

Pictorial Handbook on
Spiders of Sunderbans
West Bengal

S.C. MAJUMDER



ZOOLOGICAL SURVEY OF INDIA

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Spiders of Sunderbans
West Bengal

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INTRODUCTION

Sunderban is composed of a group of Islands comprising the area from the mouth of river Hoogly on the west and extends up to the river Meghna in the east covering from the districts North and South 24 Parganas within the Indian territory and Khulna and Barisal in Bangladesh. It lies between 21.0 and 21.20 North latitude 88.0 and 89.0 longitudes occupying an area of 9827 sq. km of which 4264 sq. km falls within the jurisdiction of India. The name Sunderban derives from the Sundari tree which is prominent in this area. Vegetation includes wet evergreen mangrove forest. The area is further divided into three zones :

- i) Inhabited zone
- ii) Buffer zone and
- iii) Core area.

Pioneering work on Indian spider by Tikader (1980 & 1982) describe only one species from Sunderban. Mondal & Nandi (1989) reported the occurrence of seven genera under four families without pointing any species level from Sunderban areas. Majumder & Tikader (1991) described one species and reported three species from Sunderban mangrove areas. Biswas & Biswas (1992) reported 17 species in 15 genera under seven families from this area. Biswas (1995) reported one species from Hugly Matla estuarine system. Majumder (2004) in his monumental works on Sunderban spider reported 108 species in 36 genera under 13 families from this area. Among them three species are new to science and 38 species are new record from this area. Majumder (2005) also described another four species from Sunderbans.

SYSTEMATIC LIST

Class ARACHNIDA

Order ARANEAE

Family ARANEIDAE

Genus *Araneus* Clerck

1. *A. mitifica* (Simon)
2. *A. bituberculata* (Walckenaer)
3. *A. anantnagensis* Tikader & Bal.
4. *A. nympha* Simon.

Genus *Argiope* Adouvin

5. *A. aemula* (Walckenaer)
6. *A. anasuja* Thorell
7. *A. arcuata* Simon
8. *A. kalimpongensis* Sinha
9. *A. pulchella* Thorell
10. *A. shillongensis* Sinha

Genus *Gasteracantha* Sundeval

11. *G. hasselti* C.L. Koch

Genus *Neoscona* Simon

12. *N. excelsus* Simon
13. *N. muckerjei* Tikader
14. *N. theis* (Walckenaer)
15. *N. shillongensis* Tikader & Bal
16. *N. nautica* (L. Koch)
17. *N. pavidata* Simon
18. *N. rumpfi* Thorell
19. *N. molemensis* Tikader & Bal
20. *N. elliptica* Tikader & Bal
21. *N. lugubris* (Walckenaer)

Genus *Larinia* Simon

22. *L. phtisica* (L. Koch)

Genus *Parawixia* F.O.P. Cambridge

23. *P. dehaanii* (Doleschall)

Genus *Leucauge white*

24. *L. decorata* (Blackwall)
25. *L. tessellata* (Thorell)

Genus *Cyrtophora* Simon

26. *C. cicatrosa* (Stoliczka)
27. *C. bidenta* Tikader

Genus *Poltys* C.L. Koch

28. *P. nagpurensis* Tikader

Genus *Zygeilla* O.P. Cambridge

29. *Z. melanocrania* (Thorell)

Genus *Singa* Koch

30. *S. chota* Tikader

Family CLUBIONIDAE

Genus *Clubiona* Latreille

31. *C. drassodes* Cambridge
32. *C. filicata* Cambridge

Genus *Cheiracanthium* Koch

33. *C. trivialis* Thorell
34. *C. melanostoma* Thorell
35. *C. himalyensis* Gravely
36. *C. mysorensis* Majumder & Tikader

Genus *Castianeira* Keyserling

37. *C. himalayensis* Gravely
38. *C. tinae* Patel & Patel

Family ERESIDAE

Genus *Stegodyphus* Simon

39. *S. sarasinorum* Karsch

Family GNAPHOSIDAE

Genus *Poecilochora* Westring

40. *P. barmani* Tikader

Genus *Scopodes* Chamberlin

41. *S. kuljitae* Tikader

Family HERSILIDAE

Genus *Hersilia* Audouin

42. *H. savignyi* Lucas

Family HETEROPODIDAE

Genus *Heteropoda* Latreille

43. *H. sikkimensis* Gravely
44. *H. venatoria* Linnaeus

Genus *Spariolenus* Simon

45. *S. petricola* Gravely
46. *S. tigris* Simon

Family LYCOSIDAE

Genus *Arctosa* Koch

47. *A. mulani* (Dyal)
48. *A. indicus* Tikader & Malhotra
49. *A. himalayensis* Tikader & Malhotra
50. *A. khudiensis* (Sinha)
51. *A. sandeshkhaliensis* Majumder

Genus *Hippasa* Simon

52. *H. greenalliae* (Blackwall)
53. *H. holmerae* Thorell
54. *H. partita* (Cambridge)
55. *H. olivacea* (Thorell)

Genus *Trochosa* Koch

56. *T. punctipes* (Gravely)

Genus *Flanona* Simon

57. *F. puellula* Simon

Genus *Ocyale* Audouin

58. *O. atalanta* Audouin

Genus *Lycosa* Latreille

59. *L. chaperi* Simon
60. *L. kempi* Gravely
61. *L. choudhuryi* Tikader & Malhotra
62. *L. poonaensis* Tikader
63. *L. masteri* Pocock
64. *L. mackenziei* Gravely
65. *L. mahabaleshwariensis* Tikader & Malhotra
66. *L. himalayensis* Tikader
67. *L. pictula* Pocock
68. *L. tista* Tikader

69. *L. shillongensis* Tikader & Malhotra

Genus *Pardosa* Koch

70. *P. annandalei* (Gravely)
 71. *P. atropalpis* Gravely
 72. *P. birmanica* Simon
 73. *P. burasantiensis* Tikader & Malhotra
 74. *P. chambaensis* Tikader & Malhotra
 75. *P. heterophthalmus* (Simon)
 76. *P. kupupa* (Tikader)
 77. *P. lencopalpis* Gravely
 78. *P. minutus* Tikader & Malhotra
 79. *P. oakleyi* Gravely
 80. *P. rhenockensis* (Tikader)
 81. *P. songosa* Tikader & Malhotra
 82. *P. shyamae* (Tikader)
 83. *P. sumatrana* Thorell
 84. *P. alii* Tikader
 85. *P. mysorensis* (Tikader & Malhotra)
 86. *P. sutherlandi* (Gravely)
 87. *P. amkhasensis* Tikader & Malhotra
 88. *P. suchimitae* Majumder
 89. *P. debolinae* Majumder

Family OXYOPIDAE

Genus *Oxyopes* Latrille

90. *O. sakuntalae* Tikader
 91. *O. shweta* Tikader
 92. *O. sitae* Tikader
 93. *O. reddyi* Majumder
 94. *O. ratnae* Tikader
 95. *O. sunandae* Tikader
 96. *O. sikkimensis* Tikader
 97. *O. panda* Tikader
 98. *P. latikae* Tikader

Family SALTICIDAE

Genus *Marpisa* Koch

99. *M. calcuttaensis* Tikader
100. *M. bengalensis* Tikader
101. *M. decorata* Tikader
102. *M. dhakuriensis* Tikader
103. *M. dayapurensis* Majumder
104. *M. lakshimikantapurensis* Majumder
105. *M. andamanensis* Tikader
106. *M. gangasagarensis* Majumder

Genus *Phidippus* Koch

107. *P. bengalensis* Tikader
108. *P. pateli* Tikader
109. *P. indicus* Tikader

Genus *Plexippus* Koch

110. *P. paykullii* (Audouin)

Genus *Myrmarachne* Maclev

111. *M. orientalis* Tikader

Family TETRAGNATHIDAE

Genus *Tetragntha* Latreille

112. *T. andamanensis* Tikader

Family THOMISIDAE

Genus *Camaricus* Thorell

113. *C. formosus* Thorell

Family THERIDIIDAE

Genus *Theridion* Walckenaer

114. *T. indica* Tikader

Family ULOBORIDA

Genus *Uloborus* Latreille

115. *U. danolius* Tikader

Key to the Families

1. Epigastric furrow nearly straight; boss present on chelicerae though rudimentary in some cases. (True orb-weavers); chelicerae not very large ARANEIDAE
 - Epigastric furrow not nearly straight; boss not present on chelicerae. Chelicerae large (2)
2. Anterior spinnerets conical, contiguous; maxillae without an transverse or oblique depression; eyes homogeneous or almost so (With few exception) CLUBIONIDAE
 - Anterior spinnerets not conical and contiguous; maxillae with an transverse or oblique depression; eyes not homogenous or almost so (3)
3. Head region large, rounded, high, posterior lateral eyes remote from the rest .. ERESIDAE
 - Head region not large, rounded and high; posterior lateral eyes not remote from the rest (4)
4. Anterior spinnerets cylindrical and separated by a distance about equal to the diameter of one; maxillae with an oblique depression; eyes distinctly heterogenous, the anterior median dark; the posterior median often oblique, oval or triangular GNAPHOSIDAE
 - Anterior spinnerets not cylindrical and not separated by a distance about equal to the diameter of one. Maxillae without an oblique depression. Eyes not distinctly heterogeneous, the anterior median not dark; the postrior medians not oblique, oval or triangular (5)
5. Posterior spinnerets enormously long, usually longer than the abdomen HERSILIDAE
 - Posterior spinnerets not enormously long, usually not longer than the abdomen (6)
6. Cephalothorax as long as wide; posterior row of eyes recurved, anterior row straight or procurved, lateral eyes larger; apex of metatarsus without a soft trilobate membrane HETEROPODIDA
 - Cephalothorax not as long as wide; apex of metatarsus with a soft trilobate membrane (7)

7. Posterior row of eyes so strongly recurved that it may be considered to form two rows; median claw smooth or with a single tooth; anterior piece of lorum rounded behind and fitting into a notch of the posterior piece; egg sac carried attached to spinnerets and young carried on mothers back LYCOSIDAE
- Posterior row of eyes not strongly recurved, median claw not smooth; anterior piece of lorum not rounded behind; egg sac not carried by mother..... (8)
8. Eyes group hexagonal the posterior row procurved and anterior row recurved with clypeus high. Abdomen pointed behind, the legs provided with conspicuous spines OXYOPIDAE
- Eyes group not hexagonal, the posterior row not procurved; the anterior row may or may not recurved without high clypeus; abdomen not pointed behind, the legs with or without conspicuous spines (9)
9. Front row of eyes more or less vertical face; median eyes enormously large, second row of eyes very small, often minute, third row of two eyes of medium size SALTICIDAE
- Front row of eyes not vertical face; medium eyes not enormously large; eyes only two rows (10)
10. Epigastric furrow between lung slits procurved. No boss on chelicerae; in most cases the chelicerae are large and powerful TETRAGNATHIDAE
- Epigastric furrow between lung slit not procurved; boss present on the chelicerae. Chelicerae are not large and powerful in most cases (11)
11. Colulus absent; retromargin of the chelical fang furrow smooth THOMISIDAE
- Colulus present. Retromargin of the chelical fang furrow not smooth (12)
12. Tarsus IV usually provided with a ventral row of 6 to 10 serrated bristles forming a comb, for at least one sixth length from the distal end; this may be poorly developed in males THERIDIIDAE
- Tarsus IV not provided with a ventral row of 6 to 10 serrated bristles forming a comb (13)
13. Eyes eight, homogeneous, dark, both rows recurved. Metatarsus IV compressed concave above. ULOBORIDAE

Family ARANEIDAE

Key to the genera

1. Thoracic groove transverse; epigyne with distinct scape, often wrinkled, not provided with lateral lobes *Araneus*
- Thoracic groove not transverse; epigyne without distinct scape and with lateral lobes (2)
2. Eyes of the anterior row not evenly spaced or median closer to each other than to laterals *Argiope*
- Eyes of the anterior row evenly spaced or median not close to each other than laterals (3)
3. Spinnerets situated on an elevated circular space surrounded by a thick flange in the form of a ring. *Gasteracantha*
- Spinnerets not situated on an elevated circular space surrounded by a thick flange in the form of a ring (4)
4. Thoracic groove longitudinal, epigyne with uncrinkled scape and provided with one or two pairs of lateral lobes *Neoscona*
- Thoracic groove not longitudinal, epigyne without uncrinkled scape and without lateral lobes (5)
5. Abdomen a little pointed mid-longitudinally over the carapace and without caudal projection (ventral side of the abdomen with a white median longitudinal band formed by a black) *Larinia*
- Ventral side of the abdomen not provided with median longitudinal band which formed by black (6)
6. Carapace with cephalic region bulging behind the ocular area, provided with granules; anterior row of eyes procurved; epigyne with short beak like scape *Parawixia*
- Carapace with cephalic region not bulging and no granules; anterior row of eyes recurved; epigyne may or may not present with scape; when present, not beak like (7)
7. Femora IV with a double fringe of hair on the prolateral surface of the basal half *Leucauge*

- Femora IV without a double fringe of hair on the prolateral surface of the basal half (8)
- 8. Abdomen anteriorly very high and provided with at least one pair shoulder humps ***Cyrtophora***
- Abdomen anteriorly not very high and without one pair of shoulder humps (9)
- 9. Carapace provided with convex and elevated cephalic region; abdomen three times longer than wide ***Nephila***
- Carapace not provided with convex and elevated cephalic region; abdomen not three times longer than wide (10)
- 10. Ocular quadrate on a distinct projection from the cephalic region ***Polys***
- Ocular quadrate not on a distinct projection from the cephalic region (11)
- 11. Dorsum of the abdomen provided with distinct folium and the thoracic region with few hair ***Zygeilla***
- Dorsum of the abdomen without distinct folium cephalic region with more hairs ***Singa***

Genus 1. ***Araneus*** Clerck

Type species : ***Araneus angulatus*** Clerck

Distribution : Cosmopolitan

Key to the species

1. Maxillae square in shape, labium longer than wide ***A. mitifica***
- Maxillae not square in shape, labium wider than long (2)
2. Epigyne without basal lamillae, Epigynal scope short and wrinkled..... (3)
3. Abdomen globular in shape, wider than long, dorsum provided with 6 pairs of segillae ***A. anatnagensis***
- Abdomen oval in shape, longer than wide, dorsum provided with 4 pairs of sigillae (4)
4. Cephalic region not elevated in the middle and not forming a ridge just behind the ocular area ***A. nympa***

SYSTEMATIC ACCOUNT

Family ARANEIDAE

Genus *Araneus* Clerck

1. *Araneus mitifica* (Simon)

Habit and Habitat : This species is found throughout the mangrove and semimangrove bushes of Sunderban. They spin webs in an vertical plane. Generally these species produce threads. They prepare webs from the considerable height above the ground. Preyed on small insects intangled by their nets.

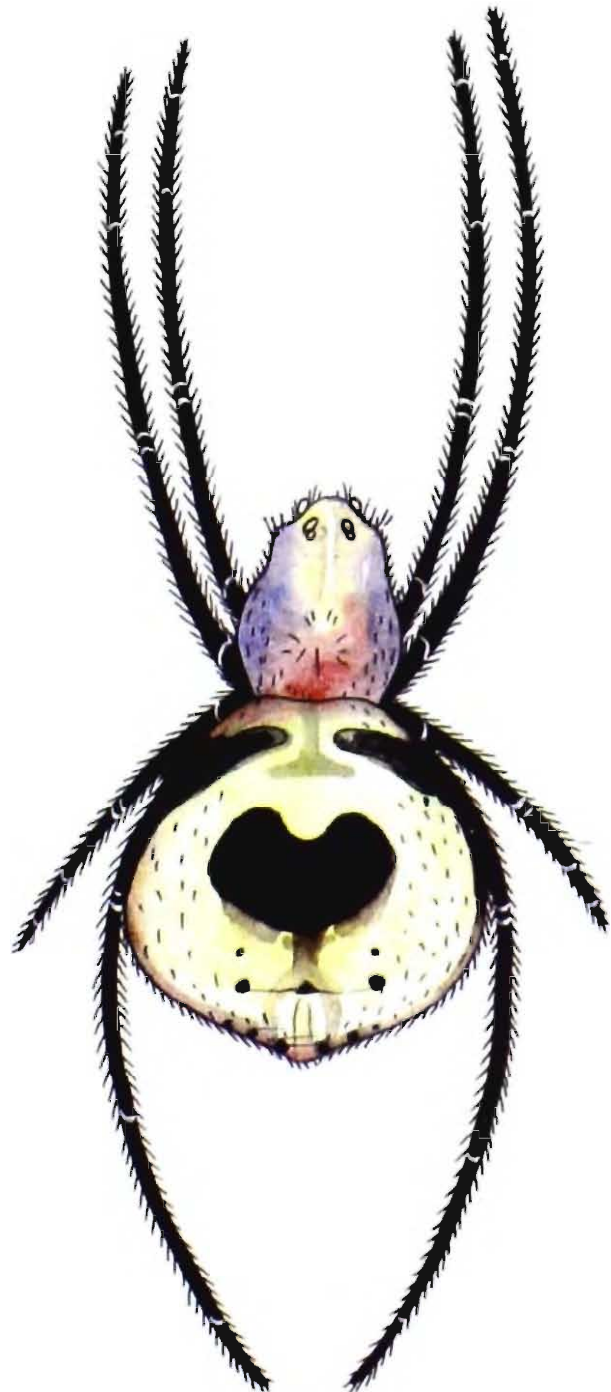
Diagnostic characters : Cephalothorax yellowish, thoracic region provided with indistinct transverse groove. Both the eyes recurved. Lateral eyes close and each situated on black tubercle. Chelicerae strong, provided with moderate boss. Maxillae square in shape labium longer than wide. Legs long and moderately strong. Abdomen nearly globular but slightly narrow anterior than posterior.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, North 24 Parganas), Jalpaiguri, Nadia; Maharashtra; Karnataka.

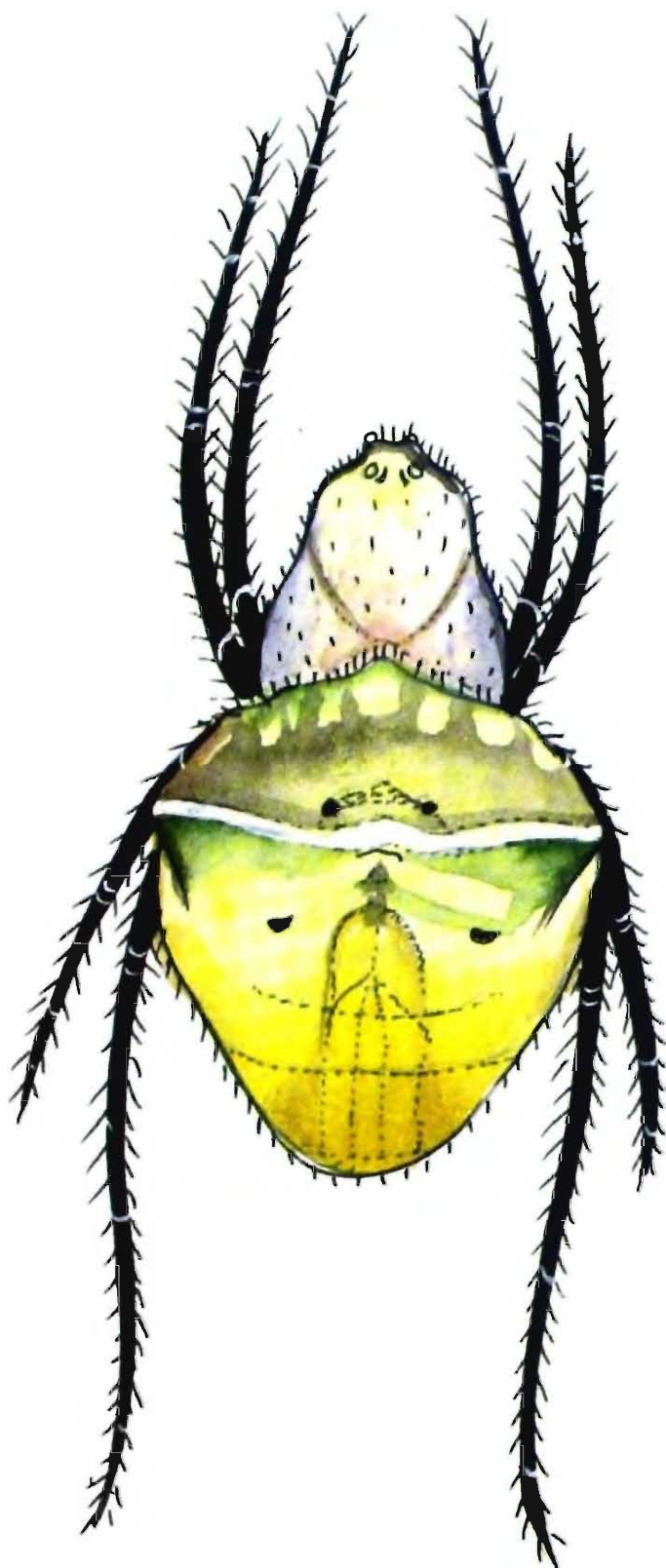
Elsewhere : Pakistan, Myanmar.

Common Name : Orb-weaving spider.

Economic importance : Acts as a controlling agent of various kinds of harmful insects in the crop fields.



2. *Araneus bitiberculata* (Walckenaer)



Habit and Habitat : They are also found in mangrove and semimangrove bushes of Sunderban, spin webs amongst bushes and small shrubs. They also prepare webs in an vertical plane. Preyed on small insects entangled by their nets.

Diagnostic characters : Cephalothorax light brown, thoracic region provided with a conspicuous transverse groove. Both the rows of eyes recurved, median eyes sub-equal in size; lateral eyes also sub-equal in size, close and situated on black tubercles. Chelicerae moderately strong, having median boss. Legs long and strong. Abdomen triangular in shape, longer than wide. Dorsum provided with two prominent shoulder humps and a transverse chalk white bands. Epigyne provided with basal lamellae. Dorsum provided with 6 pairs of sigilla.

Distribution : India : West Bengal : Sunderban area (Namkhana, Dist. South 24 Parganas); Himachal Pradesh.

Common name : Orb-weaving spider

Economic importance : Acts as a predator of insect pest in the vegetable and flower garden.

3. *Araneus anantnagensis* Tikader & Bal

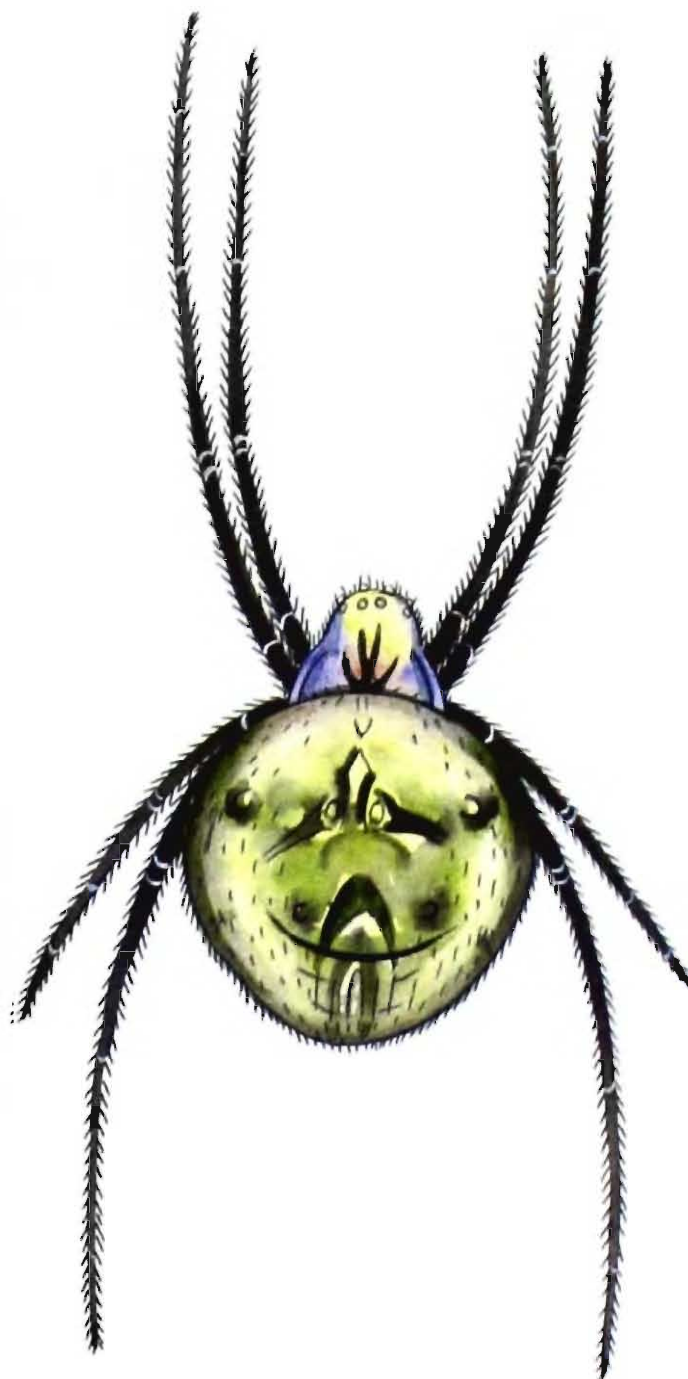
Habit and Habitat : They are also found in the mangrove and semimangrove areas of Sunderban. They also prepare medium size of webs amongst small trees and Mangrove bushes. Occasionally they are also found to prepare webs in bamboo trees. They spin webs in an vertical plane, preys small insects intangled by their webs.

Diagnostic characters : Cephalothorax light brown in colour, longer than wide narrowing in front, thoracic region provided with transverse groove. Both the rows of eyes recurved, anterior median eyes smaller than the posterior medians. Lateral eyes close and each situated on a tubercle. Chelicerae strong, with inconspicuous boss. Legs long and strong. Abdomen globular in shape, longer than wide; dorsum provided with some dirty chalk white and light brown patches. Epigynal scape long and wrinkled, epigyne provided with basal lamellae.

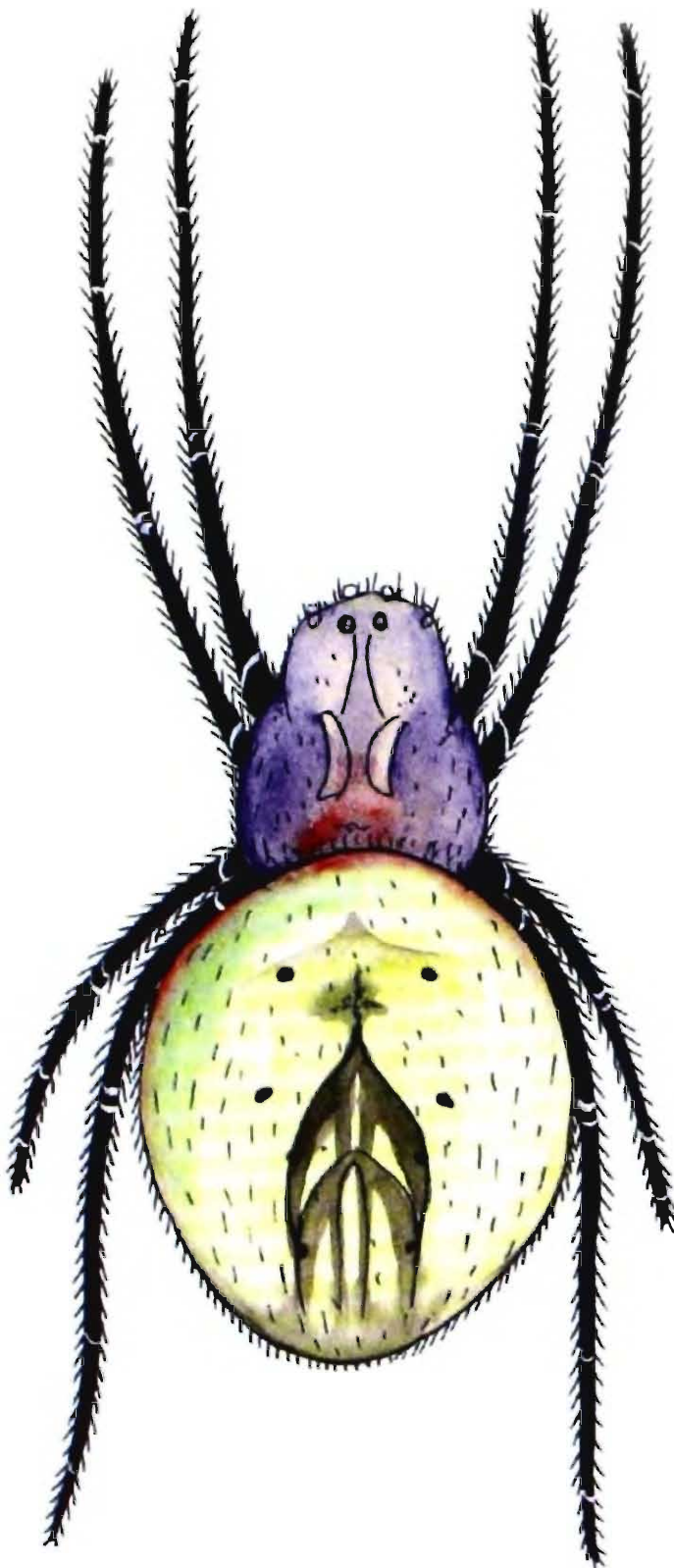
Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas); Maharashtra.

Common name : Orb-weaving spider.

Economic Importance : Acts as a predator of various types of insect pest in the fields.



4. *Araneus nympha* Simon



Habit & Habitat : They are medium in size, also found in the mangrove and semimangrove areas of Sunderban. They also prepare their nets by the support of 2 to 3 adjacent twigs amongst bushes and small gardens. Spin webs in an vertical plane considerable height above the ground, preyed on small insects entangled by their nets.

Diagnostic characters : Cephalothorax brownish yellow, cephalic region provided with X shaped patches, thoracic region provided with indistinct transverse groove. Both the rows of eyes recurved, lateral eyes close and each situated on a tubercle. Chelicerae moderately strong, provided with median boss. Legs moderately long and thin. Abdomen oval in shape, longer than wide provided with four pair of sigilla.

Distribution : India : West Bengal : Sunderban area (Namkhana, Gosaba, Dist. South 24 Parganas); Himachal Pradesh; Uttar Pradesh.

Elsewhere : Pakistan.

Common name : Orb-weaving spider.

Economic : Acts as a controlling agent of insect pest in the crop fields.

Genus *Argiope* Audoun

Type species : *Argiope lobata* (Thorell).

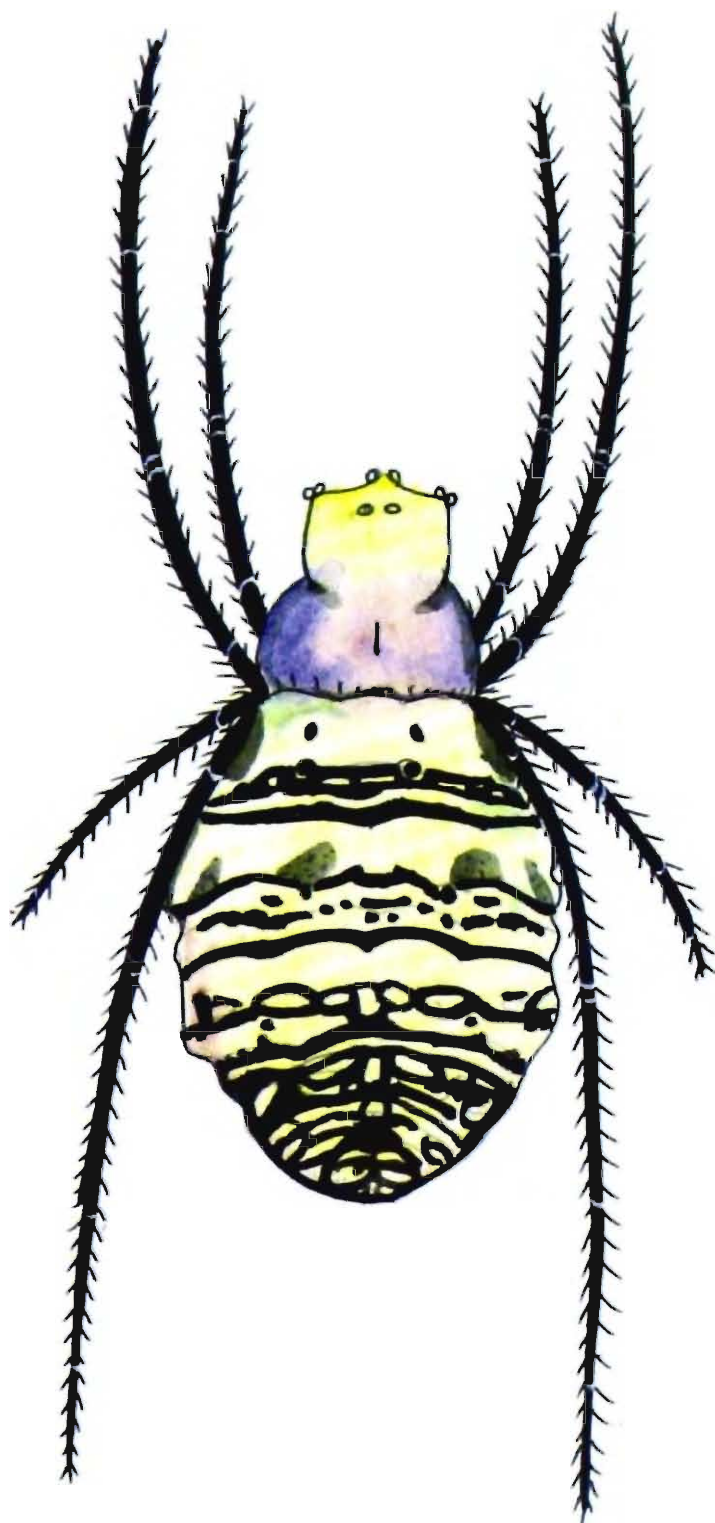
Distribution : Tropical and temperate countries of the world.

Key to the species

1. Abdomen broadly oval and conspicuously truncated anteriorly, dorsum provided with black transverse strips and forming a network on the posterior half.....
..... *A. aemula*
- Abdomen not oval and not truncated anteriorly; dorsum not provided with black transverse strips and network on the posterior half (2)
2. Anterior edge of the epigyne provided with a broad and conspicuous lip; median epigynal septum abruptly wide posteriorly *A. anasuja*
- Anterior edge of the epigyne provided with very thin wall and inconspicuous lip; median epigynal septum gradually wider posteriorly (3)
3. Three pairs of conspicuous lateral lobes on the abdomen; epigyne not provided with any rim and median epigynal septum *A. arcuata*
- There is no lateral lobes on the abdomen; epigyne provided with rim and median thick epigynal septum (4)
4. Abdomen broadest at the middle; median epigynal septum very broad
..... *A. kalimpongensis*
- Abdomen broadest more posteriorly than middle, median epigynal not more broad.
..... (5)
5. Labium as long as wide maxillae roundish in shape dark brown of the proximal part *A. pulchella*
- Labium wider than long, maxillae not roundish in shape not dark brown at the proximal part (6)
6. Cephalothorax and legs light brownish in colour abdomen not anteriorly blunt, dorsum without yellowish patches *A. shillongensis*

5. *Argiope aemula* (Walckenaer)

Habit and Habitat : This species is the true orb-weaving spider. They are beautifully coloured on the dorsal side. They inhabit in the mangrove bushes by constructing a net web often suspended between two adjoining bushes of low growing plants. They catch small and medium size of insects intangled by their nets.



Diagnostic characters : Cephalothorax longer than wide yellowish brown in colour, narrowing in front. Anterior and posterior median eyes subequal in size, lateral eyes are close, both situated on a prominent tubercle. Chelicerae small and weak provided with rudimentary boss. Abdomen broadly oval, longer than wide. Legs long and strong. Abdomen broadly oval, longer than wide, overlapping anteriorly on the cephalothorax. Dorsum provided with black transverse strips and forming a network on the posterior half.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Kulpi, Gosaba, Mandirbazar, Dist. North and South 24 Parganas), Darjeeling; Gujarat; Tamil Nadu; Maharashtra; Andaman & Nicobar Island.

Elsewhere : Myanmar, Sri Lanka, Austro-Malayasia.

Common name : Orb-weaving spider.

Economic importance : Acts as a controlling agent of various kinds of insect pest in the crop-fields.

6. *Argiope anasuja* Thorell

Habit and Habitat : Medium sized spider, they prefer to inhabit through mangrove herb and small trees. They prepare medium sized geometrical webs in vertical plane a considerable height above the ground. Typically the web is strengthened by preparing the X-shaped stabilimentum due to which they are known as Signature spider keep facing towards ground. They feed on smaller to medium sized insects catching by their nets.

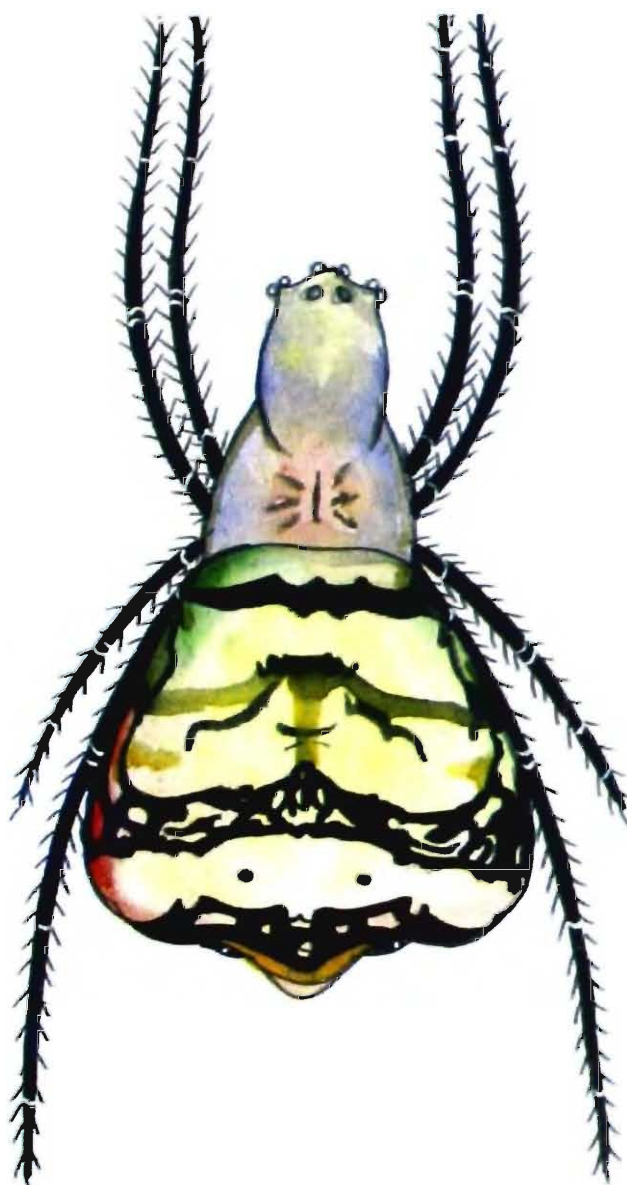
Diagnostic characters : Cephalothorax slightly longer than wide, narrowing in front, greyish brown in colour, cephalic region slightly elevated than the thoracic region. Anterior and posterior row of eyes procurved. Chelicerae small and weak provided with inconspicuous boss. Legs long and spined. Abdomen oval, truncated in front and partly overlapping cephalothorax. Dorsum provided with chalk white transverse brown bands and three pairs of distinct sigilla. Epigyne roughly triangular.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Gosaba, Mandir bazar, Kulpi, Dist. South 24 Parganas; Sandeshkhali, Dist. North 24 Parganas), Kochbihar; Tamil Nadu; Karnataka; Maharashtra; Orissa.

Elsewhere : Sri Lanka and Pakistan.

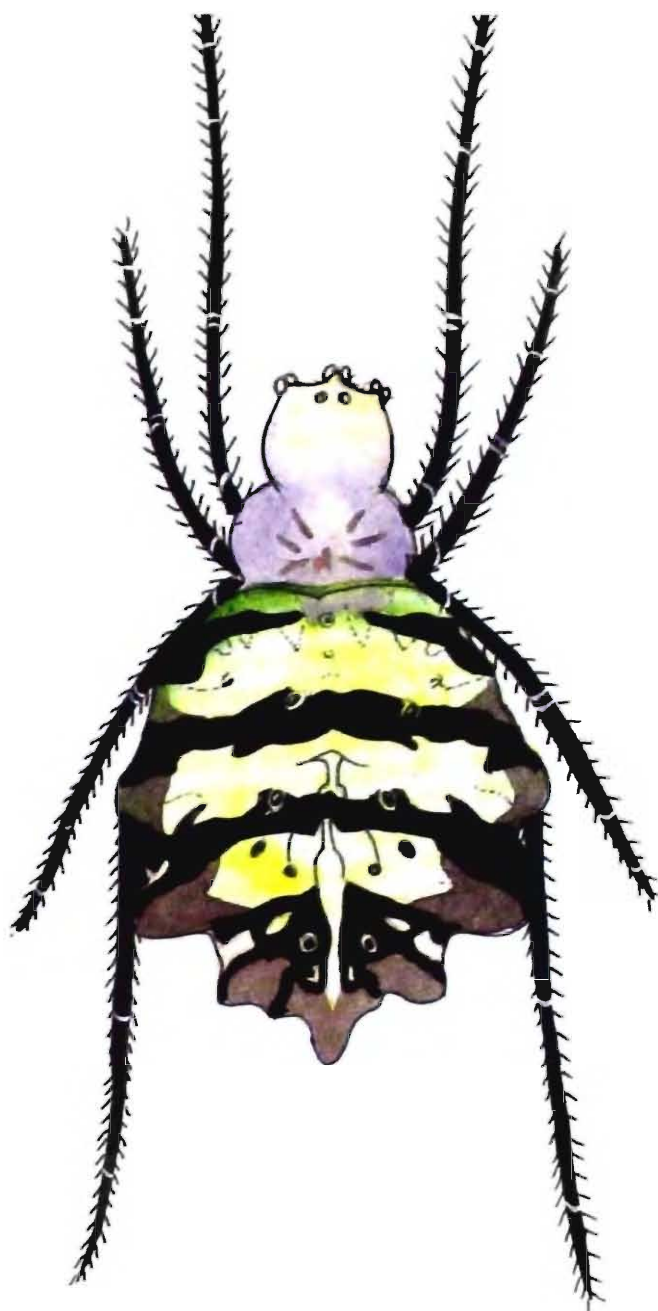
Common name : Signature orb-weaving spider

Economic importance : Acts as a predator of insect pest in the crop-fields.



7. *Argiope arcuata* Simon

Habit and Habitat : They are the true orb-weaving spiders inhabit in between true mangrove and semimangrove bushes. They are occasionally found to prepare the webs adjoining small trees near the human habitation. The webs are provided with whitish X-shaped ribbon like structure. Small insects are intangled by their nets.



Diagnostic characters : Cephalothorax longer than wide, narrowing in front, cephalic region slightly elevated than the thoracic region Eyes sub-equal in size; anterior row of eyes procurved, anterior lateral smaller than the posterior laterals, ocular quad much longer than wide and slightly wider behind than in front. Chelicerae small and weak, provided with rudimentary boss. Legs long and strong, Abdomen broadly oval truncated in front, longer than wide, overlapping anteriorly on the cephalothorax. Dorsum grayish white, with transverse black patches. Ventral side dirty brown in colour provided with U-shaped yellowish patches extending from epigastric furrow to beyond the spinnerets.

Distribution : India : West Bengal : Sunderban area (Kulpi, Sagar Island, Dist. South 24 Parganas); Bihar; Karnataka; Maharashtra; Madhya Pradesh; Tamil Nadu; Rajasthan.

Elsewhere : Myanmar.

Common name : Orb-weaving spider.

Economic importance : Acts as a predator of various kinds of insect pest in the crop-fields.

8. *Argiope kalimpongensis* Sinha

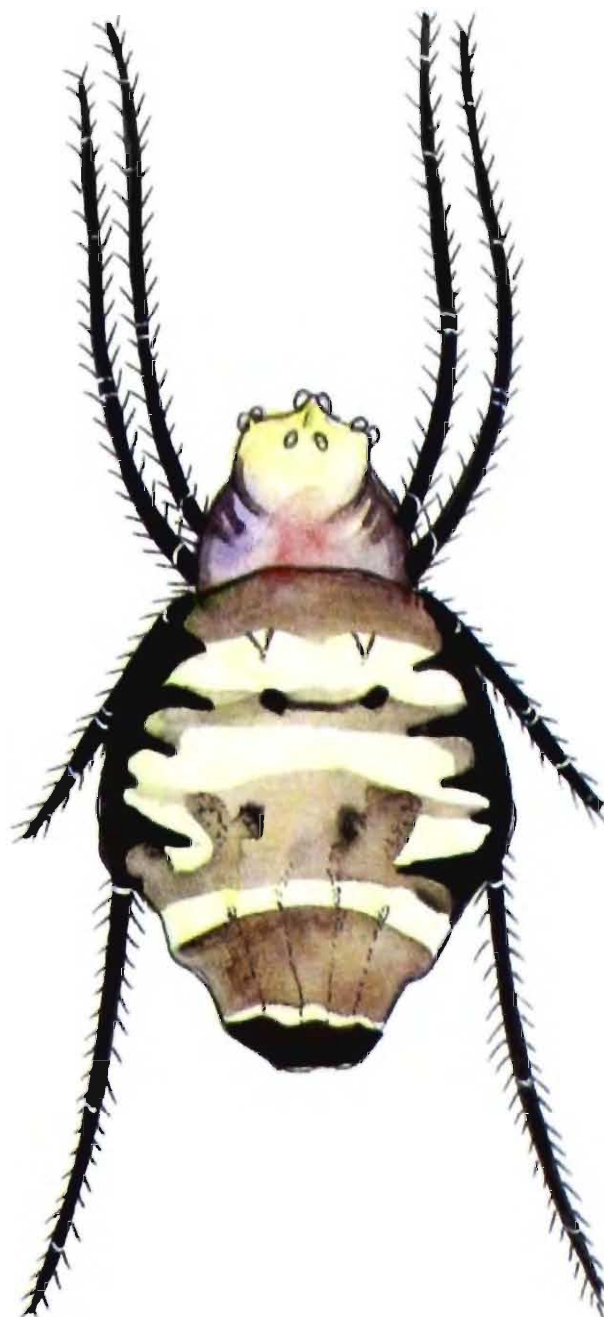
Habit and Habitat : These spiders medium in size, inhabit in the mangrove and semimangrove bushes and in the small trees. They never found on the ground. They inhabit among the larger trees to small bushes. They prepare their webs in the similar manner to the other group of araneid spiders. The webs are provided with X-shaped ribbon like structure at the centre where the spider hang vertically head downwards. Feeds on smaller to medium size of insects entangled by their nets.

Diagnostic characters : Cephalothorax longer than wide reddish brown in colour, cephalic region slightly elevated. Anterior row of eyes procurved, both the median eyes sub-equal in size, posterior medians encircled by black rings. Chelicerae small and weak, provided with inconspicuous boss. Abdomen pentagonal, truncated broadly in front and moderately overlapping on the cephalothorax; dorsum provided with yellow, brown and dark brown transverse bands and patches.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Sagar Island, Kakdwip, Kulpi, Dist. South 24 Parganas; Hingalgunj, North 24 Parganas), Kalimpong, Darjeeling; Assam and Sikkim.

Common name : Orb-weaving spider.

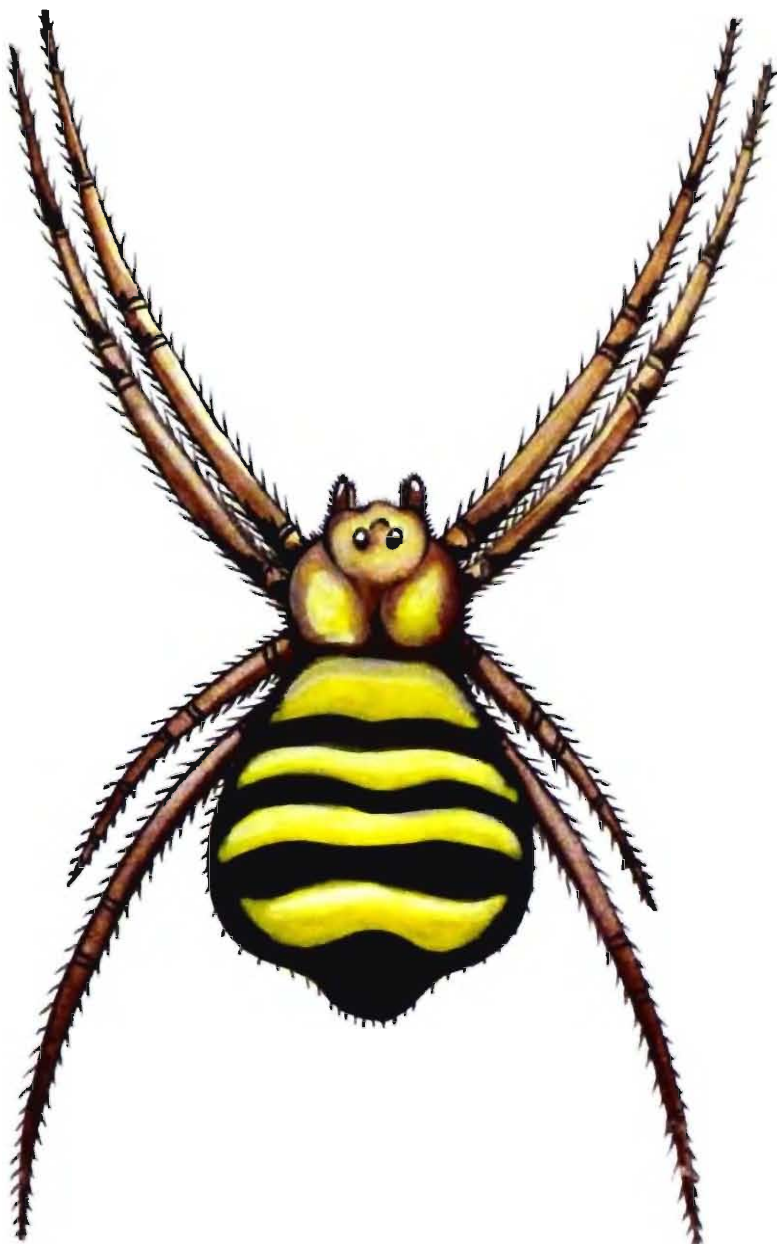
Economic importance : Acts as a controlling agent of insect pest in the crop-fields.



9. *Argiope pulchella* Thorell

Habit and Habitat : Generally these species larger in size, inhabit in the mangrove and semi mangrove forest of Sunderban. They prepare medium, radically symmetrical webs between adjacent shrubs, twigs and branches of trees. Webs are generally prepared by the female spiders with diagonally placed stablimantum and wait for their prey. Feed mainly on medium to large insects such as grass hoppers, odonates, butterflies and beetles.

Diagnostic characters : Cephalothorax slightly longer than wide narrowing in front, cephalic region less elevated than thoracic region, ocular quad much longer than wide and more wider behind than in front. Lateral eyes situated on the prominent tubercles. Anterior row of eyes procurved. Chelecherae small and weak with rudimentary boss. Legs long and strong. Abdomen abruptly pentagonal, slightly longer than wide, truncated on anterior margin. Dorsum provided with deep brown transverse patches and stripes. Epigynum with a pair of weakly bulging lateral lobes.



strong. Abdomen abruptly pentagonal, slightly longer than wide, truncated on anterior margin. Dorsum provided with deep brown transverse patches and stripes. Epigynum with a pair of weakly bulging lateral lobes.

Distribution : India : West Bengal : Sunderban area (Kakdwip, Patharpratima, Gosaba, Dist. North and South 24 Parganas; Sandeshkhali, Dist. North 24 Parganas), Bankura, Jalpaiguri, Midnapur, Maldah, Mursidabad, Nadia; Madhya Pradesh; Orissa; Assam; Maharashtra; Tamil Nadu.

Elsewhere : Myanmar, Malayasia, Peninsula.

Common name : Orb-weaving spider.

Economic importance : Medicinally important spider, dust of the spider locally applied as drug by Munda and Santhal of Sunderban to stop haemorrhage from Piles and wounds.

10. *Argiope shillongensis* Sinha

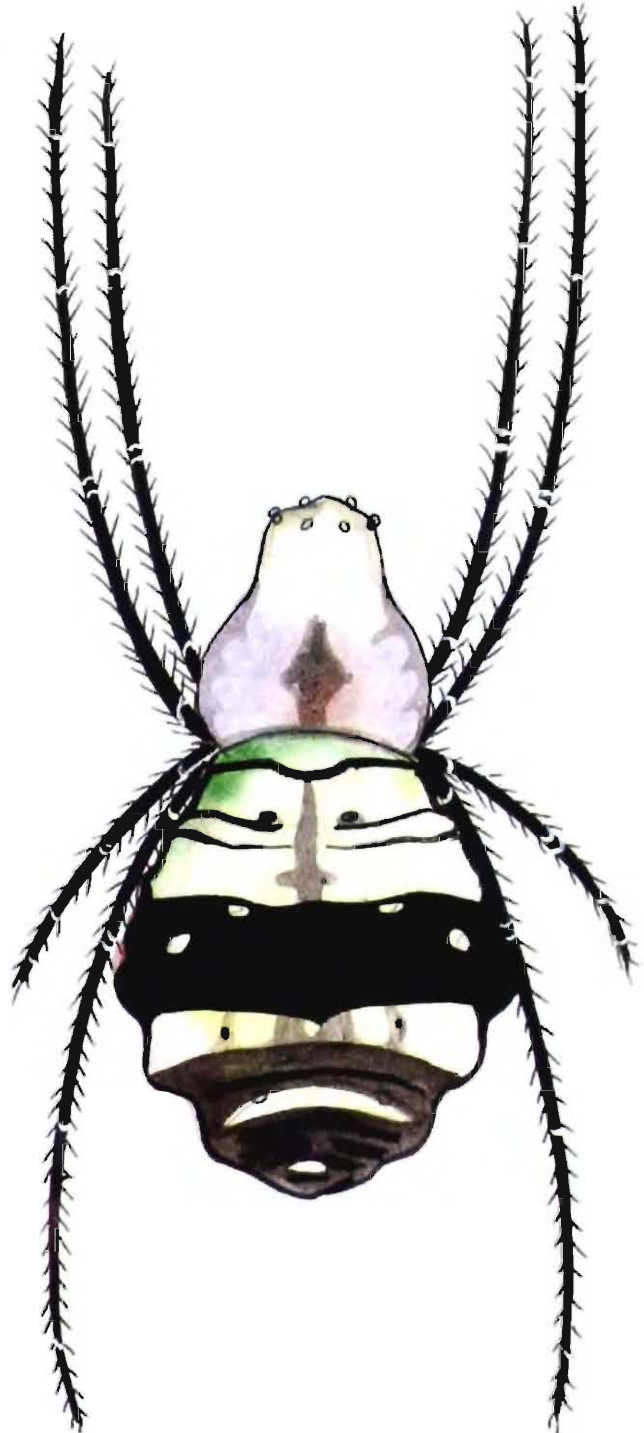
Habit and Habitat : They inhabit in the mangrove and semimangrove bushes. They never found upon the ground. They prepare large orb-shaped construction with four characteristic white silken lines marking the X-shaped at the centre. On the four white lines the spider places its four pair of legs in such a manner that one is not able to see the spider from the other side. They catch small insects entangled by their nets.

Diagnostic characters : Cephalothorax light brownish yellow, slightly longer than wide, narrowing in front, cephalic region slightly elevated than thoracic region. Anterior and posterior row of eyes procurved; anterior laterals smaller than the posterior laterals. Chelicerae small and weak having inconspicuous boss. Labium longer than wide. Legs long and strong. Abdomen longer than wide, truncated anteriorly, overlapping on the cephalothorax; dorsum provided with a few broad transverse blackish brown bands.

Distribution : India : West Bengal : Sunderban area (Kakdwip, Kulpi, Patharpratima, Sagar Island, Dist. South 24 Parganas, Hingalgunj, Dist. North 24 Parganas); Meghalaya.

Common name : Orb-weaving spider.

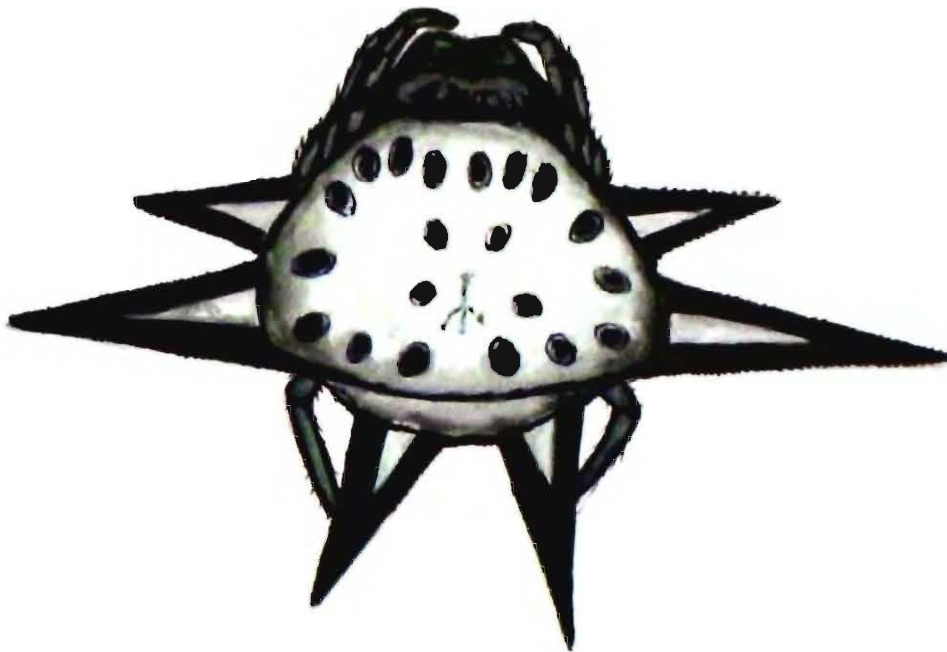
Economic importance : Medicinally important : spider dust locally applied as drug by Santhal and Oraon of Sunderban for congestive headache and epistaxis (nose bleeding).



Genus *Gasteracantha* Sundevall

Type species : *Gasteracantha cancriformis* (Linnaeus).

Distribution : Tropical countries of the world.

11. *Gasteracantha hasseltii* C.L. Koch

Habit and Habitat : They are roundish in structure and found in the mangrove and semimangrove bushes of Sunderban, spin small delicate webs on shrubs and grass blade, preferably horizontal to the ground level, feed on small to medium size of insect intangled by their nets.

Diagnostic characters : Cephalothorax longer than wide and blunt on anterior margin, cephalic region with a median depression and thoracic region sloping down posteriorly. Ocular quad wider than long and more wider on posterior portion, median eyes subequal in size. Chelicerae strong and stout with moderate boss; legs short and strong. Abdomen octagonal, much wider than long anteriorly overlapping the cephalothorax, dorsum chalk white, blackish brown outer side and few pairs of conspicuous sigilla.

Distribution : India : West Bengal : Sunderban area (Haroa, Dist. North 24 Parganas), Darjeeling; Andaman & Nicobar Island; Sikkim.

Elsewhere : Myanmar.

Common name : Orb-weaving spider.

Economic importance : Acts as a controlling agent of insect pest in the crop-fields.

Genus *Neoscona* Simon

Type species : *Neoscona anabesca* (Walckenaer).

Distribution : *Neoscona* distributed all over the world but many species of this genus have been erroneously placed under the genus *Araneus* Clerck.

Key to the specis

1. Four pair of sigilla on the dorsum of abdomen, candal hump with a large black spot *N. excelsus*
- Four pairs of sigilla absent on the dorsum of abdomen, caudal hump without a large black spot (2)
2. Cephalic region with 'V' shaped conspicuons dark brown patches *N. mukarjei*
- Cephalic region with no 'V' shaped patches (3)
3. Sternum dark brown colour provided with longitudinal white band *N. theis*
- Sternum not dark brown in colour and not provided with longitudinal white band (4)
4. Maxillae broad as long as wide, lateral lobe of epigyne conspicuons *N. shillongensis*
- Maxillae not broad as long as wide, lateral lobe of epigyne inconspicuons (5)
5. Abdomen triangular in shape, epigynal scape short, broad and triangular *N. nautica*
- Abdomen nearly oval, epigynal scape long and narrow (6)
6. Carapace provided with 'V' shaped brown mark, epigynal scape sent at right angle to the base *N. pavida*
- Carapace not provided with 'V' shaped brown mark, epigynal scape not sent at right angle to the base (7)
7. Lateral lobes of epigyne very distinct and horn like, visible from the ventral side *N. rumpfi*
- Lateral lobes of epigyne not distinct and horn like (8)
8. Abdomen rather tapering at both anterior and postirior ends, femora, patella and tibia of the legs I, II, & III provided with longitudinal lines on ventral and lateral sides *N. molemensis*

- Abdomen roundish both anterior and posterior ends, femora, patella & tibia of the legs I, II & III not provided with longitudinal lines on ventral and lateral sides (9)
- 9. Epigynal scape rather thick with distinct rim genital openings are placed underneath the scape *N. elliptica*
- Epigynal scape not thick and with no distinct rim, genital openings not placed underneath the scape (10)
- 10. Five pairs sigilla present on the dorsum, caudal hump without black spot.....
..... *N. lugubris*

12. *Neoscona excelsus* (Simon)

Habit and Habitat : These spiders are smaller to medium in size, inhabit throughout the mangrove and semimangrove shrubs and bushes of Sunderban. They are also found to live huts of the tribal people of Sunderban. They prepare the webs with the support of 3 to 4 adjacent twigs. The web may be of considerable height above the ground level. Preyed mainly on small insects like arthropodan, hemipteran and hymenopteran insects entangled by their nests.



Diagnostic characters : Cephalothorax brownish, slightly longer than wide, cephalic region distinctly elevated with inconspicuous groove. Both rows of eyes strongly recurved. Anterior median eyes slightly smaller than the posterior median; posterior median eyes encircled by black rings. Chelicerae moderately strong, provided with moderate boss. Legs moderately long and thin. Abdomen wider than long. Four pairs of sigilla present on the dorsum. Caudal hump with a large black spot.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Gosaba, Namkhana, Dist. South 24 Parganas; Sandeshkhali, Hasnabad, Dist. North 24 Parganas), Darjeeling; Bihar; Gujarat; Maharashtra.

Elsewhere : Pakistan.

Common name : Orb-weaving spider.

Economic importance : Medicinally important : used by the tribals of Sunderban as drug for the cure of liver enlargement.

13. *Neoscona mukerjei* Tikader

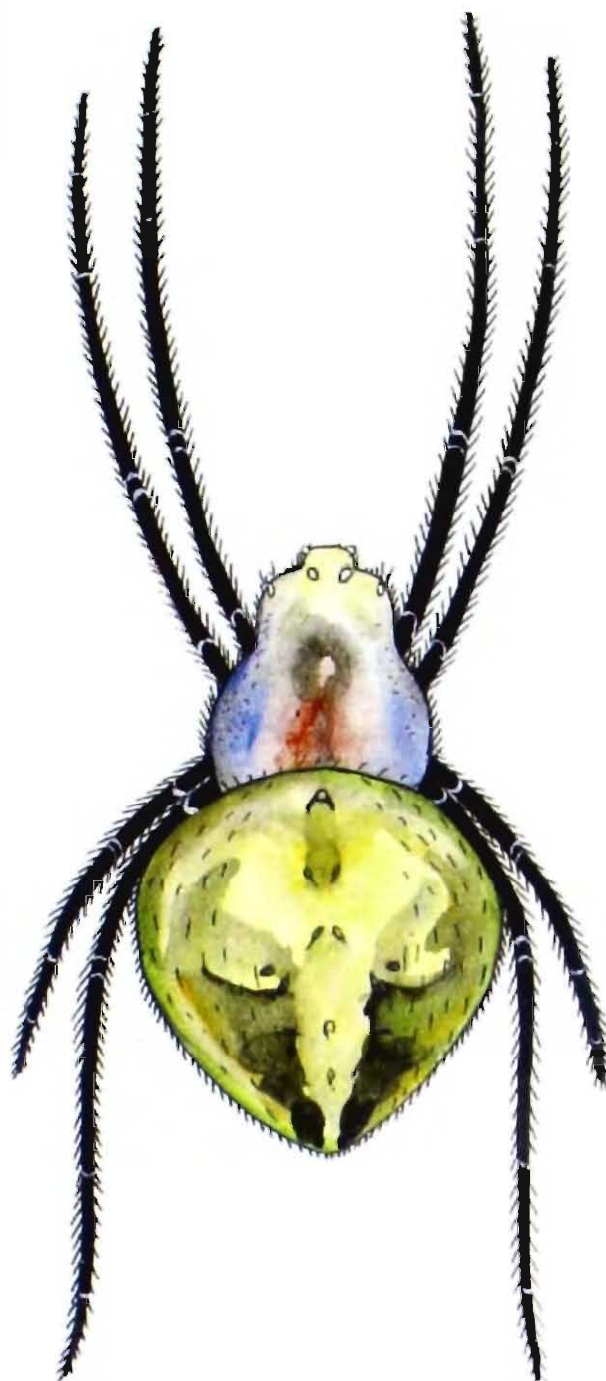
Habit and Habitat : This spider smaller in size, mostly these are found to spin a thin thread small sized radial geomatric webs throughout tall grasses, mangrove and semimangrove bushes. When disturbed they dropped down at once to avoid predation. There is tremendous colour variation, specially the colour pattern on dorsal portion of abdomen, 18 colour pattern have been reported by Tikader (1982). Preyed on small insects intangled by their nets.

Diagnostic characters : Carapace longer than wide narrowed in front, cephalic region with V shaped conspicuous dark brown patches, thoracic grove deep longitudinal. Anterior median eyes slightly larger than posterior medians. Lateral eyes placed closer to each other, both rows of eyes are procurved and ocular quad wider in front. Chelicerae strong. Legs long and strong. Abdomen subtriangular, longer than wide, tapering posteriorly, dorsum with a club shaped grayish white patches. Epigyne provided with a moderately long scape with a deep constriction.

Distribution : India : West Bengal : Sunderban area (Gosaba, Namkhana, Patharpratima, Dist. South 24 Parganas; Sandeshkhali, Hasnabad, Dist. North 24 Parganas), Burdwan, Midnapur, Nadia, Koochbihar; Maharashtra.

Common name : Orb-weaving spider.

Economic importance : Medicinally important spider : spinneret part of the spider taken orally as drug by Munda & Oraon of Sunderban for enlargement of liver and Kala-azar.



14. *Neoscona theis* (Walekenaer)

Habit and Habitat : This spider smaller in size inhabit through the mangrove and semimangrove areas of Sunderban. They are found to prepare web with the support of 2 to 3 adjacent thin twigs. They prepare smaller snares along with rolling of smaller to medium sized leaf at centric or eccentric place of the web. Web may be of considerable height above the ground. It becomes difficult to notice and to collect the spiders from such types of nets in the collection fields. Preyed on smaller sized insects entangled in the webs.



Diagnostic characters : Cephalothorax longer than wide, narrowing in front, provided with a pair of lateral and a median longitudinal dark brown bands. Thoracic region provided with a distinct longitudinal median groove. Ocular quad longer than wide, wider in front than behind. Both the rows of eyes slightly recurved; anterior median eyes larger than the posterior medians. Chelicerae strong and stout with prominent boss. Legs long and strong. Abdomen sub-oval, longer than wide with a conspicuous mid-longitudinal chalk white bar having four pairs lateral patches. Epigyne with prominent black rim with a constriction at the middle and a pair of lateral lobes.

Distribution : India : West Bengal : Sunderban area (Dist. North and South 24 Parganas), Hugli, Nadia, Maldah, Bankura; Gujarat; Maharashtra; Orissa.

Ealsewhere : South New Guinea.

Common name : Orb-weaving spider.

Economic importance : Medicinally important : spider dust used as drug by the Santhal of Sunderban as Diuretic and purgative of children.

15. *Neoscona shillongensis* Tikader & Bal

Habit and Habitat : Inhabit throughout the mangrove and semimangrove bushes. They also found in the tribal areas of Sunderban. They prepare their web with the support of 2 to 3 adjacent twigs in semi mangrove bushes. The webs may be of considerable height above the ground. They preyed on small insects like hemipteran and coleopteran pests.

Diagnostic characters : Cephalothorax brownish, longer than wide, narrowing in front, cephalic region slightly high and thoracic region provided with a longitudinal groove. Anterior median eyes much larger than the posterior medians; lateral eyes close and each situated on tubercles. Both rows of eyes recurved. Maxillae broad as long as wide. Chelicerae strong. Legs long and strong. Abdomen oval longer than wide, dorsum mid-dorsally provided with a very conspicuous longitudinal chalk white bar extending all along the length of the abdomen, lateral lobes of epigyne conspicuous.

Distribution : India : West Bengal : Sunderban area (Hasnabad, Dist. North 24 Parganas; Gosaba, Dist. South 24 Parganas); Meghalaya.

Common name : Orb-weaving spider.

Economic importance : Acts as controlling agent of insect pest in the crop fields.



16. *Neoscona nautica* (L. Koch)

Habit and Habitat : They are smaller in size prepare smaller snares along with rolling of smaller to medium sized leaves centric or eccentric place of the web and hide in the rolling of leaf. Web may be of considerable height above the ground. It becomes difficult to notice and collect the spider from such types of nest in the collection fields. They prey on smaller insects and other invertebrates entangled by their nest. Many times this species was found to live with other species of *Neoscona*.



Diagnostic characters :
Cephalothorax yellowish brown, longer than wide, thoracic region provided with a distinct longitudinal groove. Anterior row of eyes more recurved than the posterior row. Chelicerae strong. Legs long and strong. Abdomen triangular in shape: epigynal scape short, broad and triangular.

Distribution : India : West Bengal : Sunderban area (Kakdwip, Mandir Bazar, Dist. South 24 Parganas; Hingalgunj, Hasnabad, Dist. North 24 Parganas), Darjeeling; Assam; Meghalaya; Gujarat; Maharashtra.

Elsewhere : Myanmar; Pakistan; North America.

Common name : Orb-weaving spider.

Economic importance : Acts as a controlling agent of insect pest in the crop fields.

17. *Neoscona pavida* (Simon)

Habit and Habitat : Prepare smaller snares along with rolling of small to median size leaves centric or eccentric place of the web and hides in rolling of leaf. Web may be of considerable height from the ground level. It becomes difficult to notice and to collect the spider from such type of nest from the field. Preyed on smaller insects and other invertebrates entangled by the nets. Many times they are found with other species of *Neoscona*.

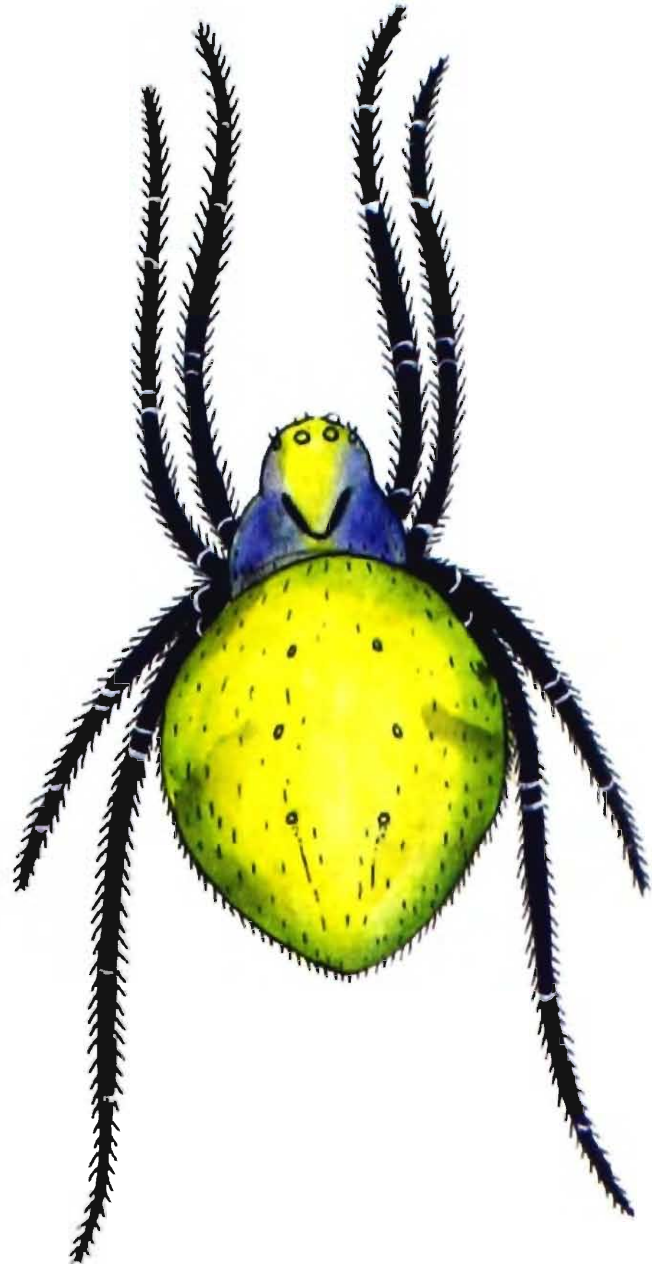
Diagnostic characters : Cephalothorax brownish yellow, longer than wide, narrowing in front and at the base of the cephalothorax provided with V shaped brown marks, thoracic region provided with longitudinal deep groove. Both rows of eyes recurved, anterior median eyes slightly larger than the posterior medians. Chelicerae moderately strong. Legs long and strong. Abdomen nearly oval. Lateral lobes of epigyne not horn like

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Sandeshkhali, Dist. North 24 Parganas), Darjeeling.

Elsewhere : Pakistan.

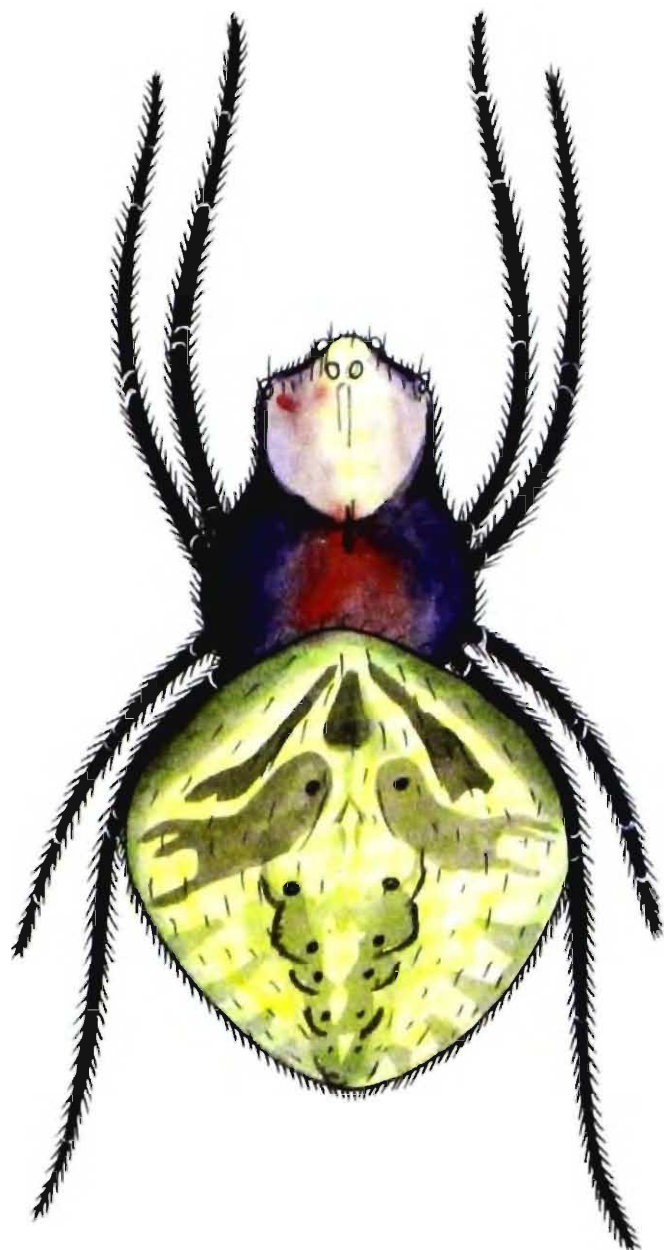
Common name : Orb-weaving spider.

Economic importance : Acts as a predator of insect pest in the crop-fields.



18. *Neoscona rumpfi* (Thorell)

Habit and Habitat : They are found to spin a thin threaded small sized radial geometric webs through the medium sized grass, mangrove and semimangrove bushes and shrubs. It is interesting to notice that if any external pressure comes, they suddenly drops down on the ground and hidden themselves or camouflex like a piece of leaf. They preyed on smaller to medium sized insects intangled by the webs.



Diagnostic characters : Cephalothorax dark brown longer than wide, narrower in front, cephalic region slightly high, carapace with V shaped brown mark, thoracic region provided with a deep longitudinal groove. Both the eyes recurved. Anterior median eyes larger than the posterior medians; lateral eyes close and each situated on a tubercles. Chelicerae strong and stout. Legs long and very strong. Abdomen sub-triangular, lateral lobes of epigyne very distinct and horn like.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Gosaba, Dist. South 24 Parganas, Hingalgunj, Hasnabad, Dist. North 24 Parganas), Malda; Andhra Pradesh; Karnataka; Orissa.

Common name : Orb-weaving spider

Economic importance : Acts as a controlling agent of the insect pest in the crop fields.

19. *Neoscona molemensis* Tikader & Bal.

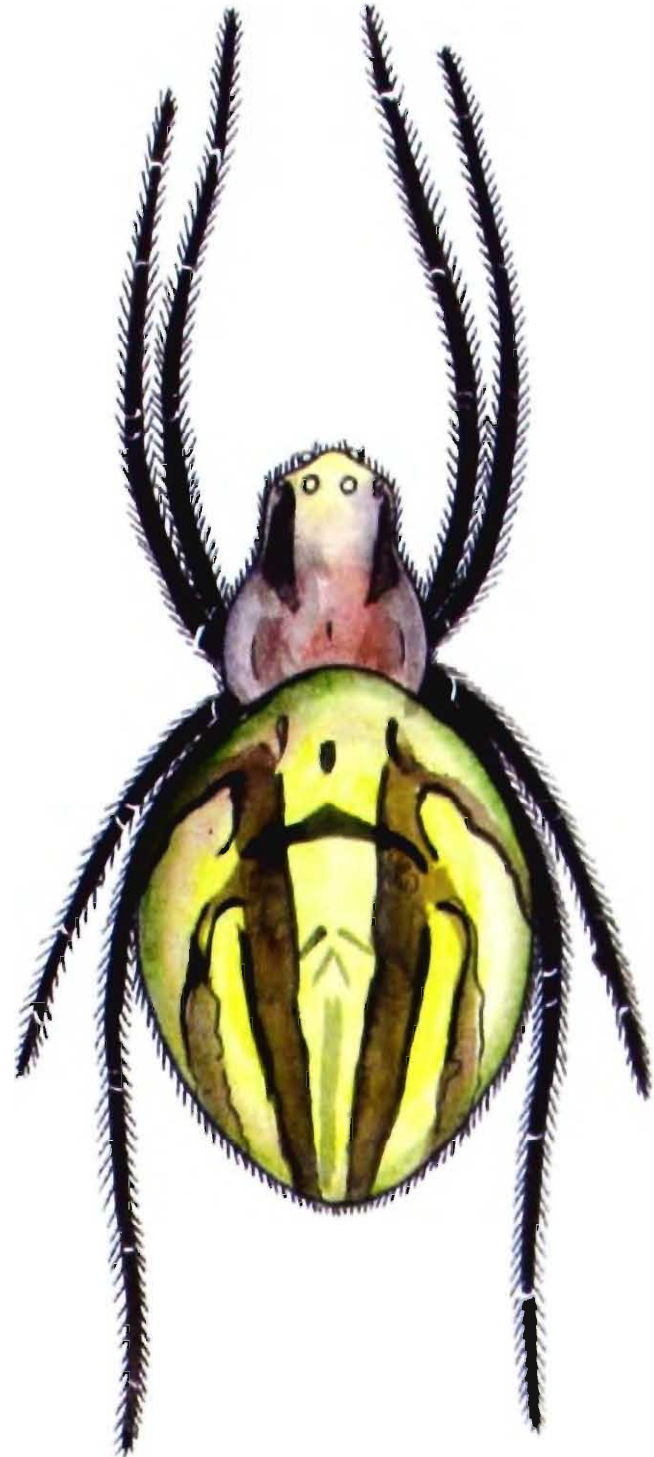
Habit and Habitat : This species medium to smaller in size prepares radial webs in the mangrove and semimangrove bushes near paddy fields. They prepare their nests attached with an elongated rolling leaf in view of their shelter. When any over power comes, they take their shelter into the rolling leaf or they drop down on the ground. Web may be of considerable distance from the ground. They prey smaller insects like dipteran, orthopteran and hemipteran insects by intangled in the nests.

Diagnostic characters : Cephalothorax yellowish brown, longer than wide, narrowing in front, cephalic region slightly high and the thoracic region provided with a deep longitudinal groove. Both the rows of eyes recurved but anterior row more recurved. Chelicerae strong and stout, provided with moderate boss. Legs long and moderately strong. Tibia, patella and femora of the legs I, II, & III provided with longitudinal lines on ventral and lateral sides. Abdomen nearly elliptical, lateral lobes of epigyne not distinct.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas); Goa.

Common name : Orb-weaving spider

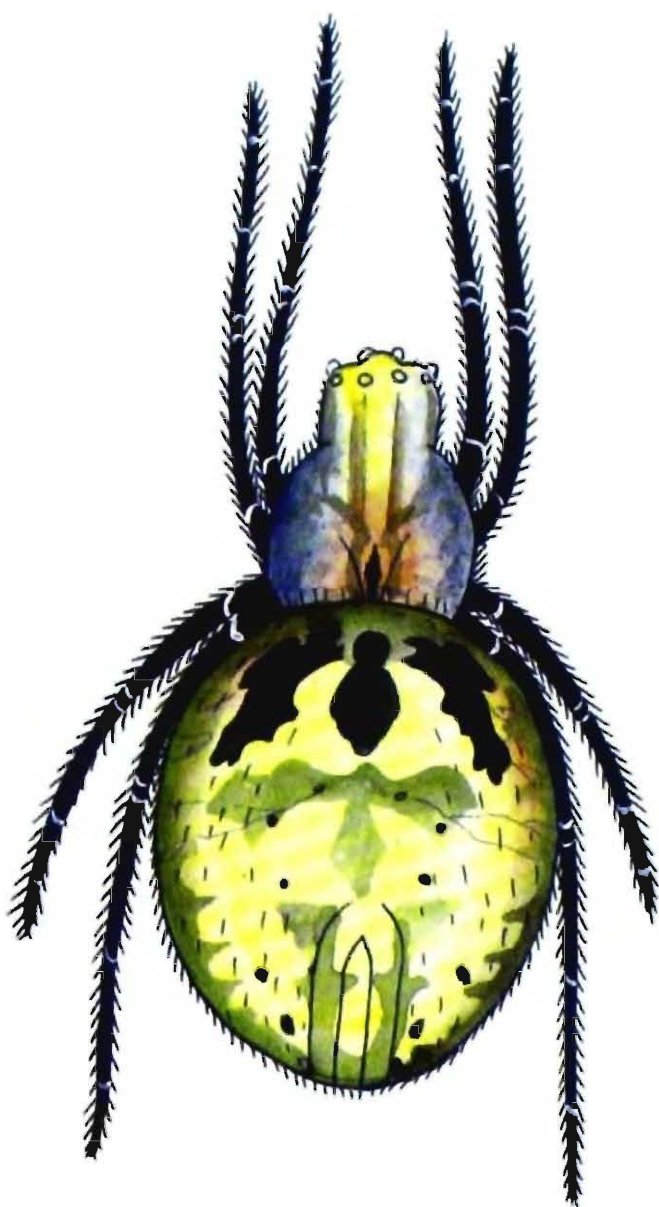
Economic importance : Acts as a predator of insect in the crop fields.



20. *Neoscona elliptica* Tikader & Bal

Habit and Habitat : These spiders are medium to smaller in size spin delicate geometrically radial webs amongst bushes and small trees and use to attach an elongated rolled leaf for their shelter and comes out from the rolled leaf to the preying. It has been found that they drop suddenly to the ground, in case of danger sensed. Preyed on smaller insects intangled into the web threads.

Diagnostic characters : Cephalothorax longer than wide narrowing in front, thoracic region more lighter and with distinct longitudinal groove. Ocular quad longer than wide but more wider in front. Both rows of eyes recurved, anterior medians slightly larger than posterior medians, lateral eyes both anterior and posterior placed together and subequal in size. Chelicerae strong with distinct boss. Legs long and strong. Abdomen elliptical, longer than wide, roundish both the ends, yellowish brown in colour provided with few black patches and spots and four pairs of sigilla. Ventral side deep brownish with a median broad darker patch guarded by a pair of chalk white patches between epigastric furrow and spinnerets. Epigynum with short broad triangular scape and a pair of lateral lobes.



Distribution : India : West Bengal : Sunderban area (Patharpratima, Gosaba, Dist. South 24 Parganas); Maharashtra; Meghalaya.

Common name : Orb-weaving spider.

Economic importance : Medicinally important : used by the tribals of Sunderban as drug for the cure of Dysentry.

21. *Neoscona lugubris* (Walckenaer)

Habit and Habitat : This spider smaller in size, they are found in the mangrove and semimangrove areas of Sunderban. They spin web through medium sized bushes and shrubs and keep itself in a dried and rolled piece of leaf, mostly at the centre of the orb.

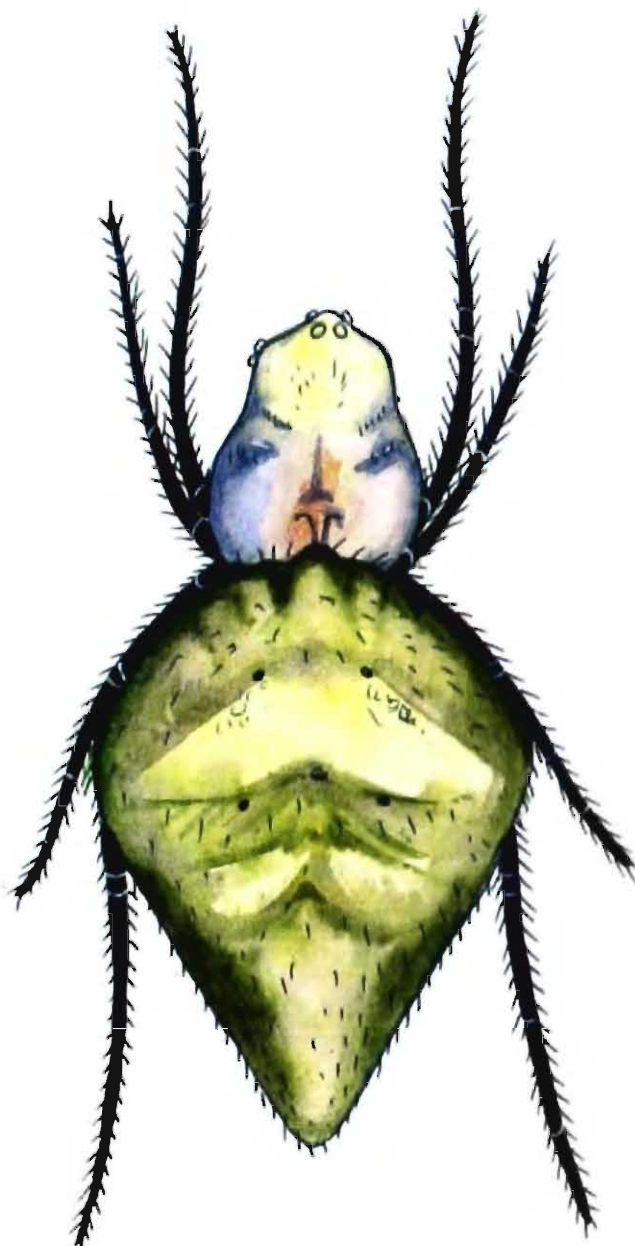
Diagnostic characters : Cephalothorax and legs light yellowish brown, abdomen chalk white; thoracic region provided with a distinct longitudinal groove, ocular quad longer than wide, wider in front than behind. Anterior median eyes larger than posterior medians. Lateral eyes close and situated on a tubercle. Both rows of eyes moderately recurved. Chelicerae strong with moderate boss. Legs long and strong. Abdomen sub-triangular in shape, tapering behind with grayish indistinct marks. Ventral side uniformly light coloured but having a mid-ventral broad chalk white band in between epigastric furrow and spinnerets. Epigynal scape very thin and broad, having a constriction at the behind point of the scape.

Distribution : India : West Bengal : Sunderban area (Hasnabad, Sandeshkhali, Dist. North 24 Parganas); Maharashtra; Gujarat.

Elsewhere : China, Japan, Austro-Malaysia, South New Guinea.

Common name : Orb-weaving spider.

Economic importance : Acts as a controlling agent of insect pest of various kinds in the crop fields.



Genus *Larinia* Simon

Type species : *Larinia lineata* (Lucas).

Distribution : Tropical & Sub-tropical countries of the world.

22. *Larinia phtisica* (L. Koch)

Habit and Habitat : These spiders medium in size inhabit in the mangrove and semi mangrove bushes, herbs and shrubs near the ponds and rivers of Sunderban areas. They also prepare two tier of webs inner medium dom shaped and the outer irregular snare supporting the inner medium dom in which the individual spider stays the centre of the dom. The spider feeds on small insects intangled by the outer irregular snare.



Diagnostic characters : Cephalothorax nearly one and half times longer than wide, narrow in front, thoracic region provided with deep longitudinal furrow. Ocular quad forming a trapigium much wider in front than behind. Labium as long as wide. Anterior medians much larger than the posterior medians, posterior medians closely situated; laterals subequal, close and situated on distinct tubercles. Chelicerae strong, inner margin provided with four teeth. Legs long and slender. Abdomen elongated, longer than wide pointed anteriorly over carapace. Dorsum provided with grayish lines and a double rows of black spots.

Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Dist. North & South 24 Parganas), Burdwan, Nadia; Gujarat.

Elsewhere : Australia, New Guinea.

Common name : Two tier orb-weaving spider

Economic importance : Acts as a predator of insect pest in the paddy fields.

Genus *Parawixia* F. O. P. Cambridge*Type species* : *Parawixia destricta* (O. P. Cambridge)*Distribution* : Cosmopolitan except Australia.23. *Parawixia dehaanii* (Doleschall)

Habit and Habitat : They are smaller in size found in the mangrove forest. Practically they prefer at the tip of the thin branches along with its small web. The female spider never observed to rest in the web; always select to rest on a smaller twigs. Preyed on small insects intagled by their nest.

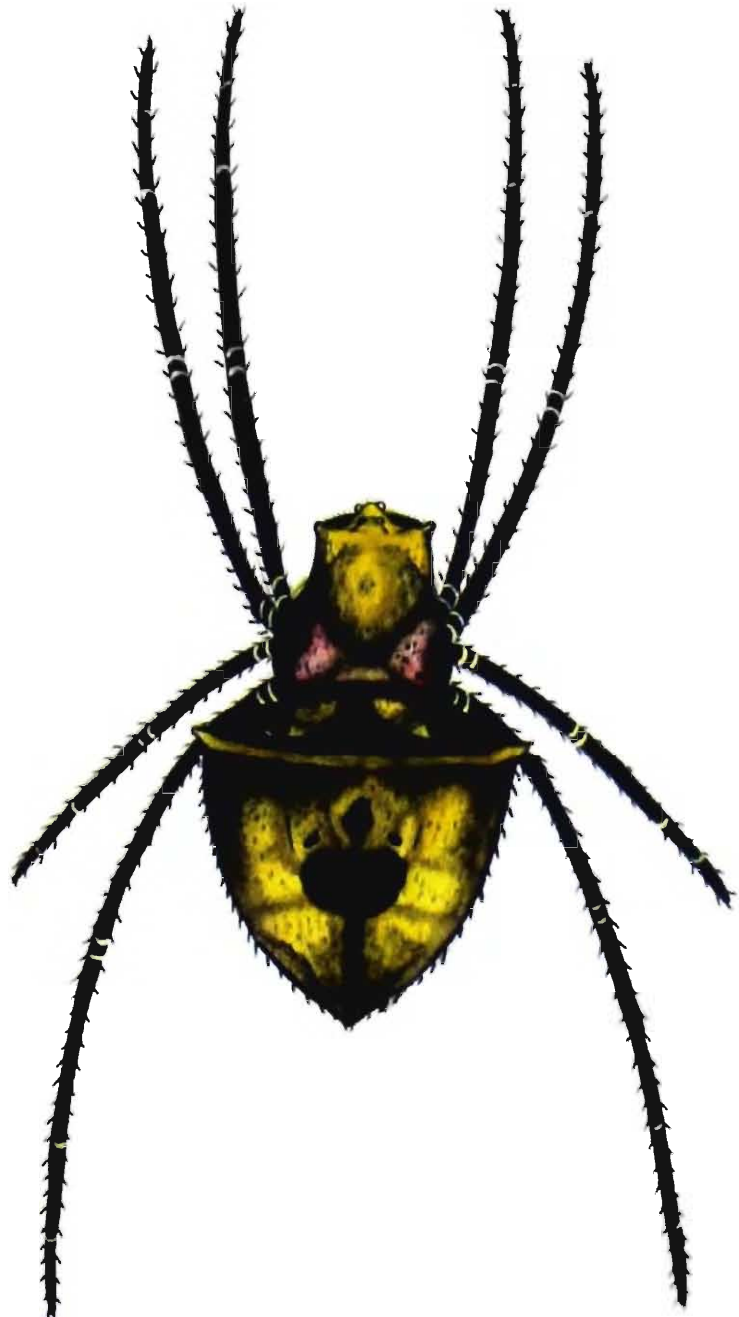
Diagnostic characters : Cephalothorax longer than broad, cephalic region much elevated in the middle. Ocular quadrate slightly wider in front than behind. Anterior median eyes larger than the posterior medians. Anterior row of eyes procurved, posterior row recurved. Chelicerae strong. Legs long and strong. Abdomen triangular in shape, longer than wide.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas), Jalpaiguri; Karnataka; Sikkim.

Elsewhere : Myanmar; Java; Japan; Indo and Austro-Malaysia and Sumatra.

Common name : Orb-weaving spider.

Economic importance : Acts as a predator of harmful insects in the fruit garden.



Genus 8. *Leucauge* White

Type species : *Leucauge hortorum* (Hents).

Distribution : Tropical and sub-tropical countries of the world.

Key to the species

1. Both paired tubercles and median tubercle highly prominent *L. decorata*
- Both paired Abdomen with two tubercles and median caudal tubercle are not prominent (2)
2. Abdomen with two blunt rounded prominences and blunt caudal hump at the posterior end *L. tessellata*

24. *Leucauge decorata* (Blackwall)

Habit and Habitat : These spiders medium in size prepare two tiers of nets (webs) : front or upper tier and second or lower tier. The upper tier remains a very much irregular mesh of web threads whereas the second or lower tier is dome shaped and prepared below the lower tier in which the individual spider remains in an inverted position. Generally the female spiders are seen to occupy such nets along with their star shaped flat darty grey coloured egg cocoon attested to the web thread on one side. These spiders consume small insects like depteran and hemipteran pests etc.



Diagnostic characters : Cephalothorax yellowish brown, longer than wide, cephalic region slightly higher than the thoracic region. Thoracic region provided with trifid deep groove. Both rows of eyes recurved, median eyes nearly subequal in size, lateral eyes slightly smaller than medians nearly equal in size. Chelicerae very large and strong, having small boss. Legs very long and slender. Abdomen elongated, both paired tubercles and median tubercles are highly prominent.

Distribution : India : West Bengal : Sunderban area (Gosaba, Patharpratima, Dist. South 24 Parganas), Maldah, Nadia, Midnapur, Mursidabad, Purulia, West Dinajpur; Assam; Meghalaya; Gujarat; Karnataka; Kerala; Pondichery; Orissa; Sikkim.

Elsewhere : Myanmar, Pakistan, Sri Lanka.

Common name : Dome shaped orb-weaving spider

Economic importance : Acts as a predator of harmful insects in the crop fields.

25. *Leucauge tessellata* (Thorell)

Habit and Habitat : These spider medium in size inhabit in the bushes, shrub, herbs of mangrove and semimangrove areas of Sunderban. They spin medium sized webs on bushes and small trees, occasionally on bamboo branches also. In some cases they have seen to prepare web on shrub. The web may be of considerable height above the ground. On the other hand they have been seen to prepare web on adjacent branches in large numbers. They feed on smaller to medium size of insects entangled by their nests.

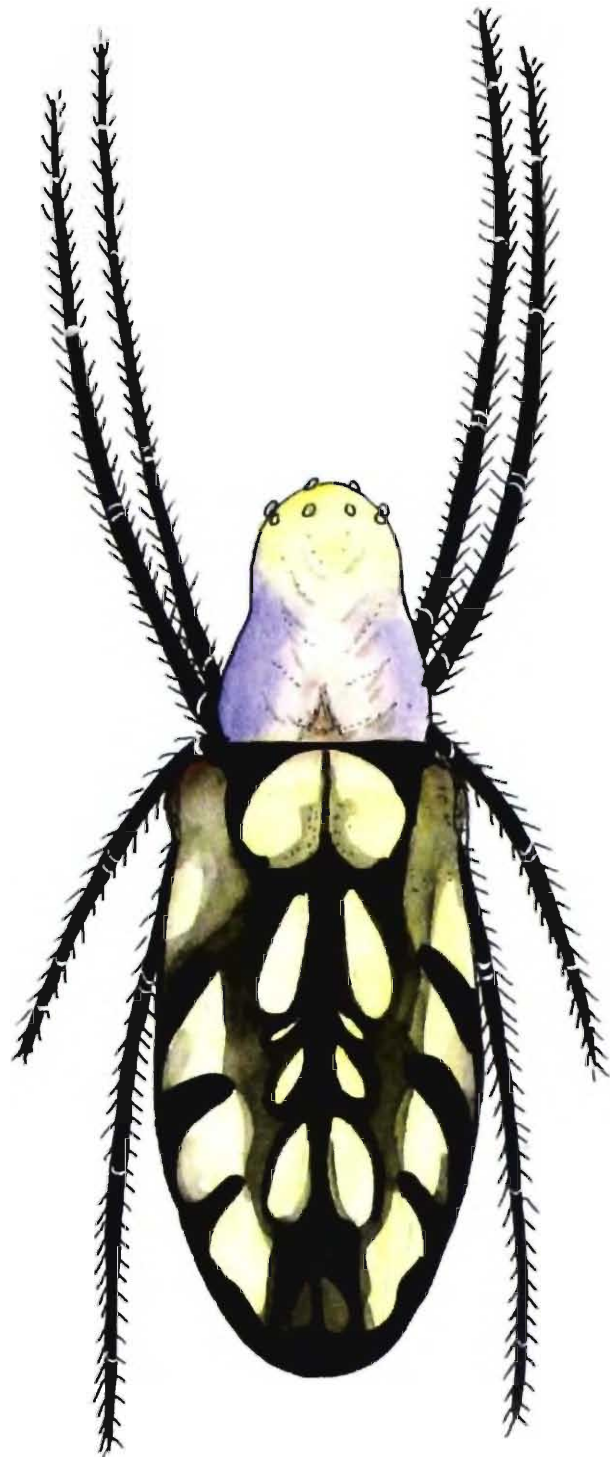
Diagnostic characters : Cephalothorax light brown and flat, thoracic region provided posteriorly by deep trifid groove. Both rows of eyes recurved. Anterior median eyes slightly smaller than posterior medians; lateral smaller than medians, close and situated on moderately prominent tubercles. Chelicerae very large and stout having small boss. Legs very long and slender. Abdomen little elongated, anteriorly with two blunt rounded prominence. Dorsum provided with silvery white and chalk white patches.

Distribution : India : West Bengal : Sunderban areas (Gosaba, Dist. South 24 Parganas; Hingalgunj Sandeshkhali, Dist. North 24 Parganas), Darjeeling; Assam; Sikkim; Gujarat; Karnataka; Kerala; Maharashtra;

Elsewhere : Myanmar and Bhutan.

Common name : Dome shaped orb-weaving spider.

Economic importance : Acts as a predator of harmful insects in the crop fields.



Genus *Cyrtophora* Simon

Type species : *Cyrtophora citricola* (Forsk.)

Distribution : Tropical and sub-tropical countries of the world.

Key to the species

1. Abdomen provided with two pair humps; epigyne provided with a broad rim
..... *C. cicatrosa*
- Abdomen provided with three pair humps; epigyne provided with a narrow rim ...
..... (2)
2. Epigyne provided without median septum *C. bidenta*

26. *Cyrtophora cicatrosa* (Stoliczka)

Habit and Habitat : They are medium in size found in the mangrove and semimangrove areas of Sunderban. They are found to prepare two tier web, inner median dom shaped and the outer irregular snares supporting the median dom. The individual spider stays in the centre of the dom. Such nest are prepared among smaller branches of bushes by the female spider and the chain of 4 to 6 dirty greyish cocoons are normally left hanging on the side of nets. Occasionally many female spiders were found to constructing their individual webs near the main web. These spider feed on smaller to medium sized of insects intangled by their web.



Diagnostic characters : Cephalothorax pale yellow with blackish patches and stripes longer than wide, narrowing in front, very broad and rounded posteriorly; thoracic region provided with a deep trifid fovea. Anterior row of eyes strongly recurved. Anterior median eyes larger than the posterior medians, posterior medians encircled by black rings, lateral eyes subequal in size. Chelicerae moderately strong. Abdomen elongated longer than wide, dorsum provided with two pairs of small black of conical tubercles, epigyne provided with median septum and broad rim.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas, Gosaba, Kulpi, Patharpratima, Dist. South 24 Parganas), Koch Bihar, Hugli, Jalpaiguri, Midnapur, Maldah, Nadia, Burdwan, Mursidabad; Uttar Pradesh.

Common name : Dome shaped orb-weaving spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of nerve debility and choronic fever.

27. *Cyrtophora bidenta* Tikader

Habit and Habitat : They are medium in size found in mangrove and semimangrove areas of Sunderban. They also construct the web among the branches of twigs near the pond, stagnant dump or canal. They also prepare two tier web, inner medium dome shaped and the outer irregular snare supporting the medium dome in which the individual spider stays in the centre of the dome. The spider feeds on small insects entangled by their webs.

Diagnostic characters : Cephalothorax greenish yellow, longer than wide, provided with blackish patches. Both the rows of eyes recurved, anterior median eyes larger than the posterior medians. All the eyes encircled by black ring. Chelicerae long but weak having moderate boss. Legs long. Abdomen longer than wide suboval, epigyne not provided with a median septum and without broad rim.



Distribution : India : West Bengal : Sunderban area (Patharpratima, Gosaba, Kulpi, Mandirbazar, Dist. South 24 Parganas; Sandeshkhali, Hingalgunj, Haroa, Dist. North 24 Parganas); Sikkim.

Common name : Dome shaped orb-weaving spider

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of headache and skin diseases.

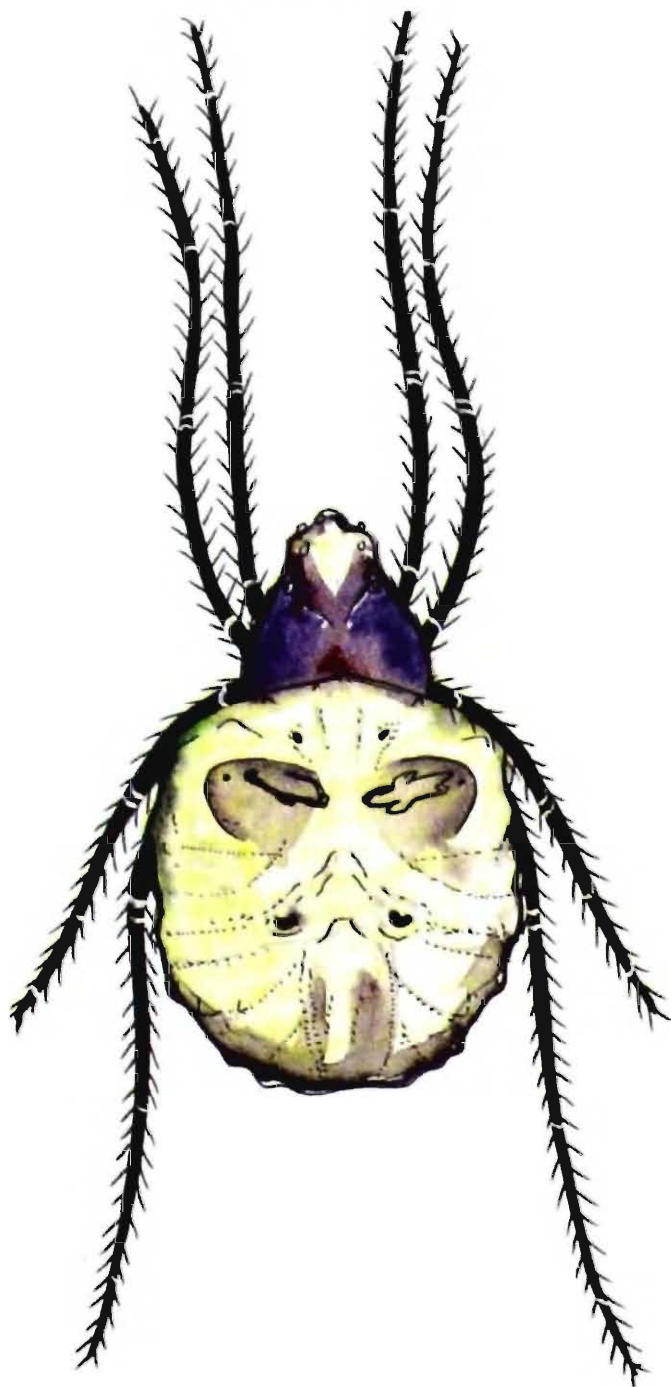
Genus *Poltys* Koch

Type species : *Poltys illepidus* C. L. Koch.

Distribution : Asia, Australia and Africa.

28. *Poltys nagpurensis* Tikader

Habit and Habitat : They are medium in size and found in the mangrove and semimangrove bushes of Sunderban. They are strictly arborial inhabit. They are never found in river bed or bank of pond or canal. They prepare large web with the support of thinner twigs in bushes or trees and seat at the end of supporting threads, mostly camouflaging with the colour of bush or tree branches. They catch their preys intangled by their nets.



Diagnostic characters : Cephalothorax slightly longer than wide, cephalic region prominent with elevation, ocular quadrate wider than long, narrower behind than front. Eyes in two rows, posterior median eyes slightly oval in shape, lateral eyes widely separated from each other, anterior lateral eyes close to the ocular quad, posterior lateral eyes placed at the side of the cephalic region. Chelicerae moderately strong with distinct boss. Legs moderately long and strong. Abdomen large and high up anteriorly having many small and large irregular tubercles.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. : North 24 Parganas); Maharashtra.

Common name : Orb-weaving spider.

Economic importance : Acts as a predator of harmful insects in the crop fields.

Genus *Zygeilla* O.P. Cembidge

Type species : *Zygeilla artica* (Koch).

Distribution : Cosmopolitan.

29. *Zygeilla melanocrania* (Thorell)

Habit & Habitat : They are smaller to medium size found on the mangrove and semimangrove areas of Sunderban. They are also found on the bark of the large trees of mangrove forest. Basically *Zygeilla* sp. builds the orb-weav in which characteristically one sector remains free of viscid spiral threads. There is one radius leading through this open sector to the retreat of the spider as a trap line. The webs are renewed almost everyday. They catch their prey entangled by web.

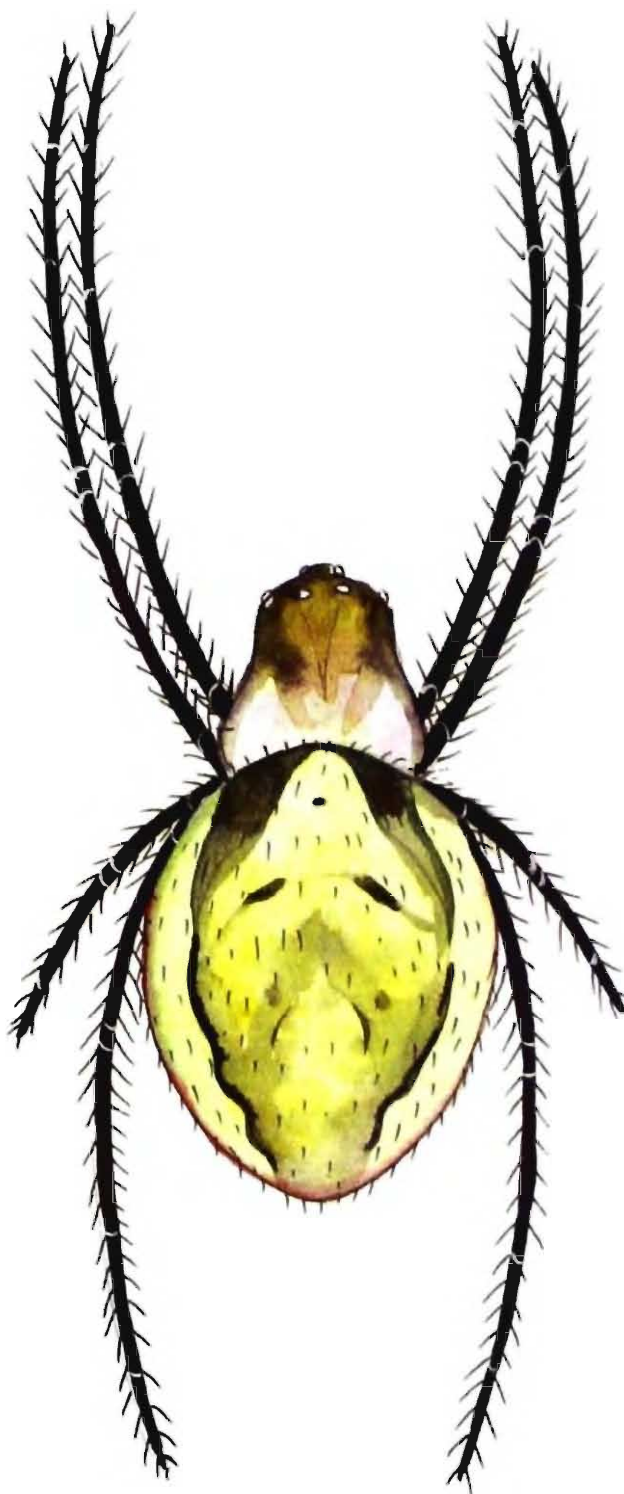
Diagnostic characters : Cephalothorax longer than wide narrowing in front. Ocular quadrate slightly longer than wide Both rows of eyes are recurved but posterior row very narrowly recurved. Anterior median eyes larger than the Posterior medians. Chelicerae moderately strong, provided with distinct boss. Legs moderately long and strong. Abdomen oval, longer than wide. Dorsum provided with distinct folium composed of white and black patches.

Distribution : India : West Bengal : Sunderban area, (Gosaba, Dist. North and South 24 Parganas), Bardwan; Orissa.

Elsewhere : Myanmar, Pakistan.

Common name : Orb-weaving spider.

Economic importance : Acts as a predator of insect pest in the fruit garden.



Genus *Singa* Koch

Type species : *Singa hamata* Koch.

Distribution : Cosmopolitan except Australia.

30. *Singa chota* Tikader

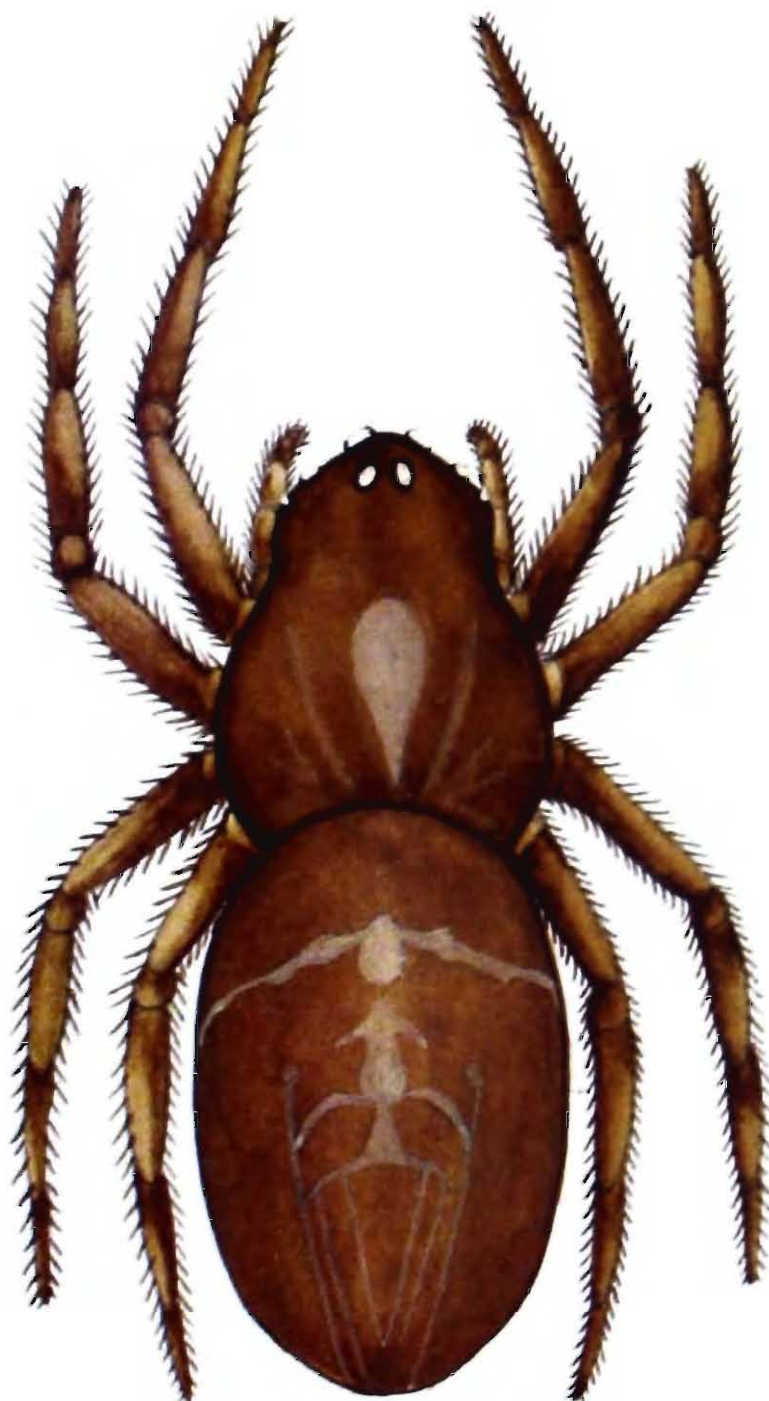
Habit & Habitat : They are medium to smaller in size and found in the bushes, herbs and twigs of the small trees. Like other arachnid they prepare web in the low bushes without any retreat. They do not rest at the centre of the web at day time. They hides themselves any sides of their retreat. When any insects entangled by their nests they jumped upon the prey.

Diagnostic characters : Cephalothorax longer than wide, cephalic region narrow and high. Eyes partly white, posterior row of eyes straight, anterior row recurved. Posterior median eyes close to each other. Sternum heart shaped. Abdomen elliptical in shape. Dorsum provided with a longitudinal brown cracked line.

Distribution : India : West Bengal : Sunderban area (Basanti, Dist. South 24 Parganas); Sikkim.

Common name : Orb-weaving spider.

Economic importance : Acts as a predator of harmful insect in the crop fields.



Family CLUBIONIDAE

Key to the genera

1. Cephalothorax with distinct fovea, anterior legs shorter than posterior legs; lateral eyes both anterior and posterior not close to each other *Clubiona*
- Cephalothorax with indistinct fovea, anterior legs larger than posterior legs; lateral eyes both anterior and posterior close to each other (2)
2. Retrolateral apophysis of the male palp with single hooked structured and the cymbium with long spur at its base *Cheiracanthium*
- Retrolateral apophysis of the male palp with double hooked structured and the cymbium without long spur at its base (3)
3. Cephalothorax with median furrow. The posterior row of eyes not strongly recurved, abdomen without ventral shield *Castianeira*

Genus 14. *Clubiona* Latreille

Type species : *Clubiona pallidula* (Clerck)

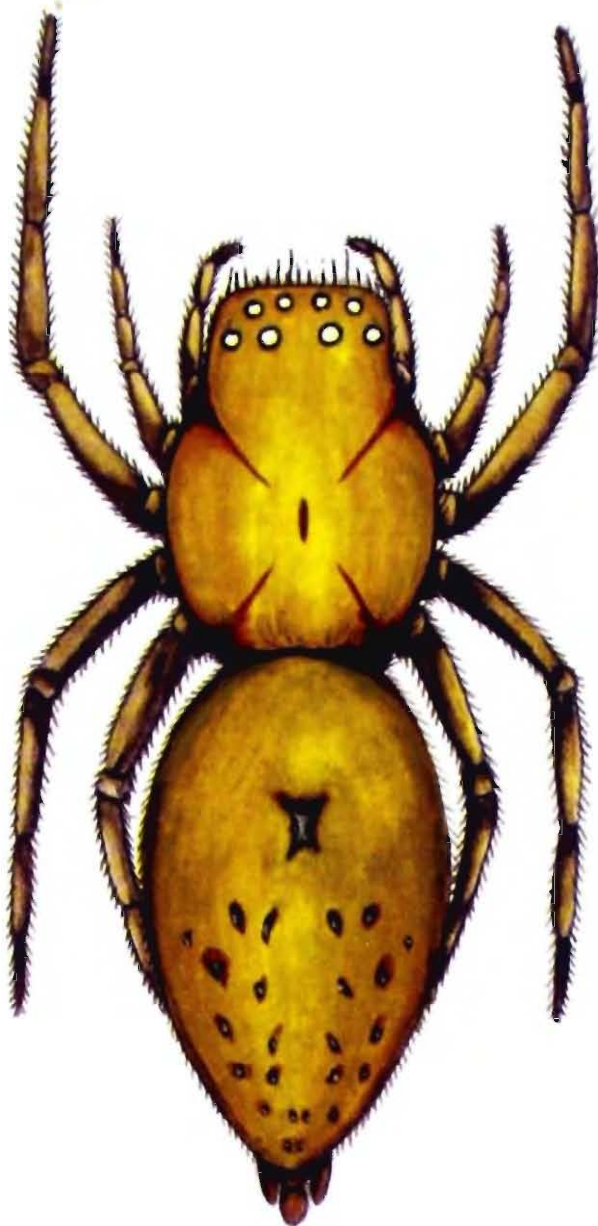
Distribution : All tropical part of the world.

Key to the species

1. Abdomen spindle shaped, the posterior half with ‘V’ shaped brownish ornamentation *C. drassodes*
- Abdomen not spindle shaped, the posterior half without ‘V’ shaped brownish ornamentation (2)
2. Eyes of the anterior median pearly white in colour and slightly smaller than anterior *C. filicata*

31. *Clubiona drassodes* Cambridge

Habit and Habitat : They are medium in size distributed in foliage of small trees or bushes and also in large grasses of mangrove and semimangrove areas of Sunderban. They are called the Sac-spider, because they constructed silken tubular sac closed both the end or open. The females firm the egg cocoon inside the nest. Preyed on small insects by direct attack upon the prey.



Diagnostic characters : Cephalothorax and legs yellowish brown, cephalothorax longer than wide with prominent fovea just behind the middle of the cephalothorax.. Eyes more or less same size, the anterior row slightly recurved, posterior row slightly procurved. Chelicerae moderately strong, inner margin provided with 2 similar teeth, outer margin with 3 dissimilar teeth. Legs long and moderately strong. Abdomen spindle shaped, the posterior half provided with V-shaped ornamentation.

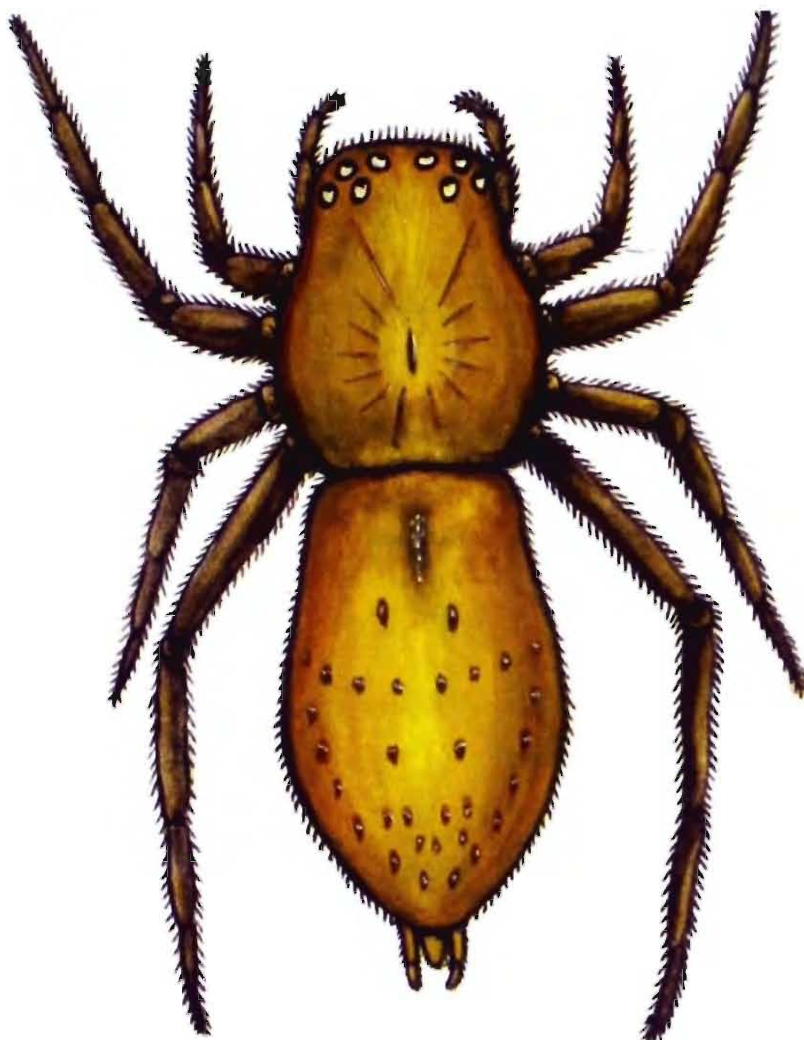
Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Burdwan; Uttar Pradesh; Bihar; Tamil Nadu.

Common name : Sac-spider

Economic importance : Acts as a predator of harmful insects in the crop fields.

32. *Clubiona filicata* Cambridge

Habit and Habitat : They are medium to smaller in size found in the shrub, herb or bushes near dump or ponds; some are found in the bushes near paddy fields. They are called the sac-spider because they construct silken tubular sac open both the ends or closed. They are found to live under loose barks of trees, sometimes they are found to make their way into the house and seen promenading the walls at night for searching of insects.



Diagnostic characters : Cephalothorax longer than wide with prominent fovea at the middle of the carapace. Anterior row of eyes recurved, posterior medians widely separated. Ocular quadrate wider than long. Labium and maxillae longer than wide. Chelicerae moderately strong, inner margin provided with 2 similar teeth and the outer margin with 3 dissimilar teeth. Legs long and strong. Abdomen longer than wide, pointed behind. Dorsum provided with few deep brown dots.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas); Maharashtra; Rajasthan; Madhya Pradesh.

Common name : Sac-spider.

Economic importance : Acts as a predator of harmful insect in the crop fields.

Genus *Cheiracanthium* Koch

Type species : *Cheiracanthium punctorium* Villers.

Distribution : All tropical parts of the world.

Key to the species

1. Genital bulb or male palpus broad anteriorly, membrane of the palpal organ well developed..... *C. trivialis*
- Genital bulb or male palpus usually narrowed anteriorly, membrane of the palpal organ not well developed (2)
2. Retrolateral apophysis of the tibia of male palpal organ generally short and not slender, slightly sinuous at its tip *C. melanostoa*
- Retrolateral apophysis of the tibia of male palpal organ generally long and slender, strongly sinuous at its tip (3)
3. Tarsi comparatively longer and less scopulated, maxillary lobe angulated distinctly at its outer side *C. himalayensis*
- Tarsi comparatively shorter and more scopulated, maxillary lobe not angulated distinctly at its outer side (4)
4. Abdomen oval in shape provided with three pairs of sigilla on the dorsum.....
..... *C. mysorensis*

33. *Cheiracanthium trivialis* Thorell

Habit and Habitat : These spiders are medium in size found in foliage of small trees, herb, shrubs or bushes near the crop fields of mangrove and semimangrove areas of Sunderban. They were also found to live in the drier situation than the humid atmosphere and construct a tubular sac under decayed log and under broad leaves of trees. The spider catches the prey by direct jumping upon the insects.

Diagnostic characters : Cephalothorax light brown, longer than wide, fovea present posterior region of the carapace. Eyes silvery white except anterior medians. Anterior row of eyes slightly recurved, posterior row longer than the anterior row, nearly straight. Lateral eyes both anterior and posterior close to each other. Chelicerae strong and stout, inner and outer margin provided with 2 teeth on each. Legs long and slender. Abdomen oval, longer than wide, tapering both the ends. Dorsum provided with large number of chalk white dots.

Distribution : India : West Bengal : Sunderban area (Thilla, Gosaba, Dist. South 24 Parganas), Nadia; Tamil Nadu; Madhya Pradesh; Maharashtra.

Elsewhere : Myanmar.

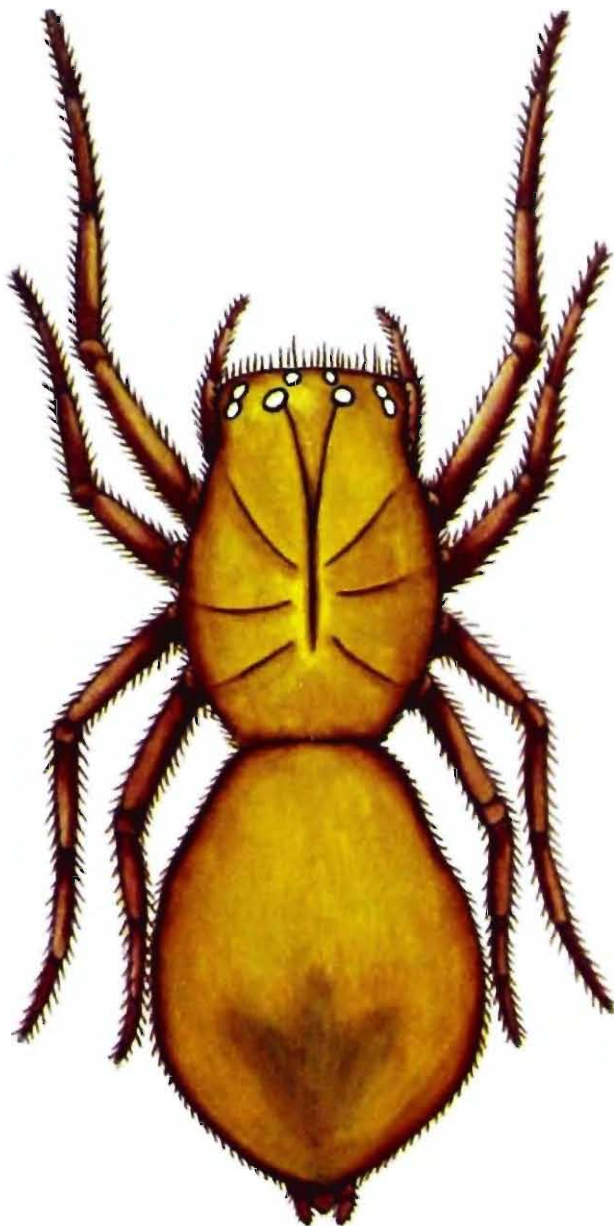
Common name : Sac-spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of swelling of the body parts.



34. *Cheiracanthium melanostoma* Thorell

Habit and Habitat : They are medium in size, distributed all over the crop fields, foliage of small trees, mangrove and semimangrove bushes or in the large grasses. They construct their cell or tubular whitish retreat in a grass head, bent in a characteristic fashion or curled leaves of plants. The female firms the egg cocoon inside the nest. Preyed on small insects by direct attack upon the prey.



Diagnostic characters : Cephalothorax light brown, longer than wide, fovea present below the median half of the carapace, cephalic region slightly high. Eyes silvery white, anterior row slightly recurved, posterior row longer than the anterior row more or less straight or slightly procurved. Both the lateral eyes close to each other. Chelicerae strong and stout, inner and outer margin provided with 2 teeth on each. Legs long and slender. Abdomen light brown, oval in shape, dorsum provided with few black dots.

Distribution : India : West Bengal : Sunderban areas (Canning, Gosaba, Dist. South 24 Parganas), Midnapur, Darjeeling, Mursidabad; Bihar; Rajasthan; Goa; Maharashtra; Gujarat; Mysore; Karnataka; Andaman & Nicobar Island.

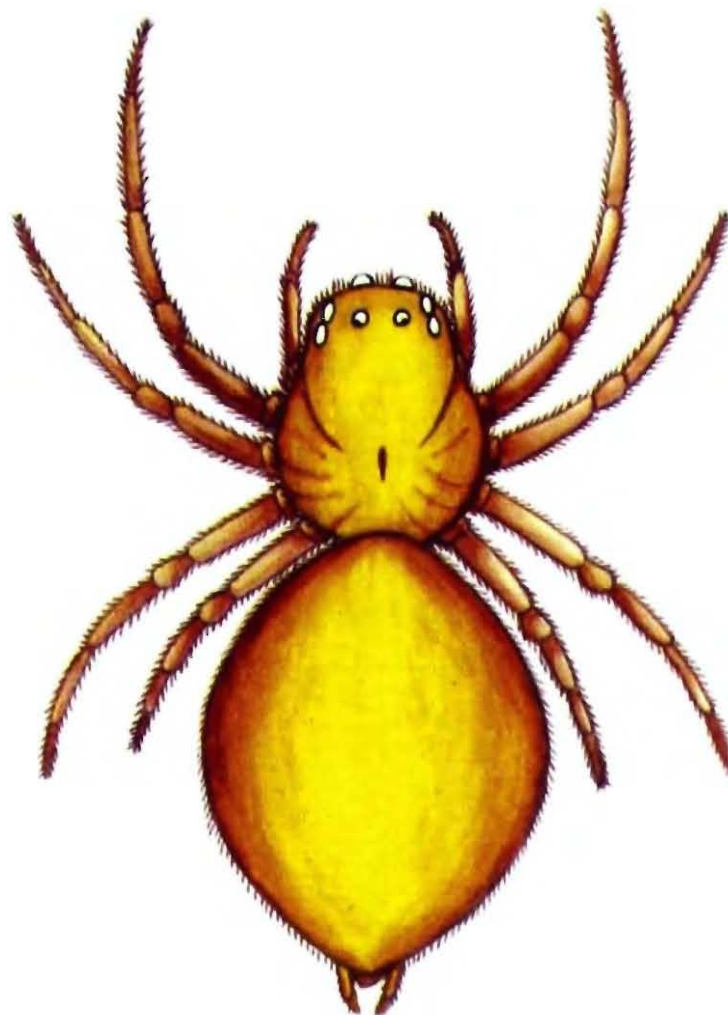
Elsewhere : Bhutan and Myanmar.

Common name : Sac-spider.

Economic importance : Medicinally important spider used by the tribals of Sunderban as drug for the cure of foul ulcer and cardiac troubles.

35. *Cheiracanthium himalayensis* Gravely

Habit and Habitat : These spiders are larger to medium in size distributed in the foliage of small trees, herb, shrub or bushes near the paddy fields, in particular season they are frequently predominant in the paddy fields for catching the peddy pest, hence they are called the essential predator of paddy pest. They were also found in the post monsoon month when the tall grasses are grown plenty in mangrove bushes of Sunderban areas, the females were found to construct broding nest with the help of larger blade of these grasses nicely curved in two tier folding, stuck with the help of sticky web threads. The mother spider firms an egg cocoon inside this nest and stays as guard. Preyed mainly by direct jumping upon the small insects.



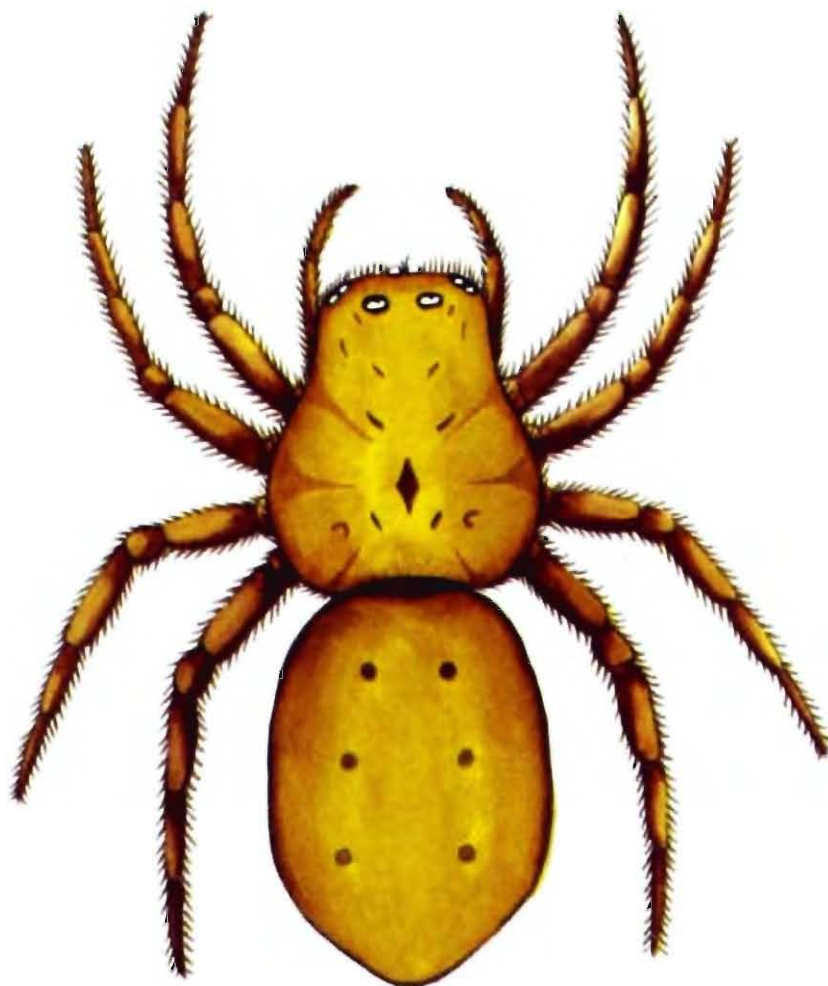
Diagnostic characters :

Cephalothorax brownish, oval in shape, longer than wide, provided with fine fovea at the middle of the carapace. Eyes pearly white, anterior row of eyes slightly recurved, posterior row slightly longer than the anterior row, more or less straight, medians remote from the laterals; both the laterals close to each other. Chelicerae strong and stout, inner margin provided with 2 teeth and the outer margin with 3 teeth. Legs long and slender, tarsi comparatively long and less scopulated. Abdomen light brown, longer than wide, dorsum provided with few black dots.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas), Darjeeling; Meghalaya; Gujarat; Maharashtra.

Common name : Sac-spider.

Economic importance : Medicinally important spider : used as a drug by Santhal and Munda of Sunderban for the cure of Rheumatism and Paralysis.

36. *Charcanthium mysorensis* Tikader & Majumder

Habit and Habitat :
They are medium in size found in foliage of small trees, herb, shrub or bushes in mangrove areas of Sunderban. They construct their cell or tubular retreat in a grass head, bent in a characteristic fashion or curled leaves of plants. The female firms the egg cocoon inside the nest. Preyed on small insects by direct attack upon the prey.

Diagnostic characters :
Cephalothorax reddish brown, longer than wide, fovea present at the middle of the carapace. Eyes in two rows, anterior row of eyes slightly recurved and the posterior row slightly procurved, longer than the anterior row. Chelicerae

strong and stout, inner and outer margin provided with 2 and 3 teeth. Legs long and slender, strong and stout, tarsi comparatively shorter and more scopulated. Abdomen light brown, elongated in form, dorsum provided with 3 pairs of sigilla.

Distribution : India : West Bengal : Sunderban area (Bagnaband, Gosaba, Dist. South 24 Parganas); Gujarat; Karnataka; Mysore; Madhya Pradesh.

Common name : Sac-spider.

Economic importance : Medicinally impotent spider used by tribal people of Sunderban as drug for the cure of Insomania and Epilepsy.

Genus *Castianeira* Keyserling

Type species : *Castianeira rubicunda* Keyserling.

Distribution : India, Africa, Malaysia, America and Canada.

Key to the species

1. Legs not so strong and without longitudinal markings or whitish band, posterior tibia without conspicuous band at the apex *C. himalayensis*
- Legs strong and with longitudinal markings or whitish band, posterior tibia with conspicuous band at the apex (2)
2. Dorsum provided with three transverse whitish band with well marked dark plate anteriorly *C. tiniae*

37. *Castianeira himalayensis* Gravely

Habit & Habitat : They are smaller in size found on foliage of small bushes as well as on the ground. Sometimes they have been collected under decayed wood and under stone. They were distributed in the soil litters of mangrove and semimangrove areas of Sunderban. They construct small tubular whitish retreat under logs or decayed wood near dump or river. The females spiders were found to firm the egg cocoon inside this whitish retreat. Preyed on small insect by direct jumping.

Diagnostic characters : Cephalothorax, legs and abdomen light brown, cephalic region slightly high with prominent fovea. Eyes pearly white, anterior row recurved, posterior row straight. Chelicerae strong, inner margin provided with 2 teeth and the outer margin with 3 teeth. Legs long and moderately strong. Abdomen longer than wide, small sclerotized scutum present anterior end of dorsum.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas).

Common name : Mutilated wasp spider.

Economic importance : Not known.



38. *Castianeira tinae* Patel & Patel

Habit and Habitat : They are smaller in size, ground dwellers, rarely found in the foliage of mangrove bushes. They run over the ground like mutilated wasp, sometimes they found in association with the ants. In some cases they were collected from the forest litters of mangrove vegetation. Prey on small insects by direct attack.

Diagnostic characters : Cephalothorax longer than wide clothed with fine pubescence, provided with median fovea. Eyes in two rows. Anterior row slightly recurved. Ocular quadrate wider than long. Maxillae and labium wider than long. Chelicerae provided with 2 teeth on both the inner and outer margin. Legs long and strong. Abdomen longer than wide, broader posteriorly. Dorsum provided with dorsal scutum and three white coloured transparent bands.

Distribution : India : West Bengal : Sunderban area (Haroa, Dist. North 24 parganas).

Common name : Mutilated wasp spider.

Economic importance : Not known.



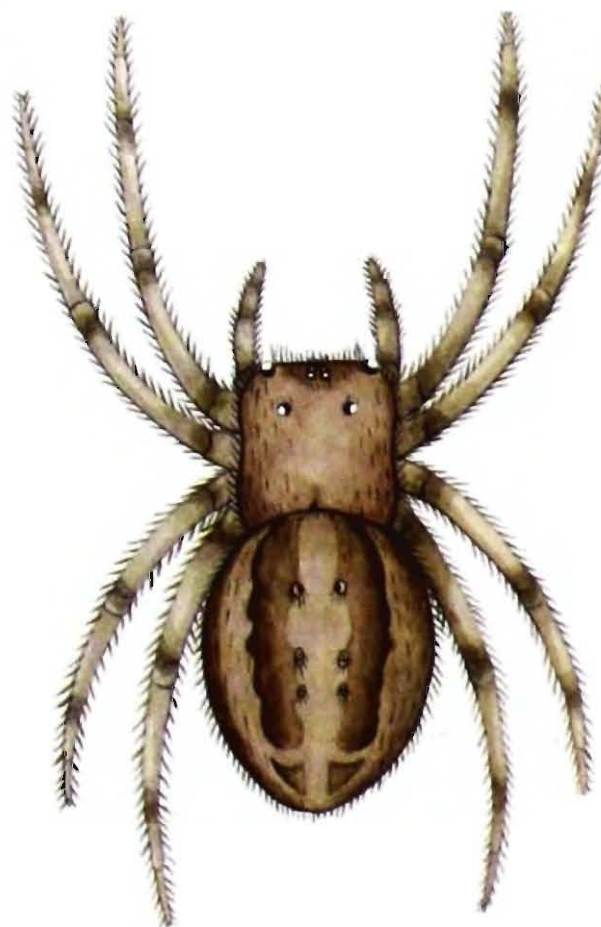
Family ERESIDAE
Genus *Stegodyphus* Simon

Type species : *Stegodyphus lineatus* Latreille.

Distribution : India, Asia, Africa and Arabia.

39. *Stegodyphus sarasinorum* Karsch

Habit and Habitat : They are medium in size, generally called the social spiders, 10 to 100 individuals live in a common nest of thickly woven branch of sticky threads, bundled along with few to many leaves and twigs of various trees. The nest is connected with many irregular passages through which the individuals move and keep in contact with each other. The main nest is supported time to time with sparsely spread out sheet of web for getting increasing chances of prey. Such type of nests are preferably prepared at the height of 10 to 15 feet above the ground level. These spiders matured and the gravid female live in the parent nest for proliferation and prepare new nests close or near to the parent nest. They do not sting the preys to death, but feeds on the captive alive.



Diagnostic characters : Cephalothorax roundish longer than wide, cephalic region large, centre of the cephalic region provided with fovea. Eyes in two rows, lateral eyes both anterior and posterior remote from the other eyes. The four median eyes forming an small quadrangle narrowing in front than behind Chelicerae strong and flat, fang groove scarcely toothed. Legs strong and stout. Abdomen oval, longer than wide, dorsum decorated with longitudinal whitish bands, anterior spinnerets thick.

Distribution : India : West Bengal : Sunderban area (Sagar Island, Dist. South 24 Parganas), Maldah, Midnapur, Burdwan; Orissa; Punjab; Maharashtra; Tamil Nadu.

Common name : Colonial spider.

Economic importance : Acts as a controlling agent of harmful insect, used by the tribal people of Sunderban.

Family GNAPHOSIDAE

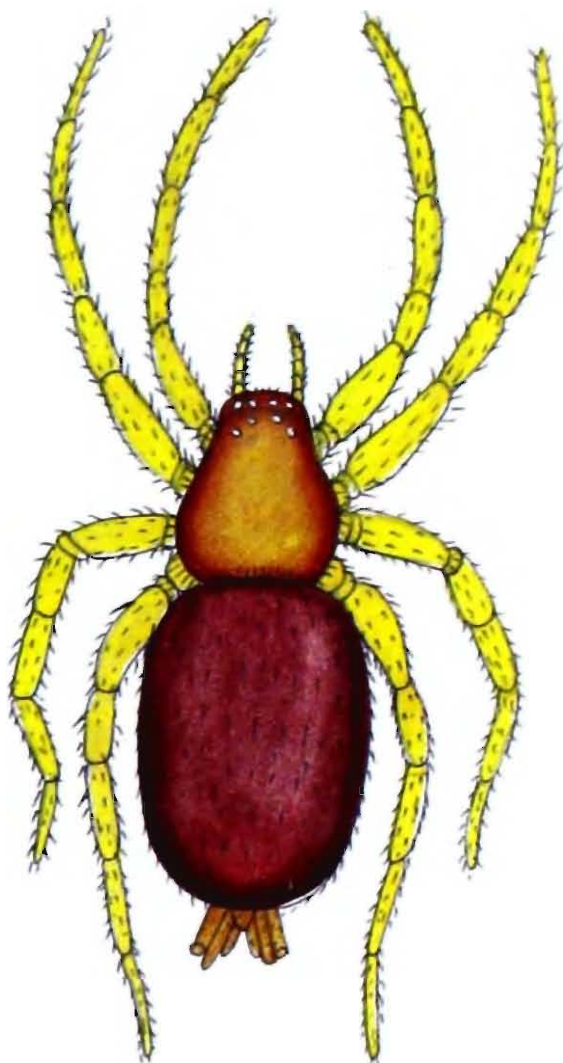
Key to the genera

1. Tibia III with no median dorsal spines; carapace with a distinct median furrow *Poecilochora*
- Tibia III with median dorsal spines, carapace without median furrow (2)
2. Eyes of posterior row nearly equal in size and equidistant from each other *Scopodes*

Genus 25. *Poecilochora* Westing

Type species : *Poecilochora variana* Koch.

Distribution : Cosmopolitan except Australia.

40. *Poecilochora barmani* Tikader

Habit & Habitat : These spiders are smaller in size, ground dwellers, found under loose bark of trees, under decayed logs and in the forest litters almost in mangrove and semimangrove areas of Sunderban. They prepare whitish retreat under decayed log and under stones or in the forest litters. In some cases they have been found to prepare whitish retreat under loose bark of trees. Preyed on small insects by direct jumping.

Diagnostic characters : Cephalothorax longer than wide narrow in front, provided with inconspicuous short fovea. Anterior and posterior row of eyes recurved. Chelicerae moderately strong, sternum oval in shape pointed behind. Abdomen longer than wide, elliptical in shape. Dorsum provided with whitish transverse band.

Distribution : India : West Bengal : Sunderban area (Bokkhali, Kakdwip, Sagar Island, Dist. South 24 Parganas); Meghalaya.

Common name : Two-clawed nocturnal hunting spider.

Economic importance : Not known.

Genus *Scopodes* Chamberlin

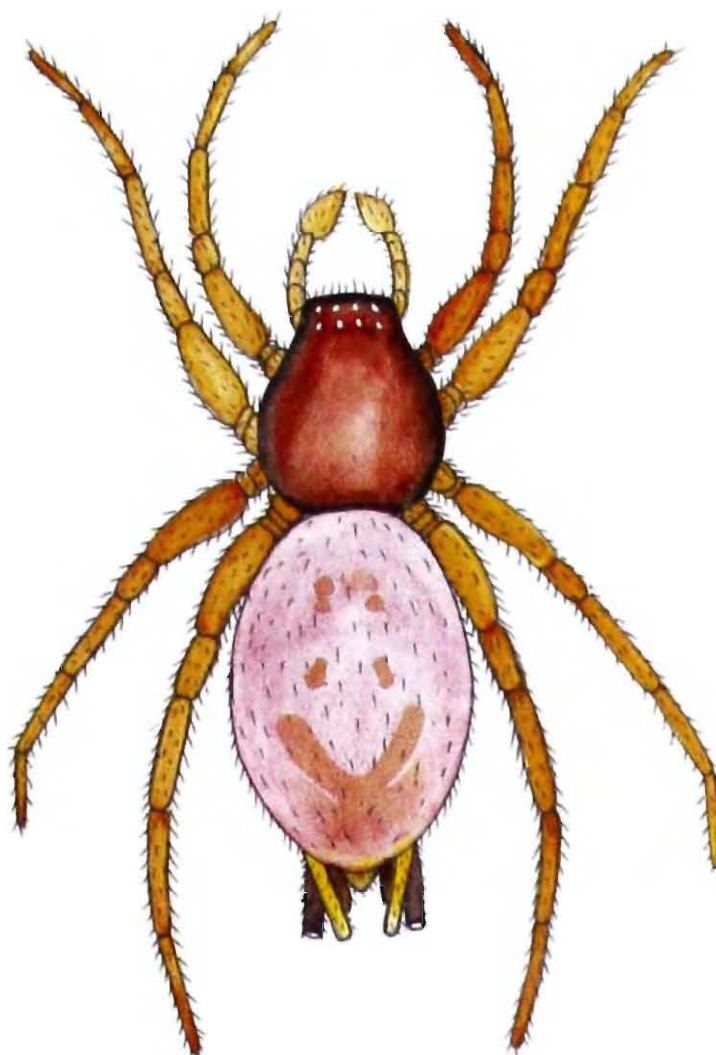
Type species : *Scopodes catharius* Chamberlin

Distribution : India, North America.

41. *Scopodes kuljitae* Tikader

Habit and Habitat : They are smaller in size found under stone, under decayed logs and in forest litters of mangrove and semi-mangrove areas of Sunderban. Mostly they inhabit under loose bark of trees. They are very active and run swiftly through narrow channels of loose bark of the trees. Sometimes they were collected from the farm litters and also under decayed logs. Like other gnaphosid they also prepare the tubular whitish retreat under loose bark of trees. catch small insect by direct jumping.

Diagnostic characters : Cephalothorax longer than wide, much narrow in front, provided with distinct fovea. Anterior and posterior row of eyes procurved. Chelicerae longer than wide, outer and inner margin provided with one tooth. Abdomen longer than wide. Dorsum provided with a deep brown mid-dorsal V shaped patches.



Distribution : India : West Bengal : Sunderban area (Sagar Island, Dist. South 24 Parganas); Maharashtra; Karnataka.

Common name : Two-clawed nocturnal hunting spider.

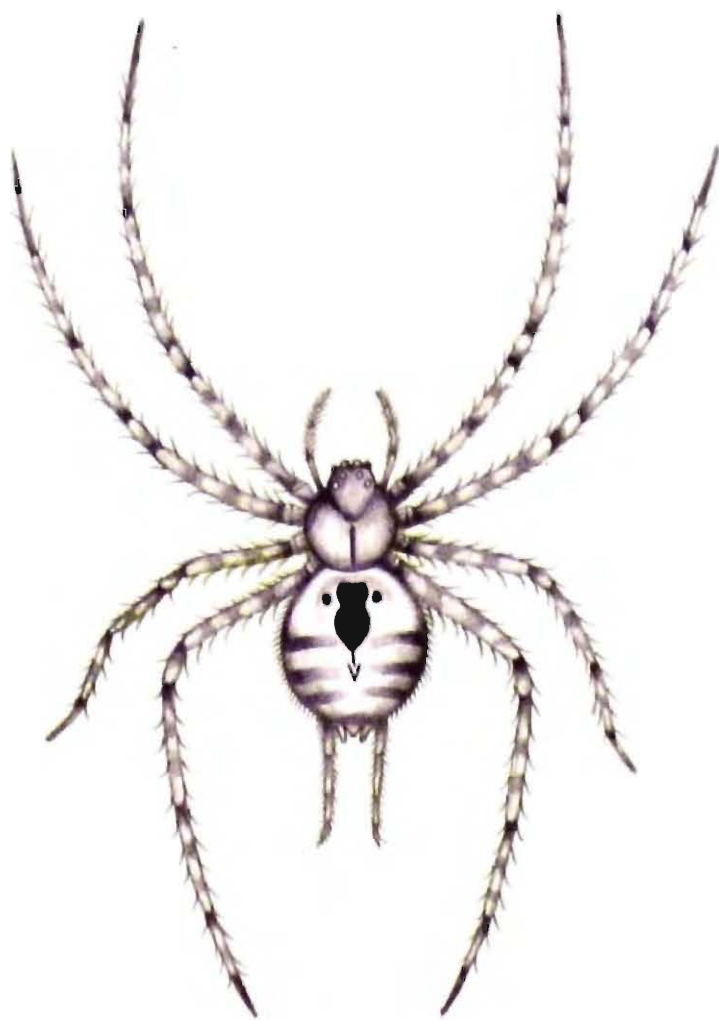
Economic importance : Not known.

Family **HERSILIDAE**
Genus ***Hersilia*** Audouin

Type species : *Hersilia caudata* Audouin

Distribution : Africa, Madagascar, Oriental region.

42. ***Hersilia savignyi*** Lucas



Habit and Habitat : They are larger to medium in size, called arboreal spider and found on the walls of old houses, never found on the ground. They are normally solitary, inhabit on the surface of trunk of large trees moving swiftly from one place to another. They are very active and swift runner, moving very fast and camouflaging with the colour of the substratum and spinning a scanty web of irregular threads. Feed on variety of smaller insects inhabiting on the tree trunk by direct attack.

Diagnostic characters : Cephalothorax longer than wide nearly rounded, anteriorly narrowing or nearly pointed. Colour varying from pale to black on the upper side. Eyes white, dissimilar, anterior row recurved, posterior row straight. Maxillae longer than wide. Labium wider than long. Abdomen broad apple shaped, dorsum decorated with different colours.

Distribution : India : West Bengal : Sunderban area (Hasnabad, Dist. North 24 Parganas; Gosaba, Dist. South 24 Parganas), Hoogly, Jalpaiguri, Maldah, Midnapur, Murshidabad, Nadia, West Dinajpur; Assam; Maharashtra; Tamil Nadu; Uttar Pradesh.

Elsewhere : Myanmar, Sri Lanka.

Common name : Arboreal spider.

Economic importance : Not known.

Family HETEROPODIDAE

Key to the genera

1. Maxillae not provided with distinct median longitudinal *Heteropoda*
- Maxillae provided with distinct median longitudinal creast *Spariolenus*

Genus *Heteropoda* Latreille

Type-species : *Heteropoda venatoria* (Linn.)

Distribution : India; Australia; China; Japan; U.S.A.; Sri Lanka.

Key to the species

1. Epigynum provided with a horizontal plate, lateral lobes are in contact throughout their length spermatheca not convulated *H. sikkimensis*
- Epigynum not provided with rounded plate, lateral lobes are in contact throughout their length spermatheca convulated (2)
2. Abdomen not black, without yellow border below *H. venatoria*

43. *Heteropoda sikkimensis* Gravely

Habit and Habitat : They are larger in size, non orb-weaver, arboreal and ground dwellers. This spider mostly live in rolled up dried leaves by preparing whitish retrate and come out from the retreats at night in search of food. Some times they are occasionally be seen in the human habitation inside the houses in dark corner. Female spider carries her egg-sac underneath the body. Preyed on medium size of insects by direct attack.

Diagnostic characters : Cephalothorax dull yellowish brown, wider than long, thoracic fovea longitudinal, fine and distinct. Anterior row of eyes slightly procurved, posterior row recurved; anterior lateral eyes slightly larger than posterior laterals. Chelicerae moderately strong, inner margin provided with 4 teeth and the outer margin with 3 teeth. Legs long and strong. Abdomen longer than wide, oval in shape. Epigyne provided with horizontal plate.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas; Hasnabad, Dist. North 24 Parganas), Darjeeling; Sikkim; Meghalaya.

Common name : Giant crab spider.

Economic importance : Medicinally important : used by the tribal people of Sunderban for the cure of Psoriasis.

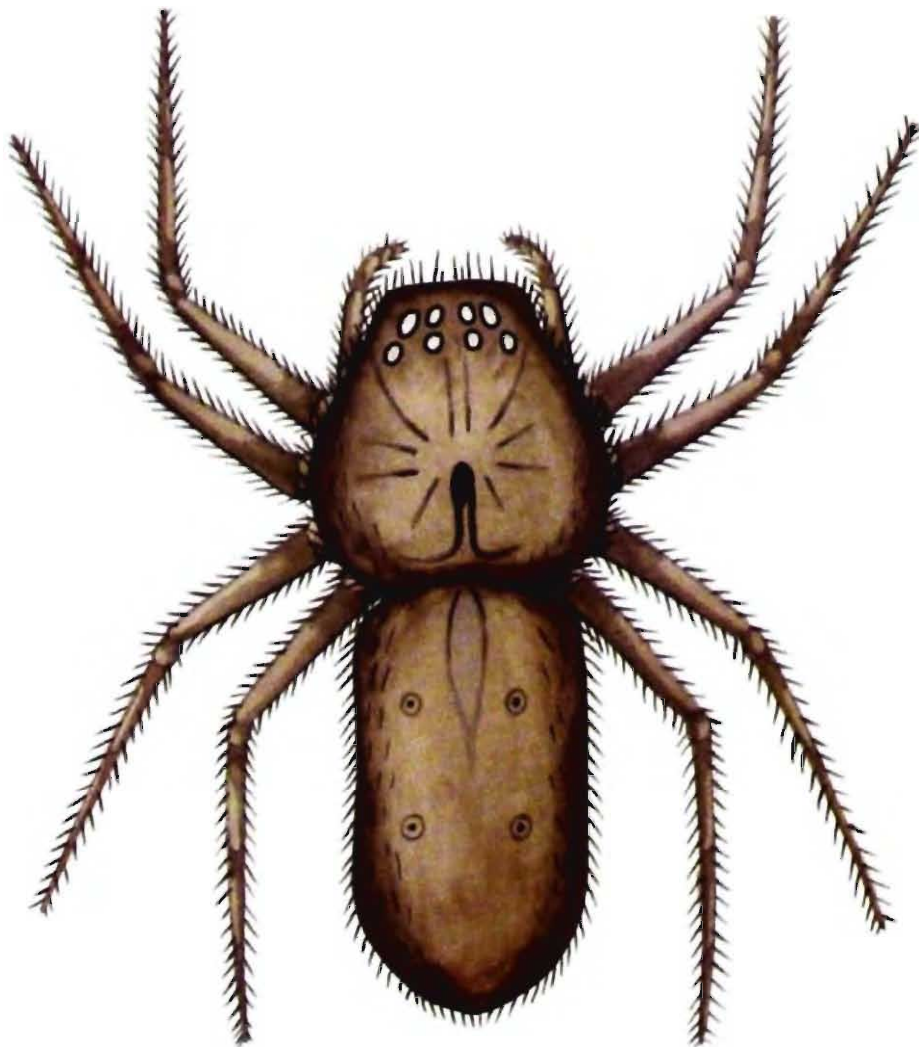


44. *Heteropoda venatoria* (Linnaeus)

Habit and Habitat : These spiders are larger in size and prefer warm places, found every where. They inhabit generally dark corner of houses under stone, fruit boxes and in the bushes of mangrove and semimangrove areas. The female spider carries her egg-sac underneath the body by clasping it with pedipalps. They catch the small insects by direct attack upon the prey. Some times the spider prepare whitish tubular retreat under stone or logs near houses.

Diagnostic characters : Cephalothorax brownish, as long as wide, thoracic furrow longitudinal and distinct. Anterior row of eyes procurved, posterior row slightly recurved. Both anterior and posterior laterals are equal in size. Chelicerae very strong,

inner margin provided with 4 teeth and the outer margin with 2 teeth. Legs long and strong. Abdomen elongated, tapering at the posterior end ; epigyne provided with rounded plate.



Distribution : India : West Bengal : Sunderban area (Hasnabad, Dist. North 24 Parganas), Darjeeling; Tamil Nadu; Bihar.

Common name : Giant crab spider

Economic importance : Medicinally important : used by the tribals of Sunderban for the cure of Rheumatism.

Genus *Spariolenus* Simon

Type species : *Spariolenus tigris* Simon.

Distribution : India, Sri Lanka, Malacca.

Key to the species

1. Carapace slightly wider than long, epigyne simple and less sclerotised
..... *S. petricola*
- Carapace slightly longer than wide, epigyne complicated and highly sclerotised
..... *S. tigris*

45. *Spariolenus petricola* Gravelly

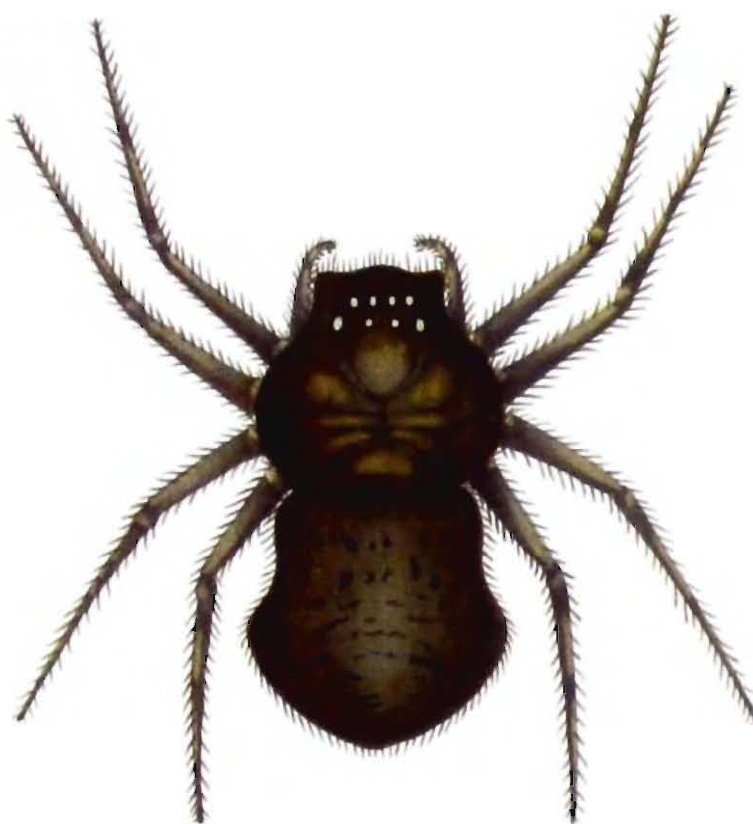
Habit and Habitat : This spider is larger in size looks like a small crab due to their arrangement of legs. Hence this spider generally called the giant crab spider. This species inhabit fruit boxes, under stone, foliage of bushes in the mangrove and semimangrove areas of Sunderban. They catch medium to large size of orthopteran, dipteran and hemipteran insects by direct attack.

Diagnostic characters : Cephalothorax brownish yellow, slightly wider than long, thoracic fovea deep, distinct and longitudinal. Anterior row of eyes procurved, anterior lateral eyes one and half times larger than anterior medians; posterior row of eyes recurved Chelicerae strong, inner margin with 5 teeth, outer margin with 3 teeth. Legs very long and strong. Abdomen pear shaped yellow with dark irregular patches. Epigyne simple and less sclerotised.

Distribution : India : West Bengal : Sunderban area (Haroa, Dist. North 24 Parganas); Goa; Orissa; Madhya Pradesh.

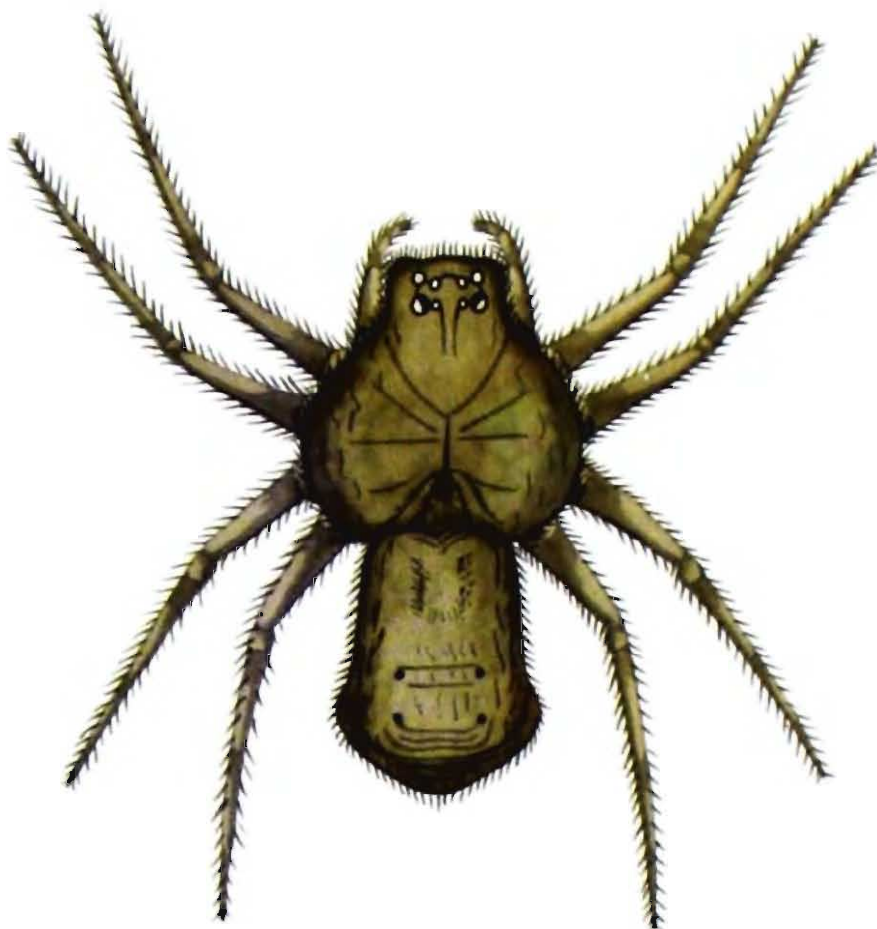
Common name : Giant crab spider.

Economic importance : Medicinally important : used by the tribals people of Sunderban for the cure of Toothache.



46. *Spariolenus tigris* Simon*Habit and Habitat :*

These spiders are larger in size and non orb-weaving, crab like appearance. They are arboreal as well as ground dwellers. They are found under decayed stone materials, inside the dark corner of houses. Sometimes the female spider carry the whitish egg cocoon on their abdomen. Preyed on smaller to medium size of insects by direct attack upon the prey.

*Diagnostic characters*

: Cephalothorax brownish yellow, slightly longer than wide; thoracic region provided with fovea. Anterior row of eyes procurved, anterior lateral eyes nearly twice larger than anterior medians; posterior row of eyes slightly recurved. Chelicerae moderately strong, outer margin provided with 3 teeth and the inner margin with 5 teeth. Legs very long and strong. Abdomen pentagonal, dorsum provided with two pairs of sigilla; epigyne complex and highly sclerotised.

Distribution : India : West Bengal : Sunderban area (Haroa, Dist. North 24 Parganas), Mursidabad, Hugli; Punjab; Bihar; Maharashtra.

Elsewhere : Pakistan.

Common name : Giant crab spider.

Economic importance : Medicinally important : used by the tribals of Sunderban for the cure of Leucorrhoea.

Family LYCOSIDAE

Key to the genera

1. Carapace glabrous or nearly so; tarsus I provided with a dorsobasal bristle which is much longer than the trichobothria *Arctosa*
- Carapace not glabrous or nearly so; tarsus I not provided with a dorsobasal bristle (2)
2. Posterior spinnerets distinctly longer than anterior; sternum generally provided with mid-longitudinal dark marking *Hippasa*
- Posterior spinnerets not distinctly longer than anterior; sternum not provided with mid-longitudinal dark markings (3)
3. Carapace hairy; tarsus I without a dorsobasal thin long bristle *Trochosa*
- Carapace not hairy; tarsus I provided with dorsobasal thin long bristle (4)
4. Anterior and posterior spinnerets are in equal length *Flanona*
- Anterior and posterior spinnerets are not in equal length (5)
5. Metarsi IV longer than tibia plus patella together *Ocyale*
- Metarsi IV never longer than tibia plus patella together (6)
6. Labium longer than wide and the basal excavation is prominent *Lycosa*
- Labium not longer than wide and the basal excavation is not prominent *Pardosa*

Genus *Arctosa* Koch

Type species : *Arctosa cinerea* (Fabricius).

Distribution : Cosmopolitan except Australia.

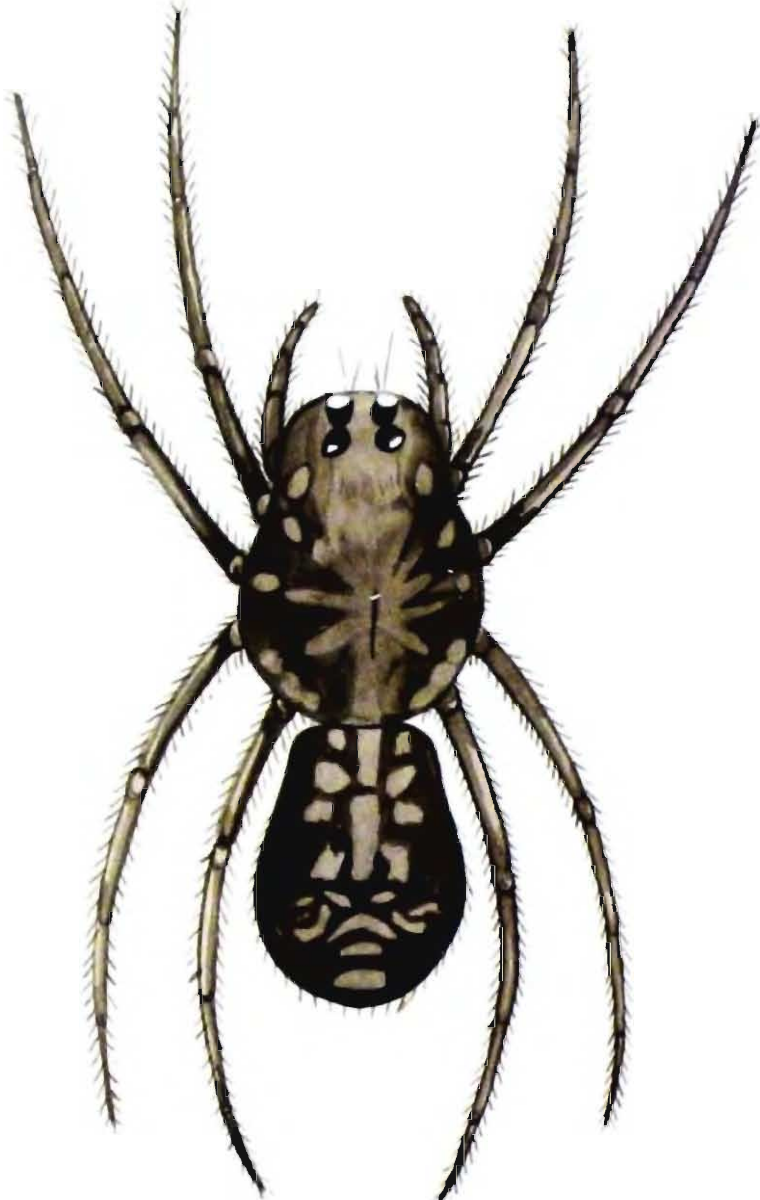
Key to the species

1. Patches of the bases of second and third row of eyes and the legs are provided with conspicuous brownish green patches *A. mulani*
- Patches of the bases of second and third row of eyes and the legs are not provided with conspicuous green patches (2)
2. Ventral side of the femora of all legs provided with greenish brown broad transverse band *A. indicus*
- Ventral side of the femora of all legs not provided with greenish brown broad transverse band (3)

3. Abdomen pointed behind, mid-dorsally provided with a longitudinal lense-shaped pale marking *A. himalayensis*
- Abdomen not pointed behind, mid-dorsally not provided with longitudinal lense-shaped pale marking (4)
4. Epigynal cleft not bifurcated both the ends *A. khudiensis*
- Epigynal plate bifurcated both the ends *A. sandeshkhaliensis*

47. *Arctosa mulani* (Dyal)

Habit and Habitat : They are medium in size inhabitant in the wet litters, under log or stone of mangrove and semimangrove forest area of Sunderban. They are very swift runner and escapes quickly while collecting. They catch smaller to medium size of insects inhabiting in the wet litters by direct attack.



Diagnostic characters : Cephalothorax pale brown in colour, longer than wide. Anterior row of eyes straight and the bases of the eyes provided with black patches. Eyes of the second row larger than the others. Chelicerae strong, inner margin provided with three teeth. Legs long. Abdomen greenish brown, oval. Dorsum provided with irregular patches.

Distribution : India : West Bengal : Sunderban area (Kulpi, Mandirbazar, Dist. South 24 Parganas); Meghalaya; Maharashtra.

Elsewhere : Pakistan.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest of corn fields.

48. *Arctosa indicus* Tikader & Malhotra

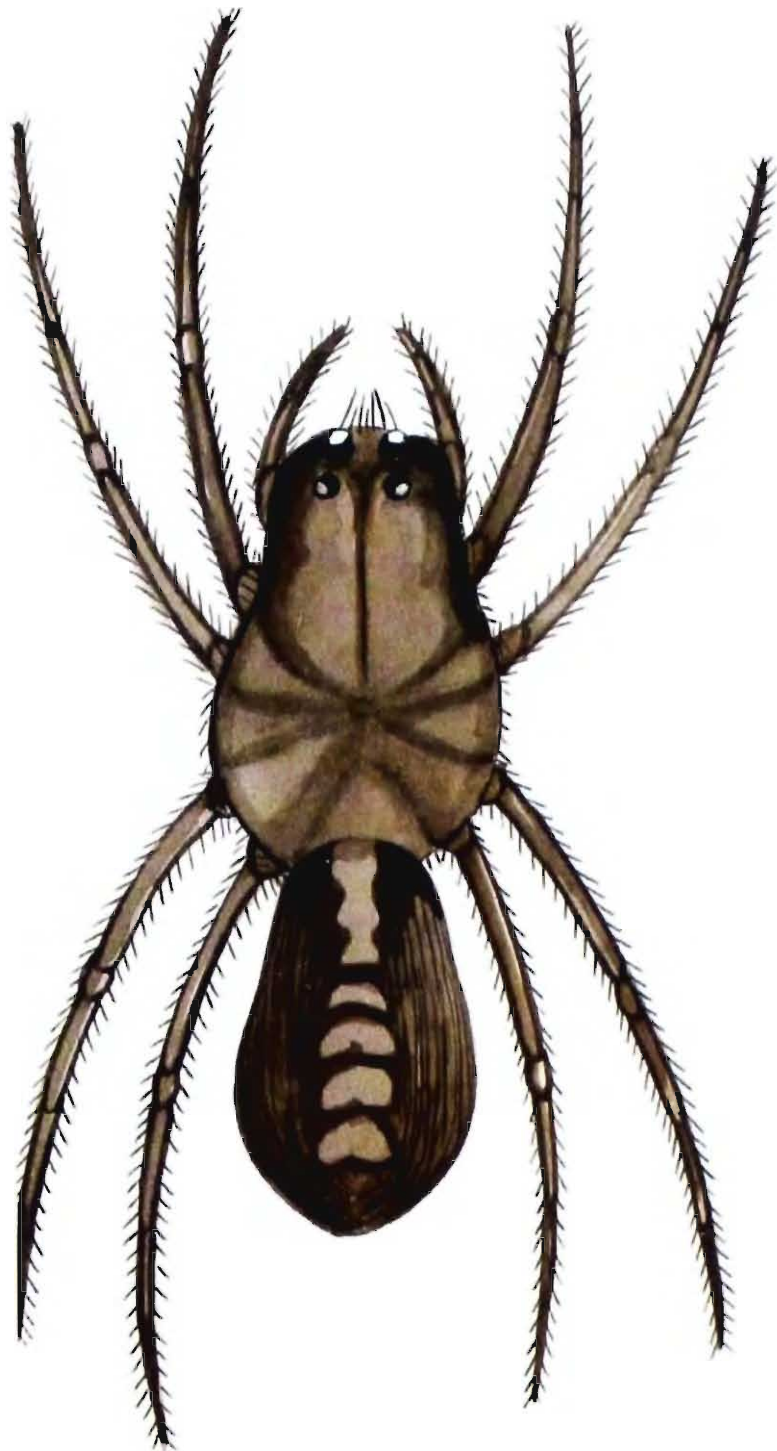
Habit and Habitat : They are medium in size found to inhabiting damp area near pond, stream and river bed of Sunderban. They feed on small insects by direct attack. They are swift runner, when disturbed they run to hide under logs or stones. They catch the small insects by direct jumping upon the prey.

Diagnostic characters : Cephalothorax dark brown in colour, cephalic region glabrous and slightly elevated, centre of the thoracic region provided with conspicuous fovea. Anterior row of eyes slightly recurved, patches of the bases of second and third row of eyes not contiguous. Eyes of the second and third row almost equal in size. Chelicerae strong, inner margin provided with three small teeth. Legs strong and stout. Abdomen brownish, black and oval. Dorsum provided with greenish black and pale patches.

Distribution : India : West Bengal : Sunderban area (Kulpi, Dist. South 24 Parganas; Hingalgunj, Dist. North 24 Parganas); Maharashtra.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest of corn fields.



49. *Arctosa himalayensis* Tikader & Malhotra

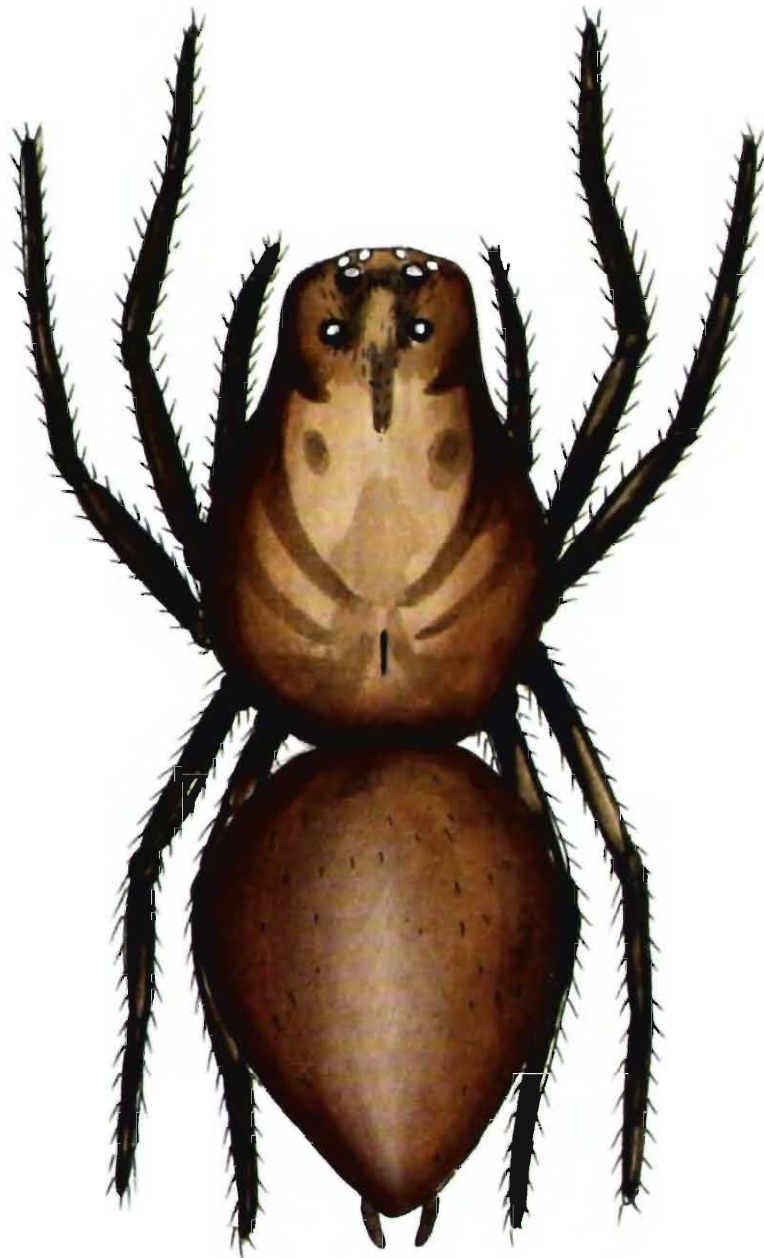
Habit and Habitat : They are larger to medium size, found to prefer humid atmosphere, since they are frequently found near the edges of ponds, lake and the river beds of Sunderban. They feed on small insects inhabiting in soil litters by direct attack.

Diagnostic characters : Cephalothorax brown in colour, longer than wide, thoracic region provided with sharp fovea. Anterior row of eyes straight and long as the second row; eyes of the second row larger than the others. Ocular quadrate wider behind narrowing in front. Chelicerae strong, inner margin of the chelicerae provided with three small teeth. Legs moderately strong. Abdomen pointed behind, provided with a lense shaped pale marking.

Distribution : India : West Bengal : Sunderban area (Minakhan, Dist. North 24 Parganas); Uttar Pradesh.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the corn fields.



50. *Arctosa khudiensis* (Sinha)

Habit and Habitat : They are medium size, found to inhabit moist forest litters. They are swift runner when disturbed they run fast for shelter in soil crevices or under logs. They feed on small insect inhabiting in moist soil litters by direct attack.

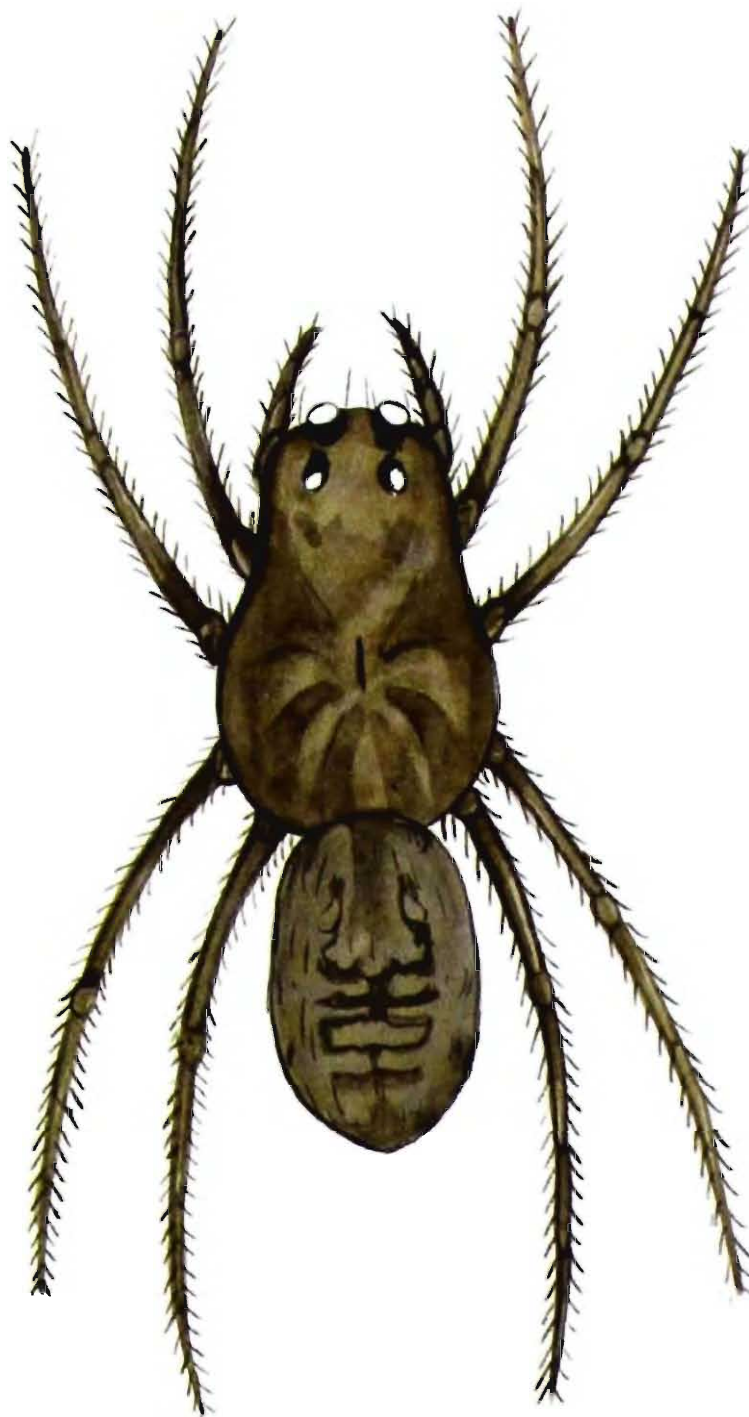
Diagnostic characters : Cephalothorax yellowish brown in colour longer than wide, centre of the thoracic region provided with a sharp fovea. Anterior row of eyes straight, medians slightly larger than the laterals. Ocular quadrate wider behind and narrowing in front. Chelicerae strong, inner margin provided with three teeth. Legs thin and long. Abdomen oval, not pointed behind, dorsum provided with longitudinal lense-shaped grey marking.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas); Meghalaya; Bihar.

Elsewhere : Pakistan.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



51. *Arctosa sandeshkhaliensis* Majumder

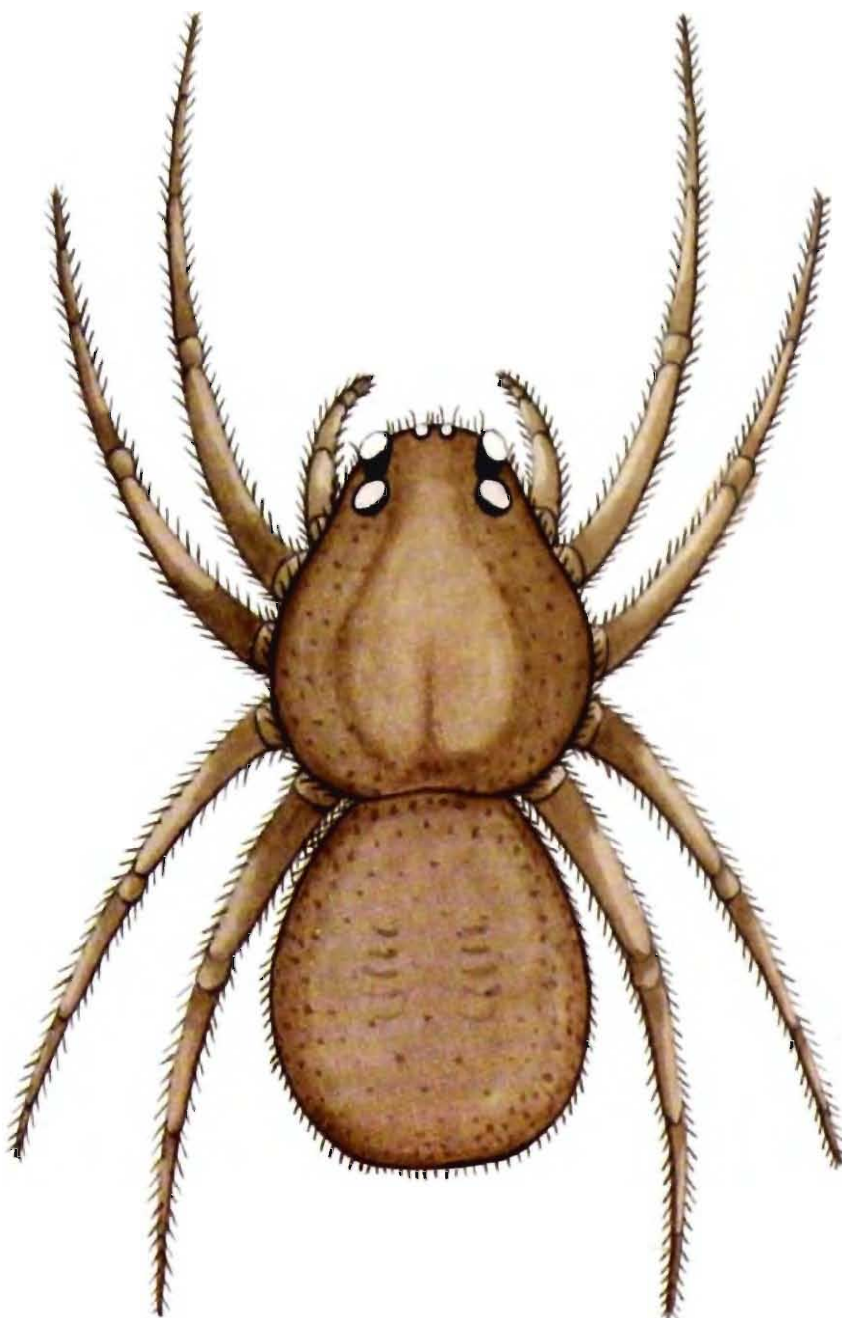
Habit and Habitat : They are medium in size, found to prefer marshy lands because the new species was collected from the paddy fields of the Sunderban areas. This species is very active and swift in running. It is very difficult to collect them from the fields. When disturbed they run away and hide under soil crevices. They feed on small insect inhabiting in marshy land by direct attack upon the prey.

Diagnostic characters : Cephalothorax slightly longer than wide, narrow anteriorly and wider at the middle. Thoracic region provided with a deeply distinct longitudinal fovea. Eyes pearly white, anterior row of eyes straight; eyes of the second and third rows similar in structure and larger than those of the first row. Chelicerae longer than wide, inner margin with 4 teeth, outer margin with 2 teeth. Legs long, not so strong. Abdomen longer than wide, oval in shape without ornamentation.

Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Dist. North 24 Parganas).

Common name : Wolf spider

Economic importance : Acts as a predator of paddy pest in the field.



Genus *Hippasa* Simon*Type species* : *Hippasa agelenoides* (Simon)*Distribution* : Madagascar : Africa, Malayasia, India.**Key to the species**

1. Chitinous plate covering the pit of the vulve and bifurcated posteriorly, producing a pair of large elevated triangular plate *H. greenalliae*
- Chitinous plate not covering the pit of the vulve, not producing a pair of elevated triangular plate (2)
2. Plate of vulve produced into a tongue like process very much drawn out posteriorly *H. holmerae*
- Plate of vulve not produced into a tongue like process (3)
3. Ventral side of the abdomen provided with three longitudinal dark bands extending from the epigastric fold to the base of the spinnerets *A. portita*
- Ventral side of the abdomen not provided with three longitudinal dark bands extending from the epigastric fold to the base of the Spinnerets *A. olivacea*

52. *Hippasa greenalliae* (Blackwall)

Habit & Habitat : These spiders are smaller in size inhabiting in soil litters of mangrove and semimangrove areas of inhabited zone of Sunderban. Generally they are found in aquatic land, specially adjacent grassy paddy fields or marshy grassy lands on both the sides of metallic roads. Some are found to live near stagnant dump. They catch their prey by direct jumping upon the prey.

Diagnostic characters : Cephalothorax longer than wide, brown in colour, cephalic region high and abruptly narrowing from the thoracic region. Anterior row of eyes straight, posterior recurved, slightly longer than the anterior row. Chelicerae moderately strong inner margin provided with three prominent teeth. Legs long and strong Abdomen longer than wide, pointed behind, anterior median area provided with longitudinal brown patch followed by transverse patches. Plate of the vulva bifurcated posteriorly, producing a pair of large elevated triangular plate.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Prgs.), Darjeeling; Orissa; Kerala; Tamil Nadu; Karnataka; Maharashtra; Sikkim.

Common name : Funnel orb-webing spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



53. *Hippasa holmerae* Thorell

Habit and Habitat : These spiders smaller in size, mostly they are inhabited under trees generally marshy land or moist grassy lands are predominant. They are found to built the funnel retreat outside of which expanded into a sheet web. Preyed on small insect by direct jumping upon the insects.

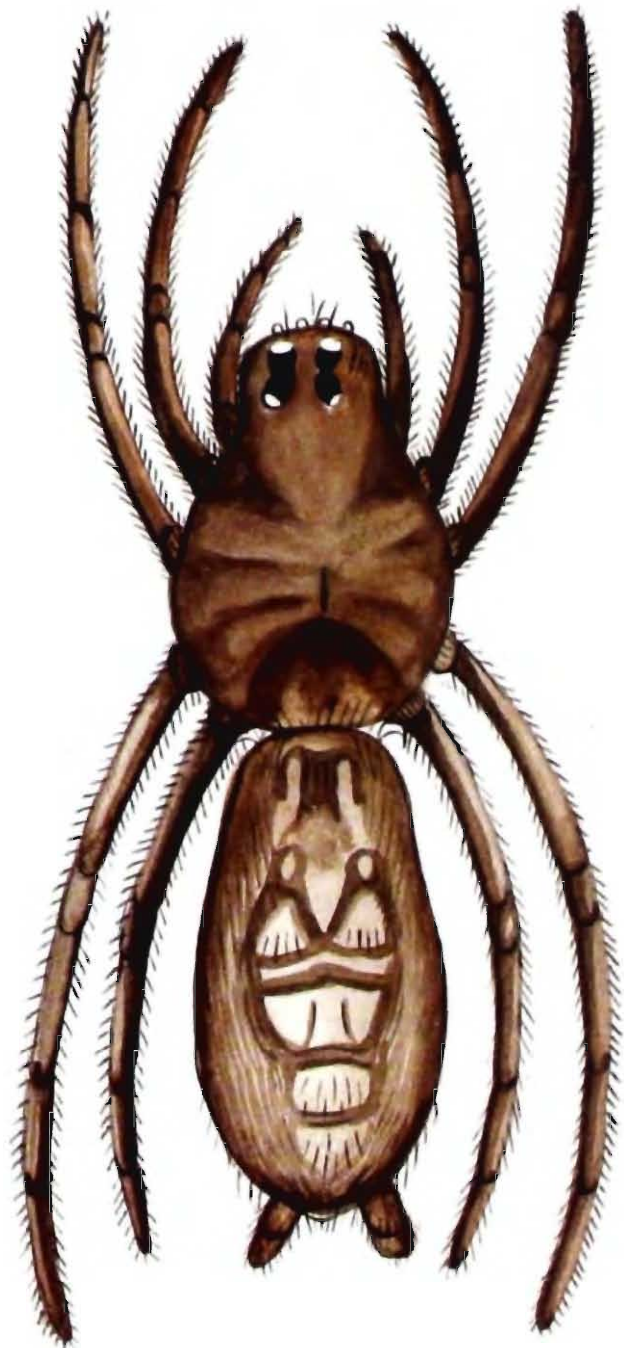
Diagnostic characters : Cephalothorax light brown, longer than wide, thoracic region provided with distinct fovea. Anterior row of eyes slightly procurved, wider than second row, posterior row almost equal in size. Chelicerae moderately strong, inner margin provided with three teeth. Legs long and thin. Abdomen light brown longer than wide, dorsum decorated with greenish brown and white spots and patches, plate of the vulva producing into a tongue like process very much drawn out posteriorly.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. North and South 24 Parganas), Darjeeling; Uttar Pradesh; Manipur.

Elsewhere : Myanmar, Singapur, West China.

Common name : Funnel orb-webing spider

Economic importance : Acts as a predator of insect pest in the crop field.



54. *Hippasa partita* (Cambridge)

Habit and Habitat : They are smaller in size found to prepare tube like retreat which is deep into soil crevices and may be extended from six inches to one foot deep from the expanded sheet. When the spider appear in a danger they go to the extreme end of the tube. They catch the small insects by direct jumping.

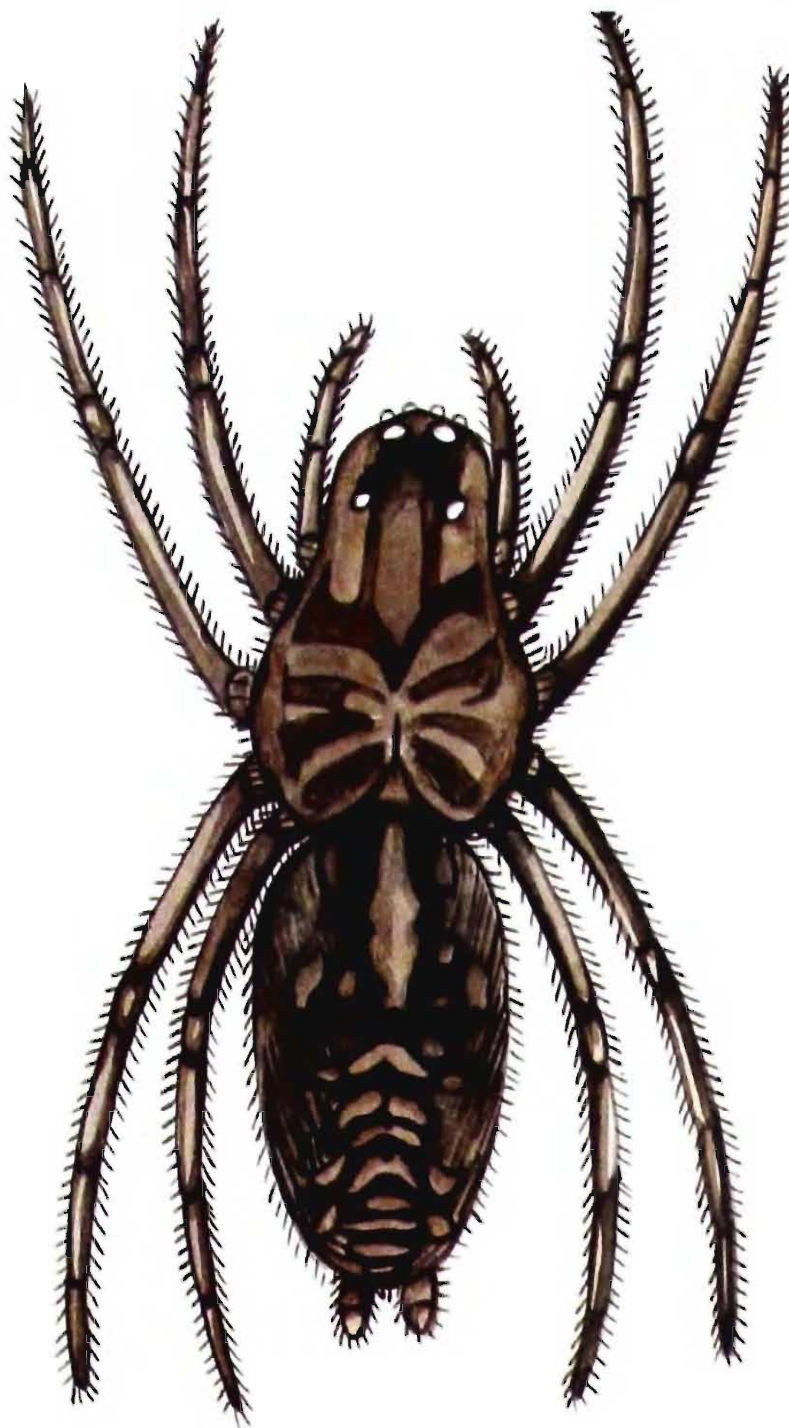
Diagnostic characters : Cephalothorax pale brown in colour, longer than wide, provided with conspicuous fovea at the centre. Anterior row of eyes slightly procurved and wider than the second row. Chelicerae strong, both the inner and outer margin provided with 3 teeth. Legs long and slender. Abdomen greenish brown, longer than wide, pointed behind, dorsum provided with greenish brown and pale patches.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas); Gujarat; Rajasthan.

Elsewhere : Egypt, Arabia, Pakistan.

Common name : Funnel orb-weaving spider

Economic importance : Acts as a predator of insect pest in the crop-field.



55. *Hippasa olivacea* (Thorell)

Habit and Habitat : They are smaller in size, found to prepare the web at the base of stem of large trees of mangrove and semimangrove vegetation near the bank of river, pond or streams. Like *Hippasa portita* they prepare the tube like structure which is extended into the land crevices measuring 6 inches to one foot. When the spider disturbed they run into the end of the tube for shelter. They feed on small insects by direct attack.

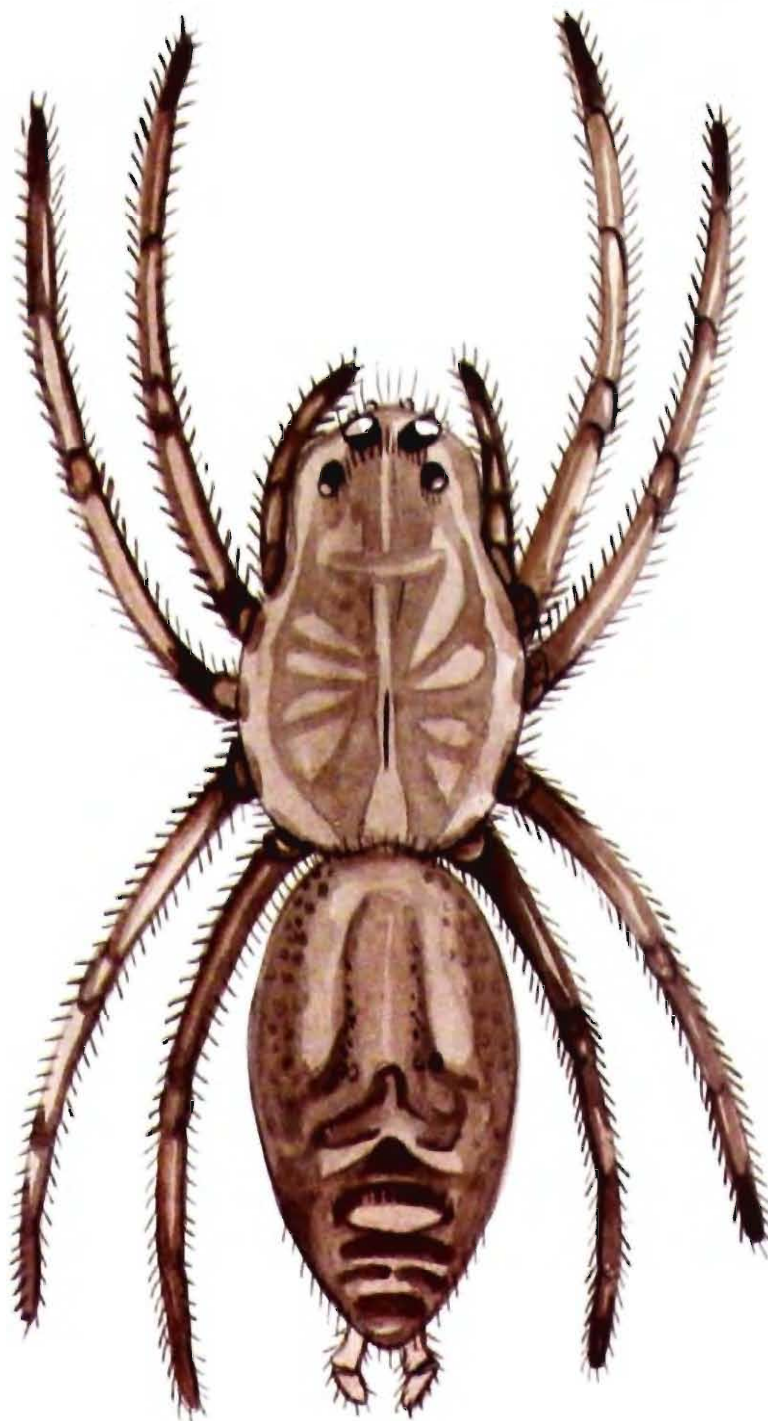
Diagnostic characters : Cephalothorax light brown, cephalic region provided with distinct fovea. Anterior row of eyes slightly procurved, eyes of the second row larger than the others. Ocular quad wider than long. Sternum heart shaped. Chelicerae strong, inner margin provided with three teeth. Legs long and especially IV pair conspicuously longer. Abdomen brownish green, longer than wide, tapering at the posterior end. Dorsum provided with dark greenish and pale patches arranged alternately. Ventral side without 3 longitudinal dark band.

Distribution : India : West Bengal : Sunderban area (Dist. North & South 24 Parganas);

Elsewhere : Myanmar.

Common name : Funnel orb-weaving spider

Economic importance : Acts as a predator of insect pest in the crop-field.



Genus *Trochosa* Koch

Type species : *Trochosa rucicola* (De Geer)

Distribution : India, America, New England, Europe.

56. *Trochosa punctipes* (Gravely)

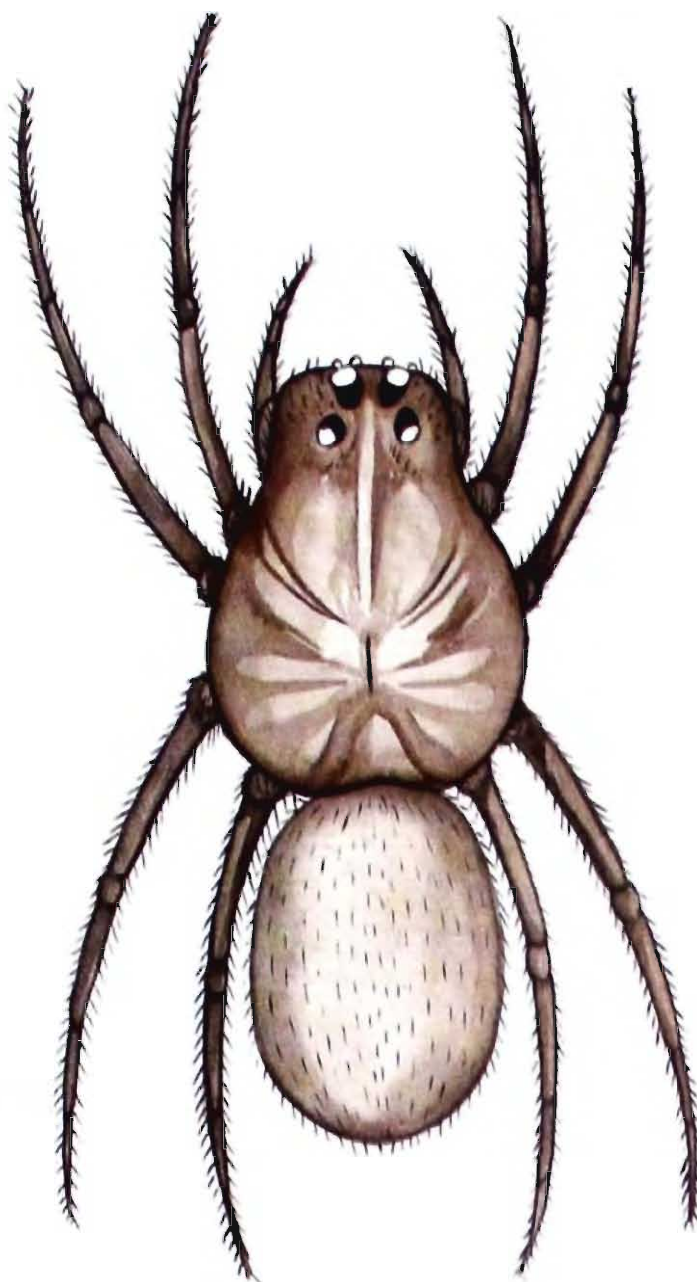
Habit and Habitat : This species prepare vertical or slanting tubes, inner surface of this tube lined with silk like secretion. This tube may be extended up to one and half foot below the ground. This species inhabiting in this tube and comes out for food at night. In some cases the spider stay at the mouth of the retreat when sense of danger they go at the extreme end of the tube for safety. Preyed on small insect by direct attack.

Diagnostic characters : Cephalothorax longer than wide, cephalic region high, Provided with conspicuous fovea. Anterior row of eyes slightly recurved, ocular quadrate wider than long narrowing in front. Labium longer than wide. Chelicerae strong, legs long and strong. Abdomen longer than wide, dorsum provided with two longitudinal rows of dark brown patches which extend the whole length.

Distribution : India : West Bengal : Sunderban area (Dist. South 24 Parganas), Mursidabad; Bihar; Tamil Nadu; Uttar Pradesh.

Common name : Trap-door spider

Economic importance : Acts as a predator of insect pest in the crop field.



Genus *Flanona* Simon

Type species : *Flanona puellula* Simon.

Distribution : India; Sri Lanka.

57. *Flanona puellula* Simon

Habit and Habitat : These spiders are smaller in size, like *Lycosa* this species prefer humid atmosphere. They inhabit near the edges of pond, stagnant damp and river bed. They are very expert in running through the wet grassy land. When disturbed they hide under the grass. Mode of prey similar to other lycosid spiders.

Diagnostic characters : Cephalothorax longer than wide, fovea present at the middle of thoracic region. Anterior row of eyes equal in size and straight. Eyes of the second row larger than the other, posterior row wider than long. Sternum heart shaped. Chelicerae moderately strong. Legs long and slender. Abdomen longer than wide, much wider behind than middle. Dorsum provided with greenish brown and pale patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas),

Elsewhere : Sri Lanka.

Common name : Three clawed hunting spider.

Economic importance : Acts as a insect pest in the crop field.



Genus *Ocyale* Audouin

Type species : *Ocyale Atalanta* Audouin.

Distribution : India; Europe; Egypt; Ethiopia; Sri Lanka, Myanmar; Congo; Guinea.

58. *Ocyale atalanta* Audouin

Habit and Habitat : These spiders are smaller in size, prefer dry and humid atmosphere. They are very small spider. They inhabit forest litters, sometimes they are found in foliage of small trees with the ants as well as flowering shoot of plants. They catch very minute insects by direct jumping.

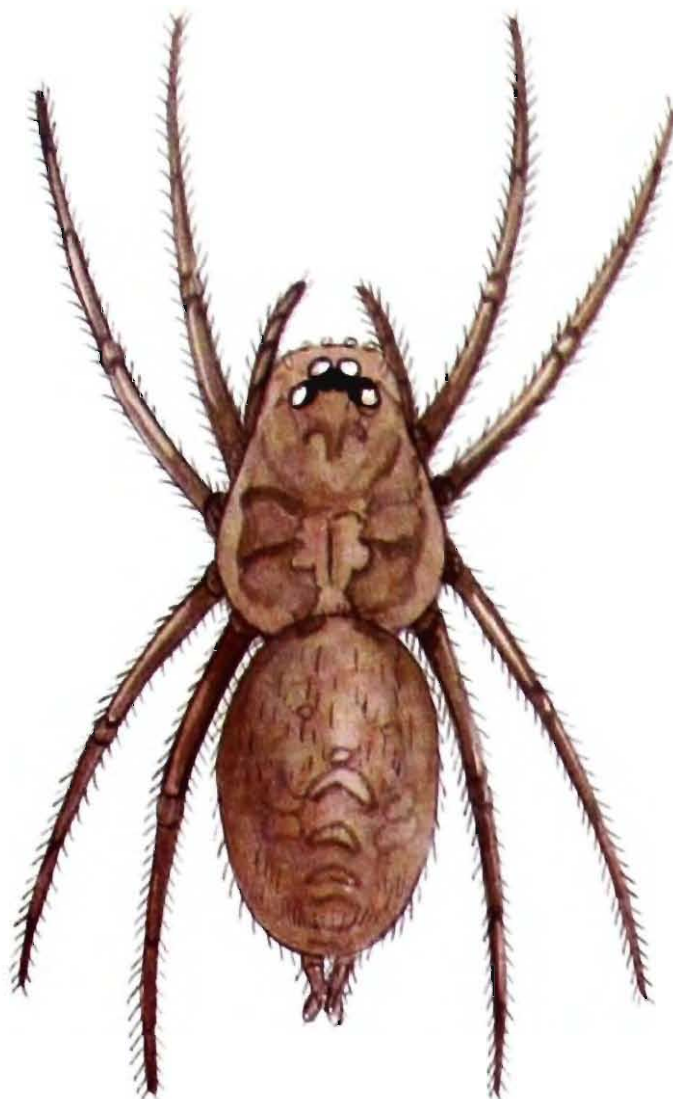
Diagnostic characters : Cephalothorax longer than wide with prominent fovea at middle. Anterior row slightly recurved. Ocular quadrate wider behind. Labium slightly longer than wide. Maxillae very much wider at the distal end. Chelicerae strong and inner margin provided with three prominent teeth. Legs long and strong. Abdomen oval, pointed behind, dorsum provided with irregular brown and yellow patches. Posterior spinnerets not longer than the anterior spinnerets.

Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Dist. South 24 Parganas; Gosaba, Dist. South 24 Parganas); Meghalaya; Orissa, Bihar.

Elsewhere : Sri Lanka, Africa, Myanmar, Egypt, Ethiopia, Guinea and Congo.

Common name : Three clawed hunting spider

Economic importance : Acts as a predator of insect pest in the crop field.



Genus *Lycosa* Latreille

Type species : *Lycosa tarantula* Rossi

Distribution : All over the world.

Key to the species

1. Ventral side of the abdomen provided with a broad dark brown patches extending from the epigastric fold to the base of the spinnerets *L. chaperi*
 - Ventral side of the abdomen pale and without such types of patches (2)
2. Carapace redish brown in colour, femora of all legs provided with light patches *L. kempi*
 - Carapace not redish brown in colour, femora of all legs not provided with any patches (3)
3. Maxillae much broader at the distal end, coxa dorsally provided with brown irregular patches *L. choudhuryi*
 - Maxillae not much broader at the distal end, coxa dorsally not provided with brown irregular patches (4)
4. Cephalothorax not provided with a mid longitudinal and sub-marginal pale bands *L. spoonaensis*
 - Cephalothorax not provided with a mid longitudinal and sub marginal pale bands (5)
5. Ventral side of the abdomen provided with two inclined rows of small red spots near the epigastric furrow *L. masteri*
 - Ventral side of the abdomen not provided with two inclined rows of small red spots near the epigastric furrow (6)
6. Abdomen broadest behind, dorsally ornamented with a conspicuous 'V' shaped marking *L. mackenzie*
 - Abdomen pointed behind with no conspicuous 'V' Shaped marking (7)
7. Sternum provided mid-longitudinally with a conspicuous broad black band *L. mahabalesarensis*
 - Sternum mid-longitudinally with no conspicuous broad black band (8)
8. Anterior row of eyes straight, Ocular quadrate wider than long *L.himalayensis*
 - Anterior row of eyes procurved, ocular quadrate longer than wide (9)
9. Lense shaped greenish brown patches present longitudinally at the antero median side of the dorsum *L. pictula*

- No lense shaped greenish brown patches present on the antero median side of the dorsum..... (10)
- 10. Sternum and coxa not dark brown and the ventral side of the tibia III and IV provided with broad black band at the extremities *L. tista*
- Sternum and coxa dark brown and the ventral side of the tibia III and IV provided without broad black band at the extremities *L. shillongensis*

59. *Lycosa chaperi* Simon

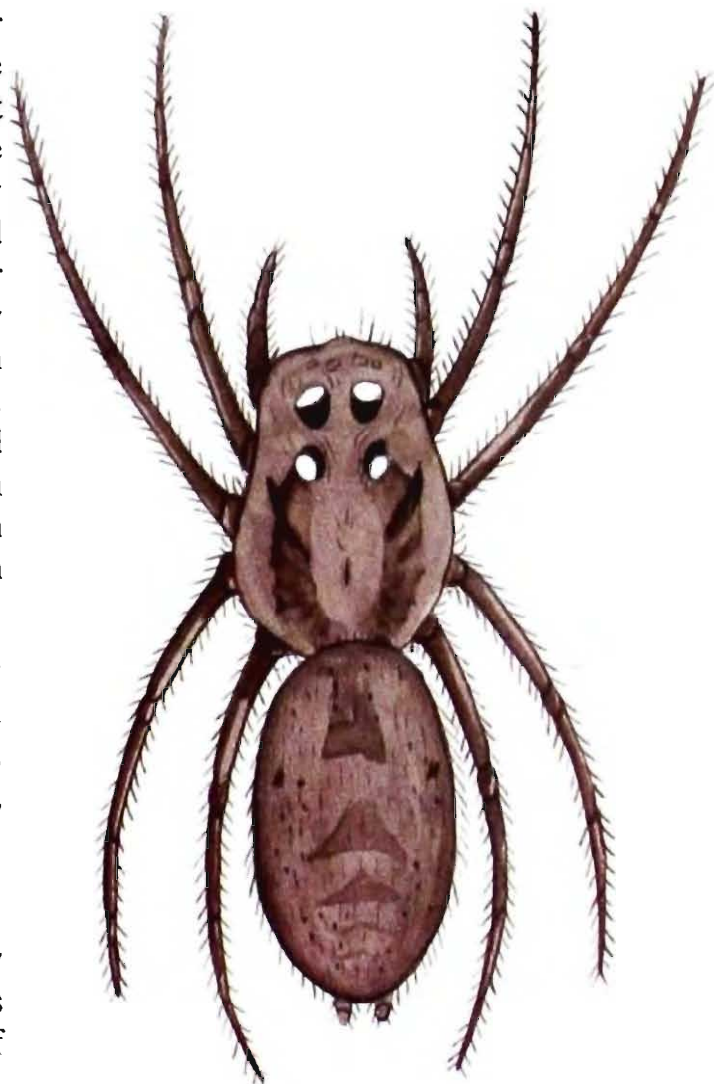
Habit and Habitat : They are medium in size and ground dweller. They are found to inhabit on the ground under logs specially in marshy land. They prepare vertical or slanting tubes inside the ground, the inner surface of which are lined with silk like secretion generally extended up to one foot inside the ground. The spider retreats inside the tube at the day time and comes out from the tube in search of food at night. Preyed on small insect by direct jumping upon the prey.

Diagnostic characters :
Cephalothorax redish brown, longer than wide. Centre of the cephalothorax provided with distinct fovea and a longitudinal median pale band. Anterior row of eyes nearly straight and shorter than the second row. Eyes of the second row larger than the others. Chelicerae moderately strong inner margin provided with three teeth. Sternum heart shaped. Legs strong provided with hair and spines. Abdomen brown longer than wide, ventral side of the abdomen provided with a broad dark brown patches.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas; Gosaba, Dist. South 24 Parganas); Andhra Pradesh; Punjab.

Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban for the cure of poisonous ulcer.



60. *Lycosa kempii* Gravely

Habit and Habitat : They are medium in size found to inhabit near the pond, stream and river of Sunderban areas. They are expert in ground dwelling hunters. They feed on small insects inhabiting in aquatic land by direct attack. The females are known to carry the young ones on their abdomen and often sacrifice for the want of food for the young ones.

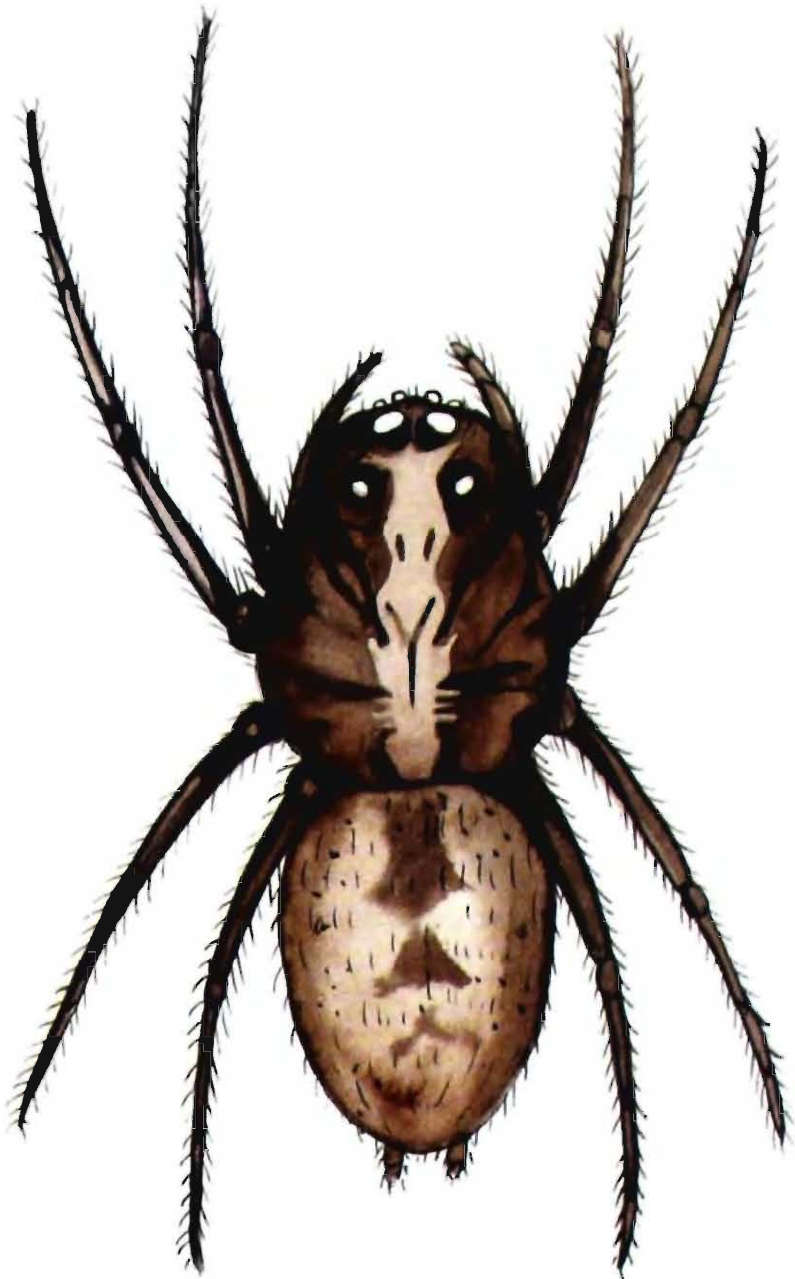
Diagnostic characters : Cephalothorax redish brown, longer than wide, provided with distinct fovea at the centre. Anterior row of eyes shorter and straight, anterior medians larger than the anterior laterals. Eyes of the second row fairly larger than the others. Sternum oval shaped. Legs long and strong. Abdomen greenish brown, oval; ventral side pale not provided with dark brown patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas; Gosaba, Dist. South 24 Parganas), Darjeeling; Meghalaya; Assam; Sikkim.

Elsewhere : Bhutan, Pakistan.

Common name : Wolf spider.

Economic importance : Acts as pedator of paddy pest in the fields.



61. *Lycosa choudhuryi* Tikader & Malhotra

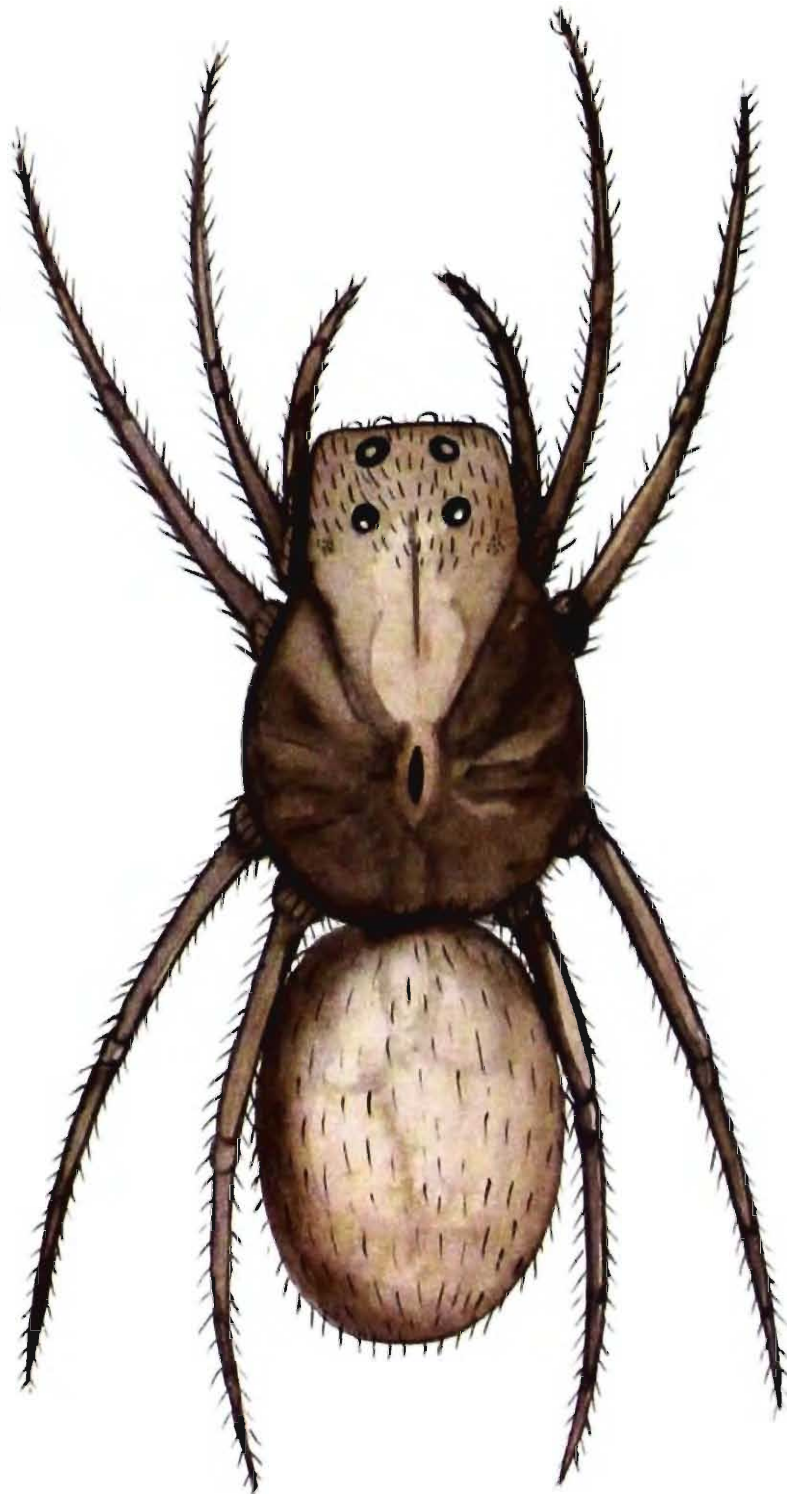
Habit & Habitat : They are larger to medium in size and ground dwellers specially marshy areas. These spiders prefer cool moist crevices of soil under logs or stones where they lie in the day time. They feed on small arthropods or marshy inhabiting insects by direct attack.

Diagnostic characters : Cephalothorax uniform deep brown, longer than wide. Anterior row of eyes nearly straight. Anterior medians larger than the anterior laterals. Eyes of the second row larger than the others. Maxillae much broader at the distal end. Chelicerae strong, stout and prominent; inner margin provided with three and outer margin with two teeth. Legs long and strong, coxa dorsally provided with brown irregular patches. Abdomen light brown, longer than wide, dorsally provided with two rows of longitudinal deep brown inconspicuous spots.

Distribution : India : West Bengal : Sunderban area (Gosaba, Sagar Island, Dist. South 24 Parganas)

Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of Dysmenorrhoea.



62. *Lycosa poonaensis* Tikader & Malhotra

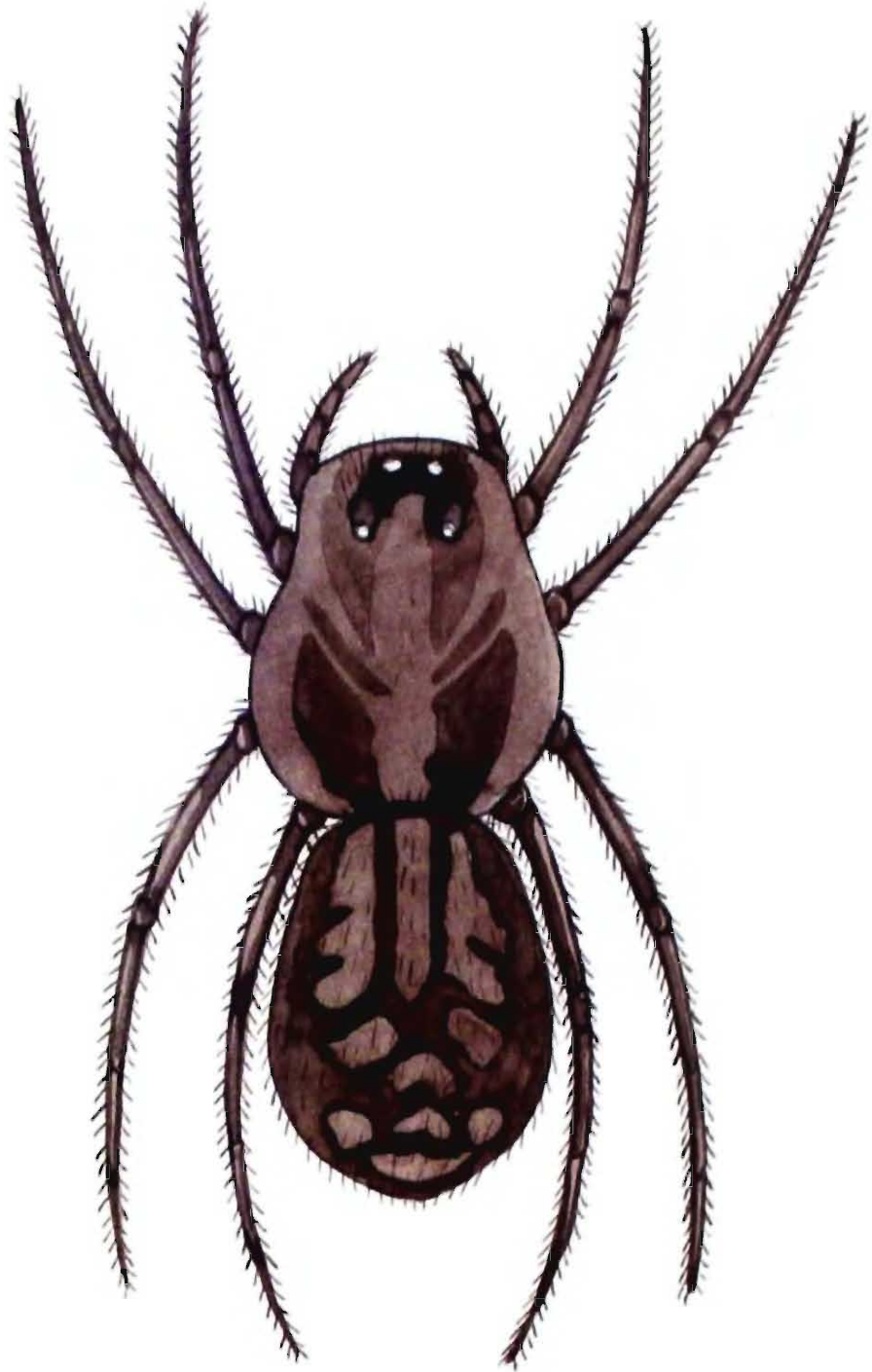
Habit and Habitat : They are medium in size, found near the heaps of cowdung kept for drying. Some species are found wet grassy land near the bank of stagnant dump or river. They are very swift runner when disturbed runs away and hide into the soil crevices' Pryed on small insects by direct attack.

Diagnostic characters : Cephalothorax brown in colour, longer than wide slightly narrow in front, centre of the thoracic region provided with conspicuous fovea. Anterior row of eyes nearly straight, as wide as the second row, anterior medians and laterals are of same size. Maxillae not much broad at the distal end. Chelicerae strong and chocolate brown in colour. Legs long and strong, coxa without brown patches. Abdomen oval with greenish black patches.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas); Maharashtra.

Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of Insomania.



63. *Lycosa masteri* Pocock

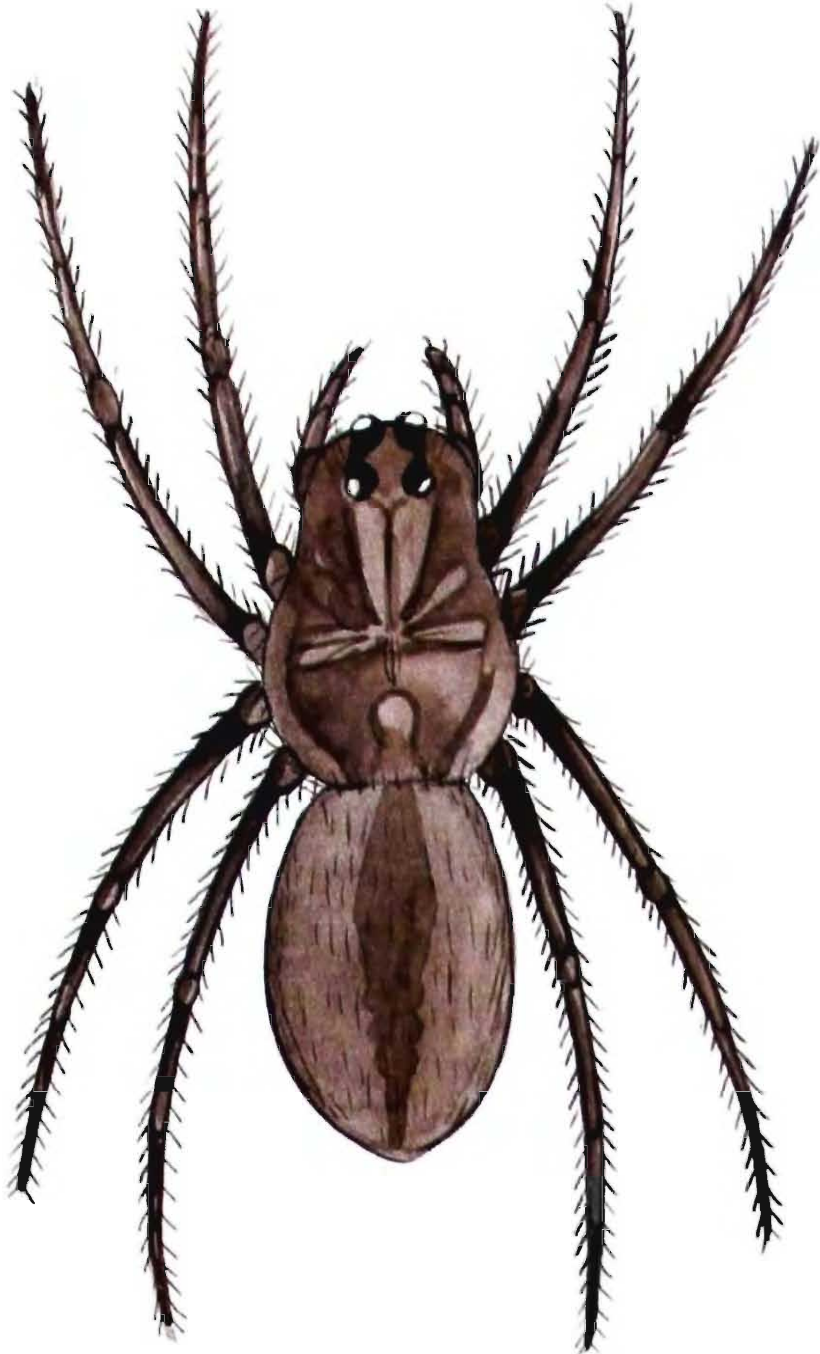
Habit and Habitat : They are medium in size and ground dwellers found in the mangrove and semimangrove areas of Sunderban. They are frequently found near the edges of ponds, river or stagnant damp. They are swift runner, when disturbed they run away into the soil crevices or under grasses near marshy land. They feed on small insects inhabiting in the marshy land.

Diagnostic characters : Cephalothorax chocolate brown, longer than wide, conspicuous light brown band extending from the bases of the posterior eyes up to the distinct fovea. Anterior row of eyes straight. Chelicerae strong, inner margin provided with 3 strong teeth. Legs long and strong. Abdomen dark brown, dorsum provided with lense shaped marking.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas, Gosaba, Dist. South 24 Parganas).

Common name : Wolf spider.

Economic importance : Acts as a predator of paddy pest in the fields.



64. *Lycosa mackenjei* Gravely

Habit and Habitat : They are medium in size, the inhabitant of wet litters of mangrove and semimangrove forest. They are very swift runner and escape quickly when collecting. They run away when disturbed and hidden into the soil crevices or under grasses. They feed on small insect by direct attack.

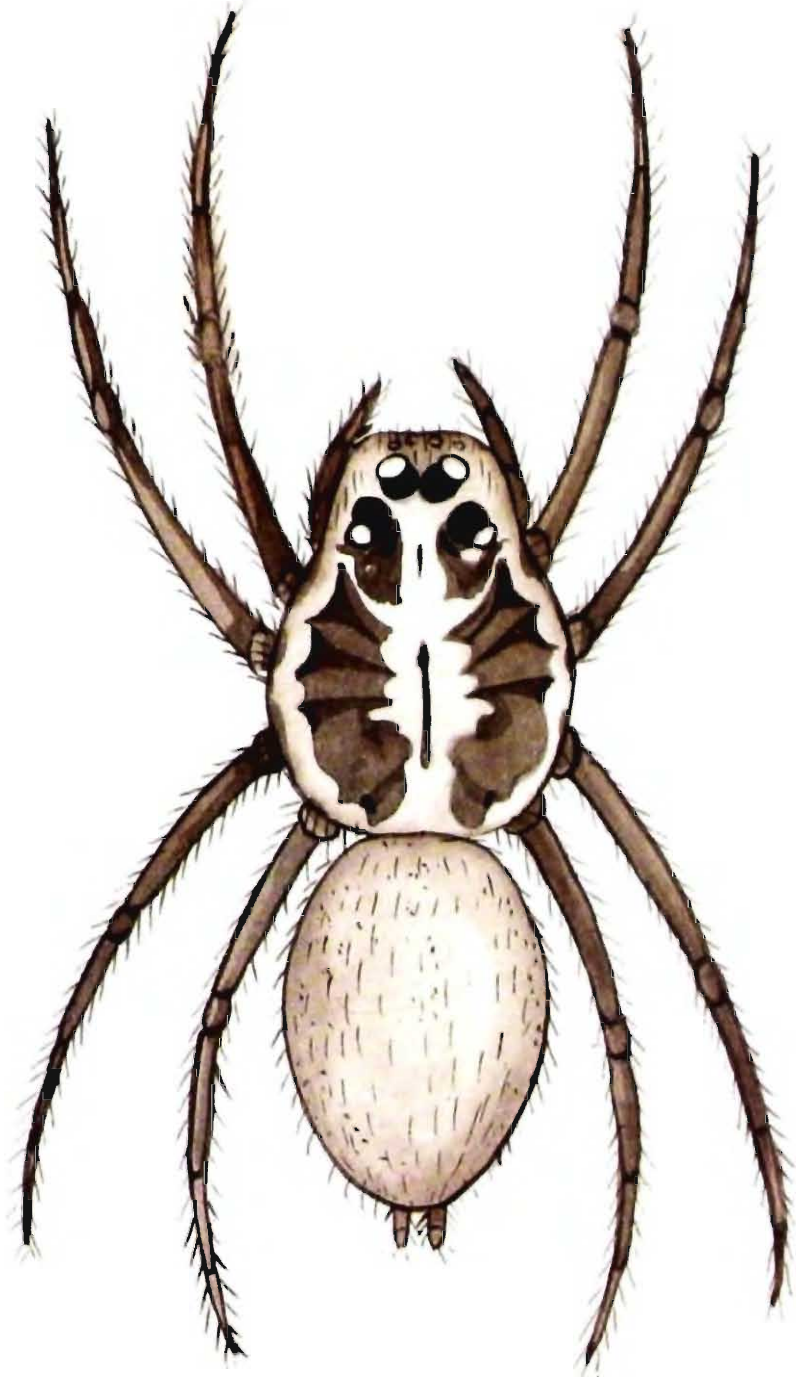
Diagnostic characters : Cephalothorax yellowish brown, longer than wide, cephalic region slightly high, provided with conspicuous fovea. Anterior row of eyes slightly recurved and shorter than the middle row, medians larger than the anterior laterals, eyes of the second row larger than the others. Chelicerae moderately strong, inner margin provided with three teeth. Legs moderately strong. Abdomen nearly oval, dorsum with conspicuous V-shaped markings.

Distribution : India : West Bengal : Sunderban areas (Gosaba, Dist. South 24 Parganas); Bihar; Karnataka; Punjab.

Elsewhere : Pakistan.

Common name : Wolf spider.

Economic importance : Acts as a predator of paddy pest in the field.



65. *Lycosa mahabalesharensis* Tikader & Malhotra

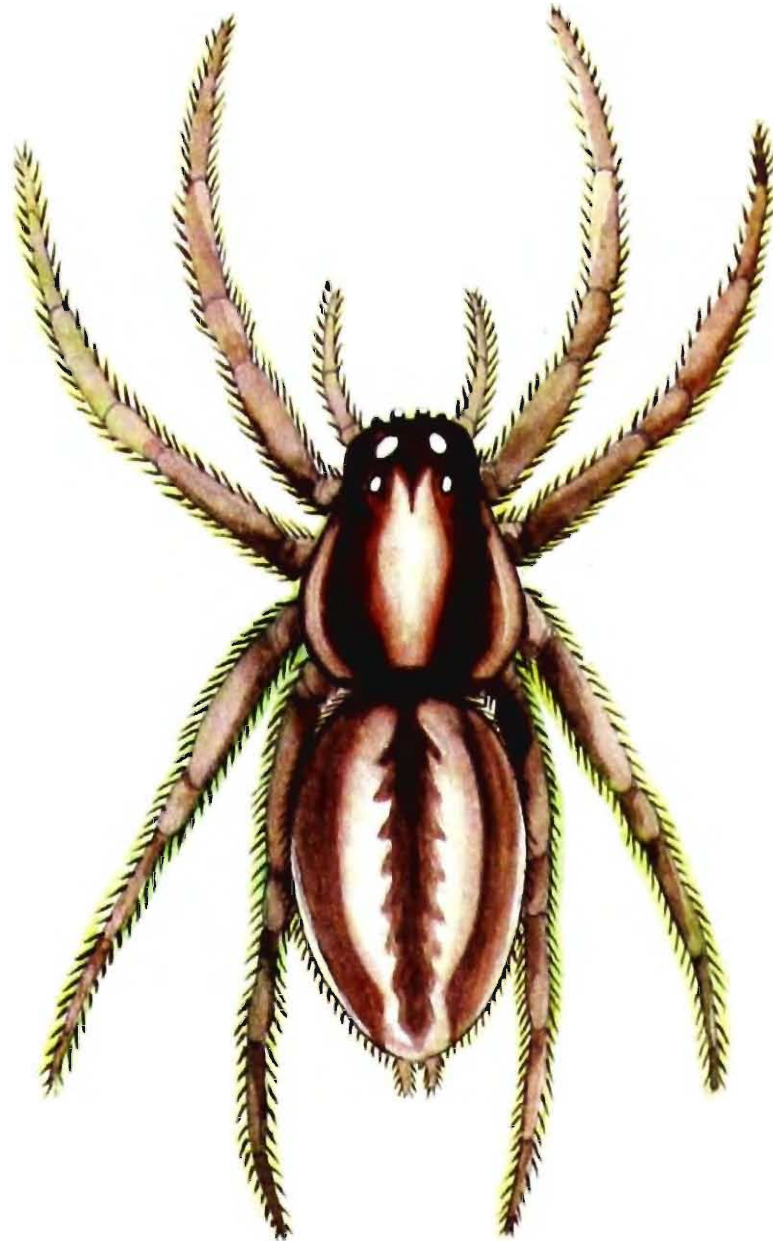
Habit and Habitat : They are medium in size and ground dwellers, found to run over the wet grassy land. They are found in large number near the heaps of cow dung for preying the insects like Diptera and Coleoptera. The dipteran insect comes near the cow dung for laying their eggs, at that time the spider species jumping upon the dipteran insects.

Diagnostic characters : Cephalothorax yellowish brown, longer than wide, narrowing in front, thoracic region provided with distinct fovea. Anterior row of eyes slightly procurved, less wider than the second row. Eyes of the second row larger than the others. Sternum provided with conspicuous black band. Chelicerae strong and black. Legs long and strong. Abdomen yellowish brown, oval in shape pointed behind. Mid-longitudinally provided with a median black band.

Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Dist. North 24 Parganas); Maharashtra.

Common name : Wolf spider.

Economic importance : Acts as a paddy pest in the field.



66. *Lycosa himalayensis* Gravely

Habit and Habitat : They are larger to medium in size and ground dwellers prefer to dry atmosphere inhabit under logs or stone or in soil crevices by preparing slanting or vertical tubes which may be extended 6 inches to one foot under the ground. The inner surface of which lined with silk like secretion. The spider inhabiting in this tube in day time and comes out for food at night. They feed on small insect by direct jumping upon the prey.

Diagnostic characters : Cephalothorax deep brown, longer than wide, conspicuous fovea present at the centre of the cephalothorax Anterior row of eyes straight and slightly shorter than the middle row, ocular quadrate wider than long, and slightly wider behind than in front. Chelicerae strong, inner and outer margin both provided with three teeth. Legs long and strong, clothed with hair and spines. Abdomen brownish green, longer than wide. Posterior half of the dorsum provided with black and deep brown patches.



Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Bankura, Darjeeling; Meghalaya; Assam.

Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of Diabetes.

67. *Lycosa pictula* Pocock

Habit & Habitat : These spiders are medium in size and ground dwellers, they are found to creeping over the moist soil. Females are known to carry their young ones on their abdomen. They often sacrifice for the want of food for the young ones. They feed on small insects by direct jumping upon the prey.

Diagnostic characters : Cephalothorax chocolate brown, longer than wide, centre of the cephalothorax provided with a conspicuous fovea and dark brown bands radiate towards sub-lateral sides. Anterior row of eyes procurved, less wider than second row. Ocular quadrate wider behind and narrowing in front. Labium dark brown. Chelicerae moderately strong and dark brown in colour. Legs moderately strong. Abdomen longer than wide, pointed behind. Dorsum provided with greenish brown patches and spots alternating with pale patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas); Maharastra.

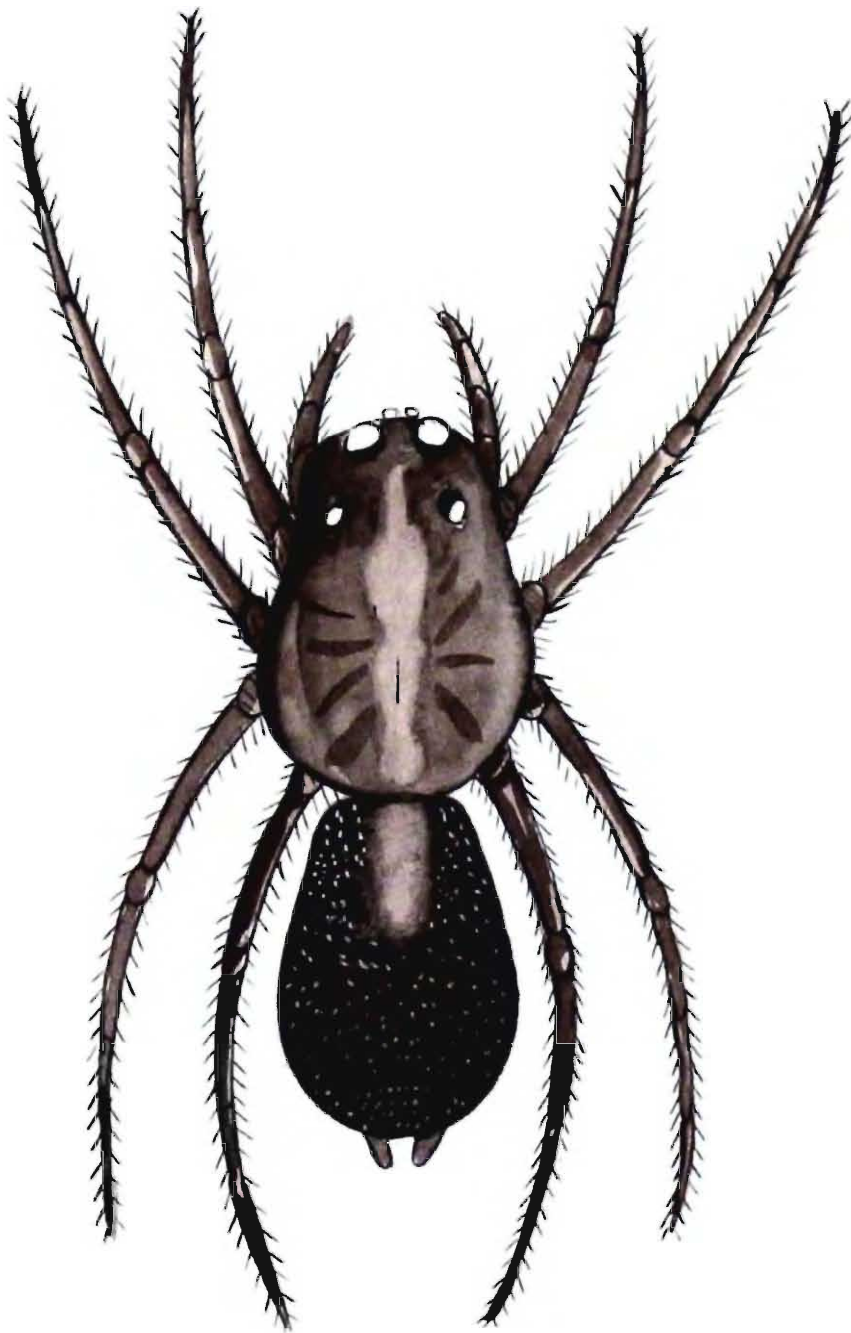
Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



68. *Lycosa tista* Tikader

Habit and Habitat : These spiders are medium in size and very active to run swiftly over the wet grassy land. Sometimes they are found under decayed logs, forest litters and under stone. They are expert as ground dwelling hunter. The females are known to carry the young ones on their abdomen and often sacrifice for the want of food for the young ones.



Diagnostic characters : Cephalothorax brown longer than wide, thoracic region provided with sharp black fovea. Anterior row of eyes nearly straight, shorter than the second row, median larger than the second row. Chelicerae strong, inner margin provided with three teeth. Legs stout, clothed with hair and spine. Abdomen longer than wide oval in shape, broad posteriorly, without lense-shaped patches.

Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Dist. North 24 Parganas); Sikkim.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

69. *Lycosa shillongensis* Tikader & Malhotra

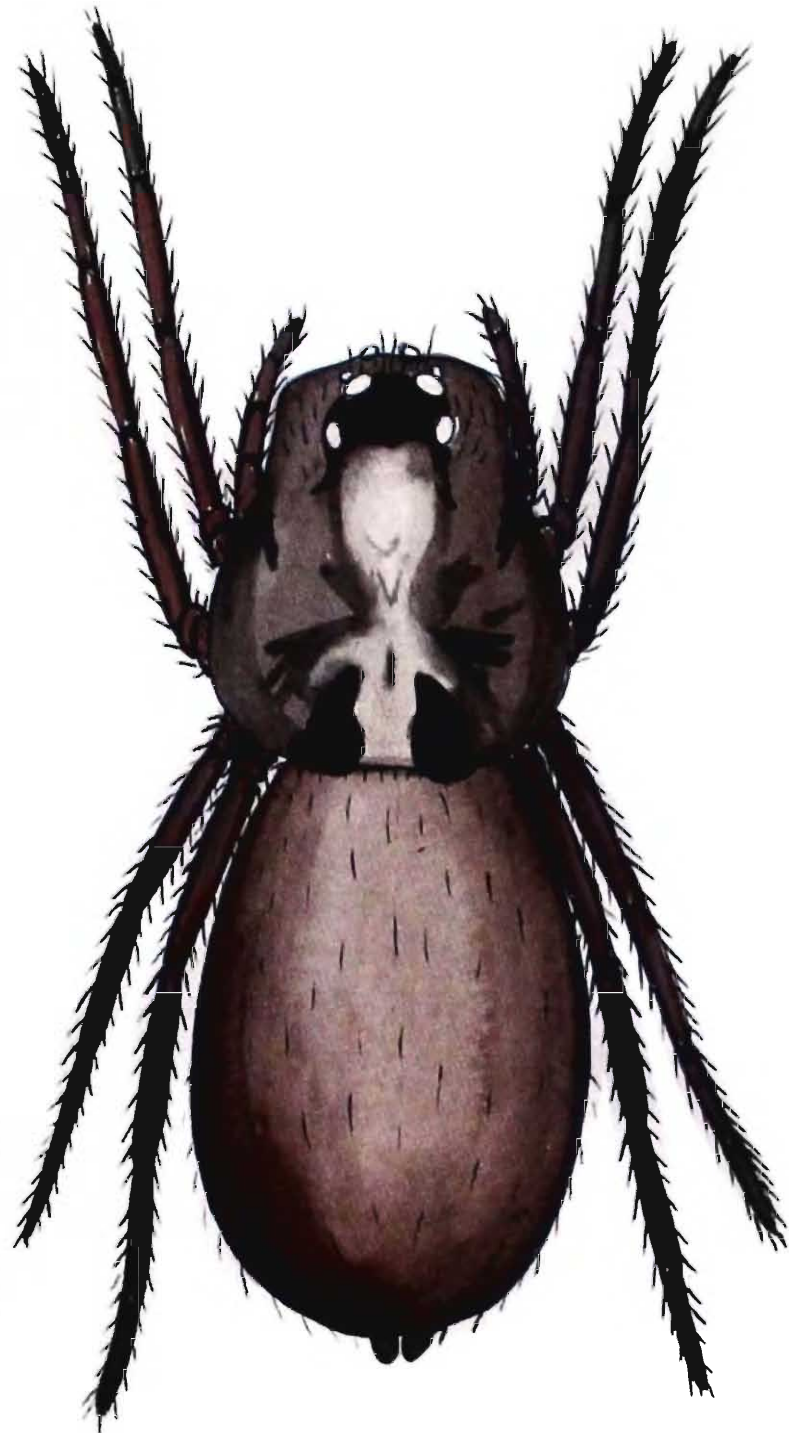
Habit and Habitat : They are medium in size and very active to run swiftly over the ground. Like other lycosid they prepare slanting or vertical tube which may be extended 8 inches to one foot under the ground. The inner surface of which lined with silken like secretion. During day time this spider inhabiting in this tube and comes out for food at night. They feed on small arthropods by direct jumping upon the prey.

Diagnostic characters : Cephalothorax longer than wide, dirty brown in colour, provided with a sharp fovea at the centre of the thoracic region. Anterior row of eyes straight as wide as the second row, eyes of the second row larger than the others. Labium longer than wide. Chelicerae strong, inner margin provided with three prominent teeth. Legs stout, clothed with hair and spine. Abdomen longer than wide, wider posteriorly. A brown longitudinal lense shaped marking present at anterior mid-dorsal region of dorsum.

Distribution : India : West Bengal : Sunderban area (Canning, Dist. South 24 Parganas); Meghalaya.

Common name : Wolf spider

Economic importance : Acts as a predator of insect pests in the crop fields.



Genus *Pardosa* Koch

Type species : *Pardosa striatipes* Koch.

Distribution : Asia, Europe, America.

Key to the species

1. Dorsal side of the abdomen decorated with minute light spots *P. annandale*
 – Dorsal side of the abdomen not decorated with minute light spots (2)
2. Leg IV is the longest of all legs *P. atropalpis*
 – Legs IV is not the longest of all legs (3)
3. Anterior row of eyes slightly procurved *P. birmanica*
 – Anterior row of eyes slightly recurved (4)
4. Femora of all legs provided with greenish brown transverse patches..
 *P. burasantiensis*
 – Femora of all legs not provided with greenish brown transverse patches (5)
5. Metatarsi IV slightly longer than tibia plus patella together *P. chambaensis*
 – Metatarsi IV not slightly longer than tibia plus patella together (6)
6. Abdomen ventrally provided with two lateral irregular brown patches on the side
 of the abdomen *P. heterophthalmus*
 – Abdomen ventrally not provided with two lateral irregular brown patches on the
 side of the abdomen (7)
7. Anterio-mid-dorsal side of the abdomen provided with longitudinal lense shaped
 markings *P. kupupa*
 – Anterio-mid-dorsal side of the abdomen not provided with longitudinal lense shaped
 markings (8)
8. Labium as long as wide, chelicerae not strong, inner margin with three teeth...
 *P. leucopalpis*
 – Labium wider than long, chelicerae moderately strong inner margin not provided
 with three teeth (9)
9. Sternum provided with conspicuous dark brown 'V' shaped marking *P. minutus*
 – Sternum not provided with 'V' shaped marking (10)
10. Carapace provided with a broad longitudinal brown patches extended from the
 bases of the posterior eye to the base of the cephalothorax *P. oakleyi*
 – Cerapace without a broad longitudinal brown patches extended from the base of
 the posterior eye to the base of the cephalothorax (11)

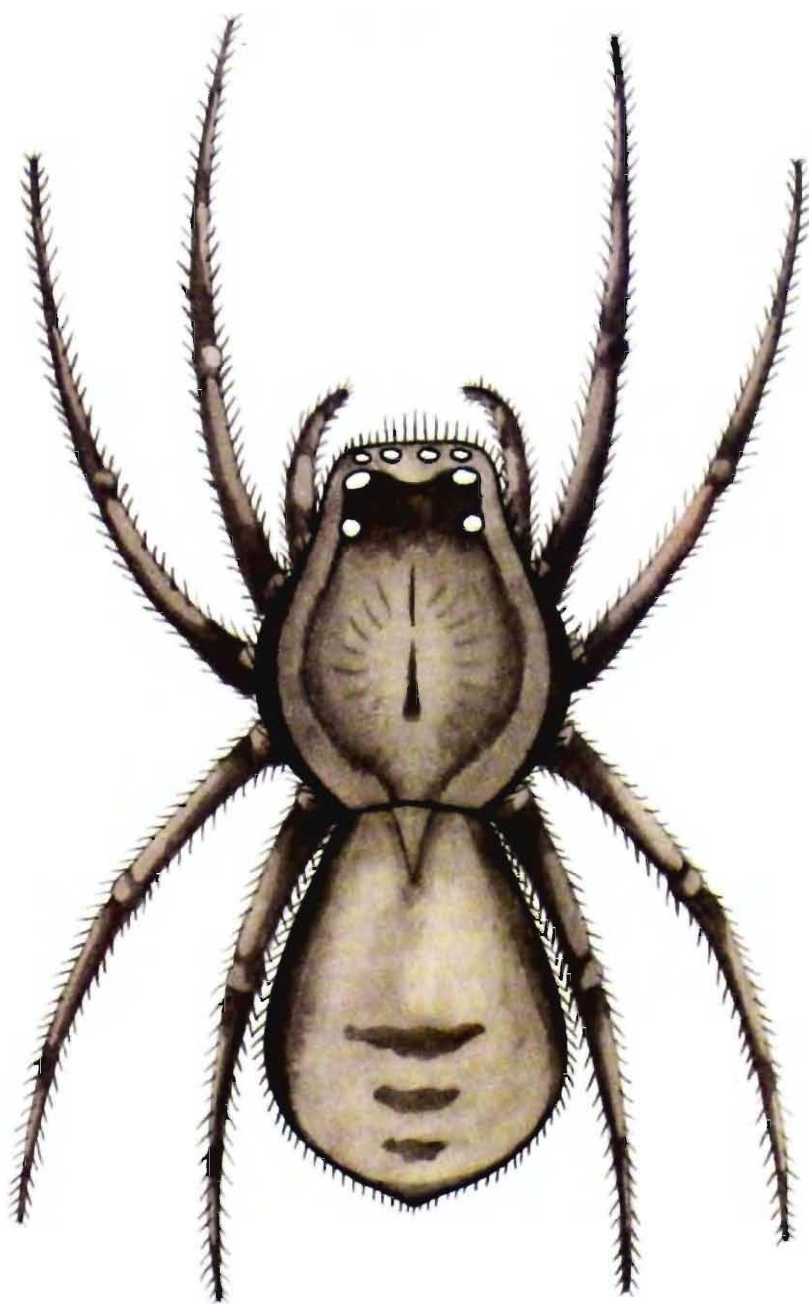
11. Ventral side of the abdomen uniformly pale coloured and without any black spots *P. rhenockensis*
 – Ventral side of the abdomen not uniformly coloured and with some black spots (12)
12. Posterior half of the dorsum provided with pale chevron patten *P. songosa*
 – Posterior half of the dorsum not provided with pale chevron pattern (13)
13. Abdomen ventrally provided with sub-lateral longitudinal irregular greenish brown patches *P. shyamae*
 – Abdomen ventrally not provided with sub-lateral longitudinal irregular greenish brown patches (14)
14. Legs not so strong, provided dorsally with irregular greenish brown patches
 *P. sumatrana*
 – Legs moderatrly strong provided dorsally with longitudinal brown band (15)
15. Abdomen not in same wide both in front and behind, mid-dorsally provided with lense shaped pale marking *P. alii*
 – Abdomen nearly same wide both in front and behind, mid-dorsally not provided with lense shaped pale marking (16)
16. Carapace provided with ‘V’ shaped marking just behind the third row of eyes *P. mysorensis*
 – Carapace not provided with ‘V’ shaped marking just behind the third row of eyes (17)
17. Tibia and metatarsi of I & II provided with three pairs of ventral spines
 *P. sutherlandi*
 – Tibia and metatarsi of I & II not provided with three pairs of ventral spines ...
 (18)
18. Cephalothorax broader posteriorly without white patches ornamentation
 *P. amkhasensis*
 – Cephalothorax not broader posteriorly and with white patches ornamentation
 (19)
19. Cheliceral fang longer, slightly straight; inner margin provided with three similar teeth, outer margin with one large tooth *P. suchismitae*
 – Cheliceral fang not longer, slightly curved; inner margin provided with one large tooth, outer margin with three dissimilar teeth *P. debolinae*

70. *Pardosa annandalei* (Gravely)

Habit and Habitat : They are medium in size found on the ground and rarely found in the bushes or foliage of small trees in the mangrove and semimangrove areas of Sunderban, generally inhabited in marshy grassy lands. Female carry the egg cocoon on her abdomen. Small insects are preyed by direct attack upon the prey.

Diagnostic characters : Cephalothorax deep brown in colour, longer than wide provided with short fovea surrounded by light mid-longitudinal bands. Anterior row

of eyes straight and slightly shorter than the middle row, anterior medians slightly larger than the anterior laterals. Chelicerae moderately strong, inner margin with three teeth. Legs moderately strong. Abdomen longer than wide. Dorsum decorated with minute light spots.



Distribution : India : West Bengal : Sunderban area (Hingalgunj, Minakhan, Dist. North 24 Parganas; Patharpratima, Gosabas), Birbhum, Darjeeling, Jalpaiguri, Hugli; Kerala; Maharashtra; Madhya Pradesh; Bihar; Assam; Gujarat; Andhra Pradesh; Karnataka; Tamil Nadu.

Elsewhere : Myanmar, Pakistan and Bangla Desh.

Common name : Wolf spider.

Economic importance : Acts as a paddy pest in the field.

71. *Pardosa atropalpis* Gravelly

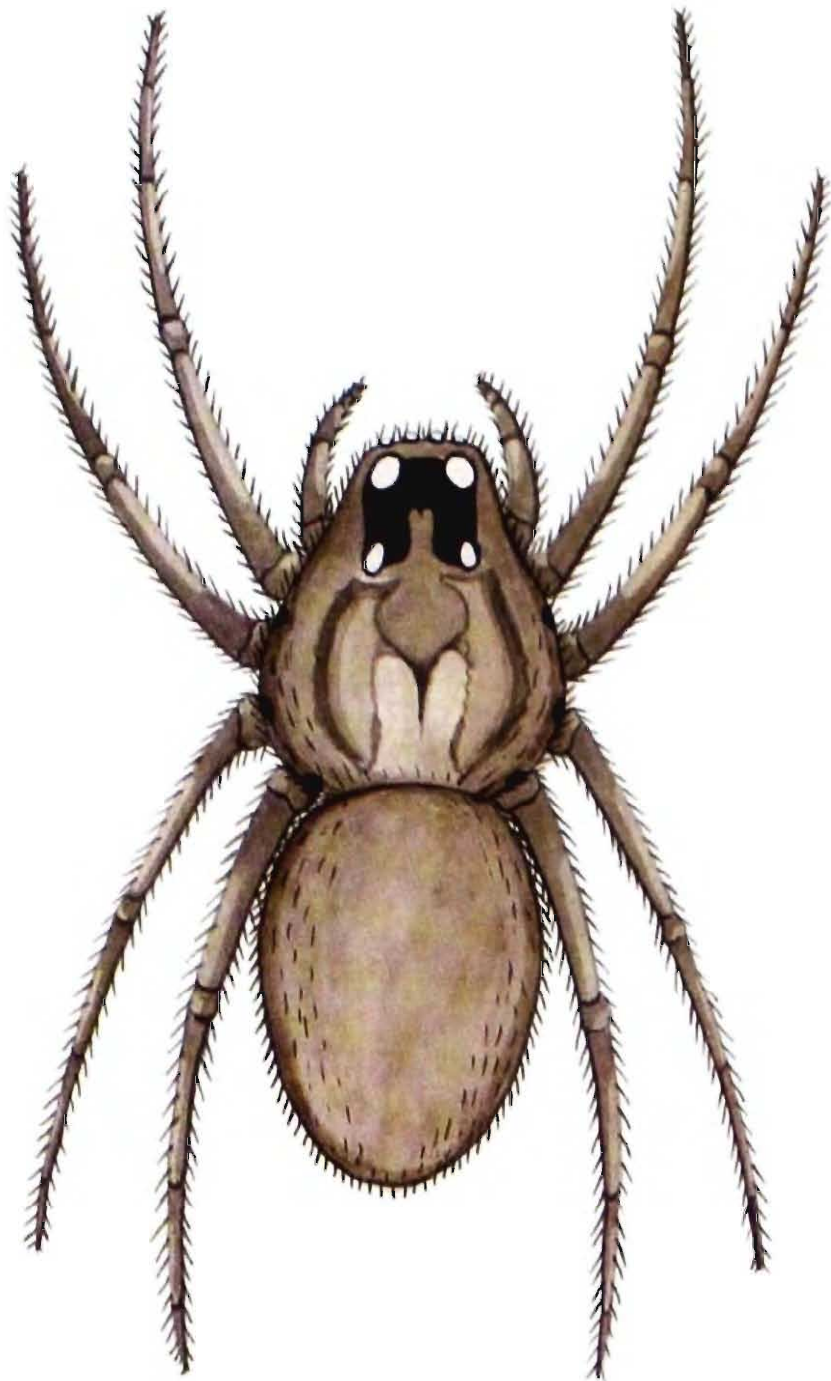
Habit and Habitat : These spiders are medium in size found on the ground rarely found on the flowering plants of the mangrove and semimangrove areas of Sunderban. They are expert in hunting and ground dwellers, rarely found in the flowering plants. Occasionally they have been found to go under water holding the aquatic twigs for their defence. Aquatic insects are preyed by direct attack upon the prey.

Dagnostic characters :
Cephalothorax brownish yellow longer than wide, middle of the cephalothorax provided with a sharp fovea. Anterior row of eyes slightly procurved and less wider than the second row; anterior medians larger than the anterior laterals. Chelicerae moderately strong. Legs long, IV largest of all the legs. Abdomen oval, dorsum not decorated with minute light spots.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Burdwan, Hugli; Bihar; Orissa; Karnataka; Andhra Pradesh; Tamil Nadu.

Common name : Wolf spider.

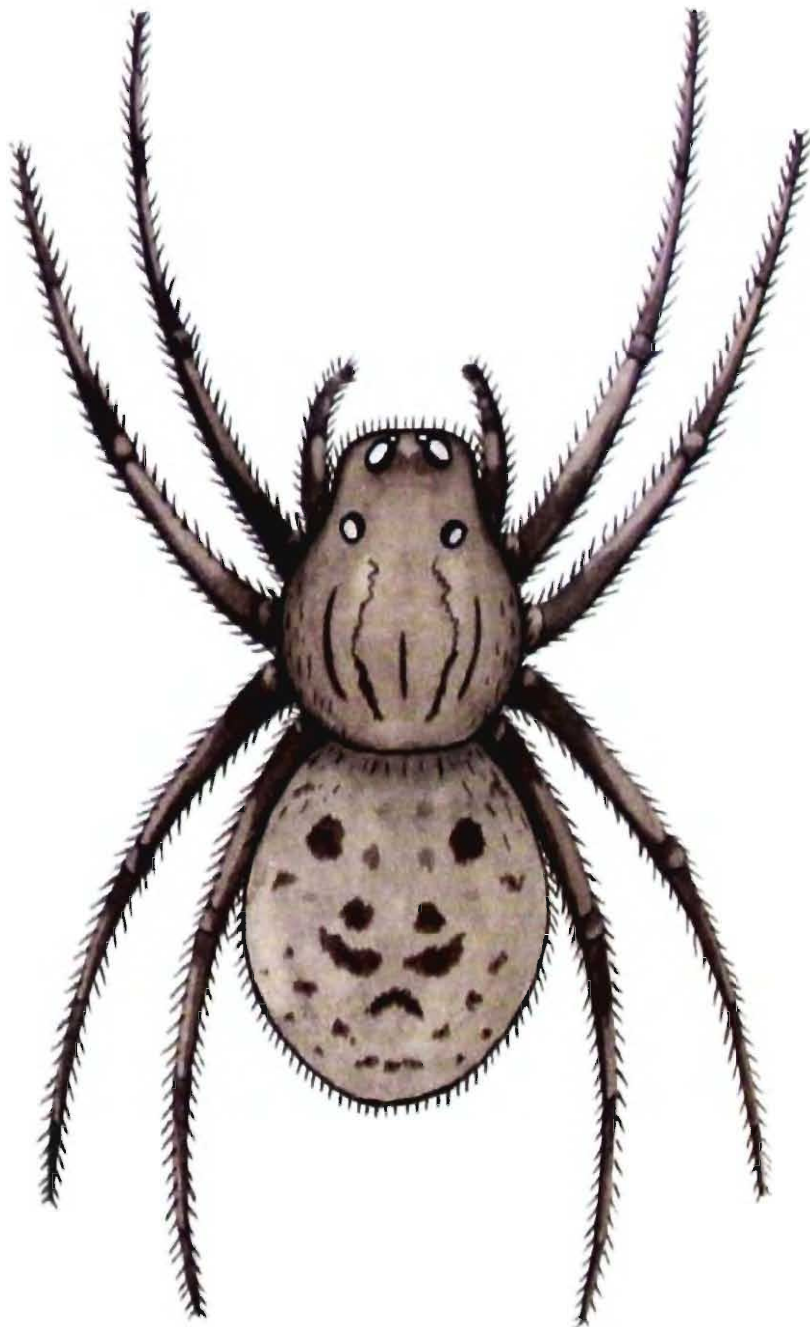
Economic importance : Acts as a controlling agent of paddy pest in the fields.



72. *Pardosa birmanica* Simon

Habit and Habitat : These spiders are medium in size inhabited in the damp area like edges of ponds, river, lake or river of mangrove and semimangrove areas of Sunderban. Sometimes they are found to running over the water surface like small frogs, The females carry egg cocoons beneath the hind legs. Feeds on small insects by direct attack.

Diagnostic characters : Cephalothorax dark brown, longer than wide, cephalic region slightly high narrowing in front. Anterior row of eyes slightly procurved, less wider than the second row, medians larger than the laterals. Chelicerae strong, inner margin provided with 3 unequal teeth. Legs thin and long, Abdomen oval, pointed behind.



Distribution : India : West Bengal : Sunderban area (Sandeshkhali, Hasnabad, Hingalgunj, Dist North 24 Parganas; Gosaba, Dist. South 24 Paragana), Burdwan, Birbhum, Darjeeling; Gujarat; Rajasthan; Maharashtra; Punjab; Himachal Pradesh; Madhya Pradesh; Meghalaya; Tamil Nadu; Andhra Pradesh; Bihar; Orissa.

Elsewhere : Myanmar, Java, Pakistan.

Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of Bronchitis and Asthma; acts as a controlling agent of paddy pest in the fields.

73. *Pardosa burasantiensis* Tikader & Malhotra

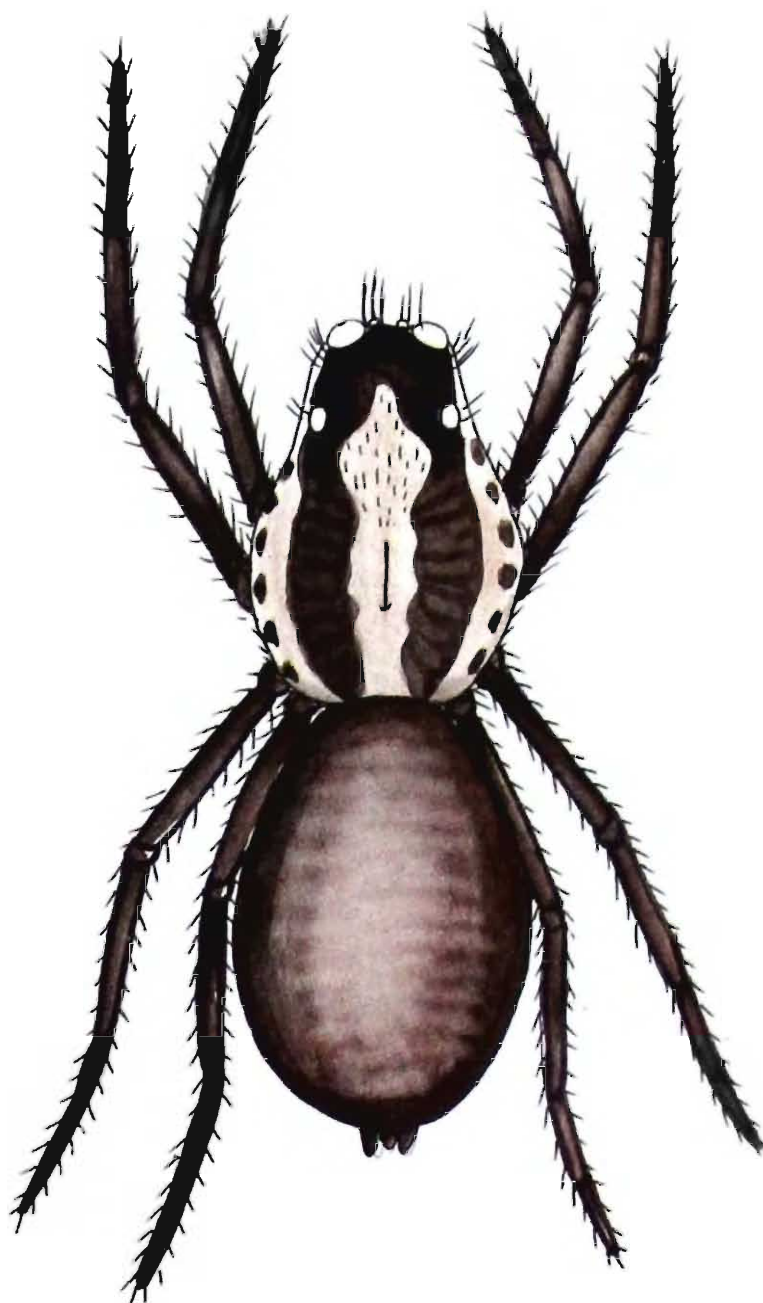
Habit and Habitat : They are medium in size found on the ground. Generally they are found in aquatic or marshy land. They are seen to jumping in water and running on the surface of water like small frog up to eight feet in one stretch for their defence. They catch the aquatic insects by direct jumping upon the prey.

Diagnostic characters : Cephalothorax yellowish brown, longer than wide, cephalic region slightly high, cephalothorax provided with a conspicuous short fovea. Anterior row of eyes slightly recurved and anterior medians larger than the anterior laterals. Eyes of the second row largest. Chelicerae moderately strong, outer margin provided with 3 teeth. Legs long and thin. Abdomen oval, longer than wide pointed behind, dorsum provided with irregular greenish brown patches.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas), Singur.

Common name : Wolf spider.

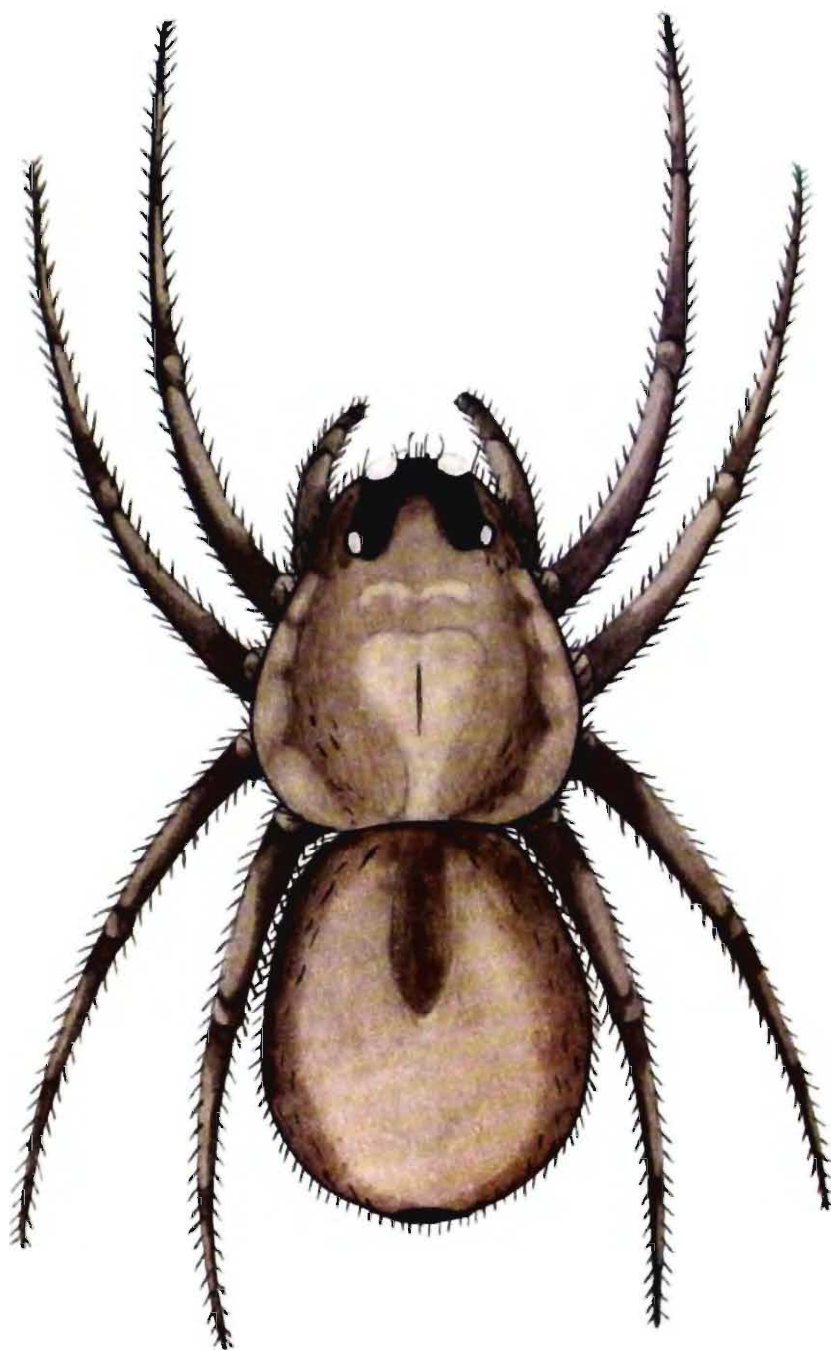
Economic importance : Medicinally important spider : used by the tribals of Sunderban for the cure of Asthma and acts as a predator of paddy pest in the fields.



74. *Pardosa chambaensis* Tikader & Malhotra

Habit and Habitat : These spiders are medium in size found on the ground rarely found on the flowering shoot of the plants. They are the inhabitant of wet litters of mangrove forest. They are not arborial. The females carry the egg cocoon on their abdomen. They feed on small insects inhabited in the forest litters.

Diagnostic characters : Cephalothorax brownish in colour longer than wide, cephalic region slightly high, middle of the cephalothorax provided with a sharp fovea. Anterior row of eyes straight and shorter than the second row. Anterior medians larger than the anterior laterals. Eyes of the second row larger than the others. Chelicerae moderately strong. Retromargin of the chelicerae provided with three teeth. Legs long and moderately strong. Metatarsi IV nearly as long as or slightly longer than tibia plus patella together. Abdomen longer than wide, greenish black, pointed behind.



Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist. North 24 Parganas); Himachal Pradesh.

Common name : Wolf spider

Economic importance : Acts as a predator of insect pest in the crop fields.

75. *Pardosa heterophthalmus* (Simon)

Habit and Habitat : These spiders are medium in size found to prefer humid atmosphere since they are frequently found near the edges of ponds river and paddy fields, when disturbed they hide under grasses, under decayed logs and under forest litters. Sometimes they are found to prepare tube like retreat. Preyed on small insects by direct jumping upon the prey.

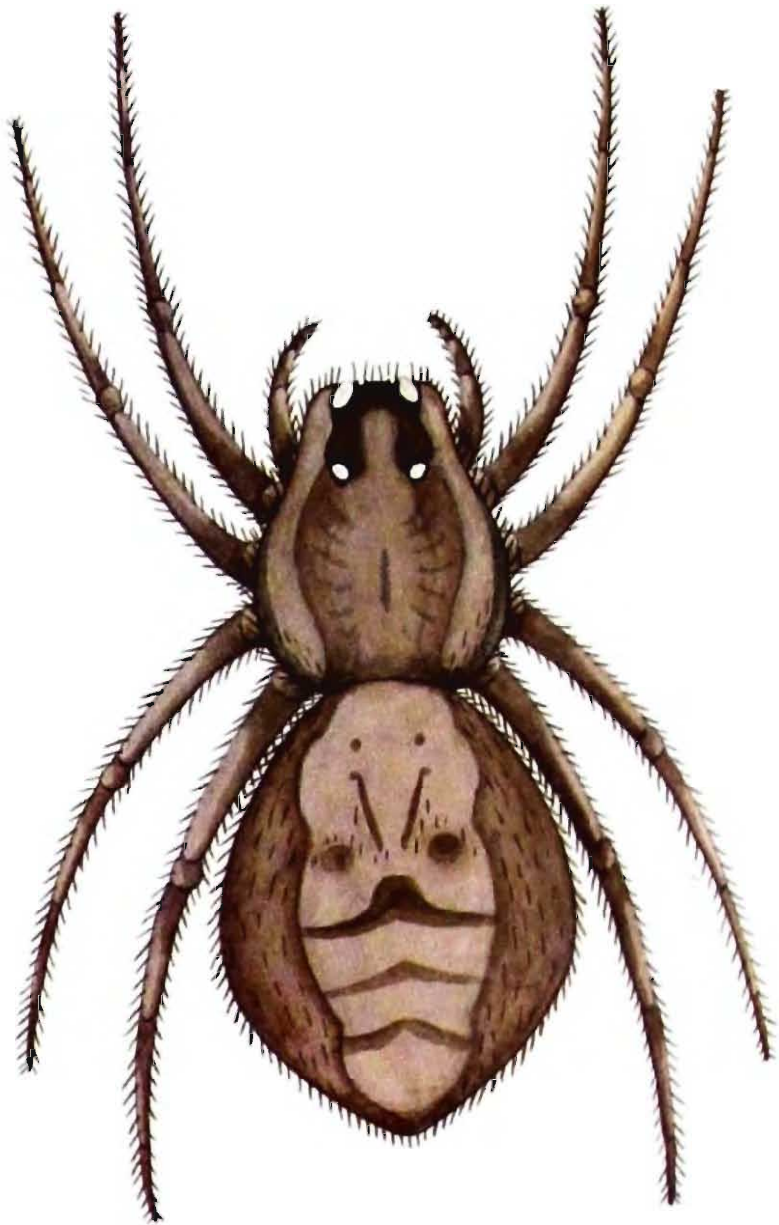
Diagnostic characters : Cephalothorax brown, longer than wide cephalic region narrow, centre of the thoracic region provided with a sharp fovea Anterior row of eyes less wider than second row. Eyes of the second row larger than the others. Chelicerae strong, inner margin provided with 3 teeth. Legs stout, dorsal side provided with transverse bands and patches. Abdomen longer than wide, pointed behind, ventrally provided with two lateral irregular brown patches on the side of the abdomen.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist North 24 Parganas, Gosaba, Dist. South 24 Parganas), Purulia; Tamil Nadu.

Elsewhere : Java.

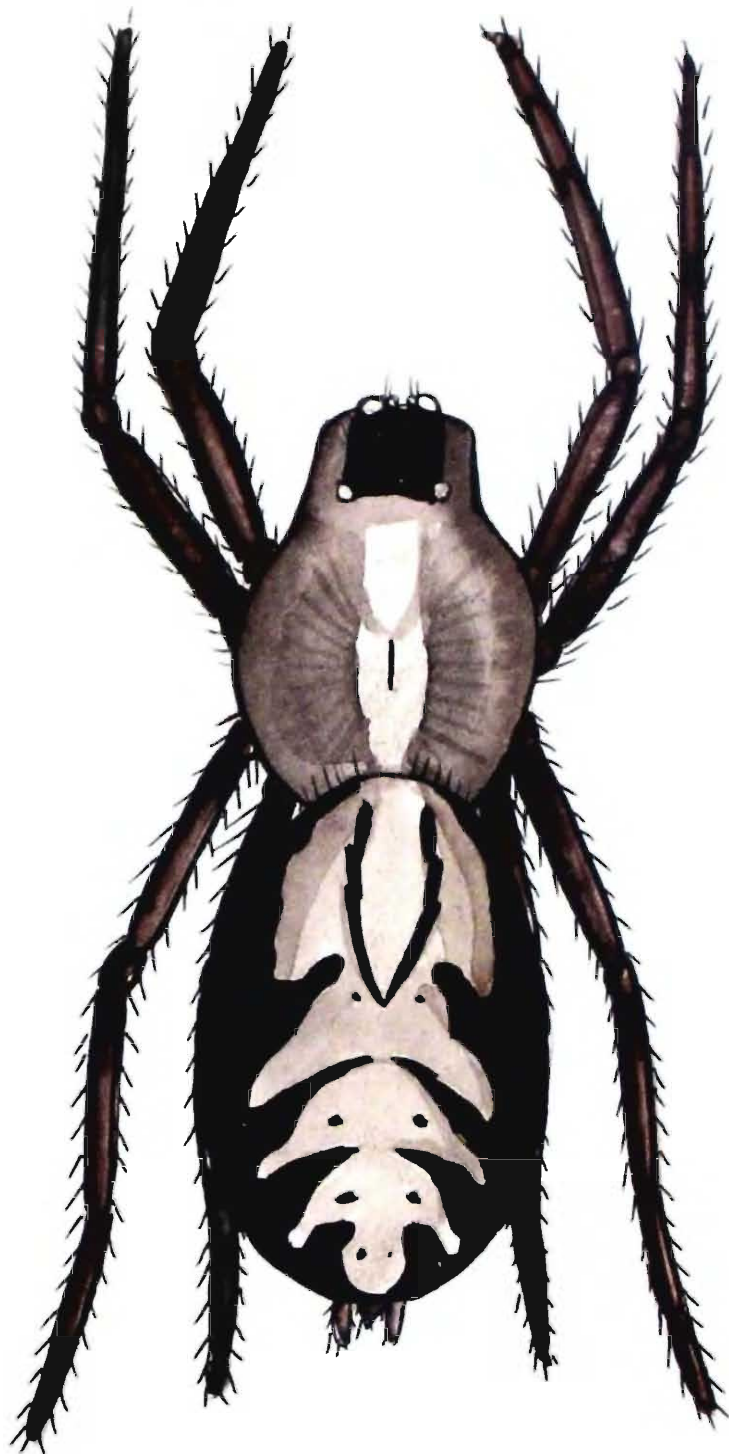
Common name : Wolf spider.

Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug in case of Rheumatism and acts as a controlling agent of insect pest in the crop fields.



76. *Pardosa kupupa* (Tikader)

Habit & Habitat : These spiders are medium in size and ground dwellers, frequently found near the edges of the stagnant dump, ponds, lake or rivers of mangrove and semimangrove areas of Sunderban. They also found to running over the wet grassy land and hidden inside the grasses when disturbed. They preyed on small insects by direct jumping



Diagnostic characters : Cephalothorax deep brown, longer than wide, convex, centre of the thoracic region provided with a fovea. Anterior row of eyes straight, shorter than the second row and anterior medians almost the same as the anterior laterals. Chelicerae strong, inner margin provided with 3 teeth. Legs long and thin. Abdomen reddish brown, longer than wide. Anterior mid-dorsal side provided with lense shaped marking.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Sandeshkhali, Dist North 24 Parganas, Patharpratima, Gosaba, Dist. South 24 Parganas); Sikkim.

Common name : Wolf spider

Economic importance : Acts as a controlling agent of insect pests in the crop fields.

77. *Pardosa leucopalpis* Gravely

Habit and Habitat : These spiders are medium in size and found on the ground. They are expert hunters as ground dwellers, live in humid atmosphere like the edges of pond, stagnant damp and river bed also. The females carry the egg cocoon behind their hind legs. Feeds on small insects by direct jumping upon the prey.

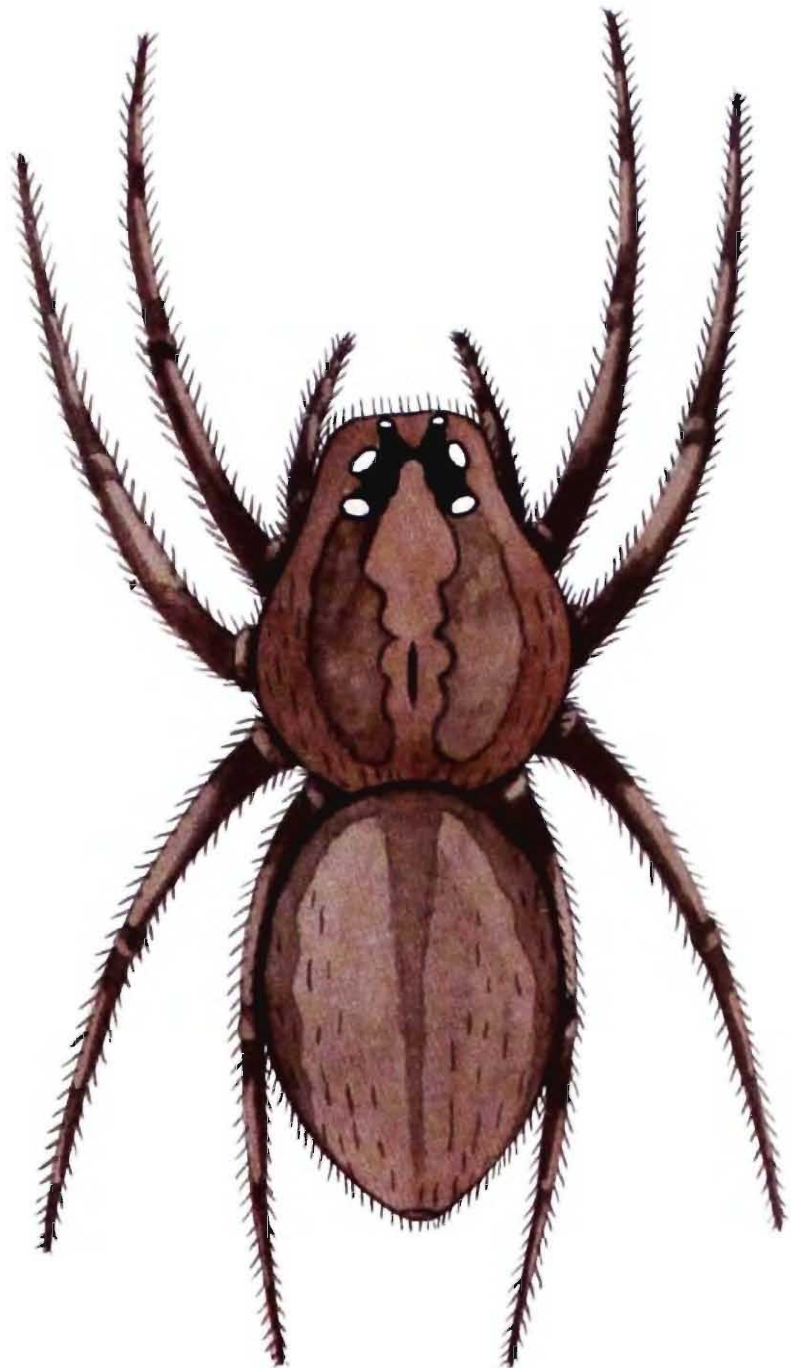
Diagnostic characters : Cephalothorax yellowish brown, longer than wide, cephalic region high, middle of the cephalothorax provided with sharp fovea. Anterior row of eyes almost straight and shorter than the second row. Eyes of the second row larger than the others. Chelicerae not strong, inner margin with three teeth. Labium as long as wide. Legs moderately strong. Abdomen pale, longer than wide, pointed behind, anterior-mid-dorsally provided with a inconspicuous light lense shaped marking.

Distribution : India : West Bengal : Sunderban area (Gosaba, Mathurapur, Dist South 24 Parganas; Sandeshkhali, Dist. North 24 Parganas); Andhra Pradesh; Tamil Nadu; Kerala; Orissa.

Elsewhere : Sri Lanka, Pakistan.

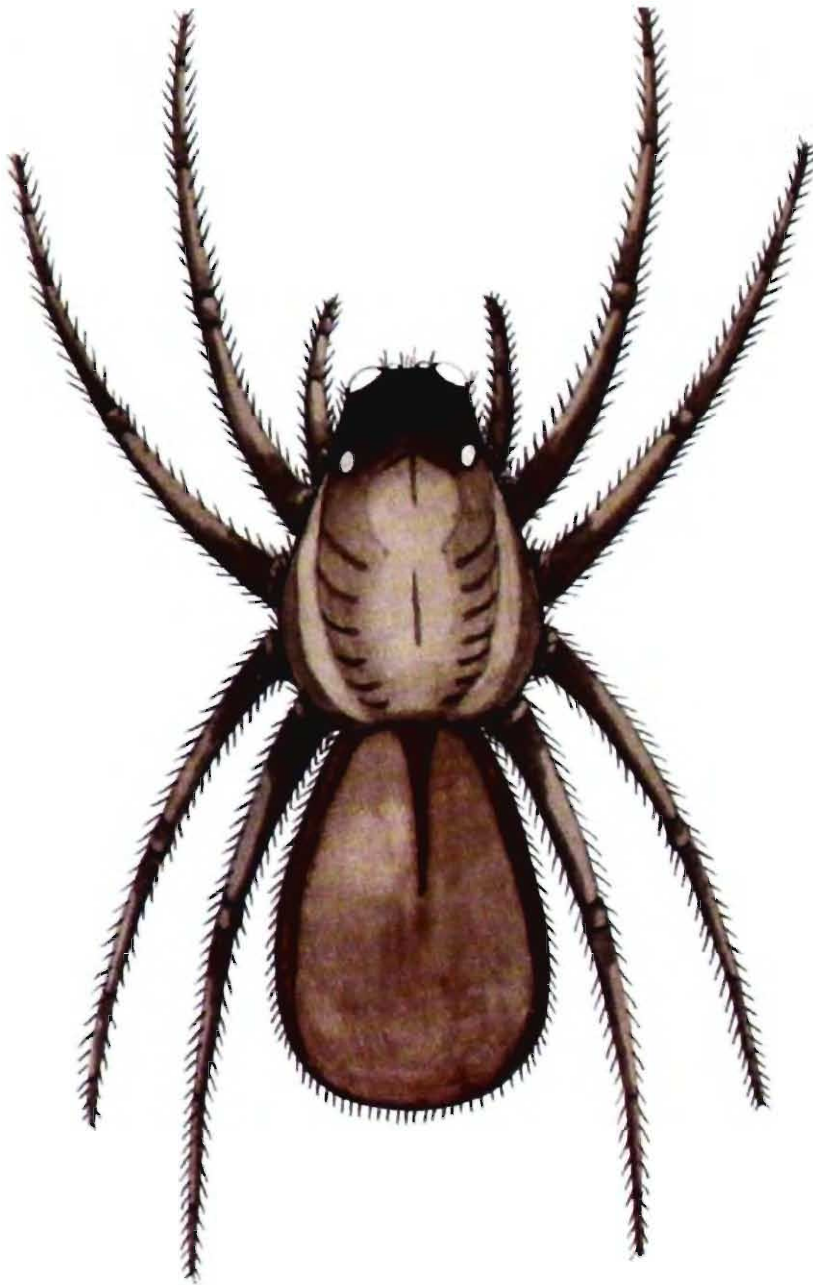
Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



78. *Pardesa minutus* Tikader & Malhotra

Habit and Habitat : These spiders are smaller to medium in size found on the ground rarely found on the flowering shoot of mangrove and semimangrove areas of Sunderban. They prefer moist atmosphere, sometimes they are seen in large numbers accumulated around the drying water holes obviously for the insects which visit the holes attracted by the smell of purifying fishes or other organism. The spider catches and feeds on these insects.



Diagnostic characters : Cephalothorax brown, longer than wide, narrow in front, middle of the cephalothorax provided with a fovea. Anterior row of eyes slightly procurved and shorter than the second row, anterior medians larger than the anterior laterals. Eyes of the second row larger than the others. Labium wider than long. Chelicerae moderately strong. Legs long and thin. Abdomen longer than wide, oval in shape, mid-dorsally provided with light redish patches.

Distribution : India : West Bengal : Sunderban areas (Mathurapur Dist. South 24 Parganas; Himachal Pradesh.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

79. *Pardosa oakleyi* Gravely

Habit & Habitat : They are smaller to medium in size, very active and run swiftly over the wet grassy land near the river, pond or stagnant damp of Sunderban area. Sometimes they are seen and collected under rotten logs near ponds or stagnant dump. Small insects were preyed by direct attack upon the prey.

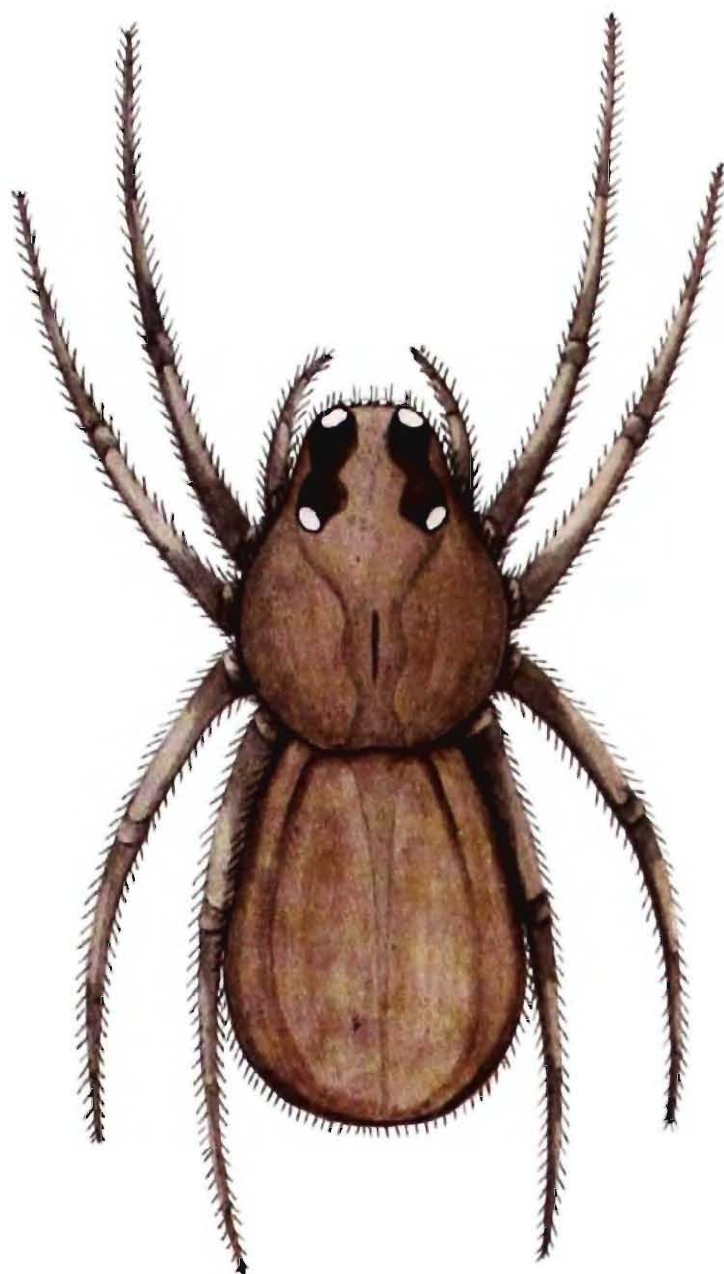
Diagnostic characters : Cephalothorax yellowish brown in colour, longer than wide, convex, carapace provided with a broad longitudinal patches extending from the base of the posterior eye to the base of the cephalothorax. Middle of the cephalothorax provided with a sharp fovea. Anterior row of eyes straight and shorter than the second row, anterior medians larger than the others. Chelicerae moderately strong. Legs moderately strong. Abdomen longer than wide, nearly oval, anterior-mid-dorsally provided with lense shaped marking.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas, Hingalgunj, Sandeshkhali, Dist. North 24 Parganas), Burdwan; Bihar; Karnataka; Tamil Nadu; Punjab.

Elsewhere : Pakistan.

Common name : Wolf spider

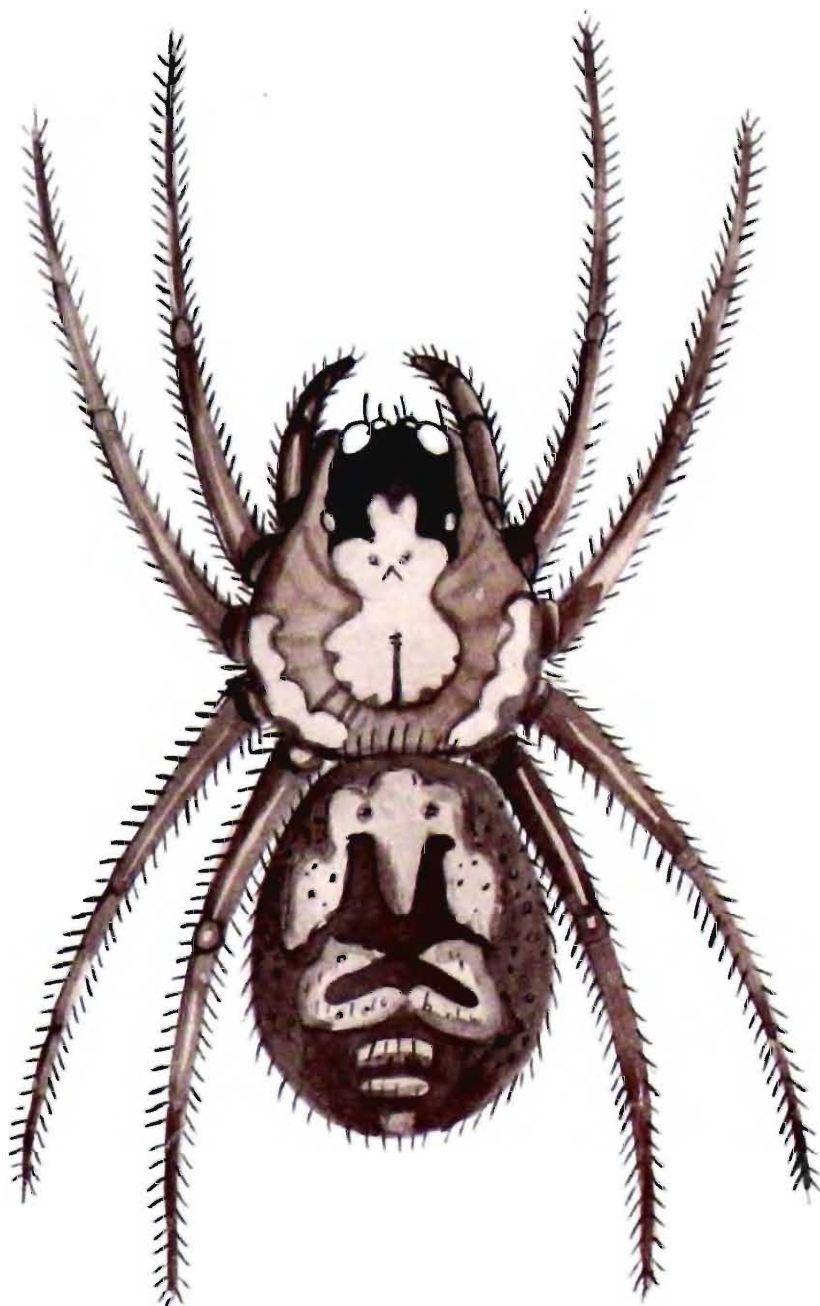
Economic importance : Acts as a controlling agent of paddy pest in the fields.



80. *Pardosa rhenockensis* (Tikader)

Habit and Habitat : They are medium in size found on the marshy land, never found upon the flowering shoots of the plants. They are ground dwellers rarely arboreal. They frequently found near stagnant dump river. They catch their prey by direct jumping upon the insects.

Diagnostic characters : Cephalothorax light brown in colour. Longer than wide, cephalic region slightly high and narrowing in front, centre of the thoracic region provided with a sharp fovea. Carapace without a broad longitudinal brown patches. Anterior row of eyes straight, shorter than the second row, anterior medians slightly larger than anterior laterals Chelicerae moderately strong, inner margin provided with 3 teeth. Legs long. Abdomen oval, pointed behind, ventral side uniformly pale coloured without black spot.



Distribution : India : West Bengal : Sunderban area (Gosaba, Dist South 24 Parganas, Hingalgunj, Sandeshkhali, Dist. North 24 Parganas); Sikkim.

Common name : Wolf spider.

Economic importance : Acts as a biological control of insect pest in the fields.

81. *Pardosa songosa* Tikader & Malhotra

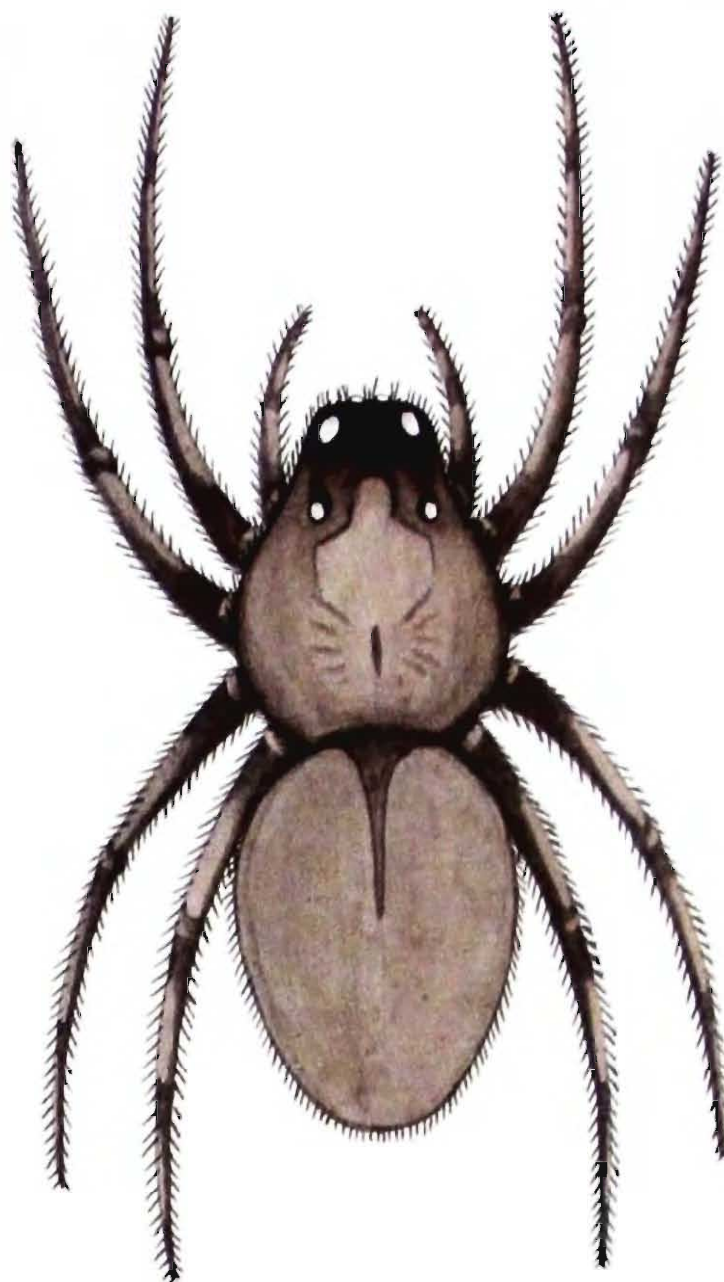
Habit and Habitat : They are the inhabitant of wet litters of mangrove forest. They are swift runner and very difficult to collect them. The egg sac are carried by the females attached to their spinnerets. They catches the small insects by direct jumping upon the prey

Diagnostic characters : Cephalothorax brown, longer than wide, cephalic region high and narrow; middle of the cephalothorax provided with fine fovea. Anterior row of eyes slightly procurved and much shorter than the second row, anterior medians slightly larger than the anterior laterals. Second row of eyes larger than the others. Chelicerae moderately strong and retromargin provided with three teeth. Legs long and thin. Abdomen longer than wide. Posterior half of dorsum provided with pale chevron pattern.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas; Sandeshkhali, Dist. North 24 Parganas); Uttar Pradesh.

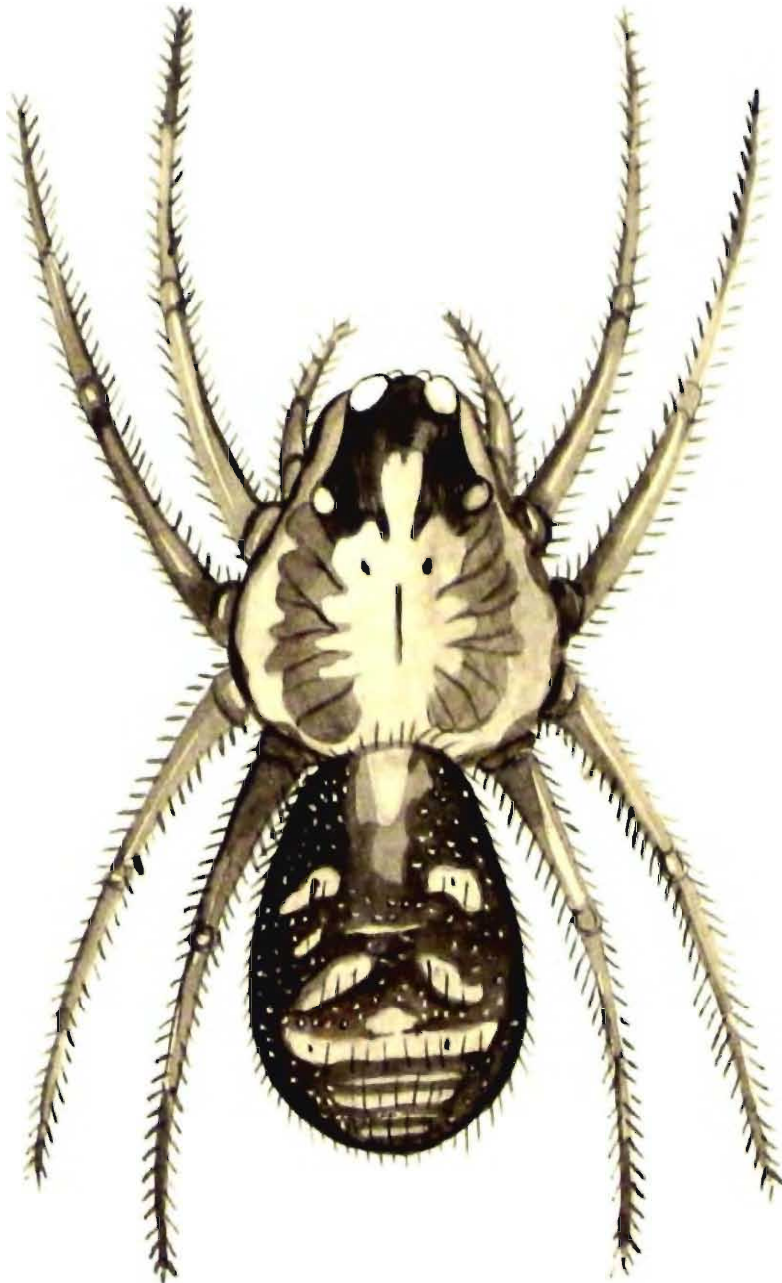
Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



82. *Pardosa shyamae* (Tikader)

Habit and Habitat : They are found in the mangrove and semimangrove areas of Sunderban. They inhabit in the wet litters of mangrove forest. They are swift runner and very difficult to collect them. The egg sac are carried by the females attached to their spinnerets. They catch the small insects by direct jumping.



Diagnostic characters : Cephalothorax brown in colour, longer than wide, slightly narrowing in front, thoracic region provided with sharp fovea. Anterior row of eyes straight, shorter than the second row; anterior medians slightly larger than anterior laterals. Chelicerae moderately strong and inner margin provided with three teeth. Legs long and femur, patella, tibia and tarsi provided with transverse greenish brown distinct patches. Abdomen oval, dorsum without pale chevron pattern, ventral side with greenish irregular patches.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Minakhan, Sandeshkhali, Dist North 24 Parganas), Darjeeling.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

83. *Pardosa sumatrana* (Thorell)

Habit and Habitat : They are found in mangrove and semimangrove areas of Sunderban. They are found in the aquatic or marshy land and seen jumping in the water and over the water surface like a frog. Sometimes they were seen to going under water holding the water twigs for their defence. They catch the aquatic insects by direct jumping upon the prey.

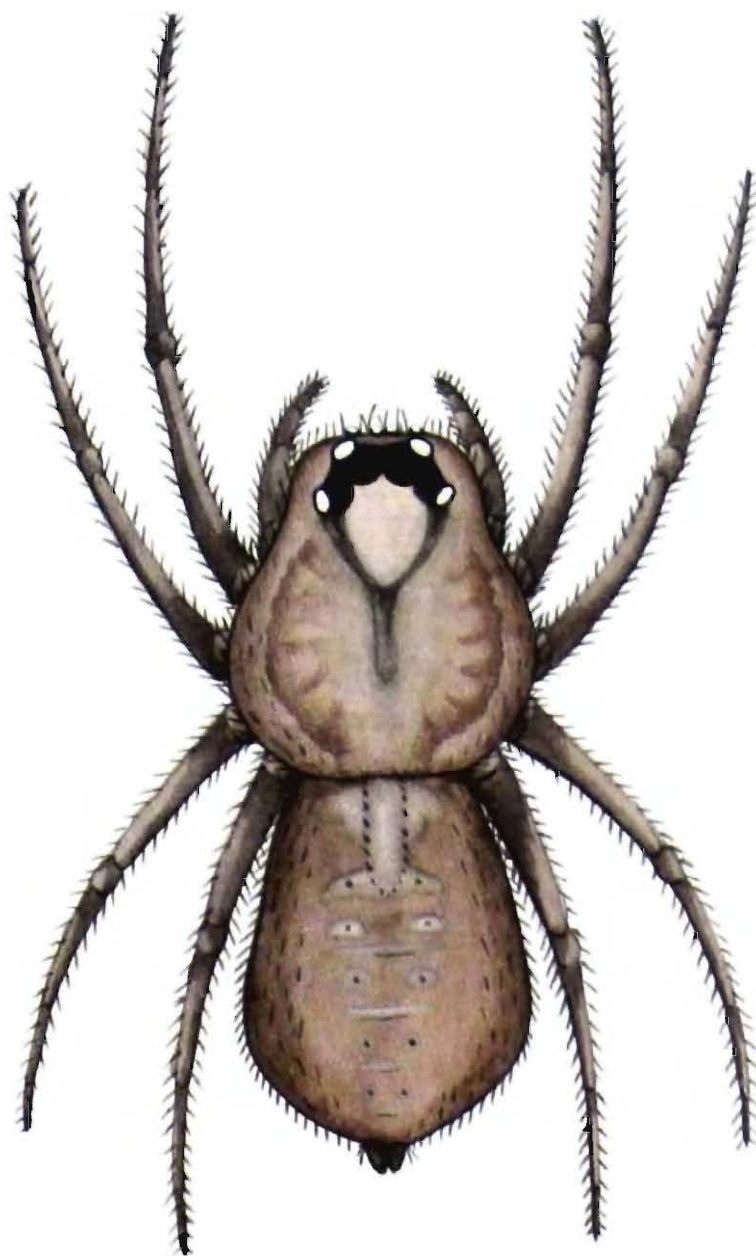
Diagnostic characters : Cephalothorax brown, longer than wide, cephalic region slightly high, centre of the thoracic region provided with distinct fovea. Anterior row of eyes straight, less wider than the second row, medians slightly larger than the laterals. Eyes of the second row larger than the others. Chelicerae moderately strong, inner margin provided with 2 teeth. Legs not so strong, dorsally provided with irregular greenish patches. Abdomen oval, pointed behind. Dorsum provided with a lense shaped longitudinal marking anterior-mid-dorsally.

Distribution : India : West Bengal : Sunderban area (Kultali, Patharpratima, Gosaba, Dist South 24 Parganas; Hingalgunj, Sandeshkhali, Dist. North 24 Parganas), Birbhum, Darjeeling, Burdwan, Hugli; Meghalaya; Karnataka; Tamil Nadu; Andhra Pradesh; Maharashtra; Bihar; Himachal Pradesh; Tripura; Rajasthan; Gujarat; Madhya Pradesh; Arunachal Pradesh; Andaman & Nicobar Island.

Elsewhere : Bangala Desh, Nepal, Sri Lanka, Sumatra.

Common name : Wolf spider.

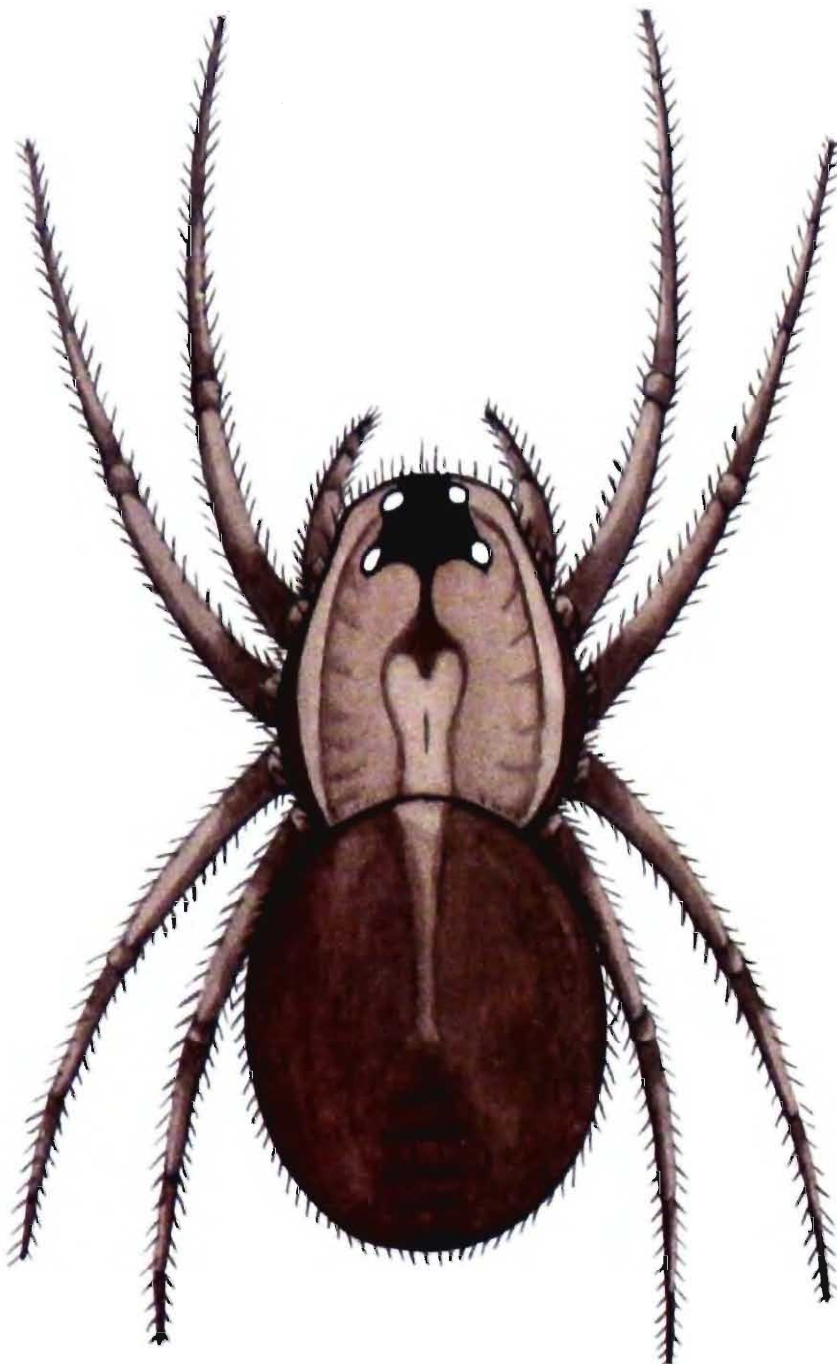
Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of toothache and acts as controlling agent of peddy pest in the fields.



84. *Pardosa alii* Tikader

Habit and Habitat : They are found in the mangrove and semimangrove areas of Sunderban. They are ground dwellers. Generally they are frequently found near the pond or river beds. Some are found in marshy paddy fields. They catch their prey by direct jumping upon the insects

Diagnostic characters : Cephalothorax brownish in colour, longer than wide, narrowing in front, middle of the cephalothorax provided with sharp fovea. Anterior



row of eyes slightly procurved and shorter than the second row, anterior medians larger than the anterior medians. Chelicerae strong, inner margin provided with 3 teeth. Legs long and moderately strong. Abdomen slightly longer than wide, nearly same wide both in front and behind, dorsally provided with lense shaped pale marking.

Distribution : India : West Bengal. Sunderban area (Gosaba, Dist. South 24 Parganas; Sandeshkhali, Dist. North 24 Parganas); Jammu and Kashmir.

Common name : Wolf spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

85. *Pardosa mysorensis* (Tikader & Malhotra)

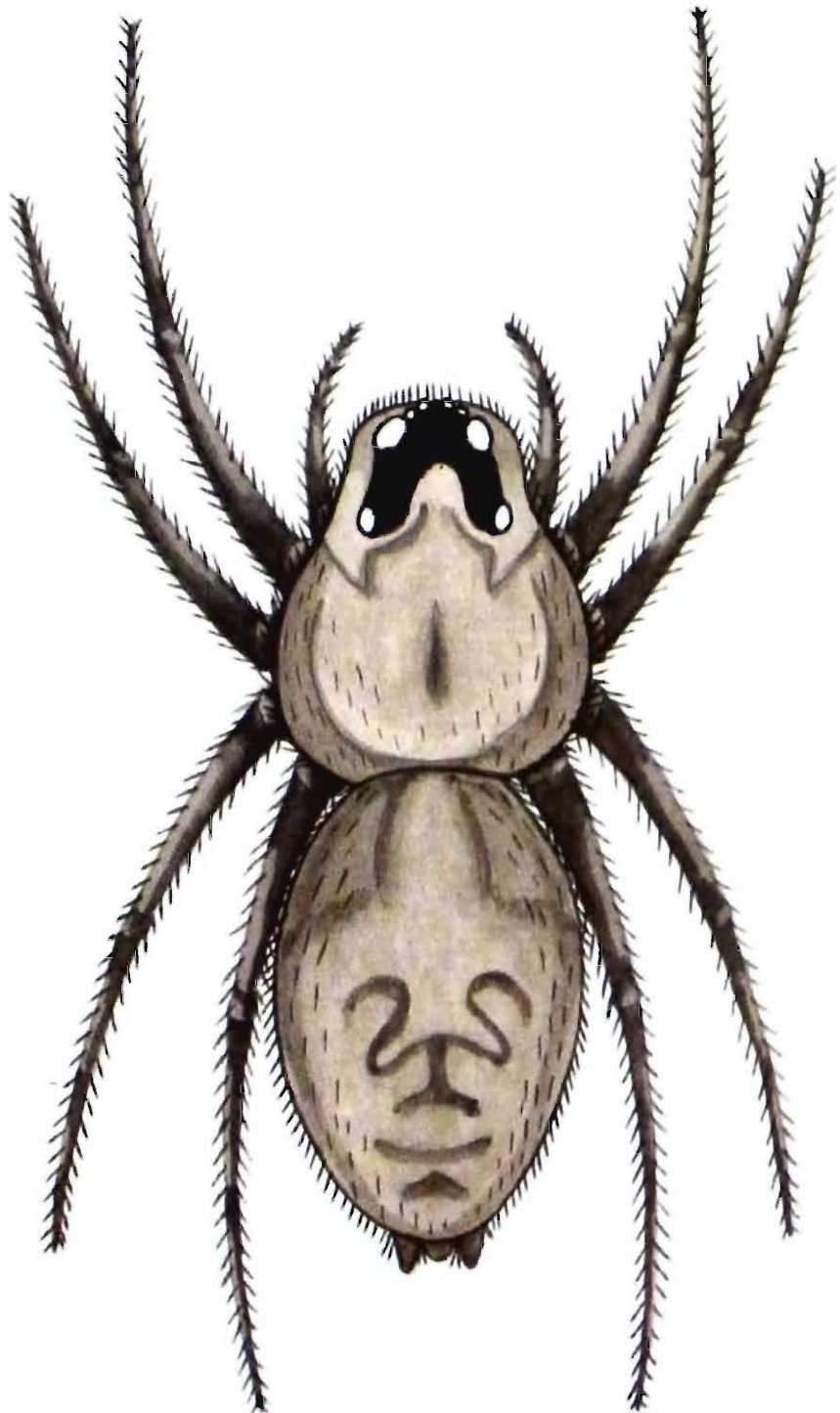
Habit and Habitat : They are found mangrove and semimangrove areas of Sunderban. They inhabit in damp area near pond, streams and rivers. Feed on smaller insects by direct attack. Females carry the egg cocoons between the hind legs.

Diagnostic characters : Cephalothorax greenish brown, longer than wide, centre of the thoracic region provided by sharp fovea. Anterior row of eyes straight, less wider than the second row and anterior medians slightly larger than the anterior laterals. Eyes of the second row larger than the others. Chelicerae strong, inner margin provided with 3 teeth. Legs thin and long. Abdomen oval, longer than wide, dorsum without lense shaped marking.

Distribution : India : West Bengal : Sunderban area (Hingalgunj, Dist North 24 Parganas; Gosaba, Dist. South 24 Parganas); Karnataka.

Common name : Wolf spider.

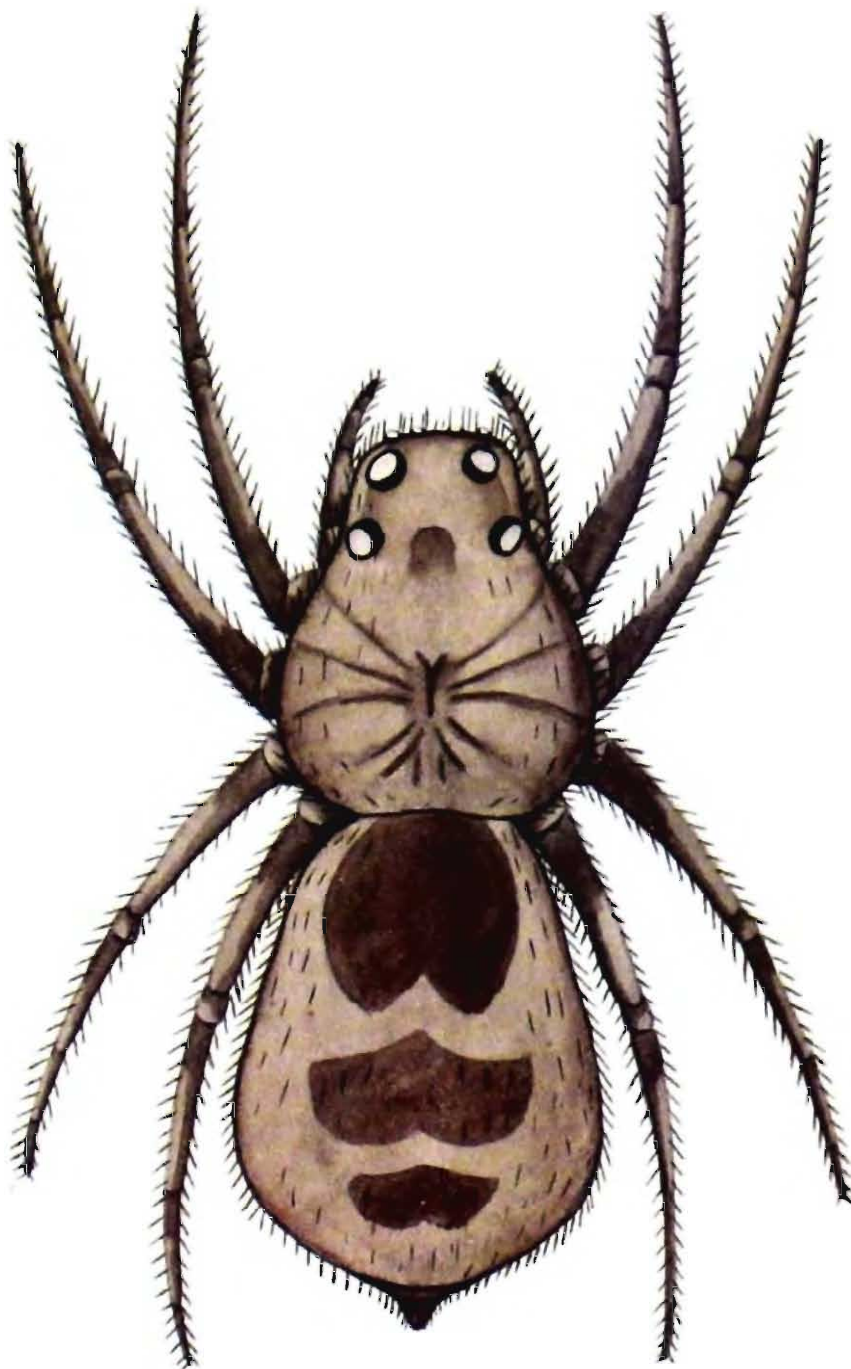
Economic importance : Medicinally important spider : used by the tribals of Sunderban as drug for the cure of arterial sclerosis and acts as a controlling agent of insect pest in the crop fields.



86. *Pardosa sutherlandi* (Gravely)

Habit and Habitat : They are found in mangrove and semimangrove areas of Sunderban. They are expert ground dwelling hunter, generally found in grassy areas of marshy land. Females are known to carry the young ones on their abdomen. Preyed on small insects by direct jumping upon their prey.

Diagnostic characters : Cephalothorax light to deep brown, longer than wide, cephalic region slightly high. Cephalothorax provided mid-dorsally with a conspicuous fovea. Anterior row of eyes short, straight, medians eyes slightly larger than the laterals. Eyes of the second row larger than the others. Legs long and stout, tibia and metatarsi of the leg I & II provided with 4 & 3 pairs of ventral spines. Abdomen longer than wide, narrowing behind. Dorsum provided with pigmented brown and pale dots.



Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas; Hingalgunj, Dist. North 24 Parganas), Darjeeling.

Common name : Wolf spider

Economic importance : Acts as a predator of insect pest in the crop fields.

87. *Pardosa amkhasensis* Tikader & Malhotra

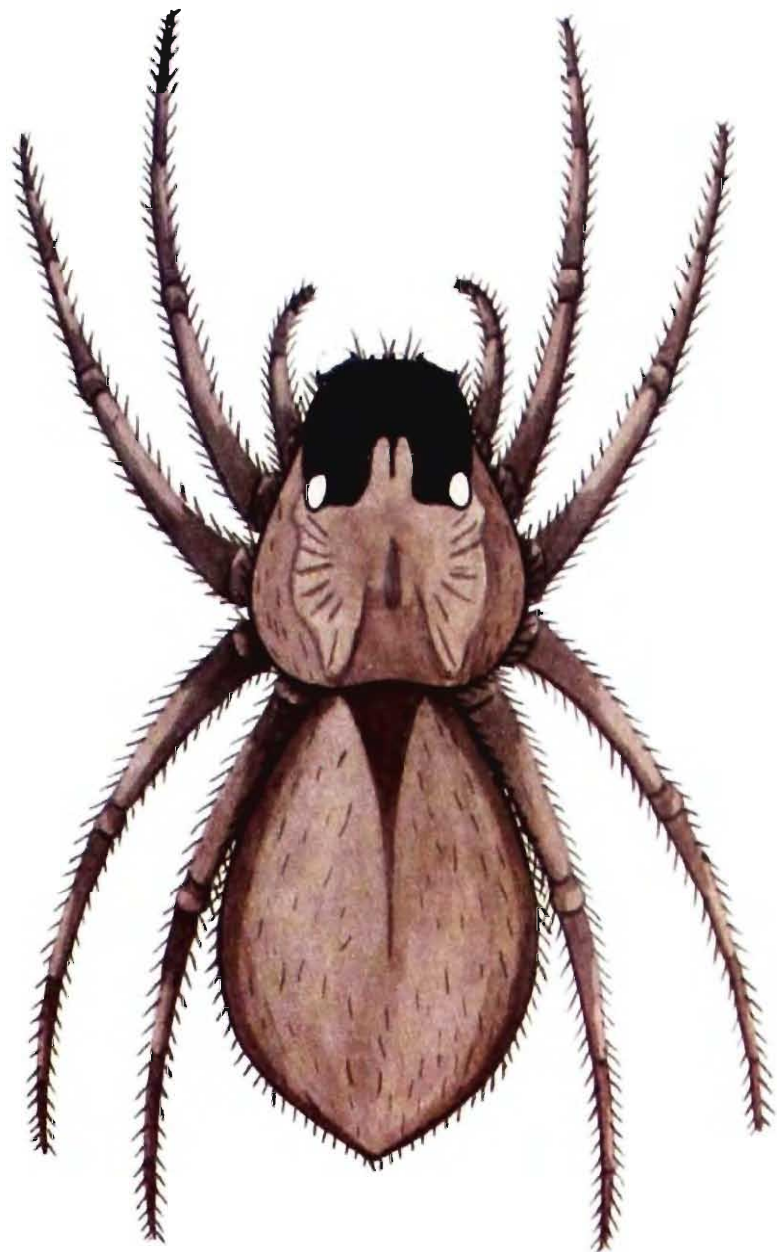
Habit and Habitat : Found in mangrove and semimangrove areas of Sunderban. They are found to creeping over the grassy and moist land near the stagnant dump or pond of Sunderban areas. The female carry the egg cocoon on their abdomen. Preyed on small aquatic insects by direct jumping.

Diagnostic characters : Cephalothorax greenish brown, longer than wide, middle of the cephalothorax provided with a short fovea. Anterior row of eyes straight and shorter than the second row, anterior medians larger than the anterior laterals. Chelicerae moderately strong, inner margin provided with 3 teeth. Legs long and thin, tibia and metatarsi of the legs I & II not provided with 3 ventral spines. Abdomen oval, longer than wide pointed behind. Dorsum provided with lense shaped pale marking.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas); Madhya Pradesh.

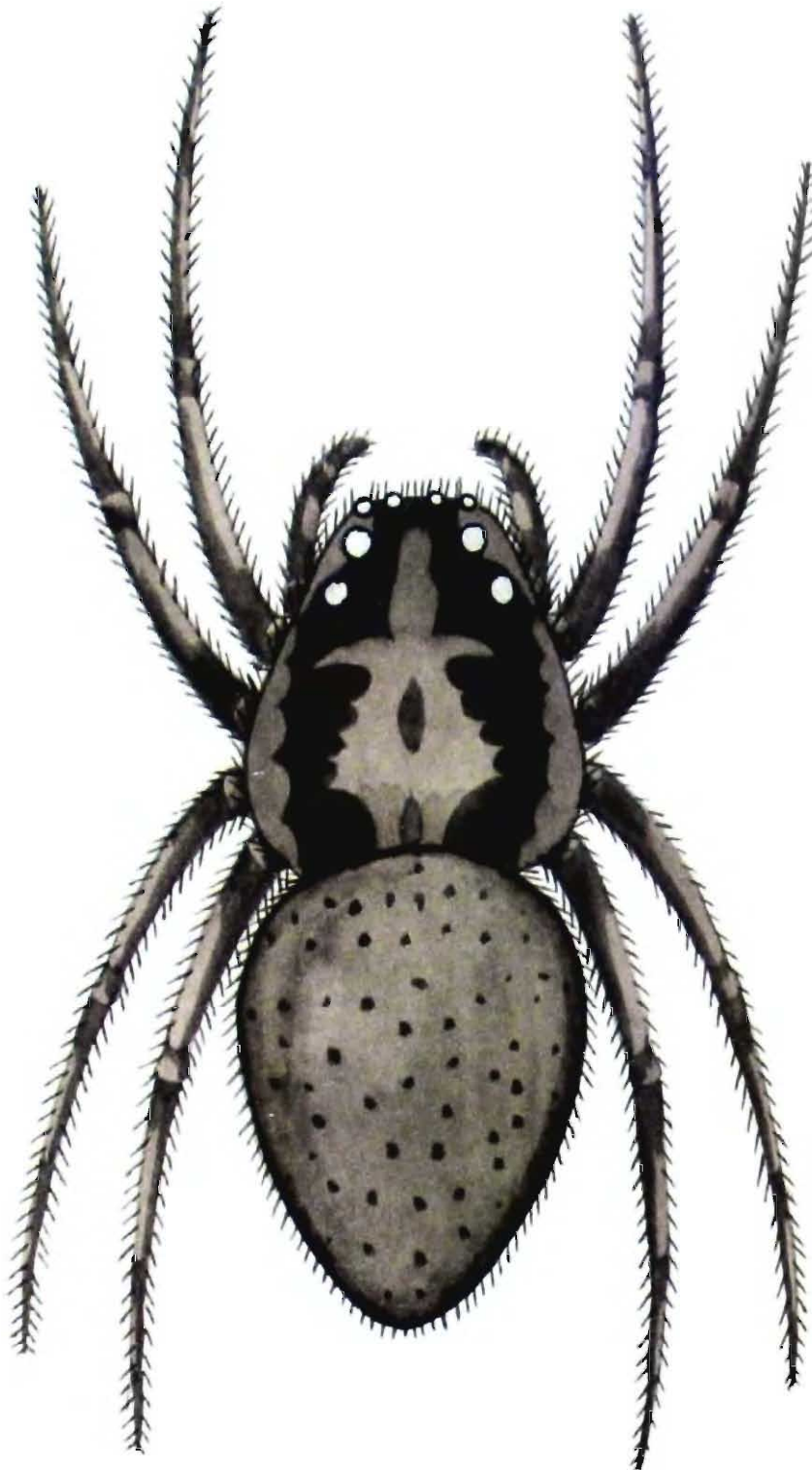
Common name : Wolf spider.

Economic importance : Acts as a paddy pest in the field.



88. *Pardosa suchismitae* Majumder

Habit and Habitat : They are distributed in the aquatic or marshy land of inhabited zone of Sunderban areas. The new species of the spider was collected from the paddy fields, hence regarded as the essential predators of paddy pest. They catch the aquatic insect by direct jumping upon the prey.



Diagnostic characters : Cephalothorax longer than wide reddish brown in colour and decorated with whitish patches, anteriorly narrowed wider posteriorly; thoracic region provided with two deeply distinct longitudinal fovea. Eyes pearly white, anterior row slightly recurved. Chelicerae not so strong inner margin provided with 3 similar teeth, outer margin with one tooth. Legs relatively short but strong enough. Abdomen blackish in colour, oval in shape, slightly longer than wide, dorsum not ornamented, provided with a number of white spots.

Distribution : India : West Bengal : Sunderban areas (Hingalgunj, North 24 Parganas).

Common name : Wolf spider.

Economic importance : Acts as a predator of paddy pest in the fields.

89. *Pardosa debolinae* Majumder

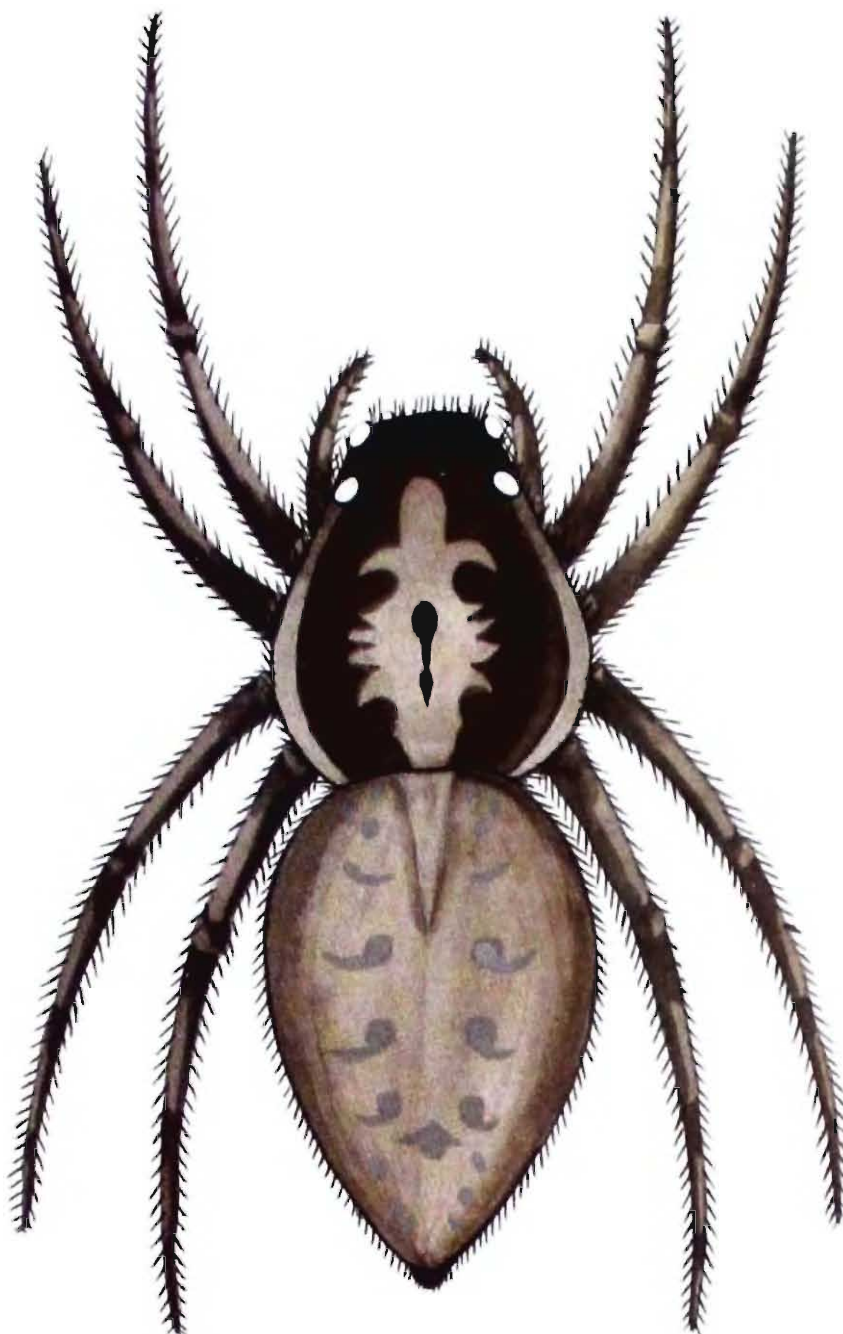
Habit and Habitat : This spider medium in size, inhabited in marshy or aquatic land in Sunderban areas because the new species were collected from the aquatic paddy field of Hingalgunj. They are swift runner, jumping from plant to plant and hidden in a moment. They are the essential predator of paddy pest.

Diagnostic characters : Cephalothorax longer than wide redish brown in colour and decorated with whitish patches extends from the base of the cephalothorax to the middle of the third eyes. Eyes pearly white, anterior row slightly procurved. Chelicerae not so strong, inner margin provided with one tooth, outer margin with 3 similar teeth. Legs moderately short but strong enough. Abdomen dark brown in colour oval in shape, narrowed posteriorly but wider anteriorly. Dorsum ornamented with number of white patches.

Distribution : India : West Bengal : Sunderban area (Dist. North and South 24 Parganas).

Common name : Wolf spider

Economic importance : Acts as predator of paddy pest in the fields.



Family OXYOPIDAE

Key to the Genera

1. Posterior row of eyes strongly procurved *Oxyopes*
- Posterior row of eyes not strongly procurved *Peucetia*

Genus 40. *Oxyopes* Latreille

Type species : *Oxyopes heterophthalmus* Latreille.

Distribution : Cosmopolitan.

Key to the species

1. Abdomen wider at the middle, narrowed both anterior and posterior end; dorsum without any patches at the middle *O. sakuntalae*
- Abdomen not wider at the middle and not narrowed on both the ends; dorsum provided with patches at the middle (2)
2. Cephalothorax narrowed in front and provided with inconspicuous fovea at the middle *O. shweta*
- Cephalothorax wider in front and not provided with inconspicuous fovea at the middle (3)
3. Lower side of the femora of all legs provided with two conspicuous black lines *O. sitae*
- Lower side of the femora of all legs not provided with two conspicuous black lines (4)
4. Cephalothorax longer than wide and without any fovea at the middle; inner and outer margin of the chelicerae provided with two teeth *O. reddy*
- Cephalothorax not longer than wide and provided with prominent fovea; inner and outer margin of the chelicerae not provided with two teeth (5)
5. Upper side of the femora of all legs provided with longitudinal black lines *O. ratnae*
- Upper side of the femora of all legs not provided with longitudinal black lines (6)
6. Dorsum of the abdomen provided with white longitudinal band; sternum not longer than wide *O. sunandae*
- Dorsum of the abdomen not provided with white longitudinal band; sternum longer than wide (7)

7. Eyes enclosed in a black field, situated in an equal distance to each other
 *O. sikkimensis*
- Eyes not enclosed in a black field, and not situated in an equal distance to each other (8)
8. Cephalothorax not blotched with alternate lighten dark olive patches rayed out fovea *O. pandae*

90. *Oxyopes sakuntalae* Tikader

Habit & Habitat : They are found in mangrove and semimangrove areas of Sunderban. They are non orb weaver spider and moving through large trees, bushes and grasses near the pond and stagnant dump or river. They are called lynx spiders. Mode of prey by direct jumping upon the prey.

Diagnostic characters : Cephalothorax brownish green, slightly longer than wide, at the middle of the cephalothorax provided with prominent fovea. Eyes in two rows, anterior row recurved and posterior row strongly procurved and situated in an equal distance. Chelicerae moderately strong. Sternum oval. Abdomen brownish green, wider at the middle, narrowed both the ends, dorsum without any patches at the middle.

Distribution : India : West Bengal : Sunderban area (Hingalgunj Dist. North 24 Parganas; Kultali, Gosaba, Dist. South 24 Parganas), Darjeeling.

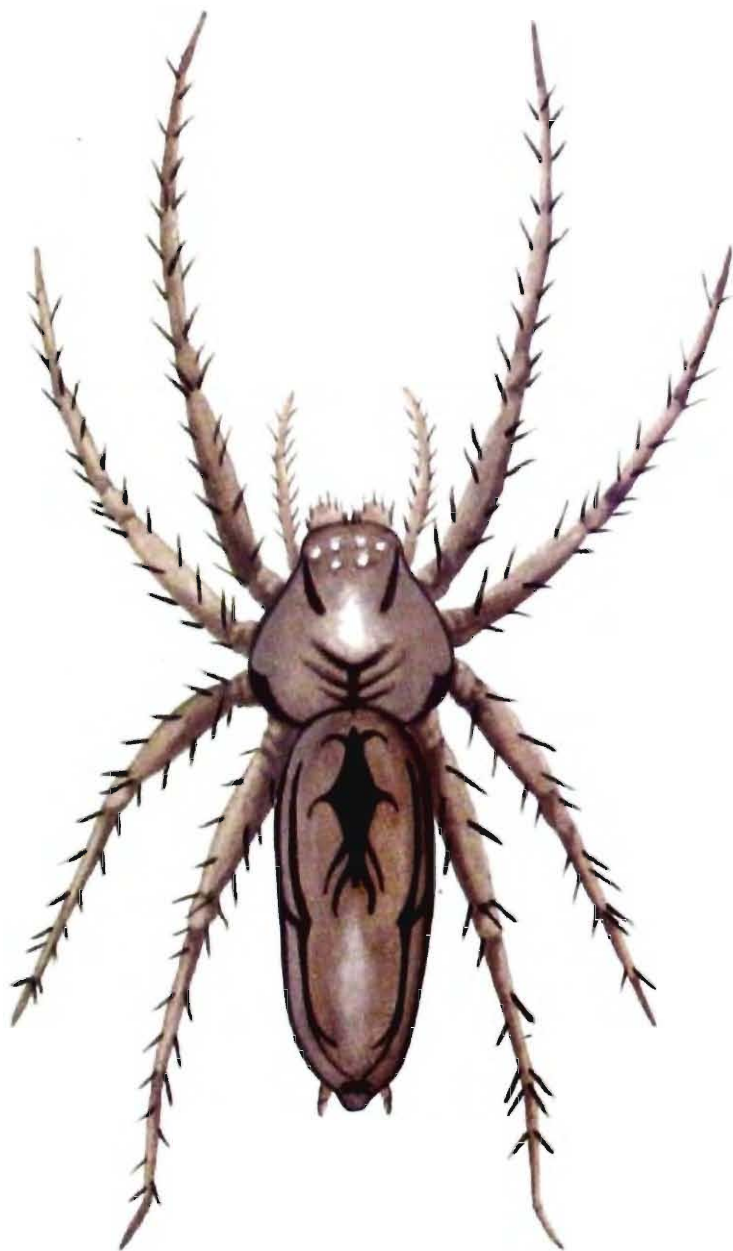
Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



91. *Oxyopes shweta* Tikader

Habit and Habitat : They are non orb weaver, found in the mangrove and semimangrove areas of Sunderban. They are never found as ground dweller, prefer arboreal and move from plant to plant. The male spider characteristically moving its palp during movement and jumping from leaf to leaf, flower to flower in search of insects.



Diagnostic characters : Cephalothorax light brownish, longer than wide, narrow in front, at the centre of the thoracic region provided with prominent fovea. Anterior row strongly recurved, posterior row procurved and situated in equal distance. Chelicerae moderately strong. Legs long and strong. Abdomen long narrow behind, anterior mid-dorsally provided with lense-shaped brown patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Patharpratima, Dist. South 24 Parganas), Jalpaiguri, Hugly; Sikkim; Meghalaya.

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

92. *Oxyopes sitae* Tikader

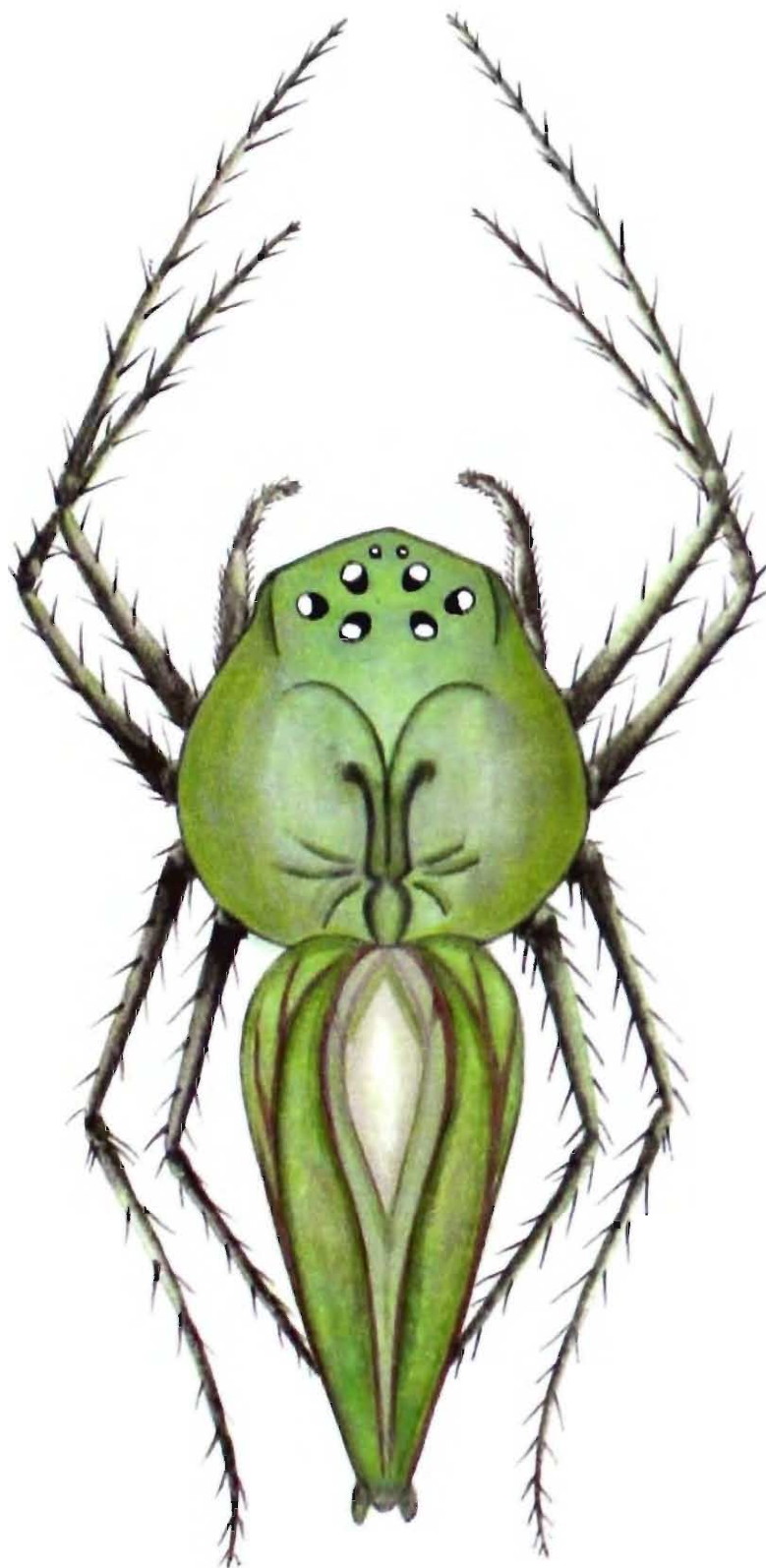
Habit and Habitat : They are foliage inhabitant species like other oxyopid visiting the flowers and inflorescence of different plant shrubs and herbs of mangrove and semimangrove areas of Sunderban in search of food. They are very active, moves from plant to plant.

Diagnostic characters : Cephalothorax longer than wide, provided with conspicuous black lines, centre of the cephalothorax provided with conspicuous fovea. Eyes situated in an equal distance, anterior row strongly procurved, posterior row recurved. Chelicerae strong and stout provided with curved fang. Legs long and stout. Abdomen longer than wide, pale brown, narrowing behind.

Distribution : India : West Bengal : Sunderban area (Gosaba, Patharpratima, Dist. South 24 Parganas), Jalpaiguri; Meghalaya; Sikkim.

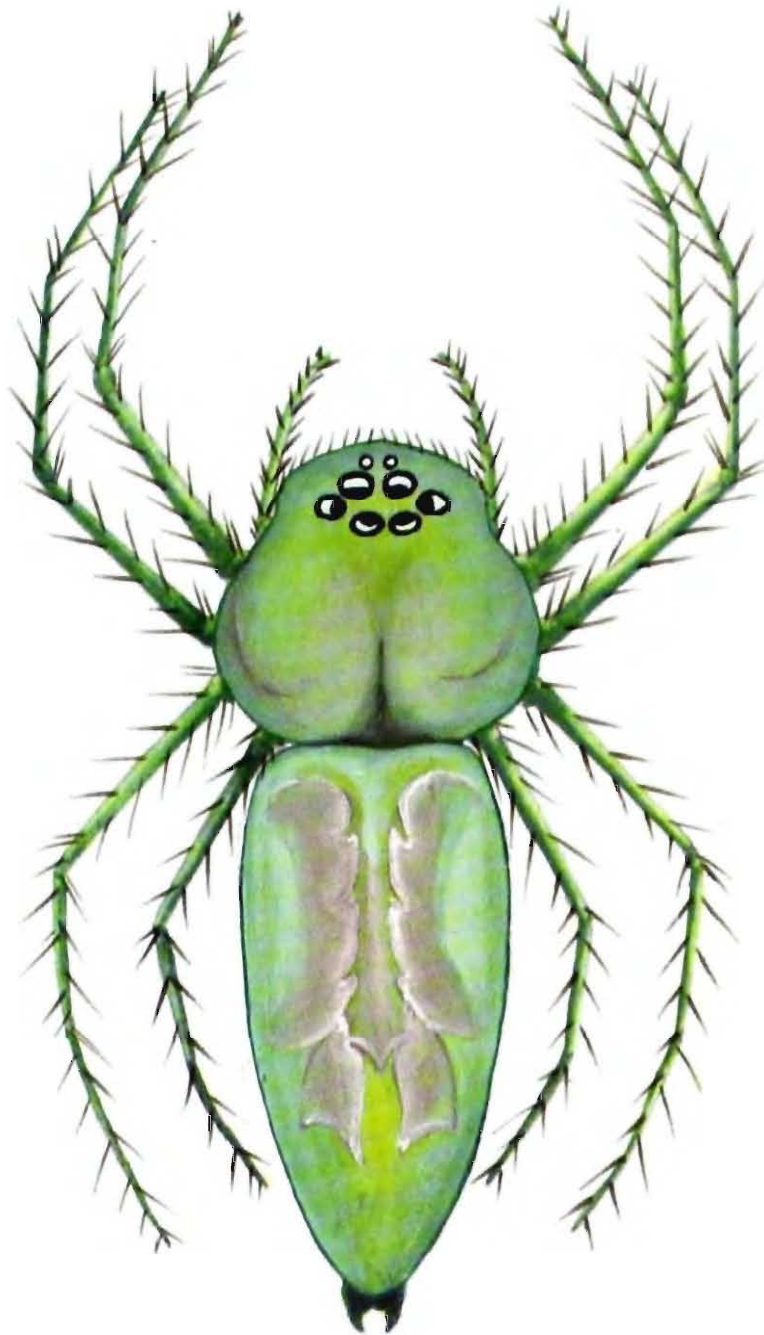
Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



93. *Oxyopes reddyi* Majumder

Habit and Habitat : This spider is arboreal inhabitant and prefer the plants which grows in water, because the new species is collected from sub-marged mangrove vegetation. They catch small insect by direct jumping.



Diagnostic characters : cephalothorax wider than long, redish brown in colour, globoid in shape, carapace broader at the anterior end, central fovea totally absent. Anterior row of eyes recurved distributed in an equal distance. Posterior row of eyes procurved distributed not in an equal distance from each other. Chelicerae not strong, inner and outer margin provided with two teeth. Legs not so strong. Abdomen longer than wide, dorsum ornamented mid-dorsally with grayish brown patches.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas).

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop field.

94. *Oxyopes ratnae* Tikader

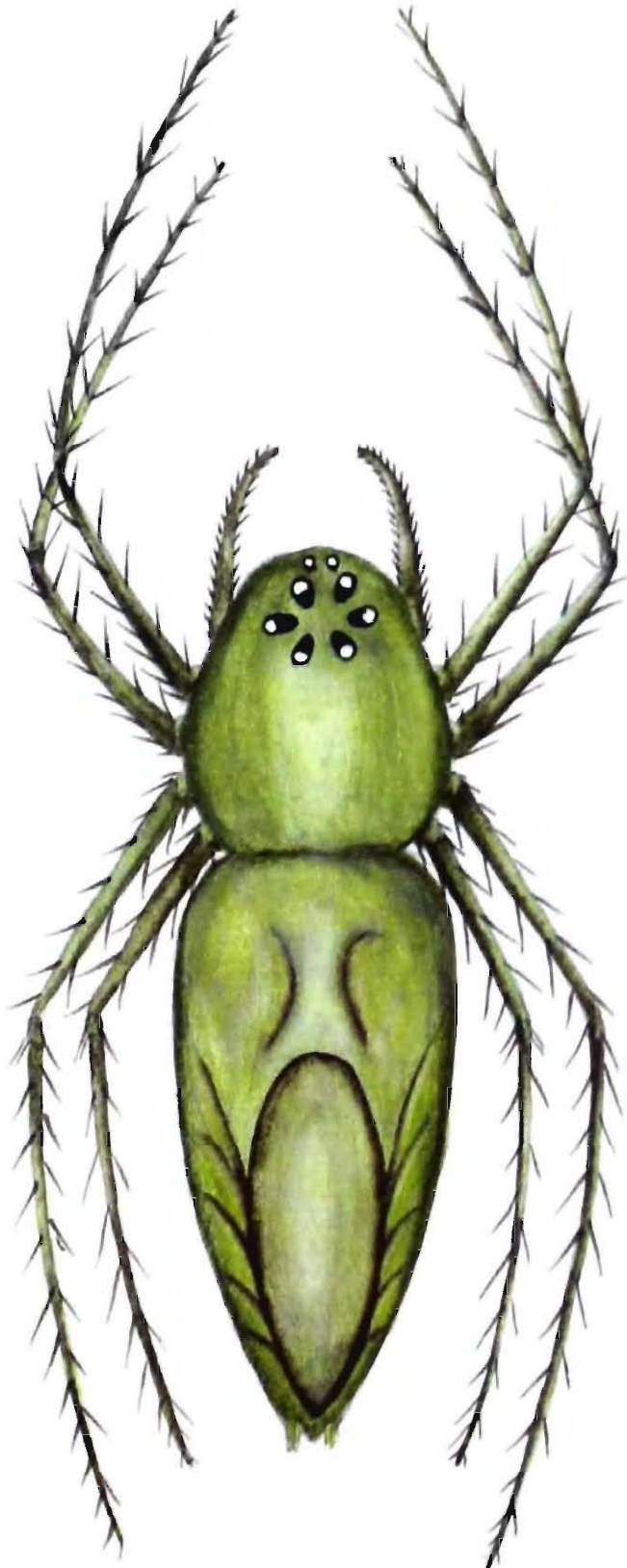
Habit and Habitat : They inhabit in the shrubs, herbs and bushes grow near the ponds or stagnant dump and rivers. They are not found on the ground. The male spider characteristically moving its palp during movement and jumping from leaf to leaf in search of food.

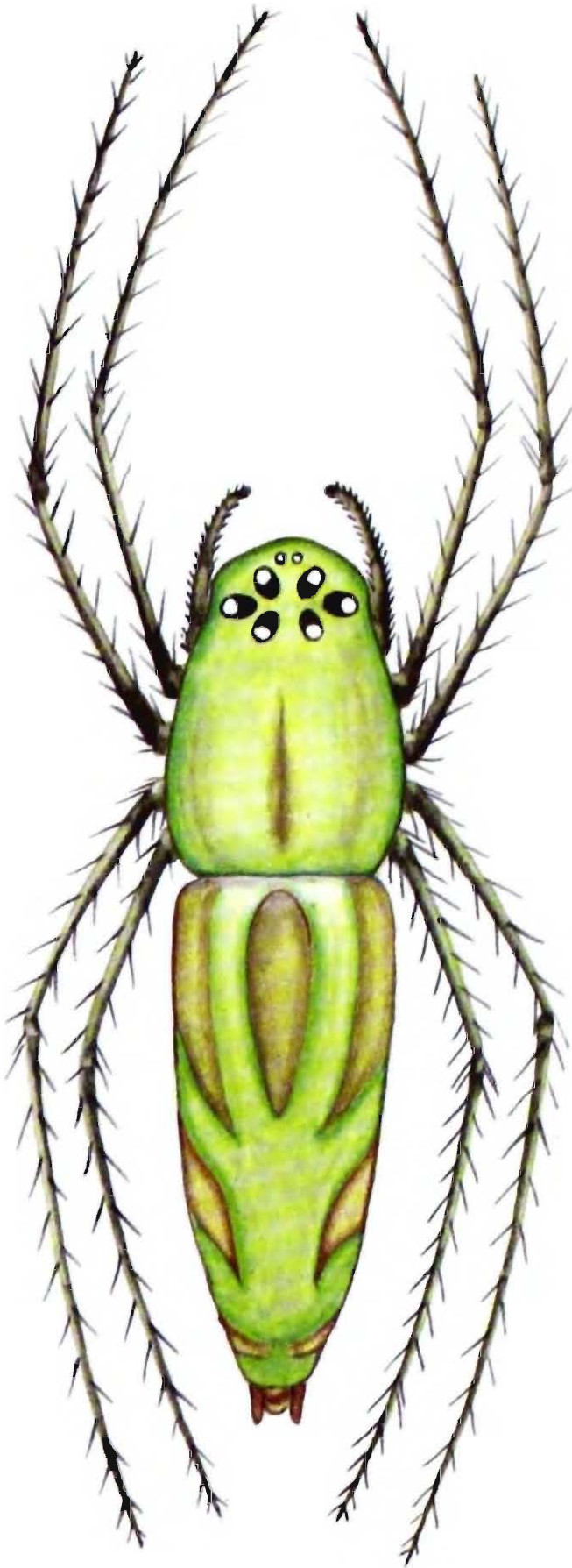
Diagnostic characters : Cephalothorax and legs brownish green, carapace longer than wide, slightly high provided with fine fovea at the centre. Anterior row of eyes recurved, posterior row strongly procurved, situated in an equal distance, encircled with black patches. Chelicerae strong and stout provided with curved fang. Legs long and stout, upper side of the femora of all legs provided with longitudinal black lines. Abdomen longer than wide narrowing behind, dorsally provided with dirty white chevrons.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Hugli, Maldah, Midnapur; Sikkim.

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop field.



95. *Oxyopes sunandae* Tikader

Habit and Habitat : Practically they are beautifully coloured lynx spider arboreal in habit, non orb weaver. Inhabiting inflorescence of the different kinds of plants, shrubs and herbs grows near the water sources. They preyed on small insects by direct jumping from plant to plant flower to flower.

Diagnostic characters : Cephalothorax brownish green, longer than wide, cephalic region slightly high, provided with central fovea. Anterior row of eyes strongly recurved, posterior row procurved, situated in an equal distance, enclosed in a black field. Chelicerae strong and stout with short fang. Legs long and stout. Abdomen longer than wide, narrowing posteriorly provided with white longitudinal band.

Distribution : India : Sunderban area (Gosaba, Patharpratima, Dist. South 24 Parganas), West Bengal; Sikkim, Meghalaya.

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop fields.

96. *Oxyopes sikkimensis* Tikader*Habit and Habitat :*

They are arboreal inhabitant. They inhabit shrub, herb, bushes and small trees far away from river and pond. They are found from high altitude to low land area. They are never found on the ground. Preyed on small insect by direct jumping.

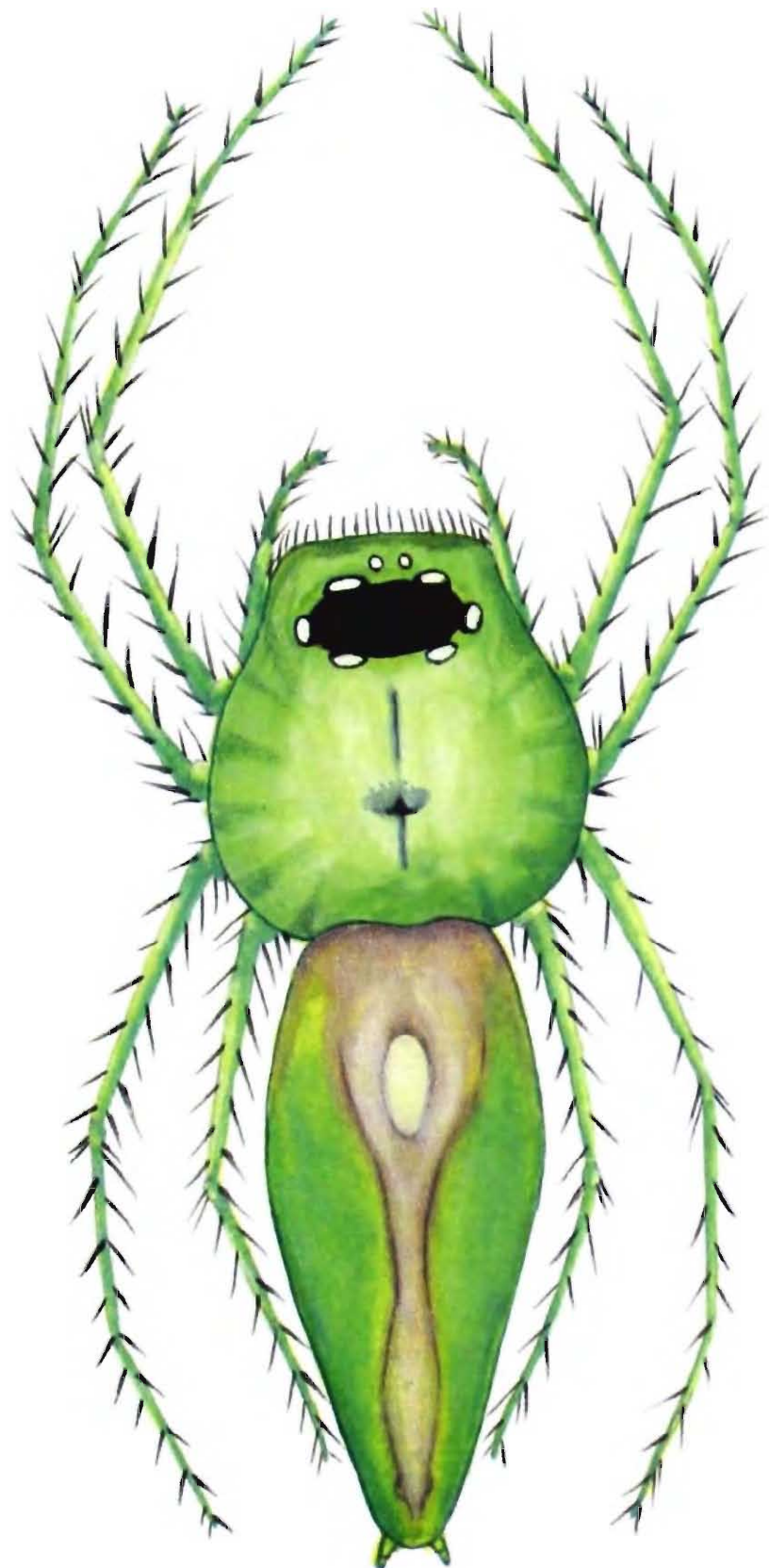
Diagnostic characters :

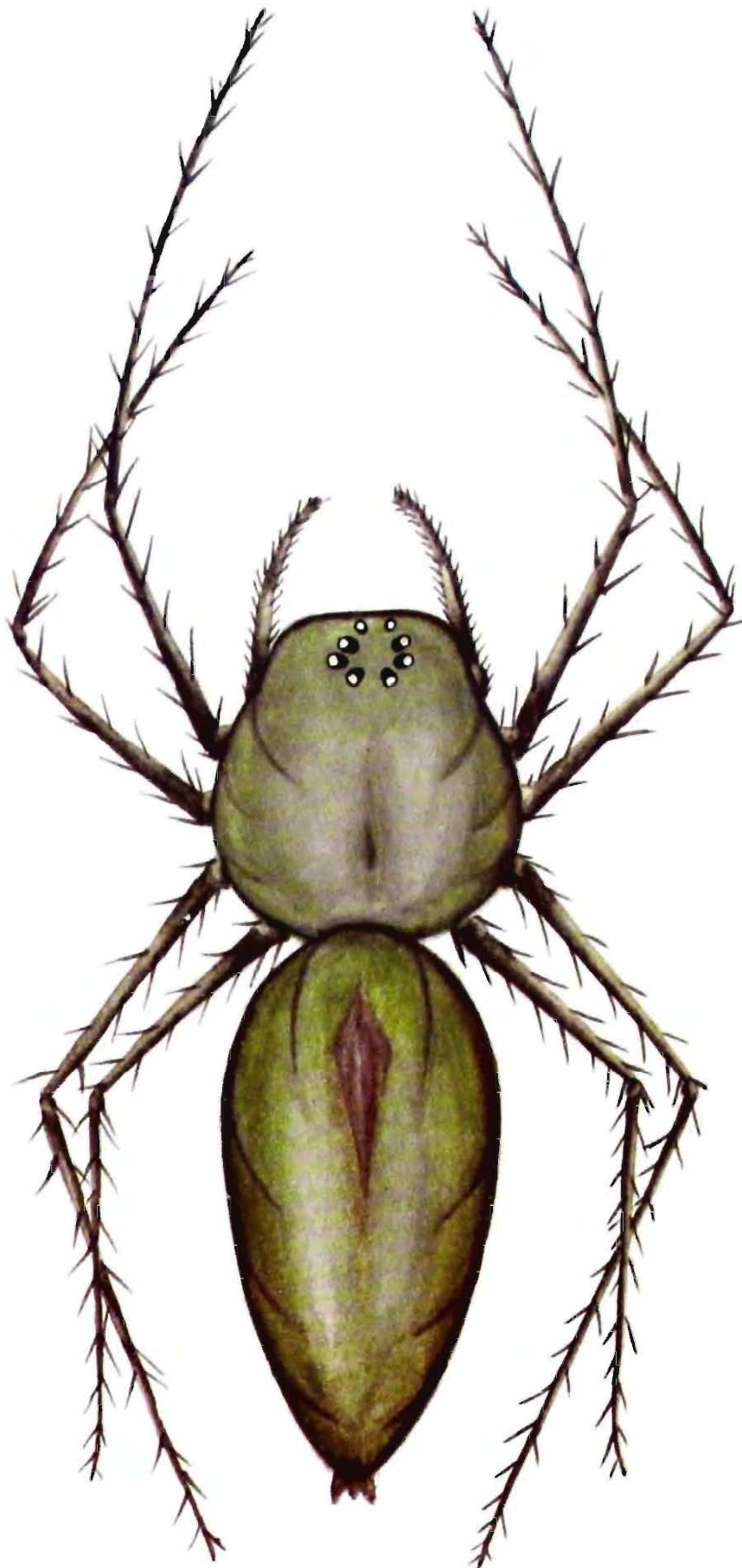
Cephalothorax brownish green, longer than wide. Eyes situated in an equal distance enclosed in a black field. Anterior row of eyes strongly recurved, posterior row procurved; middle eyes small. Chelicerae strong and stout provided with curved fang. Legs long and strong. Sternum heart shaped. Abdomen longer than wide, narrowing behind, dorsum provided with dirty-white longitudinal band.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Jalpaiguri, Sikkim.

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the crop fields.



97. *Oxyopes pandae* Tikader

Habit & Habitat : This spider is called the lynx spider arboreal inhabitant like other oxyopid. They are swift in moving from plant to plant, flower to flower. The male spider characteristically moving its palp during movement and jumping from leaf to leaf, flower to flower in search of food.

Diagnostic characters : Cephalothorax longer than wide, greenish white, narrowing in front, cephalothorax without fovea. Eyes in two rows, anterior row recurved, posterior row strongly procurved. Chelicerae moderately strong. Legs long and strong. Abdomen longer than wide, pointed behind, dorsum without ornamentation.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South Paragans).

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the paddy field as well as vegetable garden.

Genus *Peucetia* Thorell

Type species : *Peucetia viridis* Blackwall.

Distribution : Cosmopolitan except Australia

98. *Peucetia latikae* Tikader

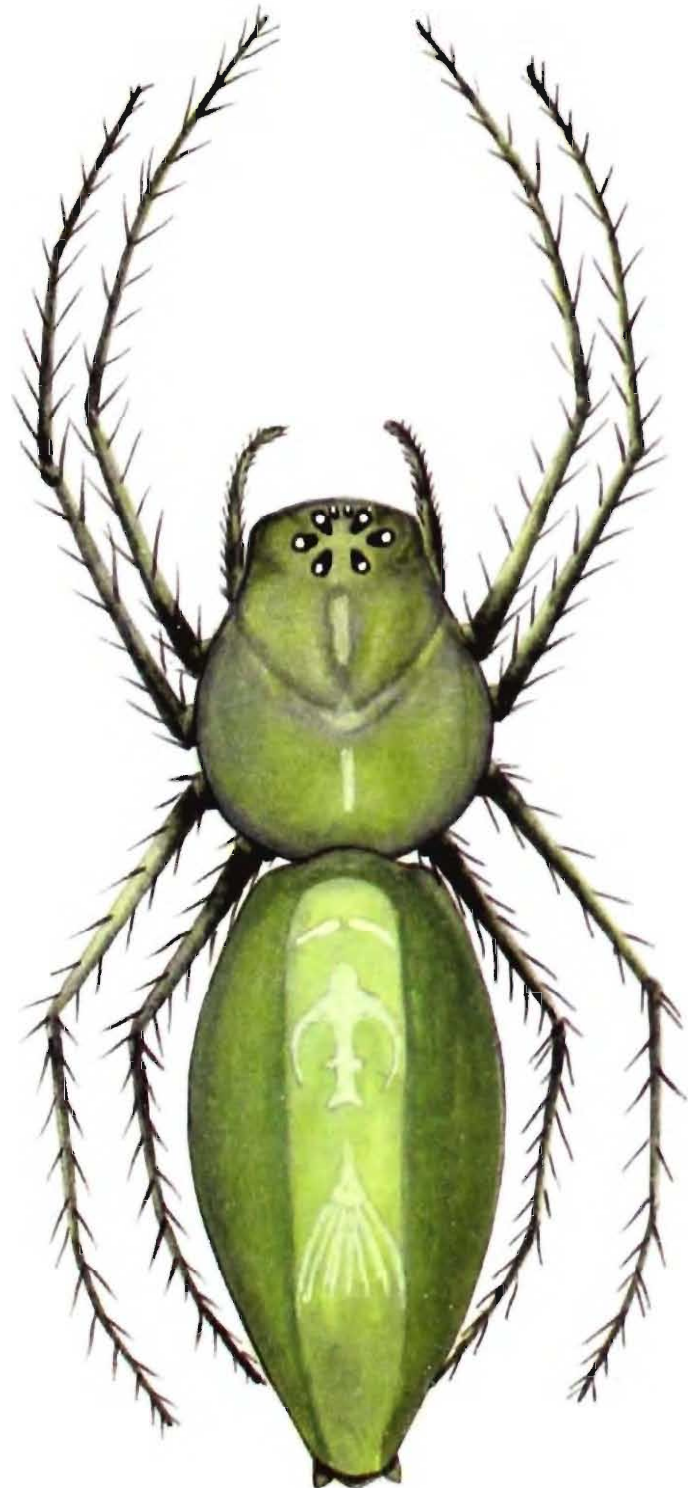
Habit and Habitat : They are found mangrove and semimangrove areas of Sunderban. They are non orb weaver spider but prefer to be arboreal habitat and moving through large trees, bushes and grasses of mangrove and semimangrove areas of Sunderban. They feed on insects by direct attack upon the prey.

Diagnostic characters : Cephalothorax longer than wide, oval in shape, thoracic region provided with elongated fovea. Anterior row of eyes recurved; posterior row procurved. Maxillae, labium and chelicerae longer than wide. Sternum narrow and pointed posteriorly. Legs long and strong. Abdomen longer than wide, dorsum ornamented with number of grey marking

Distribution : India : Sunderban area (Dist. South 24 Parganas), Nadia, Hugli, West Bengal.

Common name : Lynx-spider.

Economic importance : Acts as a predator of insect pest in the paddy field as well as vegetable garden.



Family SALTICIDAE

Key to the genera

1. Cephalothorax rectangular in shape not pointed behind *Marpissa*
— Cephalothorax not rectangular in shape pointed behind (2)
2. Eyes are small in proportion to the size of spider *Phidippus*
— Eyes are not small in proportion to the size of spider (3)
3. Labium little longer than wide; coxa of the 1st leg separated by less than the wide of Labium *Plexippus*
— Labium not longer than wide; coxa of the 1st leg not separated by less than the wide of the Labium. (4)
4. Chelicerae robust and prominent, nearly as long as Cephalothorax
..... *Myrmarachne*

Genus *Marpissa* Koch

Type species : *Marpissa muscosa* Clerck

Distribution : Cosmopolitan.

Key to the species

1. Cephalothorax light brown in colour, and rectangular in shape
..... *M. calcuttaensis*.
— Cephalothorax not light in colour, and rectangular in shape (2)
2. Tibia and metatarsi of I and II legs provided with three and two pairs of ventral spines *M. decorata*.
— Tibia and metatarsi of I and II legs not provided with such of spines (3)
3. Ocular region more dark than the rest portion of the cephalothorax
..... *M. dhakuriensis*.
— Ocular region not so dark than the rest portion of the cephalothorax (4)
4. Maxillae and Labium longer than wide, narrowed anteriorly *M. dyapurensis*.
— Maxillae and Labium not longer than wide, wider anteriorly (6)
5. Chelicera long and narrow, inner and outer margin provided with three dissimilar teeth *M. lakshmikantapurensis*.

- Chelicera robust, inner and outer margin not provided with three dissimilar teeth (8)
- 6. Sternum yellowish in colour, narrowed anteriorly *M. andamanensis*.
- Sternum not yellowish in colour wider anteriorly *M. gangasagarensis*.

99. *Marpissa calcuttaensis* Tikader

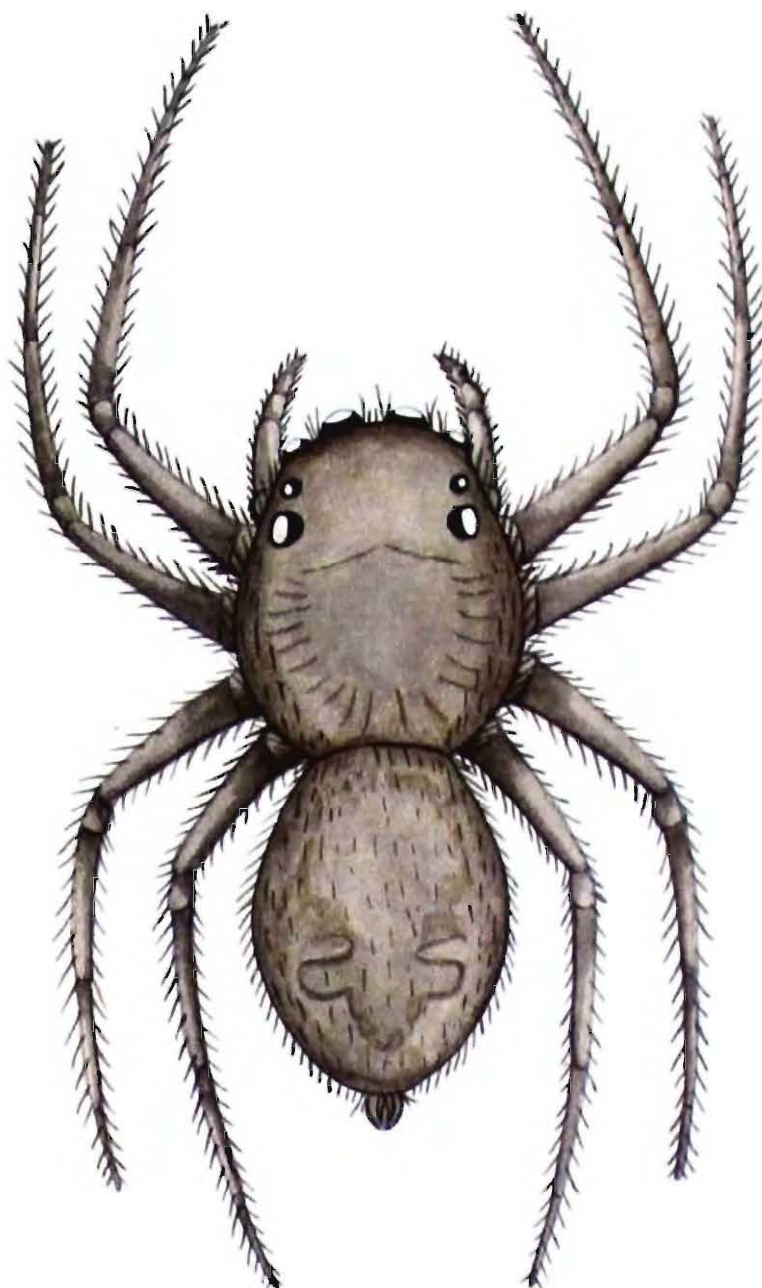
Habit and Habitat : This spider inhabit in the shrub, herb and bushes of semimangrove areas, sometimes they are found on the walls of the houses of tribal people of Sunderban areas. The male spider characteristically moving its palp during movement and jumping from leaf to leaf in search of insects.

Diagnostic characters : Cephalothorax light brown longer than wide, without fovea. Anterior median eyes twice longer than anterior laterals. Chelicerae strong, inner and outer margin of chelicerae provided with one moderate tooth. Abdomen longer than wide, dorsum decorated with white patches.

Distribution : India : West Bengal : Sunderban area (Haroa, Hingalgunj, Haroa; Dist. North 24 Parganas).

Common name : Jumping spider.

Economic importance : Acts as a predator of harmful insects in the flower garden as well as in the houses.



100. *Marpissa bengalensis* Tikader

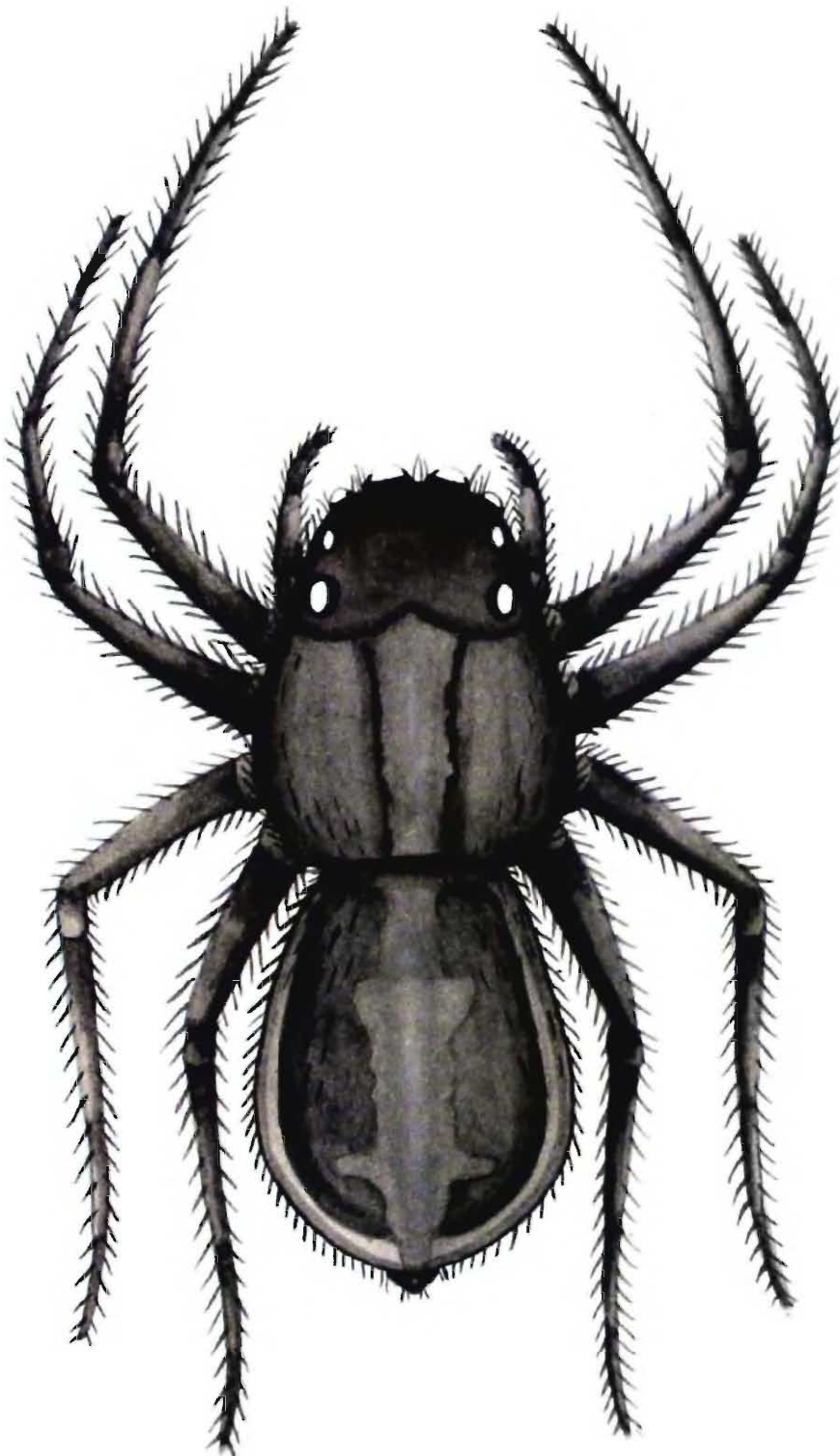
Habit and Habitat : These spiders are medium in size. They are both arboreal and ground dwellers. They are sometimes to live on the small grasses near the paddy fields or road sides. Occasionally they were collected from small shrub bushes near the ponds or rivers. They preyed on smaller insects by direct attack.

Diagnostic characters : Cephalothorax brownish to deep brown, longer than wide, provided with small fovea. Anterior row of eyes recurved. Chelicerae strong, inner and outer margin provided with 2 small close teeth. Abdomen narrowing behind, dorsum provided with whitish longitudinal band.

Distribution : India : West Bengal : Sunderban areas (Gosaba, Mandirbazar, Canning, Patharpratima, Dist. South 24 Parganas, Haroa, Hasnabad, Dist. South 24 Parganas).

Common name : Jumping spider.

Economic importance : Medicinally important : used by the tribals of Sunderban for the cure of nausea, vomiting and headach. Acts as a predator of harmful insects in the paddy field, vegetable and flower garden.



101. *Marpissa decorata* Tikader

Habit and Habitat : They are medium in size rarely found on the ground. They were found to moving foliage of mangrove bushes and shrubs of Sunderban areas. In some cases the female species construct silky retreat on the cracked surface of the stem of mangrove trees. This retreat is provided with two entrances on opposite directions. Preyed on small insects by direct jumping.

Diagnostic charactrs : Cephalothorax redish brown, longer than wide cephalic region flat, at the middle of the cephalothorax provided with a small fovea. Anterior row of eyes recurved, anterior lateral eyes slightly larger than the posterior eyes; second pair of eyes very small and situated more near to the anterior laterals. Chelicerae with one moderate tooth on the inner margin and two small teeth on the outer margin. Abdomen longer than wide pointed behind. Dorsum decorated with white and black patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Patharpratima, Dist. South 24 Parganas, Hingalgunj, Dist. North 24 Parganas), Howrah.

Common name : Jumping spider.

Economic importance : Medicinally important : used by the tribals of Sunderban for the cure of tonsillitis and earache. Acts as a predator of insect pest in the paddy field, vegetable and flower garden.



102. *Marpissa dhakuriensis* Tikader

Habit and Habitat : This spider smaller in size, inhabit houses as well as bushes near the paddy fields and road sides. The female spider construct white silky retreat on the roof of houses of tribal people and under stock of logs.



Diagnostic characters : Cephalothorax brownish in colour, longer than wide, cephalic region flat, middle of the cephalothorax provided with a conspicuous fovea. Anterior rows of eyes recurved, middle eyes milky white and the other pearly white. Anterior median eyes nearly three times larger than the lateral eyes. Sternum brownish, wider anteriorly. Chelicerae moderately strong, inner margin provided with one large tooth and outer margin with two smaller teeth. Legs I and II short and stout. Abdomen longer than wide, provided with whitish patch on the dorsum.

Distribution : India : West Bengal : Sunderban area (Patharpratima, Dist. South 24 Parganas).

Common name : Jumping spider.

Economic importance : Acts as a predator of insect pest in the crop field and flower garden.

103. *Marpissa dyapurensis* Majumder

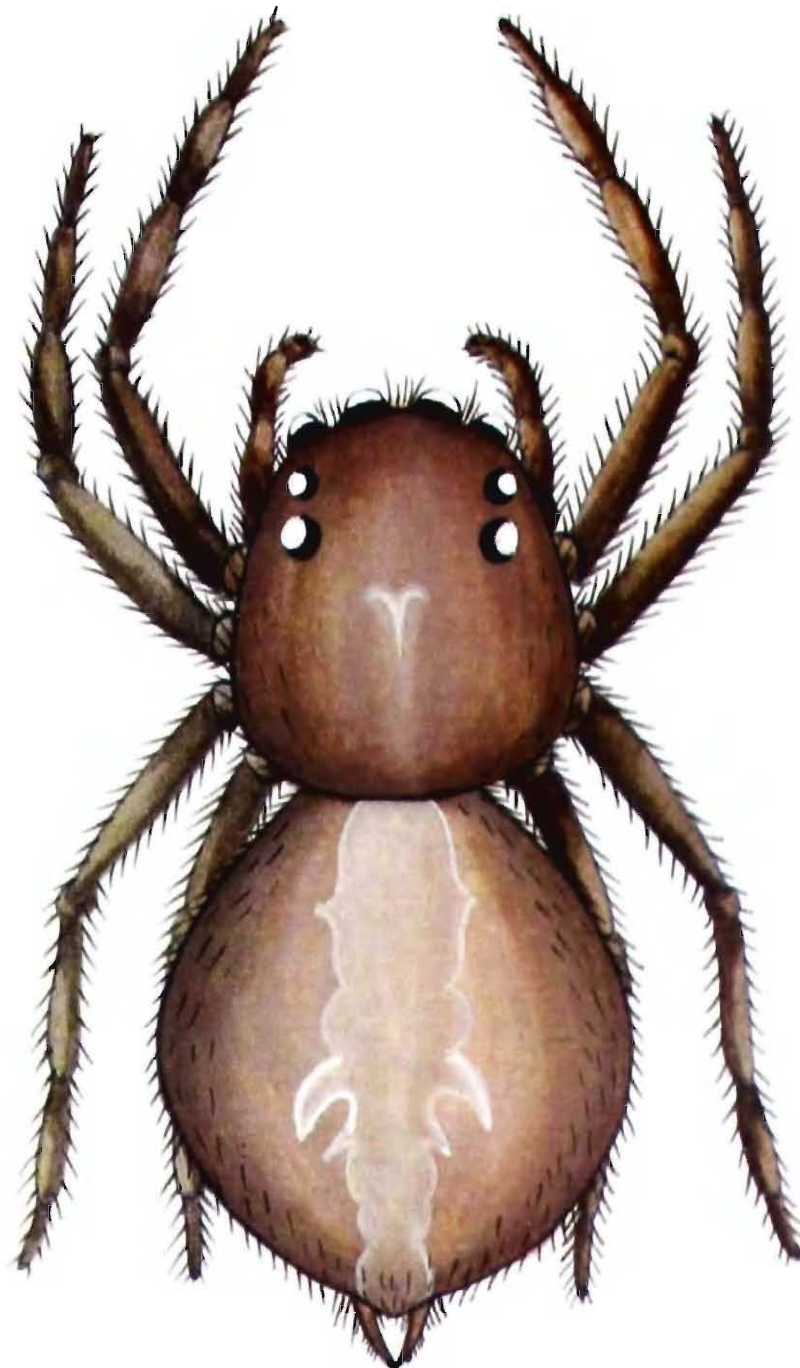
Habit and Habitat : This spider medium size found in foliage of flowering plants, because the new species was collected from the flowering plants of Akanda (*Calotropis gigantean*) from Dayapur, Gosaba. This species is swift runner, jumping swiftly from flowering plant to plant. They preyed on small insects by direct jumping upon the prey.

Diagnostic characters : Cephalothorax longer than wide, oval in shape, reddish brown in colour, provided with distinct bifurcated fovea at the middle of the carapace. Eyes are pearly white, anterior row recurved. Chelicerae longer than wide, inner and outer margin provided with 2 smaller teeth. Legs long and strong. Abdomen elongated, yellowish in colour. Dorsum provided with mid-dorsal whitish longitudinal patches extends from the base of the spinnerets to the base of the cephalothorax.

Distribution : India : West Bengal : Sunderban area (Dayapur, Gosaba, Dist. South 24 Parganas).

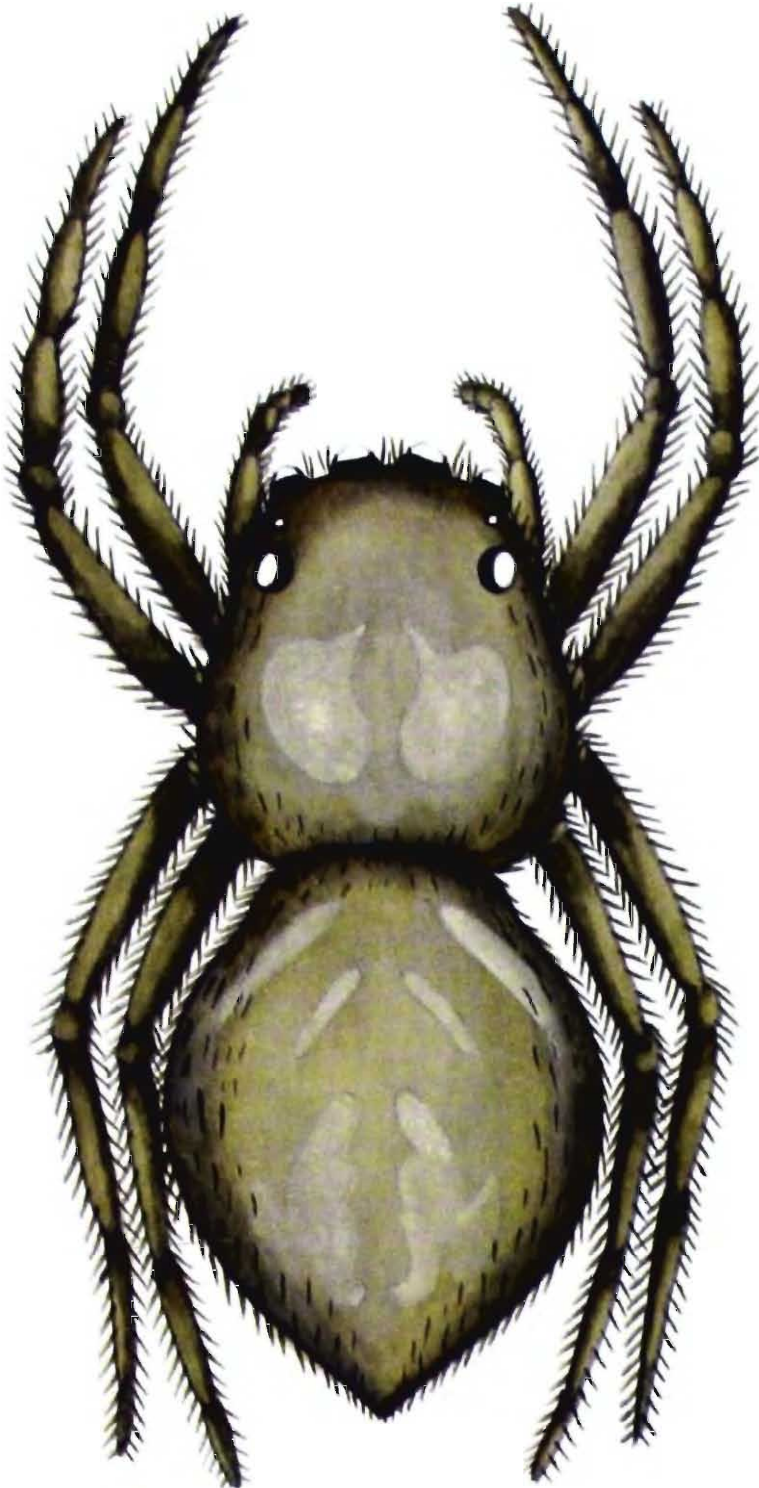
Common name : Jumping spider

Economic importance : Acts as a predator of insect pest in the paddy field, vegetable and flower garden.



104. *Marpissa lakshmikantapurensis* Majumder

Habit and Habitat : This spider medium size, inhabit in the small bushes, shrub or herb near the road side of Sunderban areas because the new species was collected from the bushes near the road side of Lakshikantapur Rly. Station. They are very active and swift runner, jumping from plant to plant and catching the small insect by direct jumping upon the prey.



Diagnostic characters : Cephalothorax longer than wide, nearly oval in shape, yellowish brown in colour, with no fovea. Two white patches present just below the posterior row. Eyes are pearly white, anterior row recurved. Chelicerae not so strong, inner and outer margin provided with 3 dissimilar teeth. Abdomen elongated, oval in shape, pale brown in colour, dorsum decorated by number of whitish patches.

Distribution : India : West Bengal : Sunderban area (Lakshmikantapur, Dist. South 24 Parganas).

Common name : Jumping spider.

Economic importance : Acts as predator of insect pest in paddy field as well as vegetable garden.

105. *Marpissa andamanensis* Tikader

Habit & Habtat : This spider is medium in size, inhabit in the bushes, foliage of small trees, shrub and herbs growing near the pond or stagnant dump. The male spider characteristically moving its palp during movement and jumping from flower to flower, leaf to leaf in search of visiting flower insects.

Diagnostic characters : Cephalothorax light brown, longer than wide, cephalic region flat, middle of the cephalothorax provided with small fovea. Both the rows of eyes recurved. Chelicerae moderately strong, inner and outer margin provided with 2 teeth. Sternum yellowish in colour, narrowed anteriorly. Legs long and stout. Abdomen brownish in colour, longer than wide, narrowed anteriorly.

Distribution : India : West Bengal : Sunderban area (Kulpi, Dist. South 24 Parganas); Andaman & Nicobar Island.

Common name : Jumping spider.

Economic importance : Acts as a predator of insect pests in the paddy field as well as vegetable garden.



106. *Marpissa gangasagarensis* Majumder.

Habit and Habitat : This spider medium in size, inhabit in the bushes, foliage of flowering shoot, herbs or shrubs in the Sunderban areas. The new species was collected from the flowering shoot of Drona (*Leucas aspera*) of Gangasagar Island. They are very swift runner, very dufficult to collect them from the field. They run swiftly and hidden under the surface of leaf. They catch the small insects by direct jumping upon the prey.



Diagnostic characters : Cephalothorax brown in colour, longer than wide, posteriorly broad with no fovea. Eyes pearly white, similar, anterior row of eyes recurved. Ocular quadrate longer than wide. Chelicerae brown, not so strong inner margin provided with one tooth and the outer margin with two teeth. Legs long and slender. Abdomen longer than wide, pale brown in colour, narrowed both the ends, dorsum provided with two large black white patches.

Distribution : India : West Bengal : Sunderban areas (Gangasagar Island, Dist. South 24 Parganas).

Common name : Jumping spider.

Economic importance : Acts as a predator of insect pests in the paddy field as well as vegetable garden.

Genus *Phidippus* Koch

Type species : *Phidippus variegatus* (Lucas).

Distribution : All tropical and sub-tropical countries of the world.

Key to the species

1. Cephalothorax slightly longer than wide, globose in shape, with no fovea
..... *P. bengalensis*
- Cephalothorax longer than wide, oval in shape, with distinct bifurcated fovea... (2)
2. Chelicerae strong and broad, with curved fang, the outer margin provided with 2
small teeth and the inner margin with one large tooth *P. pateli*
- Chelicerae not strong and broad, with slightly curved fang, the outer margin
provided with two large teeth and the inner margin with two small teeth
..... *P. indicus*

107. *Phidippus bengalensis* Tikader

Habit and Habitat : This spider medium in size, inhabit in the bushes, flowering shoot of small trees, herb or shrub. They are never ground dwellers. They are swift runner when disturbed jumping fast from plant to plant. They catch the small insect by direct jumping.

Diagnostic characters : Cephalothorax pale orange colour, slightly longer than wide, middle of the cephalothorax provided with small deep fovea, cephalic region flat. Eyes are pearly white, anterior row recurved, anterior lateral eyes and posterior lateral eyes nearly same size. Second pair of eyes very small and situated near the anterior lateral eyes. Chelicerae not so strong, inner margin provided with one moderate tooth and outer margin with two small teeth. Legs long and strong. Abdomen longer than wide, decorated by V-shaped black markings.

Distribution : India : West Bengal : Sunderban area (Kakdwip, Dist. South 24 Parganas), Midnapur, Nadia, Maharashtra; Karnataka; Punjab.

Common name : Jumping spider.

Economic importance : Medicinally important : used by the tribal people of Sunderban as applied externally for the cure of Gangrineous ulcer and acts as a predator of harmful insect in the corn field.



108. *Phidipus pateli* Tikader

Habit and Habitat : This spider is medium in size inhabit in flowering shoot of the flowering plants, herbs or shrubs near pond or stagnant dump. They are never ground dwellers. Sometimes they were found in the tall grasses moving from plant to plant. They catch the prey like other salticid spider.



Diagnostic characters : Cephalothorax longer than wide, oval in shape, cephalic region flat, middle of the cephalothorax provided with distinct bifurcated fovea. Eyes comparatively small according to the size of the spider. Anterior row recurved, anterior lateral eyes and posterior lateral eyes nearly same size, second pair very small. Chelicerae strong, outer margin provided with 2 small teeth and the inner margin with one large tooth. Legs I and II more robust than III and IV. Abdomen longer than wide, pointed behind. Dorsum provided with V-shaped longitudinal deep brown bands.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. South 24 Parganas), Koochbihar, Maldah, Jalpaiguri, Midnapur, Murshidabad, Nadia; Gujarat; Maharashtra.

Common name : Jumping spider.

Economic importance : Medicinally important : used by the tribals of Sunderban for the cure of vertigo and constipation and acts as a predator of harmful insects in the crop field.

109. *Phidippus indicus* Tikader

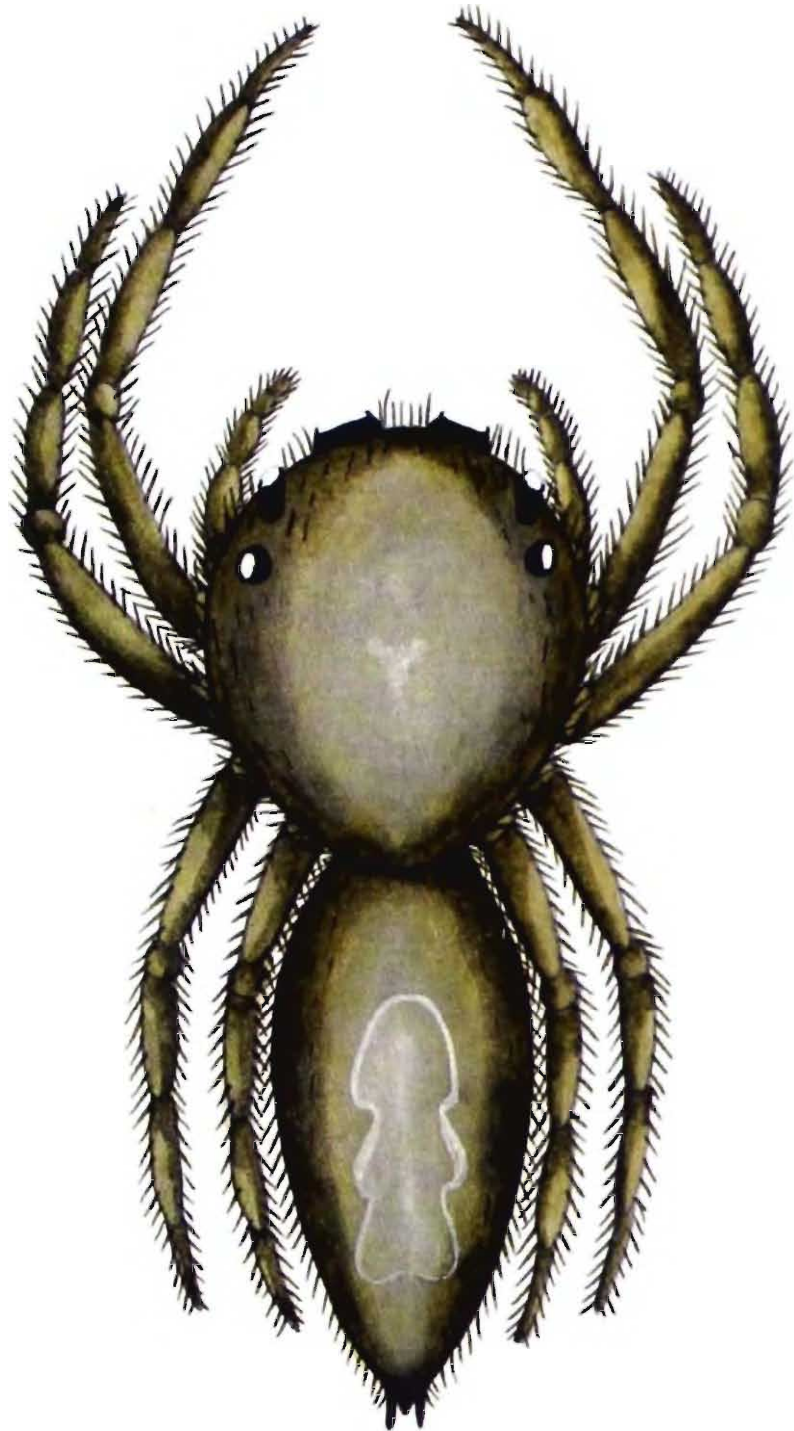
Habit and Habitat : They are also medium sized spider inhabit in the foliage of flowering plants. They never found in the ground. They were found to jumping from flower to flower in search of food. They are non-orb weaver. They catch their prey by direct jumping upon the prey.

Diagnostic characters : Cephalothorax brownish-red, longer than wide, cephalic region flat middle of the cephalothorax provided with a small deep fovea. Chelicerae not so strong and broad with slightly curved fang, inner margin provided with one moderate tooth and the outer margin with two dissimilar teeth. Legs I and II more robust than III and IV. Abdomen longer than wide, pointed behind. Dorsum decorated with some light patches.

Distribution : India : West Bengal : Sunderban area (Sagar Island, Kulpi, Patharpratima, Dist. South 24 Parganas), Hugli, Howrah, Jalpaiguri, Maldah, Murshidabad, Nadia, West Dinajpur; Gujarat.

Common name : Jumping spider.

Economic importance : Medicinally important : used by the tribals of Sunderban for curing high blood pressure and insomania and acts as a predator of harmful insects in the vegetable garden.



Genus *Plexippus* Koch

Type species : *Plexippus paykullii* (Aud.)

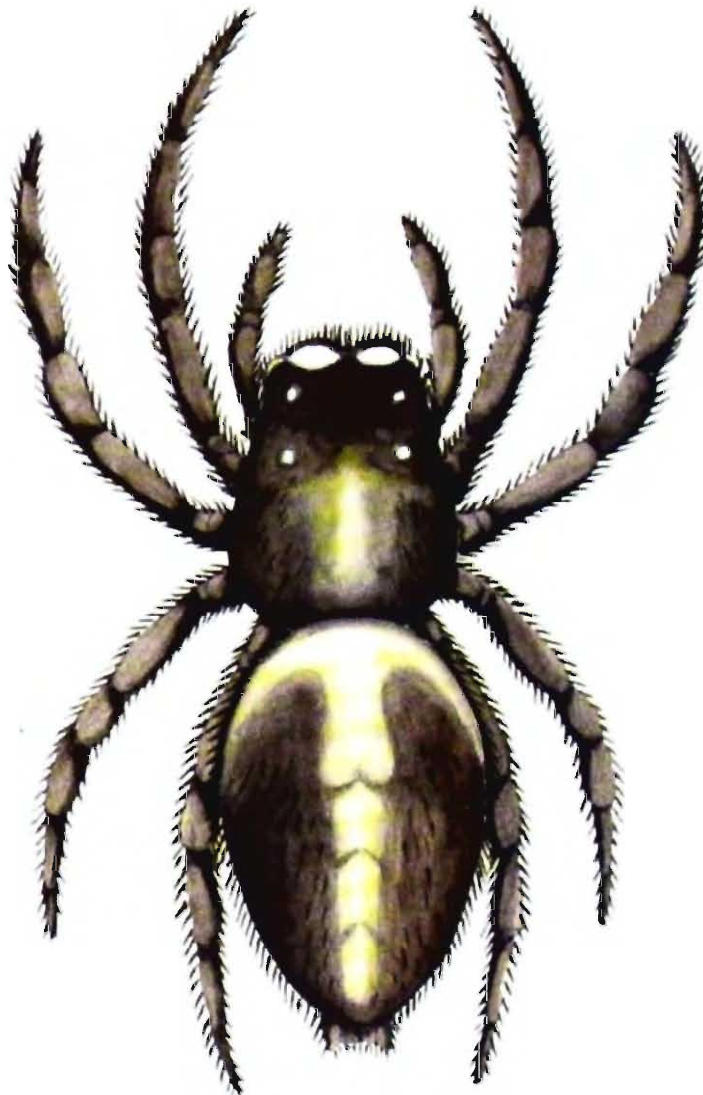
Distribution : Cosmopolitan.

110. *Plexippus paykullii* (Audouin)

Habit and Habitat : They are medium sized spider inhabit in the mangrove bushes, foliage of flowering plants, shrub or herbs among the Sunderban areas. The male species has typical danching pattern of palps. They feed on smaller insects mainly dipteran pest through direct attack by jumping from leaf to leaf. They prepare fine silky patch as nest to store off white to pearly egg cocoon on dorsal portion of broad leaf with two entries on opposite directions.

Diagnostic characters : Cophalothorax longer than wide, cephalic region flat, covered with fine pubescence, middle of the cephalothorax provided with a fovea.

Eyes pearly white, anterior row of eyes recurved, median very large, middle row of eyes very rudimentary, posterior row of eyes median size. Chelicerae longer than wide, maxillae & labium longer than wide. Legs long and stout, I and II pairs stouter than III and IV. Abdomen longer than wide narrowing posteriorly. Dorsum provided with a longitudinal light patch extending from base to the end of the abdomen.



Distribution : India : West Bangal, Sunderban area (Namkhana, Gosaba, Dist. South 24 Parganas), Midnapur, Burdwan, Jalpaiguri, Maldah.

Elsewhere : Africa, Europe, Sri Lanka, Myanmar and in all of the warmer region of the world.

Common name : Jumping spider.

Economic importance : Acts as a predator of harmful insects in the flower garden.

Genus *Myrmarachne* Mac Leay

Type species : *Myrmarachne melanocephalus* Mac Leay.

Distribution : Oriental and sub-tropical regions of the world.

111. *Mymarachne orientalis* Tikader

Habit & Habitat : They are small in size and ground dwellers, run over the ground like mutilated wasp, sometimes they are found in association with ants, they rarely found on the foliage of leaves. They catch the prey by direct jumping upon the insects.

Diagnostic characters : Cephalothorax redish in colour, longer than wide, with a nearly complete transverse constriction at the cephalic and thoracic junction. Anterior row of eyes slightly recurved, posterior row of eyes straight. Chelicerae as long as cephalothorax, outer margin provided with 4-5 slightly larger teeth, inner margin with small teeth. Maxillae and labium longer than wide. Legs thin and long. Abdomen elongated, distinctly constricted, pedicel very long and prominent.

Distribution : India : West Bengal (Basanti, Dist. South 24 Parganas), Darjeeling, Haora, Maldah, Midnapur, West Dinajpur.

Common name : Ant spider.

Economic importance : Acts as a predator of harmful insect in the flower garden.



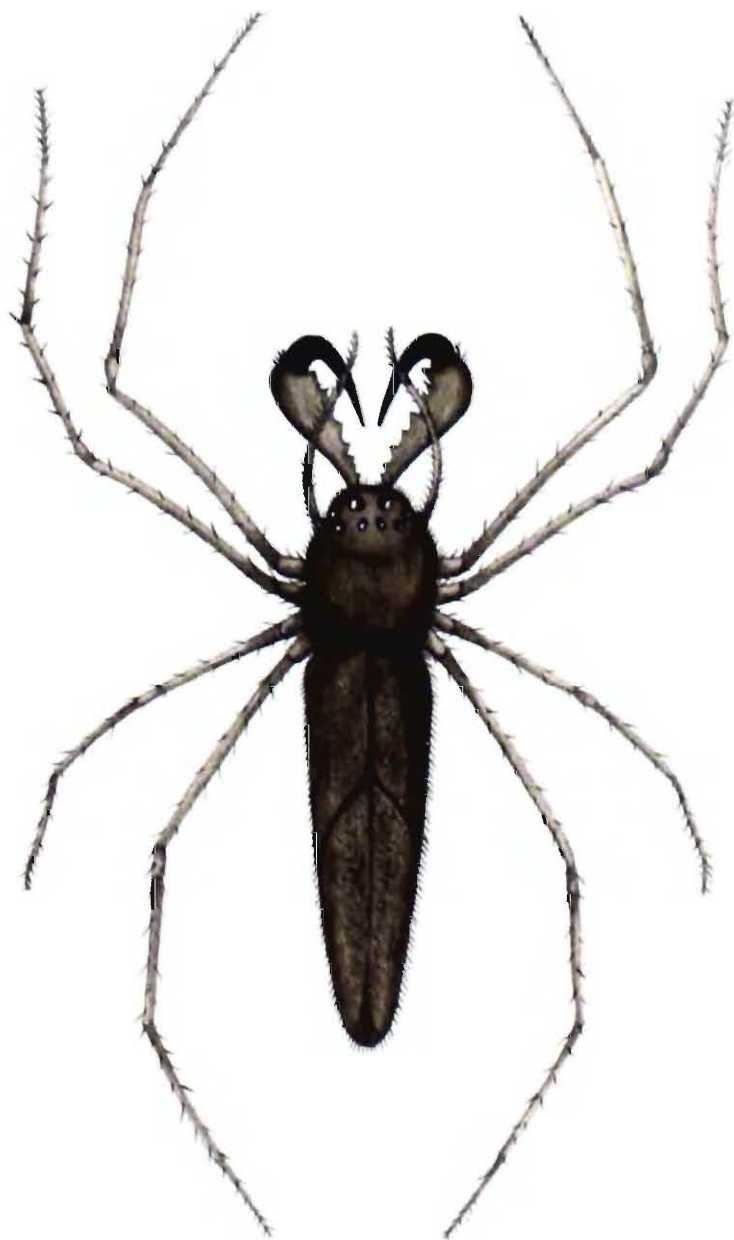
Family TETRAGNATHA
Genus 53. *Tetragnatha* Latreille

Type species : *Tetragnath extensa* Linn.

Distribution : Tropical countries of the world.

112. *Tetragnatha andamanensis* Tikader.

Habit and Habitat : They are medium in size with elongated jaw. Normally they are found in the vasinity of water bodies like pond, streams and stagnant dump. They prepare radically symmetrical delicate mostly horizontal webs just above 1 to 4 feet above the ground or water surface between available support. They feed on smaller insects visiting the streams or aquatic bodies which intangled into the webs.



Diagnostic characters : Cephalothorax longer than wide anteriorly narrowed, provided with distinct median furrow. Eyes black anterior row rcurved, lateral eyes closely placed. Chelicerae as long as cephalothorax provided with 10 teeth both inner and outer margin. Labium and maxillae longer than wide. Abdomen more elongated, dorsum decorated with minute silver white dots.

Distribution : India : West Bengal : Sunderban areas (Hingalgunj, Dist. North 24 Parganas; Gosaba, Dist. South 24 Parganas), Midnapur, Mursidabad, Purulia, Birbhum, Burdwan, Kochbihar, Jalpaiguri, Maldah, Bankura; Andaman Island.

Common name : Long jawed spider.

Economic importance : Acts as a predator of insect pest in the paddy fields.

Family THOMISIDAE
Genus *Camaricus* Thorell

Type species : *Camaricus* Thorell

Distribution : India; Africa; Malaysia.

113. *Camaricus formosus* Thorell

Habit and Habitat : These spiders are medium in size, generally called the crab spider due to their arrangement of the legs, possessing bright and beautiful colours, lives on the plants specially on the flowering shrubs and bushes. Sometimes they are found on the ground and under rotten logs. Rarely these spiders come out at night. Mostly they were seen depending upon day flying insects. Preyed on small flying insects by direct jumping upon the insects.

Diagnostic characters : Cephalothorax longer than wide provided with deep brown patches at the centre but in male specimen no such patches are present. Eyes in two rows, both rows are recurved. Posterior row of eyes slightly longer than the anterior row. Middle eyes situated adjacent to the lateral eyes. Legs are robust, clothed with hair and spine, ornamented with black patches, tibia and metatarsi of leg II provided with 3 pairs of ventral spines. Chelicerae moderately strong, sternum heart shaped. Abdomen longer than wide, widest behind the middle, clothed with black hairs.

Distribution : India : West Bengal : Sunderban area, (Gosaba, Patharpratima, Dist. South 24 Parganas), Nadia, Jalpaiguri; Karnataka; Maharashtra; Andaman & Nicobar Island.

Common name : Crab spider.

Economic importance : Acts as a predator of harmful insect in the vegetable garden.

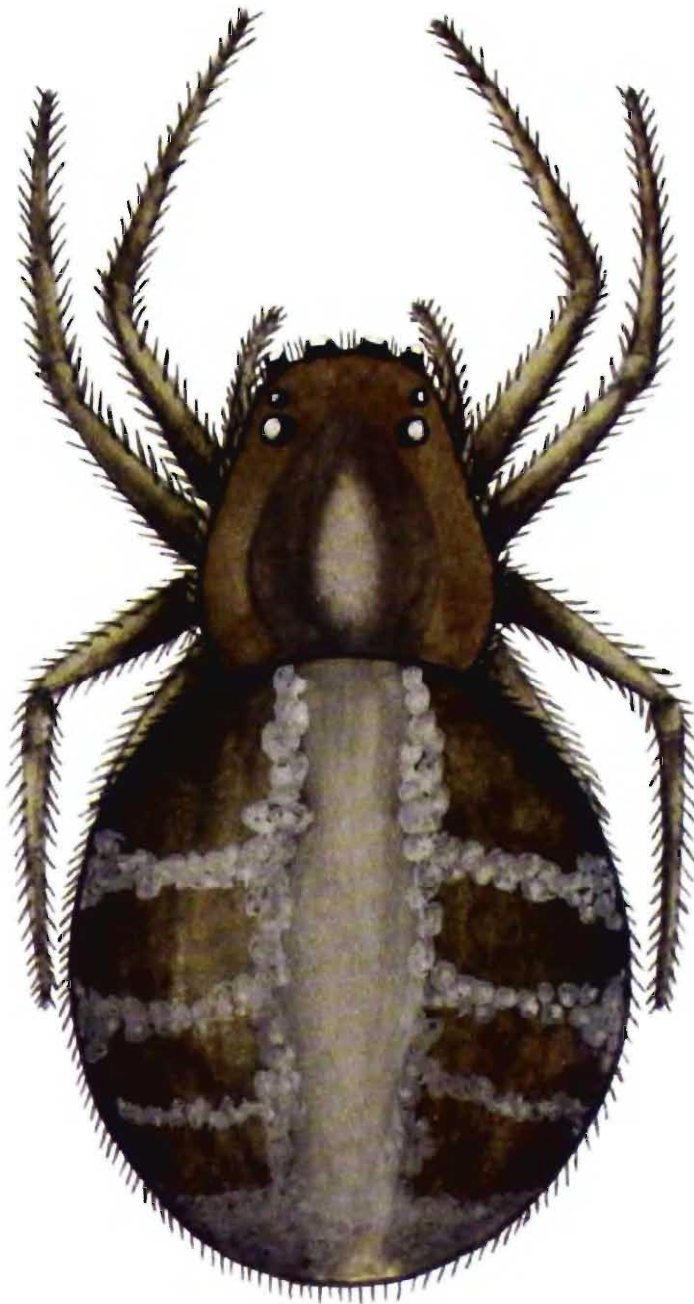


Family THERIDIIDAE

Genus *Theridion* Walckenaer

Type species : *Theridion lunatum* Clerck

Distribution : Asia; America; Africa; Europe and Australia.

114. *Theridion indica* Tikader

Habit and Habitat : They are medium in size found in mangrove and semimangrove bushes of Sunderban areas. Sometimes they are found in foliage of small trees. They prepare smaller snares along with rolling of small to medium sized leaves at centric or eccentric place of the web. They catch the small insect entangled by their web.

Diagnostic characters : Cephalothorax slightly longer than wide. Anterior eyes equal, lateral eyes contiguous. Legs stout and strong. Tarsi IV provided with distinct comb like setae. Abdomen globular in shape. Dorsum beautifully coloured with a mixture of chalk white and brownish green patches.

Distribution : India : West Bengal : Sunderban area (Bangar, Basanti, Dist South 24 Parganas); Andaman & Nicobar Island.

Common name : Irregular orb-weaving spider.

Economic importance : Acts as a predator of harmful insect in the crop field.

Family ULOBORIDAE
Genus 64. *Uloborus* Latrille

Type species : *Uloborus Walckenaerius* Latreille.

Distribution : Cosmopolitan except Australia.

115. *Uloborus danolius* Tikader

Habit and Habitat : These spiders are very small in size. They spin webs in geometric pattern, inhabit in the bushes and small shrub in the Sunderban regions. These spiders built their webs on the small shrub a few centemeter above the ground. The spiders hang downward just behind the central band and camouflages with the colour of the central band, then it is very dufficult to locate the position of the spider. They feed on small insects intangled by their nets.

Diagnostic characters : Cephalothorax nearly as long as wide, greenis-brown in colour. Eyes black, two rows, posterior row of eyes slightly recurved or straight and anterior row straight. Legs stout and strong. Legs I & IV longer than II & III. Tarsi IV provided with distinct comb like sitae. Abdomen globular in shape. Dorsum beautifully coloured with a mixture of chalk white and brownish green patches.

Distribution : India : West Bengal : Sunderban area (Gosaba, Dist. North & South 24 Parganas), Midnapur; Maharashtra.

Common name : Triangular orb-weaving spider.

Economic importance : Acts as a predator of harmful insects in the crop field.



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