 0.91). Leg formula 1243.


**Linyphia bilobata** sp. nov. (Figs. 372-377; Pl. XVI)

Description: Female (Holotype)

CL - 1.79, CW - 1.43, AL - 3.58, AW - 2.64, TL - 5.38. Cephalothorax (Fig. 372) 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 = 0.32, ALE - AME = 0.25, ALE - ALE = 0.70, PME - PME = 0.17, PLE - PLE = 0.26, PLE - PLE = 0.66, ALE - PLE = 0.11, AME - PME = 0.21. Clypeus reddish brown, broad, sub rectangular. Chelicerae (Fig. 373) red brown, moderate, dorsum with small, brown hairs, both pro and retromargin with 1 tooth, fang brown, curved, sharp and stout. Labium (Fig. 374) close, brown, wider than long, constricted sub basally, apically broad, triangular, margins pale, truncate and scopulate. Maxillae (Fig. 374) brown, converging, nearly twice longer than wide, outer margins weakly concave, inner margins constricted basally, apically pale scopulate. Sternum (Fig. 374) 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, inferior claw also pectinated, 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. 372 & 375) 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 in the middle.

**Epigynum – Internal genitalia** (Figs. 376 - 377): Epigynal plate marked by 2 transverse, nearly parallel lines, spermatheca bilobed, fertilisation duct short, anteriorly projected, hood like, copulatory duct long, convergent.

**Material examined:** 1♀, KTE, 31.1.2010, coll. T. K. Roy

**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 urbasae* 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. urbasae*); 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. urbasae*); iv) spermatheca bilobed, fertilisation duct short, anteriorly projected, hood like, copulatory duct long, convergent (illustrations not available for *L. urbasae*). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.
Linyphia nicobarensis Tikader
Linyphia bilobata sp. nov.
Genus: *Lepthyphantes* Menge


**Diagnosis:** Cephalothorax narrowed anteriorly. Eyes distinctly large, on black spots, anteromedians smaller than posteromedians. Clypeus slightly concave. Abdomen posteriorly pointed, with or without a dorsal pattern. Epigyne with a scape.

**Type species:** *Linyphia minuta* Blackwall, 1833.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Lepthyphantes rudrai** Tikader

(Figs. 378-382; Pl. XVI)


**Measurements** (♀): CL - 1.00, CW - 0.77, AL - 1.50, AW - 1.20, TL - 2.53.

**Interocular distance:** AME – AME= 0.08, ALE – AME= 0.12, ALE – ALE= 0.30, PME – PME= 0.13, PLE – PME= 0.12, PLE – PLE= 0.35, ALE – PLE= 0.08, AME – PME= 0.10

**Legs:** I 4.14 (1.20, 0.27, 0.87, 1.13, 0.67); II 3.53 (1.00, 0.26, 0.93, 0.87, 0.47); III 2.19 (0.73, 0.13, 0.47, 0.53, 0.33); IV 3.53 (1.07, 0.13, 0.87, 0.93, 0.53). Leg formula 12=43.


**Distribution:** India: Sikkim, West Bengal (New record) (Tikader, 1970; Platnick, 2013).
Lephthyphantes rudrai Tikader
Family: Tetragnathidae
TETRAGNATHIDAE Menge

(LONG-JAWED ORB WEAVERS)


**Diagnosis:** Cephalothorax flat, longer than wide, light yellowish brown to dull brown or grey with silvery markings. Eyes 8, homogenous, in 2 rows, laterals contiguous or apart; sternum longer than wide, pointed behind; labium rebordered, maxillae long and parallel. Chelicerae well developed, variable, long especially in male or short and stout, with rows of large teeth and sometimes strong projecting spurs. Legs very long and slender, 3 clawed, with or without spines, sometimes conspicuous tufts on femora and tibia or a double fringe of trichobothria at basal half on prolateral surface of posterior femora or rows of straight trichobothria on tibia. Abdomen variable, either elongate and sub-cylindrical or round to ovoid, dorsally decorated, posteriorly blunt beyond spinnerets, sometimes produced to form a tail. Epigastric furrow nearly straight, epigyne complex with unsclerotized genital plate. Paracymbium separate and movable, tegulum spherical, with coiled embolus and conductor at distal tip, median apophysis absent.

**Biological note:** Tetragnathids are orb weaving spiders, common in grasslands, paddy fields and bushy areas near water, shaded areas in gardens and forests etc. Their chelicerae are long, well developed, especially in males and therefore are good candidates of biological control. At rest they assume a characteristic attitude, the 1st and 2nd pair of legs remain stretched forward, 4th pair backward while the 3rd embrace the branch.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Chelicerae very long especially in male, each margin with more than 4 teeth; lateral eyes never contiguous; femora IV without trichobothria; abdomen long, narrow, dorsum with or without dull silvery markings, sometimes produced into a pointed tail beyond spinnerets

--------- Tetragnatha Latreille

- Chelicerae nearly as long as wide, each margin at most with 4 teeth; lateral eyes contiguous; femora IV with 2 rows of trichobothria; dorsum usually with silvery decorations

----------------------------------------- 2

2. Cephalic region darker; abdominal dorsum with distinct folium, humps absent

----- Guizygeilla Zhu, Kim & Song

- Cephalic region not so; abdominal dorsum without folium, humps may or may not be present

----------------------------------------- 3

3. Abdomen anteriorly strongly tapering with blunt shoulder humps, caudal tubercle absent

--------- Opadometa Archer

- Abdomen anteriorly broad, posteriorly tapering, with or without shoulder humps and caudal tubercle

--------- Leucauge White

Genus: Tetragnatha Latreille


Diagnosis: Body sub-cylindrical, elongate. Cephalothorax oval, flat, apically straight, thoracic groove conspicuous. Eyes basally ringed with black, eye rows either parallel or convergent or divergent, laterals rarely contiguous. Maxillae long, parallel, chelicerae well developed, long, margins toothed, males with a strong projecting clasping spur, at times bifid at tip. Legs long and thin. Abdomen overhangs the cephalothorax, at least twice longer than broad, in females often swollen at base. Epigynal slits posterior to lung slits in procurred epigastric furrow.

Type species: Aranea extensa Linnaeus, 1758.

Key to species:

1. Spinnerets situated about the middle of abdomen; abdomen slender, elongate, posteriorly produced into a tail; cheliceral pro and retromargins with 8 and 7 teeth respectively in female

--------------- javana (Thorell)

- Spinnerets situated not at or near the middle of abdomen

---------------

2. Posterior row of eyes evidently narrower than anterior row; abdomen nearly parallel sided; genital fold broadly V shaped; female cheliceral promargin with 11 and retromargin with 9 teeth; sternum posteriorly produced

--------------- hasselti Thorell

- Posterior row of eyes wider than anterior row; genital fold otherwise

---------------

3. Lateral eyes closer than medians, situated on tubercles, anteromedians closer than posteromedians; abdomen transversely raised at the middle; genital fold broadly U shaped

------- ceylonica O. P.-Cambridge

- Both lateral and median eyes close to each other, laterals not on tubercles, ocular quad nearly square; abdomen not so raised; genital fold tongue shaped, constricted basally, wide distally

--------------- maxillosa Thorell

Tetragnatha javana (Thorell)

(Figs. 383-388; Pl. XVII)


Tetragnatha javana (Thorell) Okuma, 1968, Mushi, 42: 100.


Interocular distance: AME - AME= 0.21, ALE - AME= 0.21, ALE - ALE= 0.64, PME - PME= 0.21, PLE - PME= 0.21, PLE - PLE= 0.50, ALE - PLE= 0.36, AME - PME= 0.29

Legs: I 23.78 (6.67, 1.11, 6.89, 7.78, 1.33); II 13.12 (3.78, 0.89, 3.56, 3.78, 1.11); III 5.56 (1.78, 0.44, 1.11, 1.56, 0.67); IV 13.86 (4.44, 0.67, 3.56, 3.78, 1.11). Leg formula 1423.


**Distribution:** India: Bihar, Karnataka, Orissa, Tamil Nadu, West Bengal; Africa to Japan, Bangladesh, Indonesia, Nepal, New Guinea, Philippines, South and South east Asia (Okuma, 1988; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Sebastian & Peter, 2009; Sen et al., 2009c; Platnick, 2013).

*Tetragnatha hasselti* Thorell

(Figs. 389-393; Pl. XVII)


**Measurements** (♀): CL - 2.08, CW - 1.28, AL - 4.91, AW - 1.28, TL - 6.99.

**Interocular distance:** AME – AME= 0.23, ALE – AME= 0.26, ALE – ALE= 0.66, PME – PME= 0.15, PLE – PLE= 0.23, PLE – PLE= 0.57, ALE – PLE= 0.15, AME – PME= 0.21

**Legs:**  I 20.23 (6.00, 0.67, 6.00, 5.78, 1.78); II 13.34 (3.78, 0.67, 3.78, 3.78, 1.33); III 6.67 (2.44, 0.67, 1.33, 1.56, 0.67); IV 12.00 (4.44, 0.67, 2.67, 3.33, 0.89). Leg formula 1243.


**Distribution:** India: West Bengal; Bangladesh to China, Burma, Celebes, Java, Sulawesi, Thailand (Okuma, 1988; Sen et al., 2009c; Platnick, 2013).
Tetragnatha javana (Thorell)
Tetragnatha liasselti Thorell
**Tetragnatha ceylonica** O. P.-Cambridge  
(Figs. 394-398; Pl. XVII)


**Measurements** (♀): CL - 1.85, CW - 1.32, AL - 4.57, AW - 1.85, TL - 6.42.

**Interocular distance:** AME - AME = 0.23, ALE - AME = 0.30, ALE - ALE = 0.79, PME - PME = 0.34, PLE - PME = 0.34, PLE - PLE = 0.94, ALE - PLE = 0.15, AME - PME = 0.17

**Legs:** I 14.66 (4.22, 0.67, 4.33, 4.33, 1.11); II 8.11 (2.33, 0.67, 2.22, 2.33, 0.56); III 4.22 (1.44, 0.44, 0.78, 1.00, 0.56); IV 8.78 (2.89, 0.44, 2.11, 2.56, 0.78). Leg formula 1423.


**Distribution:** India: West Bengal; Africa, Japan, New Britain, New Guinea, Seychelles to Philippines, Southeast Asia, Taiwan, Thailand (Okuma, 1988; Barrion & Litsinger, 1995; Sen _et al._, 2009c; Platnick, 2013).

---

**Tetragnatha maxillosa** Thorell  
(Figs. 399-404; Pl. XVII)

_Tetragnatha maxillosa_ Thorell, 1895, _Descriptive catalogue of the spiders of Burma._ Lond.: 139.


**Interocular distance:** AME - AME = 0.26, ALE - AME = 0.23, ALE - ALE = 0.72, PME - PME = 0.34, PLE - PME = 0.23, PLE - PLE = 0.75, ALE - PLE = 0.23, AME - PME = 0.26

**Legs:** I 25.77 (6.22, 1.11, 8.00, 8.44, 2.00); II 16.00 (4.67, 0.89, 4.00, 5.11, 1.33); III 7.12 (2.22, 0.67, 1.56, 2.00, 0.67); IV 15.33 (5.11, 0.67, 4.00, 4.44, 1.11). Leg formula 1243.


**Distribution:** India: West Bengal (New record); Asia, Bangladesh to Philippines, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, New Guinea, New Hebrides, South Africa, South Korea, Sri Lanka, Taiwan, Thailand, Vietnam (Okuma, 1988; Barrion & Litsinger, 1995; Platnick, 2013).
Tetragnatha ceylonica O. P.-Cambridge
Tetragnatha maxillosa Thorell
Genus: **Guizygiella** Zhu, Kim & Song


**Diagnosis:** Cephalic region usually darker, with very few hairs. Anteromedian eyes largest, ocular quad as long as wide in front and slightly narrower behind. Abdomen oval, dorsum with distinct folium, humps absent. Epigyne variable, with a posteromedian depression. Palpal patella of male, with single larger spine like hair, femur lacks proximal ventral teeth, paracymbium modified and diverse.

**Type species:** *Guizygiella quadrata* Zhu, Kim & Song, 1997.

**Distribution:** Oriental (Platnick, 2013).

*Guizygeilla guangxiensis* (Zhu & Zhang) (Figs. 405-409; Pl. XVII)


**Description:** Female

CL - 1.03, CW - 1.10, AL - 2.83, AW - 2.27, TL - 3.87. Cephalothorax (Fig. 405) brown yellow, round, anteriorly produced, cervical furrows deeply impressed, cephalic region dark brown, strongly elevated, medially with shallow depression, thoracic region brownish yellow, posteriorly depressed abruptly, fovea invisible, radii faintly marked. Eyes 8, homogenous, transparent, arranged in 2 rows, anterior strongly recurved, posterior weakly so, as viewed dorsally, ocular quad trapezoid, as long as wide in front and weakly narrower behind, anteromedians (AME) largest, posteromedians (PME) close, laterals contiguous, set on weak elevations, on either side with pale brown, long, erect hairs, eye diameter AME > ALE > PME > PLE. Interocular distances: AME - AME = 0.20, ALE - AME = 0.15, ALE - ALE = 0.47, PME - PME = 0.10, PLE - PLE = 0.52, ALE - PLE = 0.07, AME - PME = 0.13. Clypeus narrow, brown black, margins with very few pale brown hairs. Chelicerae (Fig. 406) moderately small, brown, more or less parallel, promargin with 4 and retromargin with 3 teeth, fang brown, curved, sharp, serrate. Labium (Fig. 407) wider than long, basally dark brown, constricted mediately, apically broad, triangular, pale, scopulate. Maxillae (Fig. 407) pale brown, as long as wide, weakly constricted sub-basally, inner margin pale, apically scopulate. Sternum (Fig. 407) cordate, yellow brown, margins dark, tuberculate at each coxal region, anterior margin deeply concave, tip projected between coxae IV, round, clothed with long, pale brown hairs. Legs long, stout, pale brown, usually clothed with pale...
brown hairs and spines, tarsi with 2 superior and 1 inferior claw, superior claws pectinate throughout. Leg measurements: I 4.07 (1.20, 0.27, 1.20, 1.00, 0.40); II 3.67 (1.00, 0.33, 1.00, 0.87, 0.47); III 2.61 (0.80, 0.27, 0.47, 0.67, 0.40); IV 3.61 (1.07, 0.40, 0.80, 0.87, 0.47). Leg formula 1243.

Abdomen (Fig. 405) oval, convex, overhanging the cephalothorax, posteriorly beyond the spinnerets; dorsum reticulate, with milk white folium and 3 pairs of dark brown, distinct sigillae, medially in longitudinal rows. Venter pale brown, with a midlongitudinal, grey, broad band, clothed with small, fine, pale brown hairs extending from epigastric furrow to spinnerets.

**Epigynum – Internal genitalia** (Figs. 408 & 409): Spermatheca large, globular, fertilization duct attached mid basally to the spermatheca, copulatory duct short, convergent, atrium semi lunar.

**Material examined:** 2♀♂, NATE, 21.XI.2008, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; China, Laos (Zhu & Zhang, 1993; Zhu, Song & Zhang, 2003; Platnick, 2013).
Guizygeilla guangxiensis (Zhu & Zhang)
Genus: *Opadometa* Archer


**Diagnosis:** Abdomen overhangs most of the cephalothorax, front of abdomen in female tapers strongly. Femora IV with 2 rakes of trichobothria and a substantial brush of hairs all round and almost along tibia IV.

**Type species:** *Epeira grata* Guérin, 1838.

**Distribution:** Australian and Oriental regions (Platnick, 2013).

*Opadometa fastigata* (Simon)

(Figs. 410-414; Pl. XVII)


**Measurements** ($\varphi$): CL - 1.67, CW - 1.70, AL - 3.53, AW - 1.90, TL - 4.67.

**Interocular distance:** AME – AME= 0.20, ALE – AME= 0.40, ALE – ALE= 0.97, PME – PME= 0.23, PLE – PME= 0.37, PLE – PLE= 0.97, ALE – PLE= 0.13, AME – PME= 0.23

**Legs:** I 10.45 (3.11, 1.00, 2.56, 2.78, 1.00); II 8.78 (2.67, 0.89, 1.89, 2.33, 1.00); III 4.23 (1.00, 0.56, 0.78, 0.78, 0.67); IV 7.34 (2.22, 0.67, 1.67, 2.00, 0.78). Leg formula 1243.


**Distribution:** India: Kerala, Orissa, Uttar Pradesh, West Bengal; Burma, Indonesia, Philippines, Singapore, Sri Lanka, Sulawesi, Thailand (Tikader, 1982; Barrion & Litsinger, 1995; Sebastian & Peter, 2009; Sen *et al.*, 2009c; Platnick, 2013).

Genus: *Leucauge* White


**Diagnosis:** Cephalothorax convex, cephalic region anteriorly narrow, with margin truncate, thoracic region broad, with furrow deep and trifid. Legs I and II long and slender, femora IV with double fringe of hairs on the prolateral surface of basal half. Abdomen with or without humps, nearly twice longer than broad and with dorsal silvery pigmentation. Epigastric plate without any furrow.
Type species: *Linyphia (L.) argyrobapta* White, 1841.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Abdomen with a pair of anterior and an unpaired median caudal tubercle, spermathecae T shaped, fertilization duct short, upwardly directed
   
   \_______________ decorata \ (Blackwall)

- Abdomen without any paired and/or unpaired tubercles, spermathecae swollen, kidney like, fertilization duct short, downwardly and then weakly upwardly curved
   
   \_______________ pondae \ Tikader

**Leucauge decorata** (Blackwall)

(Figs. 415-420; Pl. XVII)


**Measurements** (♀): CL - 2.74, CW - 1.71, AL - 5.14, AW - 2.00, TL - 7.88.

**Interocular distance:** AME – AME= 0.17, ALE – AME= 0.34, ALE – ALE= 0.74, PME – PME= 0.23, PLE – PME= 0.29, PLE – PLE= 0.80, ALE – PLE= 0.11, AME – PME= 0.26

**Legs:** I 19.10 (5.64, 1.27, 4.91, 5.64, 1.64); II 14.90 (4.55, 1.09, 3.45, 4.36, 1.45); III 6.92 (2.55, 0.55, 1.27, 1.82, 0.73); IV 12.92 (4.55, 0.91, 2.55, 4.00, 0.91). Leg formula 1243.


Leucauge pondae Tikader
(Figs. 421-425; Pl. XVII)


Measurements ($\varphi$): CL - 2.38, CW - 1.85, AL - 3.89, AW - 2.15, TL - 6.27.

Intercocular distance: AME - AME = 0.26, ALE - AME = 0.26, ALE - ALE = 0.75, PME - PME = 0.25, PLE - PME = 0.26, PLE - PLE = 0.79, ALE - PLE = 0.15, AME - PME = 0.23

Legs: I 20.23 (5.78, 0.89, 5.67, 6.56, 1.33); II 12.45 (3.67, 0.89, 3.00, 3.89, 1.00); III 5.12 (1.56, 0.56, 1.00, 1.44, 0.56); IV 10.55 (3.33, 0.67, 2.44, 3.22, 0.89). Leg formula 1243.


Opadometa fastigata (Simon)
Leucauge decorata (Blackwall)
Leucauge pondae Tikader

264
Family: Nephilidae
NEPHILIDAE Simon
(LONG-LEGGED ORB WEAVERS)


Diagnosis: Cephalothorax longer than wide, dark brown to grey. Eyes 8, homogenous, in 2 rows, laterals contiguous. Sternum longer than wide, pointed behind; labium wider than long, maxillae parallel and widest anteriorly. Chelicerae strong, vertical, with finely striated boss and teeth in each margin. Legs long, slender, three clawed with spines, tibiae with trichobothria, tarsus IV with sustentaculum. Abdomen variable, with sigilla, males with dorsal scutum. Anterior and posterior spinnerets unequal. Tracheal spiracles close to spinnerets. Epigyne simple with completely or partially sclerotised genital plate. Male paracymbium usually flat and rectangular, subtegulum well developed, tegulum large and globular, embolus usually elongate with well developed conductor.

Biological note: Most nephilids have long, slender legs; their females colourful, with size upto 5 cm, legs span upto 15 cm and build the largest orbweb known. They are highly sexually dimorphic with males many times smaller than their counterparts. They occupy a variety of habitats and some species are potential predators of many large aerial arthropod preys in most tropical and subtropical ecosystem worldwide. While others prefer dry land habitats, especially tree trunk and wall.

Key to genera:

1. Abdomen flat, broadly oval, laterally lobate, dorsum with numerous sigillae; cephalothorax too flat; chelicerae not robust
   \hspace{1cm} \textit{Herennia} Thorell
\hspace{-1cm}-------------------

- Abdomen elongate, nearly parallel sided, dorsum midlongitudinally often with band; cephalic region convex and elevated; chelicerae strong and robust in female
   \hspace{1cm} \textit{Nephila} Leach

Genus: \textit{Herennia} Thorell


Diagnosis: Cephalothorax flat, narrowing in front, clothed with white pubescence and hairs. Ocular quad nearly as long as wide and weakly wider behind, anteromedians larger than posteromedians, laterals close, subequal, posterior row nearly straight. Legs long, slender with hairs and spines; tarsi and metatarsi together longer than tibiae plus patellae. Abdomen flat, laterally lobate, impressed with radially arranged lines of spots.

Type species: \textit{Epeira ornatissima} Doleschall, 1859.

Distribution: Australian and Oriental regions (Platnick, 2013).

\textit{Herennia multipuncta} (Doleschall)

(Figs. 426-430; PI. XVII)


Interocular distance: AME – AME= 0.64, ALE – AME= 0.57, ALE – ALE= 1.71, PME – PME= 0.57, PLE – PME= 0.57, PLE – PLE= 1.71, ALE – PLE= 0.21, AME – PME= 0.36

Legs: I 21.20 (6.20, 1.00, 4.60, 7.60, 1.80); II 22.2 (5.40, 1.00, 4.20, 6.80, 1.80); III 10.00 (2.60, 1.40, 1.80, 3.20, 1.00); IV 20.20 (5.80, 1.60, 4.00, 7.20, 1.60). Leg formula 1423.


266
Herennia multipuncta (Doleschall)
Distribution: India: Arunachal Pradesh, Assam, Goa, Meghalaya, Tamil Nadu, West Bengal (New record); Austro Malaysia, Borneo, Burma, China, Sri Lanka, Sulawesi (Tikader, 1982; Biswas & Biswas, 2006; Sebastian & Peter, 2009; Dhali et al., 2010b; Platnick, 2013).

Genus: Nephila Leach


Diagnosis: Cephalic region convex, more elevated, usually armed with a pair of tubercles posteriorly. Ocular quad nearly square or weakly wider behind. Labium larger than broad. Legs long, strong, spinulose, with spines, tarsi and metatarsi together longer than tibia plus patella. Epigyne heavily sclerotised.

Type species: Aranea pilipes Fabricius, 1793.


Nephila kuhlii (Doleschall)

(Figs. 431-435; Pl. XVII)


Interocular distance: AME – AME = 0.78, ALE – AME = 2.00, ALE – ALE = 4.67, PME – PME = 0.89, PLE – PME = 2.00, PLE – PLE = 4.78, ALE – PLE = 0.33, AME – PME = 0.56

Legs: I 60.6 (15.8, 1.6, 15.0, 24.8, 3.4); II 46.8 (15.2, 1.8, 10.0, 16.7, 3.1); III 29.0 (8.6, 2.4, 6.0, 9.6, 2.4); IV 49.6 (17.6, 1.8, 9.4, 17.4, 3.4). Leg formula 1243.


Distribution: India: West Bengal; Burma, Sulawesi (Tikader, 1982; Biswas & Biswas, 1992; Sebastian & Peter, 2009; Dhali et al., 2010b; Platnick, 2013).
Family: Araneidae
**ARANEIDAE** Clerck

*(TRUE ORB WEAVERS)*

Araneidae Clerck, 1757, *Svenska spindlar Stockholmiae*: 1

**Diagnosis:** Cephalothorax frequently flat, shape variable. Cephalic region usually marked by oblique depressions, thoracic fovea distinct to absent. Eyes 8, homogeneous, arranged in 2 rows; medians forming a quadrangle, either a square or a trapezium; laterals usually close and often projecting on angular tubercles. Chelicerae strong, vertical and not divergent, each with boss; fang furrow armed with 2 rows of strong teeth. Sternum heart shaped or triangular, narrowing behind. Legs long, strong, clothed with hairs and spines, with 3 tarsal claws and auxiliary foot claws. Abdomen variable. Epigyne complex, completely or partially sclerotised, frequently with scape, epigastric furrow nearly straight. Pedipalp with single claw in female. Male palp complex, paracymbium attached to proximal end of cymbium, usually with sclerotised hook; median apophysis bulbous, rotated within cymbium.

**Biological note:** Most araneids are typical orb-weavers and nocturnal. They or their webs are commonly found in plants, gardens, paddy fields, grasslands in marshy habitats, low shrubs and vegetation, tall shrubs in forests, leaf litter near shrubs, curled leaf etc. Though nocturnal, they are frequently seen in the webs during day time. Some species roll up their webs in the morning before leaving the web to take shelter in cracks and crevices and reconstruct the webs again in the evening. Some species do not replace web frequently. While in others, old webs are repaired or replaced only when it is torn. They hang in a head down position in its web and are sit or wait predators. They adopt the spin wrap attack method to subdue their prey.

**Distribution:** Cosmopolitan (Platnick, 2013).
Key to genera:

1. Spinnerets situated on an elevated circular space, surrounded by a thick flange in the form of a ring or tube; abdomen hard, with anterior, median and posterior pairs of spines
   \[------- \textit{Gasteracantha} \text{ Sundevall}\]
   - Spinnerets neither on elevated circular area nor surrounded by thick flange; abdomen neither hard nor spined
   \[---------------------------------------- 2\]

2. Tarsus and metatarsus together longer than patella plus tibia; posterior row of eyes strongly procurved, anterolaterals smaller than posterolaterals
   \[---------------------------------------- 3\]
   - Tarsus and metatarsus together shorter than patella plus tibia; posterior row of eyes nearly straight or recurved, laterals sub equal
   \[---------------------------------------- 4\]

3. Anterior row of eyes evenly spaced or medians closer to laterals; tibia I of male curved and strongly spined; females smaller than 6 mm
   \[------- \textit{Gea} \text{ C. L. Koch}\]
   - Anterior row of eyes not evenly spaced, medians closer to each other; tibia I of male straight and not spined; females larger
   \[------- \textit{Argiope} \text{ Audouin}\]

4. Abdomen transverse, wider than long
   \[---------------------------------------- 5\]
   - Abdomen not transverse, usually longer than wide
   \[---------------------------------------- 6\]

5. Epigyne with short, blunt scape; integument of abdomen leathery, dorsum strongly convex
   \[------- \textit{Cyrtarachne} \text{ Thorell}\]
   - Epigyne without scape; integument of abdomen not leathery but with numerous tubercles, dorsum at least medially concave
   \[------- \textit{Pasilobus} \text{ Simon}\]

6. Cephalothorax convex, cephalic region strongly elevated
   \[---------------------------------------- 7\]
   - Cephalothorax may or may not be convex, cephalic region not elevated
   \[---------------------------------------- 9\]
7. Abdomen with a distinct posterior tubercle or tail like projection

--------------------- **Eriovixia Archer**

- Abdomen without posterior tubercle or tail like projection

8. Cephalothorax anteriorly roundish; abdomen provided with a few tubercles

------- **Chorizopes O. P.-Cambridge**

- Cephalothorax anteriorly narrowing; abdomen without any tubercles but with pairs of moderately small, spherical sigillae in 2 longitudinal rows

-------------------------- **Acusilas Simon**

9. Cephalothorax flat with distinct thoracic furrow; abdomen anteriorly very high with at least 1 pair of shoulder humps

---------------------- **Cyrtophora Simon**

- Cephalothorax not flat, thoracic furrow may or may not be distinct; abdomen anteriorly not high, with or without shoulder humps

-------------------------------- **Acusilas Simon**

10. Posteromedian eyes closely apposed, carapace provided with a ‘U’ shaped mark between cephalic and thoracic regions

--------------------- **Cyclosa Menge**

- Posteromedian eyes separate, carapace without any such mark

-------------------------------- **Cyclosa Menge**

11. Cephalic region behind the ocular area bulging, warty; anterior row of eyes procurved; epigyne with short, beak like scape

------- **Parawixia F. O. P Cambridge**

- Cephalic region neither bulged nor warty; anterior row of eyes recurved; epigynal scape absent, when present not beak like

--------------------------------------- **Parawixia F. O. P Cambridge**

12. Thoracic groove longitudinal in female; epigynal lateral lobes 1 or 2 pairs, scape smooth

--------------------- **Neoscona Simon**

- Thoracic groove in female transverse; epigynal lateral lobes absent, scape distinctly wrinkled

---------------------------------------- **Neoscona Simon**

13. Abdominal shoulders elevated, with a pair of tubercles at extremities; posteromedian eyes largest

--------------------- **Gibbaranae Archer**

- Abdominal shoulders neither elevated nor tuberculate; posteromedian eyes never so

------------------------ **Araneus Clerck**
Genus: **Gasteracantha** Sundevall


**Diagnosis:** Cephalic region medially strongly convex. Ocular quad wider behind, median eyes usually subequal. Abdomen large, subquadrate, transversely oblong or narrowed laterally, armed on each side with an anterior, a median and a posterior spine; integument horny with large sigillae. Spinnerets elevated on a large projection occupying a circular space encircled by a horny ring.

**Type species:** *Aranea cancriformis* Linnaeus, 1758.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Abdomen much wider than long, nearly 3 x length, with 3 transverse yellowish bands; median spines larger than remaining; sigillae arranged in transverse row

   ---------------------
   **diadesmia** Thorell

   - Abdomen almost as wide as long, nearly 1.3 x length, with transverse yellowish band; median spines subequal; sigillae arranged along entire margin

   ---------------------
   **kuhlii** C. L. Koch

**Gasteracantha diadesmia** Thorell

(Figs. 436-441; Pl. XVII)


**Measurements** (♀): CL - 1.44, CW - 2.67, AL - 5.33, AW - 17.56, TL - 6.79.

**Interocular distance:** AME - AME= 0.39, ALE - AME= 1.17, ALE - ALE= 2.61, PME - PME= 0.44, PLE - PME= 1.11, PLE - PLE= 2.67, ALE - PLE= 0.11, AME - PME= 0.17

**Legs:** I 7.28 (2.00, 1.09, 1.55, 1.55, 1.09); II 7.35 (2.45, 1.09, 1.36, 1.36, 1.09); III 4.29 (1.64, 0.55, 0.82, 0.73, 0.55); IV 8.28 (2.91, 0.91, 1.82, 1.64, 1.00). Leg formula 4213.

**Material examined:** 1♀, KUTE, 23.III.2009, coll. D. C. Dhali

**Distribution:** India: Andaman & Nicobar Island, Assam, Sikkim, West Bengal; Burma, Myanmar, Philippines, Thailand (Tikader, 1970, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Saha et al., 1995; Kundu & Raychaudhuri, 1997; Saha & Raychaudhuri, 2004b; Roy et al., 2009, 2010b; Sen et al., 2009a; Platnick, 2013).

273
Gasteracantha diadesmia Thorell
Gasteracantha kuhlii C. L. Koch
(Figs. 442-447; Pl. XVII)


Measurements ($\varphi$): CL - 1.71, CW - 2.00, AL - 4.29, AW - 7.94, TL - 6.00.

Interocular distance: \(\text{AME} - \text{AME} = 0.23\), \(\text{ALE} - \text{AME} = 0.86\), \(\text{ALE} - \text{ALE} = 1.89\), \(\text{PME} - \text{PME} = 0.23\), \(\text{PLE} - \text{PME} = 0.89\), \(\text{PLE} - \text{PLE} = 1.91\), \(\text{AME} - \text{PLE} = 0.09\), \(\text{AME} - \text{PME} = 0.17\).

Legs: I 4.86 (1.29, 0.79, 1.14, 0.93, 0.71); II 4.50 (1.29, 0.64, 0.93, 0.93, 0.71); III 2.93 (1.07, 0.50, 0.43, 0.50, 0.43); IV 5.28 (1.71, 0.36, 1.21, 1.21, 0.79). Leg formula 4123.


Gasteracantha kultlii C.L. Koch
Genus: Gea C. L. Koch

Gea C. L. Koch, 1843, Die Arachniden, 10: 101

Diagnosis: Cephalic area moderately convex. Eyes unequal, ocular quad trapezoid, eyes of anterior row evenly spaced or medians close to laterals than to each other; anterolaterals smallest and not visible from above; posteromedians basally ringed with black, larger than anteromedians; both rows procurred. Chelicerae small, weak, with a boss. Legs moderately long, metatarsi and tarsi together longer than patellae and tibiae together. In male, tibia I curved and armed with macrosetae. Abdomen elongate, hairy, with or without humps.

Type species: Gea spinipes C. L. Koch, 1843.


Gea subarmata Thorell

(Figs. 448-452; Pl. XVII)


Interocular distance: AME – AME = 0.34, PME – PME = 0.40, PLE – PLE = 0.37, PLE – PME = 0.89, AME – PME = 0.40

Legs: I 5.91 (1.00, 0.45, 1.91, 0.91); II 5.45 (1.00, 0.36, 1.36, 1.82, 0.91); III 3.73 (1.00, 0.36, 0.82, 0.91, 0.64); IV 6.00 (1.27, 0.64, 1.45, 1.73, 0.91). Leg formula 4123.


Distribution: India: Assam, Uttar Pradesh, West Bengal; Bangladesh, Borneo, Burma, Indonesia, Malaysia, New Guinea, Philippines (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Kundu & Raychaudhuri, 1997; Saha & Raychaudhuri, 2004b; Roy et al., 2009, 2010b; Sebastian & Peter, 2009; Sen et al., 2009a; Platnick, 2013).
**Gea subarmata** Thorell

448
449
450
451
452
Genus: *Argiope* Audouin


**Diagnosis:** Cephalothorax oval, remarkably flat, clothed with thick layer of short and white pubescence. Eyes black, unequal, with posterior row strongly procurred, ocular quad trapezoid, wider behind; laterals close, situated on conspicuous tubercles; anterolaterals smaller than posterolaterals. Chelicerae small, weak, with a boss. Legs long and strong, metatarsi and tarsi together longer than patellae and tibiae together. Abdomen usually flat, variably developed. Epigyne with thin or thick median septum.

**Type species:** *Aranea lobata* Pallas, 1772.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Abdomen oval, anteriorly truncate, dorsum with transverse black stripes, forming a network in the posterior half; pro and retro margins of chelicerae with 3 and 2 teeth respectively; copulatory ducts very short, running along the inner basal margin of spermathecae, opening little above the base

   --------- *aemula* (Walckenaer)

- Abdomen pentagonal, posteromedially broadest, dorsum with transverse stripes but not forming any network in the posterior half; pro and retro margins of chelicerae with 4 and 2 teeth respectively; copulatory ducts long, running along the outer margin of spermathecae, opening at the tip

   --------- *pulchella* Thorell

*Argiope aemula* (Walckenaer)

(Figs. 453-457; Pl. XVIII)


**Measurements** (♀): CL - 5.33, CW - 5.11, AL - 10.17, AW - 8.33, TL - 15.78.

**Intercocular distance:** AME – AME= 0.56, ALE – AME= 0.72, ALE – ALE= 1.89, PME – PME= 0.67, PLE – PME= 0.94, PLE – PLE= 2.28, ALE – PLE= 0.22, AME – PME= 0.72

**Legs:** I 24.9 (8.20, 2.80, 5.30, 6.80, 1.80); II 24.5 (7.60, 2.60, 5.20, 7.30, 1.80); III 15.9 (5.2, 1.9, 3.2, 4.2, 1.4); IV 25 (8.40, 2.10, 5.00, 7.90, 1.60). Leg formula 4123.


Argiope pulchella Thorell

(Figs. 458-462; Pl. XVIII)


Interocular distance: AME - AME= 0.50, PME - PME= 0.67, PLE - PME= 0.78, PLE - PLE= 2.06, AME - PME= 0.61

Legs: I 25.11 (6.67, 2.44, 5.78, 8.22, 2.00); II 24.89 (6.67, 2.44, 5.78, 8.00, 2.00); III 14.66 (4.44, 1.78, 3.11, 4.00, 1.33); IV 24.21(8.00, 2.22, 4.88, 7.33, 1.78). Leg formula 1243.


Distribution: India: Andaman & Laccadive Islands, Assam, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, West Bengal; Burma, Java, Malaya Peninsula, Myanmar, Pegu Moulmein (Tikader, 1982; Biswas & Biswas, 1992; Kundu & Raychaudhuri, 1997; Hazarika

280
Argiope aemula (Walckenaer)
Argiope pulchella Thorell
Genus: *Cyrtarachne* Thorell


**Diagnosis:** Cephalothorax convex, unarmed. Ocular quad usually slightly wider than long; laterals subequal, contiguous, not situated on prominent tubercles. Abdomen large, wider than long, dorsum strongly convex; integument leathery with variably developed sigillae. Epigyne with short, blunt scape.

**Type species:** *Cyrtogaster grubii* Keyserling, 1864.

**Distribution:** Almost throughout excepting Nearctic and Neotropical regions (Platnick, 2013).

**Key to species:**

1. Abdomen yellowish brown, with large, smooth, convex, indistinct prominences having chocolate patches; scape broad and blunt; spermathecae oval, single lobed, copulatory duct outwardly curved

   \[\text{inequalis} \quad \text{Thorell}\]

- Abdomen pale brown with large, smooth, convex, distinct prominences having creamy patches, scape thin and long; spermathecae bilobed, copulatory duct incurved, horizontal

   \[\text{raniceps} \quad \text{Pocock}\]

*Cyrtarachne inequalis* Thorell

(Figs. 463-467; Pl. XVIII)

*Cyrtarachne inequalis* Thorell, 1895, *Descriptive catalogue of the spiders of Burma*. Lond.: 201.


**Interocular distance:** AME - AME= 0.43, ALE - AME= 0.86, ALE - ALE= 2.07, PME - PME= 0.36, PLE - PME= 0.93, PLE - PLE= 2.14, ALE - PLE= 0.14, AME - PME= 0.21

**Legs:** I 8.56 (2.57, 1.43, 2.14, 1.71, 0.71); II 8.35 (2.57, 1.43, 2.21, 1.43, 0.71); III 4.94 (1.86, 0.79, 0.93, 0.79, 0.57); IV 6.35 (2.57, 0.93, 1.21, 1.07, 0.57). Leg formula 1243.

**Material examined:** 1 $\varphi$, NTE, 09.X.2009, coll. T. K. Roy

283
Distribution: India: Andhra Pradesh, Assam, Madhya Pradesh, West Bengal; Burma, Japan (Tikader, 1982; Biswas & Biswas, 1992; Majumder, 2004; Roy et al., 2010b; Platnick, 2013).

_Cyrtarachne raniceps_ Pocock

(Figs. 468-472; Pl. XVIII)

_Cyrtarachne raniceps_ Pocock, 1900, _The fauna of British India, including Ceylon and Burma. Arachnida._ Lond.: 229.

Measurements (♀): CL - 3.27, CW - 3.45, AL - 6.73, AW - 8.09, TL - 10.36.

Interocular distance: AME – AME= 0.41, ALE – AME= 0.91, ALE – ALE= 2.05, PME – PME= 0.36, PLE – PME= 0.95, PLE – PLE= 2.18, ALE – PLE= 0.18, AME – PME= 0.27

Legs: I 7.56 (2.00, 0.78, 2.44, 1.78, 0.56); II 7.34 (2.00, 0.78, 2.33, 1.67, 0.56); III 5.45 (2.00, 0.78, 1.11, 1.00, 0.56); IV 7.12 (2.56, 1.00, 1.67, 1.33, 0.56). Leg formula 1243.


Distribution: India: Karnataka, Orissa, West Bengal; Sri Lanka (Tikader, 1982; Biswas & Biswas, 1992; Majumder, 2004; Roy et al., 2009; Platnick, 2013).
Cyrtarachne inequalis Thorell
Cyrtarachne raniceps Pocock

![Diagram of Cyrtarachne raniceps](image)
Genus: **Pasilobus** Simon


**Diagnosis:** Cephalothorax wider than long, slightly depressed behind eyes. Ocular quad nearly square, lateral eyes close. Legs short and slender; patellae, tibiae and metatarsi flat. Abdomen large, nearly more than twice wider than long, moderately overlapping the carapace, dorsum with numerous tubercles.

**Type species:** *Micrathena bufonina* Simon, 1867.

**Distribution:** Ethiopian, Oriental and Palaearctic regions (Platnick, 2013).

*Pasilobus kotigeharus* Tikader

(Figs. 473-477; PI. XVIII)


**Interocular distance:** AME – AME= 0.28, ALE – AME= 0.61, ALE – ALE= 1.50, PME – PME= 0.33, PME – PLE= 0.61, PLE – PLE= 1.61, ALE – PLE= 0.11, AME – PME= 0.22

**Legs:** I 6.56 (2.22, 0.56, 2.00, 1.22, 0.56); II 6.56 (2.22, 0.67, 1.89, 1.22, 0.56); III 3.67 (1.44, 0.33, 0.67, 0.67, 0.56); IV 5.12 (2.11, 0.56, 0.89, 1.00, 0.56). Leg formula 1=243.

**Material examined:** 2♀, NTE, 09.X.2009, coll. T. K. Roy

**Distribution:** India: Assam, Karnataka, West Bengal (New record) (Tikader, 1982; Saha & Raychaudhuri, 2004c; Sebastian & Peter, 2009; Roy et al., 2010b; Platnick, 2013).
Pasilobus kotigeharus Tikader
Genus: **Eriovixia** Archer


**Diagnosis:** Cephalic area elevated, anteriorly narrowing, clothed with white pubescence. Eyes unequal, ocular quad trapezoid, anterior row straight than posterior row. Abdomen subtriangular, with or without a caudal appendage. Epigynum with a stout scape, recurved at apex. Male palpal tibia with 2 long setae, median apophysis projected apically.

**Type species:** *Araneus rhinura* Pocock, 1899.

**Distribution:** Ethiopian, Oriental and Palaearctic regions (Platnick, 2013).

**Eriovixia excelsa** (Simon)

(Figs. 478-482; Pl. XVIII)


**Interocular distance:** AME - AME = 0.34, ALE - AME = 0.51, ALE - ALE = 1.23, PME - PME = 0.34, PLE - PME = 0.46, PLE - PLE = 1.23, AME - PME = 0.11, AME - PME = 0.20

**Legs:** I 9.86 (3.14, 1.00, 2.43, 2.29, 1.00); II 8.57 (2.71, 1.00, 2.00, 1.86, 1.00); III 5.13 (1.71, 0.57, 1.14, 1.14, 0.57); IV 8.00 (2.86, 0.86, 1.71, 1.71, 0.86). Leg formula 1243.


**Distribution:** India: Assam, Bihar, Gujarat, Maharashtra, West Bengal; China, Indonesia, Pakistan, Philippines, Taiwan (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Majumder, 2007; Roy et al., 2009, 2010b; Sebastian & Peter, 2009; Platnick, 2013).
Eriovixia excelsa (Simon)
Genus: *Chorizopes* O. P.-Cambridge


**Diagnosis:** Cephalothorax broad, cephalic region highly convex, anteriorly produced; thoracic region sharply descending behind. Ocular quad trapezoid, wider behind. Labium triangular, maxillae short, broad, convergent. Sternum triangular, tapering posteriorly with blunt tip. Abdomen overhanging the cephalothorax with a few paired or unpaired, conical or blunt tubercles. Epigyne without or with short, blunt scape.

**Type species:** *Chorizopes frontalis* O. P.-Cambridge, 1870.

**Distribution:** Ethiopian, Oriental and Palaearctic regions (Platnick, 2013).

*Chorizopes quadrituberculata* sp. nov.

(Figs. 483-493; Pl. XVIII)

**Description:** Female (Holotype)

Cephalothorax (Fig. 483) brown, sub rectangular, cephalic region raised, anteriorly produced, parallel sided, medially with a longitudinal shallow depression from posteromedian eye up to the middle, cervical furrows well marked by brown; thoracic region round, more darker, posteriorly depressed gradually, fovea dark, V shaped, radii distinct. Eyes 8, homogenous, pearly white, basally ringed with black, arranged in 2 recurved rows as viewed dorsally, anterior row strongly so; ocular quad set on a black tubercle, weakly wider than long, anteriorly narrower than behind, posteromedians largest, anteromedians on the slope, laterals contiguous, eye diameter: PME > PLE > AME ≥ ALE. Interocular distances: AME – AME= 0.17, ALE – AME= 0.23, ALE – ALE= 0.57, PME – PME= 0.19, PLE – PME= 0.21, PLE – PLE= 0.58, ALE – PLE= 0.08, AME – PME= 0.11. Clypeus yellow brown, broad, clypeal angles obtusely produced, margins with few small, dark brown hairs. Chelicerae (Fig. 484) pale brown, moderate, more or less parallel, promargin with 4 and retromargin with 2 teeth, fang dark brown, curve, sharp and stout. Labium (Fig. 485) more than twice wider than long, basally dark brown, constricted sub basally, apically pale, broad, triangular and scopulate. Maxillae (Fig. 485) brown, distinctly longer than wide, basally constricted, apically weakly bulged, pale and scopulate. Sternum (Fig. 485) cordate, reddish brown, margins darker, outer lateral margins with blunt, triangular projections at each coxae, apical margins concave, tip projected between coxae IV, bluntly round. Legs pale brown, long, stout, usually clothed with pale brown hairs, tarsal claw 3 with 2 superior and 1 inferior, claws not pectinated, leg measurements I 3.71 (1.21, 0.43, 1.00, 0.64, 0.43); II 3.22 (1.14, 0.29, 0.79,
0.71, 0.29); III 2.51 (0.86, 0.29, 0.50, 0.50, 0.36); IV 3.78 (1.21, 0.36, 1.00, 0.71, 0.50). Leg formula 4123.

Abdomen (Fig. 483) brown, sub rectangular, coarsely punctate, finer at apex, each marked by small, brown hairs, anteriorly overhanging the cephalothorax, posteriorly abruptly slopped beyond the black, posterior paired lateral tubercles. Dorsum further with a pair of black lateral tubercles at the widest region, posterior pair distinctly higher, projected outwardly; a creamy white mid longitudinal patch extending up to the posterior humps, laterally flanked with 3 pairs of distinct, brown sigillae, apical 2 pairs larger. Venter brown, mid longitudinally with a broad, chocolate brown band with 3 pairs of brown sigillae; 1\textsuperscript{st} below the epigastric furrow, 2\textsuperscript{nd} little above the middle and the last little before the apex; extending from epigastric furrow to spinnerets; laterally with brownish black corrugations.

**Epigynum – Internal genitalia** (Figs. 486 & 487): Epigynum semi lunar, spermatheca kidney shaped.

**Palp** (Figs. 491-493): Short, cymbium basally broad, apically prolonged, blunt, RTA short spiny, embolus sharply pointed.


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

**Etymology:** The specific epithet is derived from abdominal tubercles.

**Remarks:** The closest ally of the species is *Chorizopes anjanes* Tikader, but can be separated by i) cephalothorax basally broad, apically narrowed (cephalothorax basally narrowed, anteromedially broadest and roundish anteriorly in *C. anjanes*); ii) ocular quad weakly wider behind than front, posteromedian eyes largest (ocular quad not wider behind, anteromedian eyes weakly larger than posteromedians in *C. anjanes*); iii) abdominal dorsum with 2 pairs of lateral tubercles, posterior pair distinctly higher, projected outwardly (abdominal dorsum with 1 pair of lateral tubercles anteromedially at the widest region and 1 pair of vertically arranged blunt caudal process projected outwardly at the posterior end in *C. anjanes*); iv) dorsum with 2 - 3 pairs of sigillae (dorsum with 5 pairs of sigillae in *C. anjanes*); v) epigyne semilunar (epigyne plate like in *C. anjanes*); vi) spermatheca kidney shaped (spermatheca circular in *C. anjanes*). Such differences appear to justify the erection of a new species.
Chorizopes quadrituberculata sp. nov.
Chorizopes quadrituberculata sp. nov.
Genus: *Acusilas* Simon


**Diagnosis:** Cephalic region elevated, narrowing anteriorly. Ocular quad slightly longer than wide, lateral eyes contiguous, both rows recurved. Chelicerae with 4 promarginal and 3 retromarginal teeth. Abdomen longer than wide.

**Type species:** *Acusilas coccimus* Simon, 1895.

**Distribution:** Ethiopian, Oriental and Palaearctic regions (Platnick, 2013).

*Acusilas coccineus* Simon

(Figs. 494–498; Pl. XVIII)


**Description:** Female

CL - 2.64, CW - 2.36, AL - 5.50, AW - 3.96, TL - 8.14. Cephalothorax (Fig. 494) yellow brown, anteriorly narrowing, cephalic region elevated, furrows deeply distinct, clothed with setae, midlongitudinally with a furrow extending from posteromedians to little beyond the middle; thoracic region broad, fovea short, radii indistinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 recurved rows with anterior row more so, lateral contiguous, ocular quad trapezoid, a little wider in front, eye diameter AME > PME > PLE > ALE. Interocular distance: AME - AME = 0.32, ALE - AME = 0.25, ALE - ALE = 0.75, PME - PME = 0.29, PLE - PME = 0.29, PLE - PLE = 0.82, ALE - PME = 0.14, AME - PME = 0.14. Clypeus sloped, shorter than half of anteromedian eye diameter. Chelicerae (Fig. 495) yellowish brown, with boss, moderately small, promargin with 4 and retromargin with 3 teeth, fang (Fig. 1) brown, long, sharp. Labium (Fig. 496) a little wider than long, basally yellowish brown, apically off white, narrowing to triangular, scopulate. Maxillae (Fig. 496) pale brown, slightly longer than wide, constricted sub basally, apically broad, inner margin pale, scopulate. Sternum (Fig. 496) cordate, pale brown with long, brown hairs. Legs long, dorsally yellowish brown, ventrally dark brown, tarsi with 2 superior and 1 inferior claw, superior claws pectinate throughout with hairs and spine, leg measurements: I 8.00 (2.40, 1.20, 1.90, 1.60, 0.90); II 6.70 (2.00, 1.10, 1.70, 1.20, 0.70); III 4.90 (1.50, 0.90, 1.00, 0.80, 0.70); IV 7.40 (2.20, 1.20, 1.70, 1.50, 0.80). Leg formula 1423

Abdomen (Fig. 494) oblong, dark brown, overhanging the cephalothorax, clothed with hairs, dorsally decorated with white reticulation, sigillae 4 pairs in midlongitudinal rows, brown, marked by black. Venter grey, with yellow tinges, colulus triangular, basal segments of anterior spinnerets wider than long, posterior spinnerets smaller than anterior.
Epigynum – Internal genitalia (Figs. 497 & 498): Spermatheca nearly circular, periphery dark brown, fertilization duct downwardly coiled, sub medially forked, copulatory duct long, v shaped, below the fertilization duct.

Material examined: 2♀, NTE, 30.1.2010, coll. T. K. Roy

Distribution: Assam (New record), West Bengal (New record); China to Moluccas (Sebastian & Peter, 2009; Roy et al., 2010b; Platnick, 2013).

Remarks: Schmidt and Scharff (2008) in their review on the genus Acusilas Simon, indicated the occurrence of Acusilas coccineus Simon in India (Kuntner pers. com.), though not examined any Indian example. Therefore, record of the said species prompted thorough taxonomic treatment.
Acusilas coccineus Simon
Genus: **Cyrtophora** Simon


**Diagnosis:** Cephalothorax nearly flat, cephalic region long, thoracic furrow distinct. Ocular quad a little longer than wide, laterals equal, weakly separated from each others. Legs moderately long, stout, with hairs and spines. Abdomen conical, anteriorly very high, with paired nearly perpendicular tubercles; additional tubercles may be present along dorsum.

**Type species:** *Aranea citricola* Forsskal, 1775.

**Distribution:** Throughout excepting Nearctic region (Platnick, 2013).

**Key to species:**

1. Abdomen oval, with 1 pair of humps, caudal hump absent; dorsum decorated with 2 black, transverse bands below the humps, mid longitudinally with 3 pairs of brown sigillae in transverse rows; cheliceral pro and retromargins with 4 and 3 teeth respectively

   -------------- *bituberculata* sp. nov.

   - Abdomen not oval, with more than 1 pair of humps, caudal hump present

   ---------------------------------------- 2

2. Abdominal hump 2 pairs and caudal hump 1, median, not high up anteriorly; epigyne with a broad rim

   ------------- *cicatrosa* (Stoliczka)

   - Abdomen with 2 pairs of humps, anterior pair indicating shoulder humps and posterior pair bifurcate at caudal tip; epigyne without a broad rim

   -------- *exanthematica* (Doleschall)

**Cyrtophora bituberculata** sp. nov.

(Figs. 499-503; Pl. XVIII)

**Description:** Female (Holotype)

CL - 1.09, CW - 1.03, AL - 2.00, AW - 1.70, TL - 3.09. Cephalothorax (Fig. 499) brown, distinctly longer than wide, cephalic region yellow brown, usually clothed with shiny white hairs, weakly raised, anteriorly produced, parallel sided, cervical furrows well marked by brown; thoracic region round, marginally brown, medially pale around the brown, oval thoracic fovea, radii indistinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 recurved rows as viewed dorsally, anterior row strongly so, ocular quad nearly rectangular, wider than long, posteriorly narrower than in front, posteromedians largest,
latterals contiguous, eye diameter: PME > PLE > AME > ALE. Interocular distances: AME - AME = 0.21, ALE - AME = 0.21, ALE - ALE = 0.55, PME - PME = 0.17, PLE - PME = 0.26, PLE - PLE = 0.60, ALE - PLE = 0.09, AME - PME = 0.06. Clypeus brown, narrow, sub equal to anteromedian eye diameter, clypeal angles darker, obtusely produced. Chelicerae (Fig. 500) dark brown, moderate, more or less parallel, promargin with 4 and retromargin with 3 teeth, fang dark brown, curved, sharp, stout. Labium (Fig. 501) more than twice wider than long, basally dark brown, constricted sub basally, apically broad, pale, scopulate. Maxillae (Fig. 501) dark brown, nearly as wide as long, inner margin pale, scopulate. Sternum (Fig. 501) cordate, brown black, usually clothed with long, pale brown hairs, outer lateral margins weakly indented at each coxae, apical margins weakly concave, tip projected between coxae IV, blunt, round. Legs brown, long, stout, banded, usually clothed with pale brown hairs, tarsal claws 3 with 2 superior and 1 inferior, leg measurements: I 3.14 (1.21, 0.21, 0.86, 0.50, 0.36); II 2.70 (1.21, 0.21, 0.64, 0.43, 0.21); III 2.29 (0.93, 0.21, 0.43, 0.43, 0.29); IV 3.29 (1.14, 0.29, 0.86, 0.71, 0.29). Leg formula 4123.

Abdomen (Fig. 499) black tinged with creamy white patches, nearly globose, widest at the median paired humps, narrowing at both ends, usually clothed with moderate, shiny white hairs. Dorsum decorated with 2 black, transverse bands below the humps, mid longitudinally with 3 pairs of brown sigillae in transverse rows. Venter black, laterally with creamy white tinges, usually clothed with shiny white hairs.

**Epigynum – Internal genitalia** (Figs. 502 & 503): Epigynum without a distinct rim transversely, fertilization duct short, downward, copulatory duct long, upwardly and outwardly directed, looped at the middle, then descending

**Material examined:** 1♀, KTE, 06.X.2009, coll. T. K. Roy

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

**Etymology:** The species name is derived from the abdominal tubercles.

**Remarks:** The species shows a close affinity to *Cyrtophora bidenta* Tikader, 1970 but can be separated by i) sigillae on abdominal dorsum 3 pairs (sigillae absent in *C. bidenta*); ii) dorsal decoration much different from *C. bidenta*; iii) epigyne without any transverse rim (epigyne with a distinct transverse rim in *C. bidenta*); iv) copulatory duct long, upwardly and outwardly directed, looped at the middle, then descending (copulatory duct short, upwardly directed, not coiled in *C. bidenta*). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.
Cyrtophora bituberculata sp. nov.
Cyrtophora cicatrosa (Stoliczka)
(Figs. 504-508; Pl. XVIII)


**Measurements** ($\varphi$): CL - 2.50, CW - 1.93, AL - 4.07, AW - 2.36, TL - 6.57.

**Interocular distance:** AME - AME = 0.32, ALE - AME = 0.29, ALE - ALE = 0.75, PME - PME = 0.25, PLE - PME = 0.25, PLE - PLE = 0.79, ALE - PLE = 0.14, AME - PME = 0.29

**Legs:** I 9.58 (3.29, 0.86, 2.57, 2.00, 0.86); II 9.43 (2.57, 0.57, 2.86, 2.57, 0.86); III 5.86 (1.86, 0.57, 1.14, 1.43, 0.86); IV 9.72 (3.29, 0.86, 1.71, 2.86, 1.00). Leg formula 4123.


**Distribution:** India: Andaman & Nicobar Island, Assam, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal; Australia, Austro-Malaysia, Burma, Malaysia, New Guinea, Pakistan (Tikader, 1982; Biswas & Biswas, 1992; Gajbe, 2004a; Majumder, 2007; Roy *et al.*, 2009, 2010b; Sebastian & Peter, 2009; Sen *et al.*, 2009a; Platnick, 2013).

Cyrtophora exanthematica (Doleschall)
(Figs. 509-513; Pl. XVIII)


**Description:** Female

CL - 2.71, CW - 2.21, AL - 6.43, AW - 4.39, TL - 9.14. Cephalothorax (Fig. 509) yellow brown, clothed with small brown hairs, anteriorly narrowing, cephalic region elevated, furrows deeply distinct, midlongitudinally with faintly marked furrow lined by faint black lines extending from posteromedian eyes to the end, thoracic region globose, depressed
posteriorly, radii indistinct. Eyes 8, homogenous, transparent, basally ringed with black, arranged in 2 recurved rows with anterior row more so, ocular quad trapezoid, a little wider in front, eye diameter AME> PME> PLE> ALE. Interocular distance: AME – AME= 0.36, ALE – AME= 0.36, ALE – ALE= 0.93, PME – PME= 0.29, PLE – PME= 0.43, PLE – PLE= 1.04, ALE – PLE= 0.21, AME – PME= 0.21. Clypeus sloped, shorter than anteromedian eye diameter. Chelicerae (Fig. 510) yellow brown with boss, moderately long, each of pro and retromargin with 3 teeth; fang brown, long, sharp, stout and stumpy. Labium (Fig. 511) a little wider than long, basally brown, constricted, apically off white, narrowing to triangular, scopulate. Maxillae (Fig. 511) pale brown, slightly longer than wide, clothed with long brown setae, anterolaterally off white, margin scopulate. Sternum (Fig. 511) cordate, yellowish brown, margins at each coxal region tuberculate, tip projected between coxae IV, midlongitudinally with a broad white band narrowing distally, clothed with long, brown setae. Legs long, pale yellow, clothed with hairs, tarsi 3 clawed, superior claws 2, each with 5 pectination, inferior pectinate basally, accessory claws 4, pectinate throughout. Leg measurements: I 6.93 (2.14, 1.00, 1.79, 1.29, 0.71); II 6.28 (1.71, 1.00, 1.57, 1.29, 0.71); III 4.00 (1.43, 0.50, 0.79, 0.71, 0.57); IV 5.27 (1.57, 0.57, 1.21, 1.21, 0.71). Leg formula 1243.

Abdomen (Fig. 509) creamy white, reticulate, isolaterally triangular, posteriorly produced, anteriorly strongly constricted and produced further into an obtuse triangle, much overhanging the cephalothorax. Dorsum medially decorated with grey, numerous small warts all over, marked by brown, shoulder humps obtuse with a pair of marginal tubercles, each marked by brown at tip, located at the broadest region; distally broadly bifurcate, tuberculate, its inner margin equally with small tubercles, 3 pairs of distinct brown sigillae (muscular apodeme) in longitudinal rows, margins striped with grey. Venter grey brown, medially white, longitudinally spotted with brown, clothed with long, erect, dark brown hairs; spinnerets at the posteromedian regions, colulus distinct, triangular, book lungs yellow.

**Epigynum – Internal genitalia** (Figs. 512 & 513): Epigynum with a short, triangular scape, spermatheca globular, fertilization duct short, upward, copulatory duct ventral, thick.

**Material examined:** : 1♀, KTE, 06.IX.2008, coll. T. K. Roy; 1♀, NATE, 10.IV.2010, coll. T. K. Roy

**Distribution:** India (New record): West Bengal; Australia, Burma, Indonesia, Japan, Myanmar, New South Wales, Papua New Guinea, Philippines, Singapore (Barrion & Litsinger, 1995; Roy *et al.*, 2009; Sen *et al.*, 2011a; Platnick, 2013).
Cyrtophora cicatrosa (Stoliczka)
Cyrtophora exanthematica (Doleschall)
Genus: *Cyclosa* Menge


**Diagnosis:** Cephalic region anteriorly narrow, in female distinctly marked by an ‘U’ shaped oblique groove, this in male weak or absent. Eyes unequal, in 2 recurved rows; ocular quad trapezoid, distinctly narrower behind; anteromedians usually larger than posteromedians, latter very close and almost touching each other; laterals close, situated on prominent tubercles. Abdomen elongate to globular with paired and median unpaired humps. Epigynum small, with weak scape, which may be straight, bent, wrinkled, pointed or circular. Male palpal patella with 1 large, strong and curved spine.

**Type species:** *Aranea conica* Pallas, 1772.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Abdomen with tubercles
   - Abdomen without any tubercle
     - Abdomen with paired tubercles, median caudal tubercle may or may not be present
     - Abdomen without any paired tubercles but with long, blunt, caudal tubercle; both copulatory and fertilization ducts outwardly curved, the latter short
     - Abdomen very short, nearly globular
       - Abdomen rather elongate

305
5. Abdomen with 1 pair of anterior tubercles, caudal tubercles absent; scape broad, with a distinct median bulge underside; copulatory duct nearly straight

---------- *mulmeinensis* (Thorell)

- Abdomen with 2 pairs of tubercles, posterior pair at the caudal end, disposed vertically, more prominent; scape narrow without median bulge underside; copulatory duct incurved

---------- *quinqueguttata* (Thorell)

6. Abdomen with a median tubercle anteriorly, bent upward

----------------------------------------- 7

- Abdomen with no such tubercles at the anterior end

----------------------------------------- 8

7. Abdominal tubercles 1 pair, located at the base of caudal process; scape contracted, tip narrow, bent nearly at right angle to the base; copulatory duct long

---------- *spirifera* Simon

- Abdominal tubercles 2 pairs, 1st pair at the middle, other at the base of caudal process; scape not contracted, tip narrow but weakly bent; copulatory duct moderately long

---------- *hexatuberculata* Tikader

8. Abdomen with a pair of small, indistinct tubercles placed anteriorly but without any tubercle at the base of caudal process; scape short and thin

---------- *neilensis* Tikader

- Abdomen with no such tubercles anteriorly but with 1 pair of long, pointed tubercles at the base of caudal process; scape long and thick

---------- *simoni* Tikader

*Cyclosa krusa* Barrion & Litsinger

(Figs. 514-519; Pl. XIX)


**Description:** Male

CL - 1.77, CW - 1.27, AL - 2.13, AW - 1.13, TL - 3.90. Cephalothorax (Fig. 514) dark red brown, elongate oval, somewhat flat, clothed with pale brown hairs, cephalic region weakly raised, anteriorly produced snout like, cervical furrows marked by brown, with a longitudinal shallow depressions from posteromedian eye to the middle; thoracic region round with circular, pit like, dark brown fovea, margins more darker, radii indistinct. Eyes 8, homogenous, pearly white, arranged in 2 recurved rows as viewed dorsally, anterior row
strongly recurved with anteromedians largest, posterior weakly so with posteromedians closely apposed, ocular quad trapezoid, wider than long, anteriorly wider than behind, laterals contiguous, a pair of spine like hairs behinds the posterolaterals, eye diameter AME> PME> ALE> PLE. Interocular distance: AME – AME= 0.22, ALE – AME= 0.15, ALE – ALE= 0.42, PME – PME= 0.08, PLE – PME= 0.20, PLE – PLE= 0.45, ALE – PLE= 0.07, AME – PME= 0.13. Clypeus narrow, brown, less than anteromedian eye diameter. Chelicerae (Fig. 515) pale brown, moderate, more or less parallel, both pro and retromargin with 3 teeth, fang pale brown, small and stumpy. Labium (Fig. 516) close, weakly wider than long, basally dark brown, constricted medially, apically broad, triangular, pale, scopulate. Maxillae (Fig. 516) brown, as wide as long, constricted sub basally, apically broad, inner margin pale and scopulate. Sternum (Fig. 516) rebordered, brown, margins more darker, longer than wide, tuberculate at each coxal end, tip narrowly produced between coxae IV, pointed, clothed with long brown hairs. Legs long, stout, pale brown, banded, usually clothed with brown hairs and spines, tarsi with 2 superior and 1 inferior claw, superior claws pectinate throughout, leg measurements: I 5.49 (1.71, 0.64, 1.36, 1.21, 0.57); II 4.78 (1.57, 0.64, 1.07, 1.00, 0.50); III 3.07 (0.93, 0.36, 0.64, 0.71, 0.43); IV 4.85 (1.57, 0.43, 1.21, 1.07, 0.57). Leg formula 1423.

Abdomen (Fig. 514 & 517) pale brown, elongate oval, posteriorly beyond the spinnerets, tip weakly raised, clothed with fine, small, pale brown hairs; cardiac area pale brown, with 4 small, distinct, brown sigillae in longitudinal series, further laterally with 7 pairs of larger, similar sigillae. Dorsum decorated with shiny white patches. Venter pale brown with black tinges, clothed with brown hairs.

**Palp** (Figs. 518 & 519): Cymbium cup shaped, longer than wide, embolus long, straight, sharply pointed, radix nearly rectangular, sub parallel, conductor membranous, terminal apophysis sharply pointed, median apophysis swollen, terminally broad with an apical, curved spine.


**Distribution:** India (New record): West Bengal; Pakistan, Philippines (Barrion & Litsinger, 1995; Mukhtar & Mushtaq, 2005; Platnick, 2013).
Cyclosa krusa Barrion & Litsinger
Cyclosa moonduensis Tikader
(Figs. 520-525; Pl. XIX)


Description: Male

CL - 1.27, CW - 0.83, AL - 1.35, AW - 0.80, TL - 2.62. Cephalothorax (Fig. 520) black, elongate oval, somewhat flat, excepting weak concavity near brownish black circular pit like thoracic fovea, clothed with fine, moderately long, shiny white hairs, cephalic region weakly raised, anteriorly produced snout like, medially with shallow depression extending up to the thoracic fovea, cervical furrows faintly marked, thoracic region round, posteriorly gradually depressed, radii indistinct. Eyes 8, homogenous, pearly white, arranged in 2 recurved rows as viewed dorsally, anterior row strongly recurved with anteromedians largest, posterior weakly so with posteromedians nearly close, ocular quad trapezoid, wider than long, anteriorly wider than behind, laterals contiguous, a spine like hair behind the posterolaterals, eye diameter AME> PME> ALE> PLE. Intercocular distance: AME - AME= 0.17, ALE - AME= 0.10, ALE - ALE= 0.32, PME - PME= 0.10, PLE - PME= 0.13, PLE - PLE= 0.13, ALE - PLE= 0.07, AME - PME= 0.12. Clypeus narrow, blackish brown, less than anteromedian eye diameter. Chelicerae (Fig. 521) pale brown, moderate, more or less parallel, dorsally with blackish brown patches, promargin with 3 and retromargin with 2 teeth, fang yellowish, curved, sharp, long and stout. Labium (Fig. 522) close, slightly wider than long, basally brown black, constricted medially, apically broad, triangular, pale, scopulate. Maxillae (Fig. 522) brown black, as wide as long, constricted sub basally, apically broad, margins weakly convex, inner margin pale, scopulate. Sternum (Fig. 522) brown black, margins more so, rebordered, longer than wide, well indented between coxae, tip projected between coxae IV, pointed, clothed with fine, shiny, white hairs. Legs long, stout, brown, banded, clothed with brown hairs and spines, femora ventrally rugose, tarsal claw 3, 2 superior and 1 inferior, leg measurements: I 3.66 (1.13, 0.33, 0.87, 0.80, 0.53); II 3.20 (1.00, 0.33, 0.67, 0.73, 0.47); III 2.26 (0.80, 0.20, 0.53, 0.40, 0.33); IV 3.33 (1.00, 0.33, 0.87, 0.73, 0.40). Leg formula 1423.

Abdomen (Figs. 520 & 523) brownish black, clothed with brown hairs, elongate oval, anteriorly narrow, apical margins with long, erect, pale brown hairs, posteriorly broad, round, upwardly projected. Dorsum decorated with silvery white patches medially and 3 pairs of distinct, brownish sigillae in transverse rows. Venter brownish black, medially with fine brown and posterolaterally with shiny white hairs, spinnerets located at basal 2/3rd.
Palp (Figs. 524 & 525): Embolus long, straight, sharply pointed, medially weakly incurved, conductor short, medially attached to embolus, terminal apophysis long, sharp, pointed upwardly, median apophysis broadly semi lunar.

Material examined: 2♂♂, NTE, 29.1.2010, coll. T. K. Roy


Remarks: The male morph is first recorded. So it is described and illustrated.

*Cyclosa bifida* (Doleschall)

(Figs. 526-530; Pl. XIX)


Interocular distance: AME – AME= 0.23, ALE – AME= 0.21, ALE – ALE= 0.55, PME – PME= 0.11, PLE – PME= 0.26, PLE – PLE= 0.62, ALE – PLE= 0.11, AME – PME= 0.17

Legs: I 4.42 (1.07, 0.43, 1.21, 1.07, 0.64); II 4.28 (1.21, 0.43, 1.14, 0.93, 0.57); III 2.93 (0.86, 0.29, 0.71, 0.64, 0.43); IV 4.36 (1.07, 0.43, 1.29, 1.07, 0.50). Leg formula 1423.


Distribution: India: Assam, Meghalaya, Sikkim, West Bengal; Malaysia, New Guinea, Philippines, Sri Lanka (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995;
Cyclosa moonduensis Tikader
Cyclosa bifida (Doleschall)
Cyclosa mulmeinensis (Thorell)

(Figs. 531-535; Pl. XIX)


Interocular distance: AME - AME= 0.15, ALE - AME= 0.23, ALE - ALE= 0.55, PME - PME= 0.09, PLE - PME= 0.25, PLE - PLE= 0.58, ALE - PLE= 0.06, AME - PME= 0.13

Legs: I 3.96 (1.26, 0.51, 0.84, 0.88, 0.47); II 3.62 (1.16, 0.51, 0.74, 0.74, 0.47); III 2.09 (0.74, 0.28, 0.37, 0.37, 0.33); IV 2.84 (0.88, 0.42, 0.70, 0.56, 0.28). Leg formula 1243.


Distribution: India: Assam, Maharashtra, West Bengal; Africa to Japan, Arabia, Burma, Malacca, Malaysia, Philippines, Taiwan (Tikader, 1982; Barrion & Litsinger, 1995; Hazarika & Chakraborti, 1998; Roy et al., 2009, 2010b; Platnick, 2013).

Cyclosa quinqueguttata (Thorell)

(Figs. 536-541; Pl. XIX)


Measurements (♀): CL - 1.51, CW - 1.21, AL - 2.83, AW - 2.11, TL - 4.34.

Interocular distance: AME - AME= 0.17, ALE - AME= 0.23, ALE - ALE= 0.51, PME - PME= 0.11, PLE - PME= 0.23, PLE - PLE= 0.55, ALE - PLE= 0.08, AME - PME= 0.15
Legs: 14.28 (1.37, 0.68, 0.91, 0.86, 0.46); II 3.71 (1.14, 0.57, 0.74, 0.80, 0.46); III 2.51 (0.80, 0.40, 0.51, 0.40); IV 4.12 (1.37, 0.57, 0.86, 0.86, 0.46). Leg formula 1423.


Distribution: India: Assam, Sikkim, West Bengal; Bhutan, China, Myanmar, Taiwan (Tikader, 1982; Kundu & Raychaudhuri, 1997; Hazarika & Chakraborti, 1998; Saha & Raychaudhuri, 2004b; Roy et al., 2009, 2010b; Sen et al., 2009a; Platnick, 2013).

*Cyclosa spirifera* Simon

(Figs. 542-547; Pl. XIX)


Measurements (♀): CL - 1.43, CW - 1.25, AL - 5.46, AW - 2.93, TL - 6.89.

Interocular distance: AME - AME= 0.14, ALE - AME= 0.18, ALE - ALE= 0.46, PME - PME= 0.11, PLE - PME= 0.21, PLE - PLE= 0.54, ALE - PLE= 0.07, AME - PME= 0.11

Legs: I 5.93 (2.00, 0.71, 1.36, 1.29, 0.57); II 5.01 (1.64, 0.79, 1.29, 0.79, 0.50); III 3.65 (1.00, 0.50, 0.86, 0.79, 0.50); IV 5.28 (1.71, 0.71, 1.36, 1.00, 0.50). Leg formula 1423.


Distribution: India: Assam, Chhattisgarh, Madhya Pradesh, West Bengal; Pakistan (Tikader, 1982; Biswas & Biswas, 1992; Kundu & Raychaudhuri, 1997; Hazarika & Chakraborti, 1998; Gajbe, 2004a; Saha & Raychaudhuri, 2004b; Roy et al., 2009, 2010b; Sen et al., 2009a; Platnick, 2013).
Cyclosa mulmeinensis (Thorell)
Cyclosa quinqueguttata (Thorell)
Cyclosa spirifera Simon
Cyclosa hexatuberculata Tikader

(Figs. 548-553; Pl. XIX)


Interocular distance: AME - AME= 0.17, ALE - AME= 0.21, ALE - ALE= 0.53, PME - PME= 0.11, PLE - PME= 0.25, PLE - PLE= 0.60, ALE - PLE= 0.11, AME - PME= 0.15

Legs: I 4.71 (1.57, 0.64, 1.14, 0.93, 0.43); II 4.22 (1.43, 0.57, 1.00, 0.79, 0.43); III 3.00 (0.86, 0.50, 0.64, 0.57, 0.43); IV 4.43 (1.43, 0.57, 1.07, 0.86, 0.50). Leg formula 1423.

Material examined: 2♀, MTE, 08.IX.2008, coll. T. K. Roy

Distribution: India: Assam, Maharashtra, West Bengal; Pakistan (Tikader, 1982; Biswas & Biswas, 1992; Kundu & Raychaudhuri, 1997; Roy et al., 2009, 2010b; Sebastian & Peter, 2009; Sen et al., 2009a; Platnick, 2013).

Cyclosa neilensis Tikader

(Figs. 554-560; Pl. XIX)


Measurements (♀): CL - 1.13, CW - 0.93, AL - 3.97, AW - 1.58, TL - 5.10.

Interocular distance: AME - AME= 0.13, ALE - AME= 0.17, ALE - ALE= 0.42, PME - PME= 0.10, PLE - PME= 0.18, PLE - PLE= 0.45, ALE - PLE= 0.07, AME - PME= 0.12

Legs: I 3.74 (1.27, 0.53, 0.87, 0.67, 0.40); II 3.41 (1.07, 0.47, 0.80, 0.67, 0.40); III 2.34 (0.67, 0.40, 0.47, 0.47, 0.33); IV 3.67 (1.20, 0.47, 0.87, 0.73, 0.40). Leg formula 1423.


318
Cyclosa simoni Tikader
(Figs. 561-572; PI. XIX)


Interocular distance: AME - AME= 0.21, ALE - AME= 0.29, ALE - ALE= 0.71, PME - PME= 0.11, PLE - PME= 0.32, PLE - PLE= 0.71, ALE - PLE= 0.11, AME - PME= 0.14

Legs: I 6.72 (2.00, 0.93, 1.79, 1.43, 0.57); II 6.43 (2.00, 0.79, 1.57, 1.43, 0.64); III 4.57 (1.57, 0.57, 0.93, 0.86, 0.64); IV 6.63 (2.00, 0.71, 1.71, 1.50, 0.71). Leg formula 1423.

Description: Male

CL - 1.73, CW - 1.12, AL - 2.87, AW - 1.45, TL - 4.67. Cephalothorax (Fig. 567) brown to brown black, elongate oval, somewhat flat, clothed with white hairs, cephalic region anteriorly produced snout like, medially with shallow depression extending unto the circular pit like brown thoracic fovea, cervical furrows faintly marked, thoracic region round, at times with 2 yellow brown patches on either side of fovea, radii indistinct. Eyes 8, homogenous, pearly white, arranged in 2 recurved rows as viewed dorsally, anterior row strongly recurved with anteromedians largest, posterior weakly so with posteromedians very close, nearly touching each other, ocular quad trapezoid, wider than long, anteriorly wider than behind, laterals contiguous, eye diameter AME> PME> ALE> PLE. Interocular distance: AME - AME= 0.22, ALE - AME= 0.13, ALE - ALE= 0.40, PME - PME= 0.10, PLE - PLE= 0.18, PLE - PLE= 0.45, ALE - PLE= 0.07, AME - PME= 0.13. Clypeus narrow, brown, less than anteromedian eye diameter. Chelicerae (Fig. 568) pale brown, moderate, more or less parallel, dorsally with blackish brown patches, promargin with 3 and retromargin with 4 teeth; fang pale brown, curved, sharp, stout and stumpy. Labium (Fig. 569) close, slightly wider than long, basally red brown, constricted medially, apically broad, triangled, pale, scopulate. Maxillae (Fig. 569) brown, as wide as long, apically broad, margins weakly concave, inner margin pale, scopulate. Sternum (Fig. 569) yellow brown, margins brown black, longer than wide, tuberculate at each coxal end, tip narrowly produced between coxae IV, pointed, clothed with long white hairs. Legs long, stout, pale yellowish brown, banded, clothed with brown hairs and spines, tarsi with 2 superior and 1 inferior claw, superior claws pectinate throughout, leg measurements: I 4.18 (1.38, 0.46, 1.00, 0.88, 0.46); II 3.68 (1.17, 0.46, 0.92, 0.75, 0.38); III 2.37 (0.83, 0.21, 0.54, 0.46, 0.33); IV 3.60 (1.17, 0.38, 0.92, 0.75, 0.38). Leg formula 1243.

Abdomen (Fig. 567 & 570) brown, elongate, tip round, blunt with a caudal hump, a pair of small, lateral humps anterior to it. Dorsum decorated with silvery white, brown, brown
black patches, 3 pairs of distinct and many small brown, sigillae in transverse rows. Venter brown, with brown black spinnerets, located more or less near the middle and irregular brown black, silvery white patches.

**Palp** (Figs. 571 & 572): Cymbium rather flat, medially broad and apically prolonged, embolus long, pointed, radix semicircular, conductor long, narrow, terminal apophysis sharp and pointed, paramedian apophysis acute, subtegulum nearly straight, prominent.


**Distribution:** India: Assam, Sikkim, West Bengal (Tikader, 1982; Biswas & Biswas, 1992; Hazarika & Chakrabarti, 1998; Saha & Raychaudhuri, 2004b; Roy et al., 2009, 2010b; Sen et al., 2009a, 2010a; Platnick, 2013).

**Remarks:** The male morph is first recorded. So it is described and illustrated.
Cyclosa simoni Tikader

561

562

563

564

565

566
Cyclosa simoni Tikader
Genus: *Parawixia* F. O. P Cambridge


**Diagnosis:** Cephalic region swollen behind the ocular area, with numerous granules. Eyes small, unequal, anteromedians larger than posteromedians, anterior row procurred when viewed frontally. Abdomen triangular, with a pair of shoulder humps and an unpaired posterior hump. Epigyne simple, with a prominent beak like scape on a swollen base.

**Type species:** *Epeira destricta* Cambridge, 1889.

**Distribution:** Neotropical, Oriental and Palaearctic regions (Platnick, 2013).

*Parawixia dehaani* (Doleschall) (Figs. 573-577; Pl. XIX)


**Interocular distance:** AME - AME= 0.79, ALE - AME= 1.57, ALE - ALE= 3.79, PME - PME= 0.36, PLE - PME= 2.00, PLE - PLE= 4.07, ALE - PLE= 0.50, AME - PME= 0.29

**Legs:** I 16.54 (2.36, 2.00, 5.45, 5.09, 1.64); II 14.18 (1.64, 1.82, 5.09, 4.36, 1.27); III 12.00 (3.27, 1.82, 2.73, 2.73, 1.45); IV 21.45 (5.64, 2.91, 5.27, 5.27, 2.36). Leg formula 4123.

**Material examined:** 1 $\varphi$, NTE, 18.III.2009, coll. T. K. Roy; 1 $\varphi$, NTE, 09.IV.2010, coll. T. K. Roy; 1 $\varphi$, NATE, 21.XI.2008, coll. D. Raychaudhuri; 1 $\varphi$ (I), NATE, 01.II.2010, coll. T. K. Roy

**Distribution:** India: Assam, Karnataka, Sikkim, West Bengal; Burma, Indo & Austro-Malaysia, Japan, Java, New Guinea, Philippines, Polynesia, Sumatra (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Kundu & Raychaudhuri, 1997; Saha & Raychaudhuri, 2004b; Majumder, 2007; Roy et al., 2009, 2010b; Sebastian & Peter, 2009: Sen et al., 2009a; Platnick, 2013).

325
Parawixia dehaani (Doleschall)
Genus: *Neoscona* Simon


**Diagnosis:** Thoracic groove longitudinal. Ocular quad trapezoid, slightly longer than wide; anteromedians largest or subequal to posteromedians; laterals close, not on prominent tubercles; posterolaterals smallest; both rows recurved. In male, coxae I ventrally with a hook on the distal rim, tibiae II with strong prolateral spines. Abdomen oval or suboval or subtriangular. Epigynum simple, tongue like, scape completely fused to base, with 1 or 2 pairs of lateral lobes; copulatory openings situated on underneath of scape. Male palpal patella with 2 long, strong curved spines; cymbium broad.

**Type species:** *Epeira arabesca* Walckenaer, 1841.

**Distribution:** Cosmopolitan (Platnick, 2013).

**Key to species:**

1. Abdomen sub triangular
   
   - Abdomen in no case triangular or sub triangular

2. Epigynal scape not constricted at the bending point
   
   - Epigynal scape constricted either at the bending point or at the middle

3. Epigynal scape right angle to the base, lateral lobes inconspicuous; labium basally deeply notched
   
   ------ *bengalensis* Tikader & Bal
   
   - Epigynal scape not at right angle to the base, lateral lobes conspicuous and nearly rounded; labium basally not deeply notched

4. Spermatheca elongate oval, copulatory ducts almost straight with distinct copulatory openings
   
   ------ *nautica* (L. Koch)
   
   - Spermatheca relatively small, rounded, copulatory duct inwardly curved with openings not distinct

 ------ *punctigera* (Doleschall)
5. Cephalic region frontally narrowed to a snout beyond the anteromedian eyes; thoracic region wide, reddish brown

------- *ypiniaka* Barrion & Litsinger

- Cephalic region not forming any snout; thoracic region less wide, not reddish brown

---------------------------------------- 6

6. Epigynal scape with prominent, wide rim but not constricted; abdomen pale brown, midlongitudinally with creamy white broad band, margined with dark brown

------- *sindhagadensis* (Tikader)

- Epigynal scape without rim, constricted behind the lateral lobes; abdomen dark brown, midlongitudinally with chalk white band, margined with 4 pairs of sigillae

------- *theisi* (Walckenaer)

**Neoscona bengalensis** Tikader & Bal

(Figs. 578-583; Pl. XIX)


**Measurements** (♀): CL - 5.27, CW - 5.00, AL - 7.36, AW - 6.36, TL - 12.63.

**Interocular distance:** AME - AME= 0.59, ALE - AME= 1.05, ALE - ALE= 2.50, PME - PME= 0.50, PLE - PME= 1.05, PLE - PLE= 2.50, ALE - PLE= 0.23, AME - PME= 0.41

**Legs:** I 16.15 (3.57, 2.00, 4.43, 4.86, 1.29); II 15.71 (3.57, 1.86, 5.14, 4.00, 1.14); III 11.86 (3.29, 1.86, 2.86, 2.71, 1.14); IV 16.86 (3.86, 2.43, 4.43, 5.00, 1.14). Leg formula 4123.


**Distribution:** India: Assam, West Bengal (Tikader, 1982; Biswas & Biswas, 1992; Kundu & Raychaudhuri, 1997; Majumder, 2005; Roy *et al.*, 2009, 2010b; Sebastian & Peter, 2009; Sen *et al.*, 2009a; Platnick, 2013).
Neoscona bengalensis Tikader & Bal

578
579
580
581
582
583
**Neoscona chrysanthusi** Tikader & Bal

(Figs. 584-589; Pl. XX)


**Measurements** (♀): CL - 4.82, CW - 3.64, AL - 8.55, AW - 8.00, TL - 13.36.

**Interocular distance:** AME - AME = 0.45, ALE - AME = 0.91, ALE - ALE = 2.00, PME - PME = 0.32, PLE - PME = 1.00, PLE - PLE = 2.09, ALE - PLE = 0.18, AME - PME = 0.27

**Legs:** I 15.55 (2.22, 1.78, 4.44, 3.78, 1.33); II 14.67 (2.89, 2.00, 4.00, 4.22, 1.56); III 8.89 (3.33, 1.33, 1.56, 1.56, 1.11); IV 14.22 (4.00, 2.00, 3.33, 3.56, 1.33). Leg formula 2413.


**Distribution:** India: West Bengal; Bhutan (Tikader, 1982; Roy *et al.*, 2009; Platnick, 2013).

**Neoscona nautica** (L. Koch)

(Figs. 590-594; Pl. XX)


**Measurements** (♀): CL - 2.73, CW - 3.32, AL - 6.09, AW - 5.64, TL - 8.82.

**Interocular distance:** AME - AME = 0.45, ALE - AME = 0.50, ALE - ALE = 1.32, PME - PME = 0.23, PLE - PME = 0.59, PLE - PLE = 1.32, ALE - PLE = 0.18, AME - PME = 0.18

**Legs:** I 11.72 (2.00, 1.43, 3.29, 4.00, 1.00); II 10.14 (1.71, 1.14, 2.86, 3.43, 1.00); III 6.57 (1.57, 0.86, 1.57, 1.71, 0.86); IV 10.86 (2.71, 1.29, 2.86, 3.00, 1.00). Leg formula 1423.


**Distribution:** India: Assam, Gujarat, Madhya Pradesh, Maharashtra, Meghalaya, West Bengal; Burma, North America, Pakistan, Philippines (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Kundu & Raychaudhuri, 1997; Gajbe, 2004a; Saha & Raychaudhuri, 2004b; Majumder, 2007; Roy *et al.*, 2009; Sebastian & Peter, 2009; Platnick, 2013).

---

330
Neoscona chrysanthusi Tikader & Bal
Neoscona nautica (L. Koch)
Neoscona punctigera (Doleschall)


Interocular distance: AME - AME = 0.36, ALE - AME = 0.61, ALE - ALE = 1.46, PME - PME = 0.25, PLE - PME = 0.64, PLE - PLE = 1.50, ALE - PLE = 0.14, AME - PME = 0.18

Legs: I 10.86 (1.86, 1.43, 4.00, 2.43, 1.14); II 11.00 (1.86, 1.29, 3.71, 3.14, 1.00); III 6.44 (1.86, 0.86, 1.43, 0.86); IV 10.57 (2.14, 1.29, 3.00, 3.14, 1.00). Leg formula 2143.


Distribution: India: Gujarat, Maharashtra, West Bengal (New record); Austro-Malaysia, China, Japan, Reunion, South New Guinea (Tikader, 1982; Roy et al., 2010b; Platnick, 2013).

Neoscona yptinika Barrion & Litsinger

(1995, Riceland Spiders of South and Southeast Asia: 620.


Interocular distance: AME - AME = 0.31, ALE - AME = 0.59, ALE - ALE = 1.72, PME - PME = 0.18, PLE - PME = 0.81, PLE - PLE = 2.09, ALE - PLE = 0.11, AME - PME = 0.22

Legs: I 12.02 (3.18, 1.13, 3.54, 2.81, 1.36); II 10.88 (3.18, 1.18, 3.81, 3.81, 0.90); III 5.97 (1.90, 0.68, 1.31, 1.45, 0.63); IV 9.61 (3.18, 0.63, 2.45, 2.81, 0.54). Leg formula 1243.


Distribution: India: West Bengal; Philippines (Barrion & Litsinger, 1995; Roy et al., 2010b; Sen et al., 2011; Platnick, 2013).

Neoscona sinhagadensis (Tikader)

(Doleschall, 1857, Nat. Tijdschr. Neder.-Ind., 13: 420.)

Neoscona yptinika Barrion & Litsinger

(1995, Riceland Spiders of South and Southeast Asia: 620.


Interocular distance: AME - AME = 0.31, ALE - AME = 0.59, ALE - ALE = 1.72, PME - PME = 0.18, PLE - PME = 0.81, PLE - PLE = 2.09, ALE - PLE = 0.11, AME - PME = 0.22

Legs: I 12.02 (3.18, 1.13, 3.54, 2.81, 1.36); II 10.88 (3.18, 1.18, 3.81, 3.81, 0.90); III 5.97 (1.90, 0.68, 1.31, 1.45, 0.63); IV 9.61 (3.18, 0.63, 2.45, 2.81, 0.54). Leg formula 1243.


Distribution: India: West Bengal; Philippines (Barrion & Litsinger, 1995; Roy et al., 2010b; Sen et al., 2011; Platnick, 2013).


**Measurements** ($\varphi$): CL - 2.86, CW - 2.50, AL - 5.79, AW - 4.71, TL - 8.64.

**Interocular distance**: AME - AME = 0.29, ALE - AME = 0.43, ALE - ALE = 1.04, PME - PME = 0.21, PLE - PME = 0.46, PLE - PLE = 1.07, ALE - PLE = 0.11, AME - PME = 0.21

**Legs**: I 9.00 (2.71, 1.29, 2.71, 1.72, 0.57); II 9.00 (2.86, 1.57, 1.86, 2.00, 0.71); III 4.28 (1.14, 0.86, 1.14, 0.71, 0.43); IV 10.28 (3.14, 1.14, 2.43, 2.71, 0.86). Leg formula 41=23.


**Distribution**: India: Maharashtra, West Bengal; China (Tikader, 1982; Roy *et al.*, 2009; Platnick, 2013).

*Neoscona theisi* (Walckenaer)

(Figs. 613-618; Pl. XX)


**Measurements** ($\varphi$): CL - 2.79, CW - 2.64, AL - 4.79, AW - 3.86, TL - 7.57.

**Interocular distance**: AME - AME = 0.36, ALE - AME = 0.50, ALE - ALE = 1.21, PME - PME = 0.21, PLE - PME = 0.57, PLE - PLE = 1.25, ALE - PLE = 0.11, AME - PME = 0.18

**Legs**: I 12.57 (3.29, 1.43, 3.00, 3.71, 1.14); II 9.57 (1.86, 1.14, 2.71, 3.00, 0.86); III 6.43 (1.71, 1.00, 1.29, 1.57, 0.86); IV 12.29 (3.43, 1.43, 2.86, 3.57, 1.00). Leg formula 4123.


**Distribution**: India: Gujarat, Madhya Pradesh, Maharashtra, Orissa, West Bengal; China to Pacific Island, New Guinea (Tikader, 1982; Biswas & Biswas, 1992; Barrion & Litsinger, 1995; Kundu & Raychaudhuri, 1997; Gajbe, 2004a; Majumder, 2007; Roy *et al.*, 2009; Saikia & Baruah, 2009; Platnick, 2013).
Neoscona punctigera (Doleschall)
Neoscona yptinika Barrion & Litsinger
Neosconia sinhagadensis (Tikader)
Neoscona theisi (Walckenaer)
Genus: **Gibbaranea** Archer


**Diagnosis:** Cephalothorax broad, with clypeus height at most twice of anteromedian eye diameter. Medians on light brown elevation, posteromedians largest, encircled with black; laterals small, closely placed; ocular quad trapezoid. Distal promarginal tooth in male strongly developed. Femora in female with ventral spines. Abdominal shoulders elevated. Epigynal scape more or less firm, with tip slightly expanded. Median apophysis transverse, somewhat boat shaped, with stout, upcurved terminal spur. Embolus with very short spur alongside, conductor flap irregular.

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

**Distribution:** Oriental and Palearctic regions (Platnick, 2013).

**Gibbaranea indiana** sp. nov.

(Figs. 619-624; Pl. XX)

**Description:** Female (Holotype)

CL - 1.43, CW - 1.66, AL - 4.00, AW - 4.69, TL - 5.43. Cephalothorax (Fig. 619) pale brown, elongate oval, clothed with pale brown hairs; cephalic region yellow brown, globose, markedly raised, anteriorly produced, cervical furrows well marked by brown; thoracic region round, somewhat flat, fovea invisible, radii distinct. Eyes (Fig. 620) 8, homogenous, transparent, arranged in 2 rows, anterior strongly recurved, posterior weakly so with posteromedians largest and posterolaterals smallest, ocular quad trapezoid, weakly wider than long, posteriorly narrower, laterals close, eye diameter: PME > AME > ALE > PLE. Intercocular distances: AME – AME = 0.27, ALE – AME = 0.24, ALE – ALE = 0.70, PME – PME = 0.18, PLE – PME = 0.28, PLE – PLE = 0.73, ALE – PLE = 0.12, AME – PME = 0.15. Clypeus pale brown, more than anteromedian eye diameter, margins darker, clypeal angles obtuse. Chelicerae (Fig. 621) brown, moderately long with prominent boss, promargin with 4 and retromargin with 3 teeth; fang dark brown, curved, sharp and stout. Labium (Fig. 622) pale brown, cup shaped, distinctly wider than long, apically pale and scopulate. Maxillae (Fig. 622) pale brown, weakly wider than long, inner margin pale, scopulate. Sternum (Fig. 622) cordate, yellow brown, margins more yellow, lateral margins moderately indented at each coxal base, apical margins strongly concave, tip pointed, not produced, usually clothed with moderately long, pale brown, erect hairs. Legs long, stout, brown, clothed with pale brown, moderate hairs, tarsi with 2 superior, 1 inferior and many accessory claws, superior claws basally 3 pectinated, leg measurements: I 6.01 (0.82, 0.55, 2.18, 1.91, 0.55); II 6.29 (1.55,
Abdomen (Fig. 619) sub pentagonal, grey, entirely covered by white folium, this anteriorly at regions reticulate, distinctly wider than long, anteriorly slopped, overhanging the cephalothorax, posteriorly truncate beyond the spinnerets. Dorsum anterolaterally with 2 shoulder humps at the widest region, projected outwardly with distinct chalk white patch on it, a faint, transverse, chalk white line in between them; midlongitudinally with 4 pairs of dark brown, distinct sigillae in transverse rows, posterior pair smallest. Venter brown, anteriorly with silvery white specks, usually clothed with pale brown hairs.

Epigynum – Internal genitalia (Figs. 623 & 624): Epigynal scape thick, broad, v-shaped, spermatheca round, ferilisation duct short, projected anteriorly, parallel to each other, copulatory duct long, lateral to atrium, then invaginated and opens into the spermatheca.

Material examined: 1 ♀, STE, 12.IV.2010, coll. T. K. Roy

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

Etymology: The specific epithet is derived from the name of the country.

Remarks: The closest ally of the species is Gibbaranea bituberculata (Walckenaer, 1802) but can be separated by i) abdomen sub pentagonal, grey, entirely covered by white folium, distinctly wider than long (abdomen triangular, anteriorly dark brown, posteriorly pale, distinctly longer than wide in G. bituberculata); ii) sigillae on abdominal dorsum 4 pairs, dark brown, in transverse rows (sigillae 5-6 pairs in G. bituberculata); iii) epigynal scape thick, broad, v-shaped (scape small, thin and slender in G. bituberculata). Such differences appear to justify the erection of a new species. The species is therefore recognized as new to science.
Gibbaranea indiana sp. nov.
Genus: **Araneus** Clerck


**Diagnosis:** Cephalothorax moderately convex without homy outgrowths. Thoracic groove distinct, transverse in female but longitudinal in male. Ocular quad trapezoid, longer than wide; medians unequal; laterals close and usually situated on prominent tubercles; both rows recurved. Male with a hook in coxae I, a groove in femur II and tibiae II armed with prolateral spines. Abdomen broad, round or oval. Epigynum with prominent scape, either long and wrinkled or short and straight; copulatory openings situated in the groove at base. Male palp with a large terminal apophysis, palpal patella with 2 strong, long and curved spines; cymbium narrow and strip like.

**Type species:** *Araneus angulatus* Clerck, 1757.

**Distribution:** Cosmopolitan (Platnick, 2013).

*Araneus mitificus* (Simon) (Figs. 625-629; Pl. XX)


**Measurements** ($\varphi$): CL - 2.43, CW - 2.14, AL - 4.79, AW - 4.93, TL - 7.22.

**Interocular distance:** AME - AME = 0.39, ALE - AME = 0.29, ALE - ALE = 0.82, PME - PME = 0.25, PLE - PME = 0.32, PLE - PLE = 0.82, ALE - PLE = 0.11, AME - PME = 0.21

**Legs:** I 6.90 (1.78, 0.67, 2.00, 1.56, 0.89); II 6.67 (1.44, 0.56, 1.89, 1.89, 0.89); III 3.33 (0.78, 0.44, 0.78, 0.89, 0.44); IV 4.56 (1.00, 0.56, 1.33, 1.11, 0.56). Leg formula 1243.

*Araneus mitificus* (Simon)
Family: Deinopidae
Deinopis goalparaensis
Tikader & Malhotra ♀

Family: Uloboridae
Pseudocryptopus sp. nr. keraensis
Tikader ♀

Family: Eresidae
Suffusa sp. nr. keraensis
Sudhikumar et al. ♀

Family: Zodariidae
Iphloboms khasiensis
Tikader ♀

Family: Salticidae
Rhene decorata
Tikader ♀

Family: Salticidae
Stegodyphus sarasinorum
Karsch ♀
Asemonia lemipes (O. P.- Cambridge)
Myrmarachne orientalis Tikader
Myrmarachne platyaeoides (O. P.- Cambridge)
Cocalus murinus Simon

Family: Sparassidae

Phacaces fimbriatus Simon
Olios kirana Sethi & Tikader
Olios tener (Thorell)

Family: Thomisidae

Camaricus formosus Thorell
Thomisus andamanensis Tikader
Thomisus andamanensis Tikader

Ozyptila manli Tikader
Phrynarachne tuberosa (Blackwall)
Mastiga septemapodemata sp. nov.
Plate- XIV

Family: Gnaphosidae
- Epidius bazanis (Tikader) ♀

Family: Miturgidae
- Zelotes pseudopusillus (Caporiacco) ♀
- Cheiracanthium indicum (O. P.- Cambridge) ♀

Family: Clubionidae
- Cheiracanthium murinum (Thorell) ♀
- Cheiracanthium triviale (Thorell) ♀
- Cheiracanthium melanostomum (Thorell) ♀

Family: Hersiliidae
- Clubiona tridentata sp. nov. (Dankittipakul & Singtripop) ♀
- Clubiona rana (Barrion & Litsinger) ♀
- Hersilia savignyi (Lucas) ♀

Family: Oxyopidae
- Oxyopes shweta (Tikader) ♀
- Oxyopes matiensis (Barrion & Litsinger) ♀
- Oxyopes sitae (Tikader) ♀
Plate- XVI

Family: Theridiidae

Argyrodes gazedes Tikader
Chrysso angula (Tikader)
Theridion indicum Tikader
Theridion manjilhar Tikader
Achaearanea kudana Tikader
Achaearanea pumila Tikader & Malhotra

Family: Linyphiidae

Linyphia nicobarensis Tikader
Linyphia bilobata sp. nov.
Lephyphyphantes rudrai Tikader
Family: Tetragnathidae

- Tetragnatha javana (Thorell)
- Tetragnatha hasselli (Thorell)
- Tetragnatha ceylonica (O. P.-Cambridge)
- Tetragnatha maxillosa (Thorell)

Family: Nephilidae

- Leucauge decorata (Blackwall)
- Leucauge guangxiensis (Zhang & Zhang)

Family: Araneidae

- Geua subarmata (Thorell)
- Gasteracantha chalcedonica (Thorell)
- Gasteracantha kuhlii (C.L. Koch)

Plate XVII
Cyelosa krusa Barrion & Litsinger
Cyelosa moondhensis Tikader
Cyelosa bifida (Dolgschall)
Cyelosa mellemensis (Thorell)
Cyelosa quinqueguttata (Thorell)
Cyelosa spirifera Simon
Cyelosa hexaherentulata Tikader
Cyelosa neelensis Tikader
Cyelosa simoni Tikader
Parawixia dehaani (Dolgschall)
Neoscona bengalensis Tikader & Bal
Neoscona chrysanthes
Tikader & Bal

Neoscona nautica
(L. Koch)

Neoscona punctigem
(Dolcechall)

Neoscona yptinika
Barrion & Lasinger

Neoscona sirrhagadensis
(Tikader)

Neoscona ireisi
(Walckenaer)

Gibberanea indiana
sp. nov.

Araneus mitthus
(Simon)
8. DISTRIBUTION PATTERN

Table: 2 Distribution pattern of spider taxa recorded

<table>
<thead>
<tr>
<th>TAXA</th>
<th>TEA ESTATES</th>
<th>DISTRIBUTION</th>
<th>ZOOGEOGRAPHICAL</th>
<th>SEASONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STE</td>
<td>KTE</td>
<td>MTE</td>
<td>NTE</td>
</tr>
<tr>
<td>I. Family: Deinopidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <em>Deinopis goalparaensis</em> Tikader &amp; Malhotra ▲</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>II. Family: Uloboridae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. <em>Miagrammopes</em> sp. nr. <em>kirkeensis</em> Tikader ▲</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>3. <em>Uloborus khasiensis</em> Tikader ▲</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>4. <em>Uloborus danolus</em> Tikader ▲</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III. Family: Eresidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. <em>Stegodyphus sarasinorum</em> Karsch</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IV. Family: Zodariidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. <em>Suffasia</em> sp. nr. <em>keralensis</em> Sudhikumar <em>et al.</em> ▲</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

345
<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td><em>Rhene decorata</em> Tikader ▲</td>
<td>Maharashtra, West Bengal.</td>
</tr>
<tr>
<td>8</td>
<td><em>Rhene danielli</em> Tikader ▲</td>
<td>Maharashtra, West Bengal.</td>
</tr>
<tr>
<td>9</td>
<td><em>Moropisa decorata</em> Tikader ▲</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>10</td>
<td><em>Menemerus brevibulbis</em> (Thorell)</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>11</td>
<td><em>Thamia bhamoensis</em> (Thorell)</td>
<td>Kerala, West Bengal.</td>
</tr>
<tr>
<td>12</td>
<td><em>Eubrochius frontalis</em> (Walckenaer)</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>13</td>
<td><em>Siler semiglaucus</em> (Simon)</td>
<td>West Bengal, West Bengal India.</td>
</tr>
<tr>
<td>14</td>
<td><em>Haseria sp. nr. adami</em> (Audoisin)</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>15</td>
<td><em>Telamonia dimidiatia</em> (Simon)</td>
<td>West Bengal, West Bengal India.</td>
</tr>
<tr>
<td>16</td>
<td><em>Telamonia festiva</em> Thorell ▲</td>
<td>West Bengal, West Bengal India.</td>
</tr>
<tr>
<td>17</td>
<td><em>Evarcha flavocinta</em> (C. L. Koch)</td>
<td>Assam, West Bengal.</td>
</tr>
<tr>
<td>18</td>
<td><em>Hyllus semicupreus</em> (Simon)</td>
<td>Assam, West Bengal.</td>
</tr>
<tr>
<td>19</td>
<td><em>Plexippus paykullii</em> (Audouin)</td>
<td>Arunachal Pradesh, Manipur, West Bengal.</td>
</tr>
<tr>
<td>20</td>
<td><em>Carrhotus viduus</em> (C. L. Koch) *</td>
<td>Arunachal Pradesh, Manipur, West Bengal.</td>
</tr>
<tr>
<td>21</td>
<td><em>Phintella vittata</em> (C. L. Koch)</td>
<td>Assam, West Bengal.</td>
</tr>
<tr>
<td>No.</td>
<td>Species</td>
<td>Distribution</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>22</td>
<td><em>Epocilla aurantiaca</em> (Simon) ¥</td>
<td>Kerala, West Bengal.</td>
</tr>
<tr>
<td>23</td>
<td><em>Cheliceroides brevipalpis</em> sp. nov. *</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>24</td>
<td><em>Brettus albolimbatus</em> Simon</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>25</td>
<td><em>Asemonia tenuipes</em> (O. P.-Cambridge)</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>26</td>
<td><em>Myrmarachne orientalis</em> Tikader</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>27</td>
<td><em>Myrmarachne plataleoides</em> (O. P.-Cambridge)</td>
<td>Bihar, Maharashtra, Tamil Nadu, West Bengal.</td>
</tr>
<tr>
<td>28</td>
<td><em>Cocalus murinus</em> Simon Φ</td>
<td>West Bengal.</td>
</tr>
<tr>
<td>29</td>
<td><em>Phaeacius fimbriatus</em> Simon Φ</td>
<td>West Bengal.</td>
</tr>
<tr>
<td></td>
<td><strong>VI. Family: Sparassidae</strong></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td><em>Olios kirane</em> Sethi &amp; Tikader ▲</td>
<td>Gujarat, West Bengal.</td>
</tr>
<tr>
<td>31</td>
<td><em>Olios tener</em> (Thorell)</td>
<td>Bihar, Karnataka, Maharashtra, Tamil Nadu, West Bengal.</td>
</tr>
<tr>
<td></td>
<td><strong>VII. Family: Thomisidae</strong></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td><em>Camaricus formosus</em> Thorell</td>
<td>Andaman &amp; Nicobar Island, Arunachal Pradesh, Karnataka, Maharashtra, Manipur, Orissa, West Bengal.</td>
</tr>
<tr>
<td>33</td>
<td><em>Thomisus andamanensis</em> Tikader ▲</td>
<td>Andaman Island, West Bengal.</td>
</tr>
<tr>
<td>34</td>
<td><em>Ozyptila manii</em> Tikader ▲</td>
<td>West Bengal.</td>
</tr>
</tbody>
</table>

347
<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Distribution</th>
<th>Family</th>
<th>Subfamily</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.</td>
<td><em>Phrynarachne tuberosa</em> (Blackwall)</td>
<td>West Bengal.</td>
<td>OR</td>
<td>PrM, PsM</td>
</tr>
<tr>
<td>36.</td>
<td><em>Mastira septemapodemata</em> sp. nov.</td>
<td>West Bengal.</td>
<td>OR</td>
<td>PsM</td>
</tr>
<tr>
<td>37.</td>
<td><em>Epidius bazarus</em> (Tikader)</td>
<td>Sikkim, West Bengal.</td>
<td>OR</td>
<td>PsM</td>
</tr>
</tbody>
</table>

**VIII. Family:** Gnaphosidae

38. *Zelotes pseudopusillus* Caporiacco | Kashmir, West Bengal. | OR | PrM |

**IX. Family:** Miturgidae


40. *Cheiracanthium murinum* (Thorell) | Maharashtra, West Bengal. | OR | PrM |

41. *Cheiracanthium triviale* (Thorell) | Andhra Pradesh; Goa, Madhya Pradesh, Maharashtra, Manipur, Tamil Nadu, Uttar Pradesh, West Bengal. | OR | PrM, M, PsM |

42. *Cheiracanthium melanostomum* (Thorell) | Andaman & Nicobar Island, Bihar, Goa, Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Mysore, Rajasthan, Tamil Nadu, West Bengal. | OR | PrM, M, PsM |

**X. Family:** Clubionidae

43. *Clubiona tridentata* sp. nov. | West Bengal. | OR | PsM |

44. *Clubiona rama* Dankittipakul & Singtripop | West Bengal. | OR | PsM |
<table>
<thead>
<tr>
<th>XI. Family: Hersiliidae</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. Hersilia savignyi Lucas</td>
</tr>
<tr>
<td>OR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>XII. Family: Oxyopidae</th>
</tr>
</thead>
<tbody>
<tr>
<td>46. Oxyopes shweta Tikader</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>47. Oxyopes matiensis Barrion &amp; Litsinger</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>48. Oxyopes sitae Tikader</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>49. Oxyopes pandae Tikader</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>50. Oxyopes kamalae Gajbe</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>51. Oxyopes javanus Thorell</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>52. Hamataliwa reticulatus (Biswas et al.)</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>53. Hamadruas baruni sp. nov.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>54. Hamadruas sikkimensis (Tikader)</td>
</tr>
<tr>
<td>OR</td>
</tr>
</tbody>
</table>

349
### XIII. Family: Pisauridae

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Andaman Island, Sikkim, West Bengal.</td>
</tr>
</tbody>
</table>

### XIV. Family: Lycosidae

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Karnataka, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.</td>
</tr>
</tbody>
</table>

|     |     |     |     |     |     | Himachal Pradesh, Karnataka, West Bengal. |

|     |     |     |     |     |     | West Bengal. |

|     |     |     |     |     |     | Andaman & Nicobar Island, Andhra Pradesh, Arunachal Pradesh, Bihar, Gujrat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Rajasthan, Tamil Nadu, Tripura, West Bengal. |

|     |     |     |     |     |     | Andaman & Nicobar Island, Andhra Pradesh, Bihar, Gujrat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttaranchal, Uttar Pradesh, West Bengal. |

|     |     |     |     |     |     | Andhra Pradesh, Assam, Tamil Nadu, West Bengal. |

|     |     |     |     |     |     | Maharashtra, Orissa, West Bengal. |

|     |     |     |     |     |     | PrM, M, PsM |

|     |     |     |     |     |     | PrM, M, PsM |

|     |     |     |     |     |     | PrM |

|     |     |     |     |     |     | PrM |

|     |     |     |     |     |     | PrM, PsM |

|     |     |     |     |     |     | PrM, PsM |

350
<table>
<thead>
<tr>
<th></th>
<th>Lycosa shillongensis Tikader &amp; Malhotra ▲</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>+</th>
<th>-</th>
<th>-</th>
<th>Manipur, Meghalaya, West Bengal.</th>
<th>OR</th>
<th>PrM</th>
</tr>
</thead>
<tbody>
<tr>
<td>XV. Family: Theridiidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>Argyrodes gazedes Tikader □</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>Sikkim, West Bengal.</td>
<td>OR, PL</td>
<td>M, PsM</td>
</tr>
<tr>
<td>65.</td>
<td>Chrysso angula Tikader) ▲</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Sikkim, West Bengal.</td>
<td>OR</td>
<td>PrM, PsM</td>
</tr>
<tr>
<td>66.</td>
<td>Theridion indicum Tikader ▲</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Andaman &amp; Nicobar Island, West Bengal.</td>
<td>OR</td>
<td>M, PsM</td>
</tr>
<tr>
<td>67.</td>
<td>Theridion manjithar Tikader ▲</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>Sikkim, West Bengal.</td>
<td>OR</td>
<td>PrM, M</td>
</tr>
<tr>
<td>68.</td>
<td>Achaearanea budana Tikader □ ▲</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>Sikkim, West Bengal.</td>
<td>OR</td>
<td>PrM, PsM</td>
</tr>
<tr>
<td>69.</td>
<td>Achaearypea praca Barrion &amp; Litsinger □</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>West Bengal.</td>
<td>OR</td>
<td>M, PsM</td>
</tr>
<tr>
<td>XVI. Family: Linyphiidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70.</td>
<td>Linyphia nicobarensis Tikader ▲</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Nicobar Islands, West Bengal.</td>
<td>OR</td>
<td>M, PsM</td>
</tr>
<tr>
<td>71.</td>
<td>Linyphia bilobata sp. nov. *</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>West Bengal.</td>
<td>OR</td>
<td>PsM</td>
</tr>
<tr>
<td>72.</td>
<td>Lephthyphantes rudrai Tikader □ ▲</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Sikkim, West Bengal.</td>
<td>OR</td>
<td>PrM</td>
</tr>
<tr>
<td>XVII. Family: Tetragnathidae</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>Tetragnatha javana (Thorell)</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Bihar, Karnataka, Orissa, Tamil Nadu, West Bengal.</td>
<td>AS, ET, OR, PL</td>
<td>PrM, M, PsM</td>
</tr>
<tr>
<td>74.</td>
<td>Tetragnatha hasselti Thorell</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>West Bengal.</td>
<td>OR</td>
<td>M</td>
</tr>
<tr>
<td>75.</td>
<td>Tetragnatha ceylonica O. P.- Cambridge</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>West Bengal.</td>
<td>AS, ET, NA, OR, PL.</td>
<td>M</td>
</tr>
</tbody>
</table>

351
| 76. *Tetragnatha maxillosa* Thorell Ψ | - - - - - - + | West Bengal. | AS, ET, OR, PL | M |
| 77. *Guizygeilla guangxiensis* (Zhu & Zhang) Φ | - - - - - - - | West Bengal. | OR | PsM |
| 78. *Opadometra fastigata* (Simon) | - + + - - - + | Kerala, Orissa, Uttar Pradesh, West Bengal. | OR | PrM, M, PsM |
| 79. *Leucauge decorata* (Blackwall) | + + + + + + + | Assam, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Pondicherry, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal. | OR, PL | PrM, M, PsM |
| 80. *Leucauge pondae* Tikader ▲ | + + + + - + | Sikkim, West Bengal. | OR | PrM, M, PsM |

**XVIII. Family: Nephilidae**

| 81. *Herennia multipuncta* (Doleschall) Ψ | - + - - - - - + | Arunachal Pradesh, Assam, Goa, Meghalaya, Tamil Nadu, West Bengal. | AS, OR, PL | PrM, M |
| 82. *Nephila kuhlii* (Doleschall) | - - - - - - - | West Bengal. | OR | M, PsM |

**XIX. Family: Araneidae**

<p>| 83. <em>Gasteracantha diadesmia</em> Thorell | - - - - - - - | Andaman &amp; Nicobar Island, Assam, Sikkim, West Bengal. | OR | PrM |
| 84. <em>Gasteracantha kuhlii</em> C.L. Koch | + + + + + + + | Andaman &amp; Nicobar Island, Assam, Bihar, Kerala, Sikkim, West Bengal. | OR, PL | PrM, M, PsM |
| 85. <em>Gea subarmata</em> Thorell | - + - - + - - | Assam, Uttar Pradesh, West Bengal. | AS, OR | PrM, M, PsM |
| 86. <em>Argiope aemula</em> (Walckenaer) | + - - - - - - | Andaman &amp; Nicobar Island, Assam, Chhattisgarh, Gujarat, Madhya Pradesh, Maharashatra, Tamil Nadu, West Bengal. | AS, OR | PrM, PsM |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Distribution</th>
<th>Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.</td>
<td><em>Argiope pulchella</em> Thorell</td>
<td>Andaman &amp; Laccadive Islands, Assam, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, West Bengal.</td>
<td>OR PrM, M, PsM</td>
</tr>
<tr>
<td>88.</td>
<td><em>Cyrtarachne inequalis</em> Thorell</td>
<td>Andhra Pradesh, Assam, Madhya Pradesh, West Bengal.</td>
<td>OR, PL. PsM</td>
</tr>
<tr>
<td>89.</td>
<td><em>Cyrtarachne raniceps</em> Pocock</td>
<td>Karnataka, Orissa, West Bengal.</td>
<td>OR PrM, PsM</td>
</tr>
<tr>
<td>90.</td>
<td><em>Pasilobus kotigeharus</em> Tikader Ψ ▲</td>
<td>Assam, Karnataka, West Bengal.</td>
<td>OR PsM</td>
</tr>
<tr>
<td>91.</td>
<td><em>Eriovixia excelsa</em> (Simon)</td>
<td>Assam, Bihar, Gujarat, Maharashtra, West Bengal.</td>
<td>OR PrM, M, PsM</td>
</tr>
<tr>
<td>92.</td>
<td><em>Chorizapes quadrituberculata</em> sp. nov. *</td>
<td>West Bengal.</td>
<td>OR M, PsM</td>
</tr>
<tr>
<td>93.</td>
<td><em>Acusilas coccineus</em> Simon Φ</td>
<td>Assam (New Records), West Bengal.</td>
<td>OR PsM</td>
</tr>
<tr>
<td>94.</td>
<td><em>Cyrtophora bituberculata</em> sp. nov. *</td>
<td>West Bengal.</td>
<td>OR PsM</td>
</tr>
<tr>
<td>95.</td>
<td><em>Cyrtophora cicatrosa</em> (Stoliczka)</td>
<td>Andaman &amp; Nicobar Island, Assam, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.</td>
<td>AS OR PrM, M, PsM</td>
</tr>
<tr>
<td>96.</td>
<td><em>Cyrtophora exanthematica</em> (Doleschall) Φ</td>
<td>West Bengal.</td>
<td>AS, OR, PL PrM, M</td>
</tr>
<tr>
<td>97.</td>
<td><em>Cyclosa krusa</em> Barrion &amp; Litsinger Φ</td>
<td>West Bengal.</td>
<td>OR M, PsM</td>
</tr>
<tr>
<td>98.</td>
<td><em>Cyclosa moonduensis</em> Tikader ▼ ▲</td>
<td>Gujarat, Maharashtra, Madhya Pradesh, West Bengal.</td>
<td>OR PsM</td>
</tr>
<tr>
<td>99.</td>
<td><em>Cyclosa bifida</em> (Doleschall)</td>
<td>Assam, Sikkim, Meghalaya, West Bengal.</td>
<td>AS OR PrM, M, PsM</td>
</tr>
<tr>
<td>100.</td>
<td><em>Cyclosa mulmeinensis</em> (Thorell)</td>
<td>Assam, Maharashtra, West Bengal.</td>
<td>ET, OR, PL PrM, M, PsM</td>
</tr>
<tr>
<td>No.</td>
<td>Species</td>
<td>Distribution</td>
<td>Presence</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>101</td>
<td>Cyclosa quinqueguttata (Thorell)</td>
<td>Assam, Sikkim, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>102</td>
<td>Cyclosa spirifera Simon</td>
<td>Assam, Chhattisgarh, Madhya Pradesh, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>103</td>
<td>Cyclosa hexatuberculata Tikader</td>
<td>Assam, Maharashtra, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>104</td>
<td>Cyclosa neilensis Tikader ▲</td>
<td>Andaman Island, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>105</td>
<td>Cyclosa simoni Tikader ▼ ▲</td>
<td>Assam, Sikkim, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>106</td>
<td>Parawixia dehaani (Doleschall)</td>
<td>Assam, Karnataka, Sikkim, West Bengal.</td>
<td>AS, OR, PL</td>
</tr>
<tr>
<td>107</td>
<td>Neoscona bengalensis Tikader &amp; Bal ▲</td>
<td>Assam, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>108</td>
<td>Neoscona chrysanthusi Tikader &amp; Bal</td>
<td>West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>109</td>
<td>Neoscona nautica (L. Koch) ▲</td>
<td>Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>110</td>
<td>Neoscona punctigera (Doleschall)</td>
<td>West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>111</td>
<td>Neoscona yptina (Lithisnier)</td>
<td>West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>112</td>
<td>Neoscona sinzagadensis (Tikader)</td>
<td>Maharashtra, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>113</td>
<td>Neoscona theisi (Walckenaer)</td>
<td>Gujarat, Madhya Pradesh, Maharashtra, Orissa, West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>114</td>
<td>Gibbaranea indiana sp. nov.*</td>
<td>West Bengal.</td>
<td>OR</td>
</tr>
<tr>
<td>115</td>
<td>Araneus mitificus (Simon)</td>
<td>Assam, Chhattisgarh, Karnataka, Madhya Pradesh, Maharashtra, West Bengal.</td>
<td>AS, OR, PL</td>
</tr>
</tbody>
</table>

354
SPARASSIDAE (★) & THOMISIDAE (△)

Western Dooars

GNAPHOSIDAE (○) & MITURGIDAE (▲)

Western Dooars

Central Dooars

356
CLUBIONIDAE(★) & HERSILIDAE(△)

Western Dooars

Central Dooars

OXYOPIDAE(★) & PISAURIDAE(△)

Western Dooars

Central Dooars
LYCOSIDAE (△) & THERIDIIDAE (★)

Western Dooars

Central Dooars

LINYPHIDAE (★) & TETRAGNATHIDAE (★)

Western Dooars

Central Dooars
Nephilidae (★) & Araneidae (△)

Western Dooars

Central Dooars