COMMON SPIDERS

FROM SELECT PROTECTED AREAS OF UPPER ASSAM

Assam State Biodiversity Board

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Shri Subhash Chandra Das, IAS
Chairman, Assam State Biodiversity Board
Addl. Chief Secretary, Assam

FOREWORD

Life on earth is enchanting, its diversity intriguing and the inter-relatedness of species awe-inspiring. The more we dwell into the web of life, the more fascinating it becomes. More so, for the life-forms that are less explored.

As a part of its mandate the Board is sponsoring studies into lesser-known species for highlighting their ecological and economic significance. The study into varieties of spiders is one such step.

I congratulate everyone involved in this endeavor and hope that the book will make an interesting reading.

(S. C. Das)

PREFACE

Spiders are fascinating creatures present practically everywhere. They may look small and insignificant, but they are important predators and prey on a multitude of other animals. They are great garden allies too.

While some spiders are social, most are solitary and interact with each other during territorial guarding or at the time of mating. Spiders eat insects, thus, help in controlling insect populations. They are an important source of food for a variety of birds, lizards, wasps, and mammals, especially in deserts. Spider-silk is said to be the strongest natural material. The venom harvested from spiders helps control and treat several diseases. Yet spiders are not considered sanctified. They are blamed for their creepy looks and bites, albeit their bites are not lethal to healthy adults.

A few years back in Assam there were reports of human deaths allegedly due to spider-bite. Unfounded fear prevailed and at places there were rampant killing of spiders. A study commissioned by the Board revealed that venom of the *'culprit-spider'* was not lethal enough to cause any death, least of all of human beings. But the hatred for spiders continues. We still consider cob-webs as symbol of unkemptness. Sighting of spiders or contact with them is often detested. The fear of spiders, arachnophobia, is one the most common fears and, at times, is so acute that it needs professional help.

This publication is an attempt to unravel the beautiful world of spiders, their varieties, usefulness, ecological significance, and vulnerabilities by describing common spiders from select protected areas of Upper Assam.

I hope readers will find this publication interesting and informative.

(A. K. Johari)
Member Secretary,
Assam State Biodiversity Board

CONTENTS

INTRODUCTION TO SPIDERS

Spiders are air breathing animals belonging to the Phylum Arthropoda, the largest group in the animal kingdom. They fall under the largest order Araneae of the Class Arachnida which ranks 7th in the total species diversity among all other orders of organisms. They are found on every continent except Antarctica and are known to colonize nearly every habitat. According to the World Spider Catalog (Version 17.0), 45,834 valid spider species are currently recorded under 3,977 genera and 114 families so far.

Spiders have 4 pairs of legs and a body divisible into two distinct parts namely the cephalothorax or prosoma and the abdomen or opisthosoma, joined by a small stalk called pedicel. Pedicel is a characteristic feature of spiders by which they can be differentiated from other arachnids. They also possess unique body appendages called spinnerets which are situated at the end of the abdomen. Spinnerets release silk from up to 6 different types of silk glands located in the spider's abdomen. Unlike insects, spiders do not have antennae.

Spiders occur in a large range of sizes. The smallest, *Patu marplesi* is less than 0.3 mm (0.01 in) in body length. The largest and heaviest spiders occur among tarantulas, which can have body lengths up to 90 mm (3.5 in) and leg spans up to 250 mm (9.8 in).

All known species of spiders are predators, preying on insects and other arthropods except for a herbivorous species *Bagheera kiplingi* which was described in 2008. They use a wide range of strategies to capture prey such as trapping it in sticky webs, lassoing it with sticky bolas, mimicking the prey to avoid detection, or running it down. Some other species detect prey mainly by sensing vibrations. Cannibalism is also very common among spiders. Male spiders of most species indulge in complex courtship rituals before mating, only to avoid being eaten by the females.

A minority of species are social, building communal webs that may

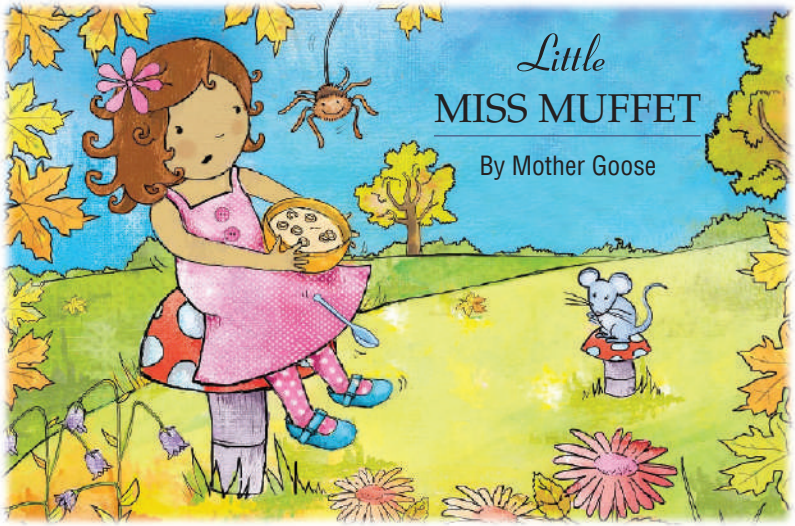
house anywhere from a few to 50,000 individuals. They are also known to exhibit social behavior such as co-operative hunting and food-sharing. The life span of most spiders is estimated to be about two years but some species such as tarantulas are reported to live up to 25 years in captivity.

They are prolific breeders and have very high population growth rate. If not for some predators such as birds, lizards, frogs, toads, shrews, hunting beetles, wasps, ants and larger insects who feed on the spiders, they may dominate and overthrow us from the face of earth.

Spiders are divided into 2 general groups, web builders and non-web building spiders. All spiders produce silk, but all do not make webs. Web-weaving spiders build webs to catch prey and they live on or near their web. There are different types of webs which sometimes act as species identification tool. The sheet web, orb web, tangle web, funnel web, tubular web and dome or tent web are some remarkable webs made by spiders. The most common type of web visible around our home is the orb web, so called because of its circular shape, resembling a giant wheel. Non-web building species are the wandering spiders that search out for prey, or ambushing spiders, which sit and wait for prey to come close to them and water spiders, that trap air bubbles under their abdomen and take their air-chamber below the water to capture prey.

Spiders have up-to 6 silk glands in their spinneret which emits the silk. Each gland produces a thread for making webs or for special purposes such as a trailed safety line, for trapping prey or for self defence. They use different gland types to produce different silks, and there are reports of some spiders capable of producing up to 6 - 7 different types of silk during their lifetime. It was reported that the proteinaceous spider silk is similar in tensile strength to nylon and biological materials such as chitin, collagen and cellulose, but is much more elastic. Thus, it is being used in varieties of purposes such as textiles, medicine and fishing. But it is very difficult to extract and process substantial amount of spider silk. The largest known piece of cloth made of spider silk is an 11-by-4-foot (3.4 by 1.2 m) textile with a golden tint made in Madagascar in 2009. From many decades scientists are trying to develop body armour out of spider silk. If successful, this would mean ultra-lightweight, super-strong, flexible body armour that would provide highly improved protection for soldiers and other law enforcement officers.

In addition, spiders are also associated with our culture, mythology and symbolism from time immemorial. Due to their wide range of behaviour, spiders have become common symbols in art and mythology symbolizing various combinations of patience, cruelty and creative powers. From Greek mythology to African folklore, spiders have been used in human culture to represent varied things, that endure to the present day with characters such as *Shelob* from *The Lord of the Rings* and *Spider-Man* from the famous comic and movie series. The spider also finds mention in modern rhymes and tales for children.



Little Miss Muffet
Sat on a tuffet,
Eating her curds and whey;
Along came a spider,
Who sat down beside her,
And frightened Miss Muffet away.

We still remember our famous childhood nursery rhyme "Little Miss Muffet" where the spider is put as the focal character. The rhyme depicts the scary nature of spiders and the fear associated with them. Arachnophobia is the irrational fear of spiders and other arachnids. It is one of the oldest and most common type of phobias in the world.

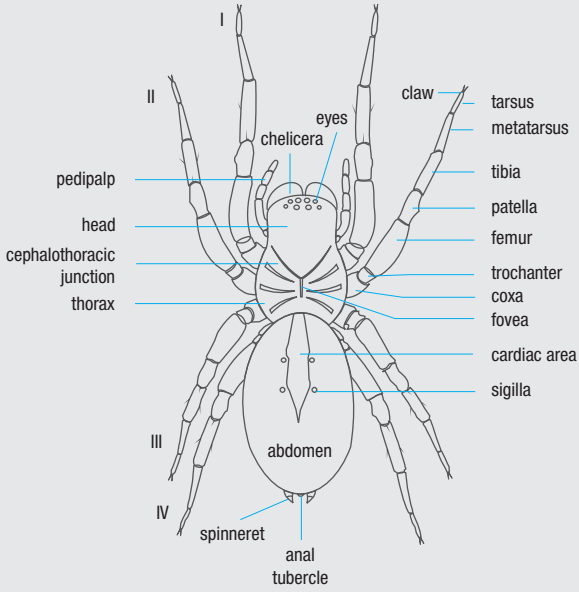
The term Arachnophobia has been derived from the Greek word *arách*n*ē* which means spider and *phóbos* which means fear. It is a specific type of phobia where the patient has a tremendous fear of spiders and other arachnids such as scorpions. They are nightmares of such arachnophobic humans. Such people tend to feel uneasy in any area which could harbour spiders. When such people encounter a spider they sometimes scream, cry, have troubled breathing, undergo excessive sweating or may have panic attacks when they come in contact with spiders or their webs. However, arachnophobia can be cured. Arachnophobic patients can usually be treated by exposure therapy or systematic desensitization. In addition, beta blockers, serotonin uptake inhibitors and sedatives are also used in the treatment of such phobias. According to the experts, most of the fear related to spiders are based on myths, not facts. These myths sometimes create unhealthy situation between man and spiders leading to mass scale killing of innocent spiders.

As we know, all species large and small have specific roles to play. Ruthless killing of such scary but harmless species, will affect the balance of the ecosystem. Several researchers and nature enthusiasts are doing their bit for safeguarding arachnids. The state of Assam with its varied habitats harbours a variety of arachnids. However, very few studies have been conducted on such small yet significant species.

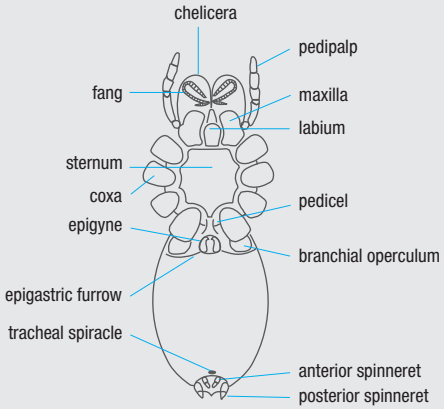
The present research work was conducted to initiate documenting mysterious spiders inhabiting the varied habitats of Upper Assam, specially Kaziranga National Park, the famous World Heritage Site, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

KEYS FOR SPIDER IDENTIFICATION

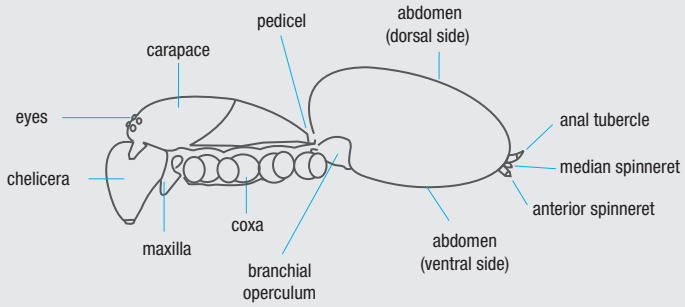
Parts of a typical spider



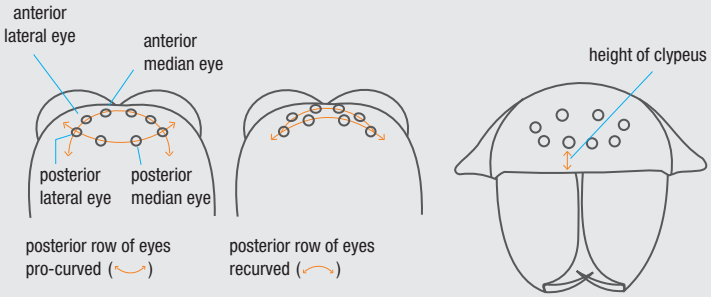
Dorsal view of a typical spider



Ventral view of a typical spider



Lateral view of a spider



Ocular area of a spider

Some important taxonomic keys for identification

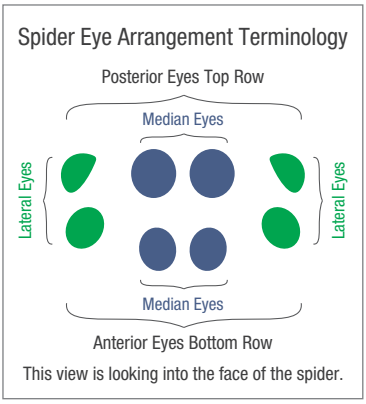
1. Arrangements of eyes on ocular region.
2. Structure of chelicerae
3. Occurrence and distribution of hairs, spines, claws and trichobothria on legs.
4. Structure of palpal organ of male.
5. Structure of epigynum of female.
6. Size of spinnerets.

Spider eye arrangement

Nearly all spiders have eight eyes, but some species have six, four to none. Eye arrangement is an important key for spider family identification with exceptions where few members of the family differ from others.

- **Few families with eight-eyed spiders**
  Agelenidae, Amaurobiidae, Anyphaenidae, Clubionidae, Corinnidae, Ctenidae, Ctenizidae, Cybaeidae, Dictynidae, Filistatidae, Gnaphosidae, Linyphiidae, Lycosidae, Mimetidae, Miturgidae, Oecobiidae, Oxyopidae, Philodromidae, Pholcidae, Pisauridae, Salticidae, Selenopidae, Sparassidae, Thomisidae, Tetragnathidae and Theridiidae.

- **Families with six-eyed spiders**
  Diguetidae, Dysderidae, Ochyroceratidae, Orsolobidae, Scytodidae, Telemidae, Segestriidae and Sicariidae, Few members of families Anapidae, Cybaeidae, Dictynidae, Leptonetidae, Linyphiidae, Nesticidae (8 eyes), Pholcidae and Oonopidae also have six eyes.

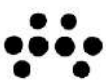


Source: Internet

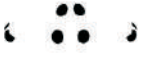
- **Families with four-eyed spiders**
  Nesticidae (few members) and Symphytognathidae.

- **Families with two-eyed spiders**
  Caponiidae.

- **Families with no-eye spiders**
  Few families viz. Cybaeidae, Dictynidae, Leptonetidae, Linyphiidae, Nesticidae, Telemidae and Theridiidae also have species with no eyes.

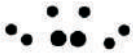


Agelenopsis sp.
Family: Agelenidae



Araneus sp.
Family: Araneidae

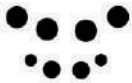
Arctosa sp.
Family: Lycosidae



Callobius sp.
Family: Amaurobiidae

Castineira sp.
Family: Corinnidae

Clubiona sp.
Family: Clubionidae



Dolomedes sp.
Family: Pisauridae

Dysdera sp.
Family: Dysderidae

Family: Oxyopidae

Family: Salticidae

Gasteracantha sp.
Family: Araneidae

Hogna sp.
Family: Lycosidae

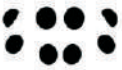
Latrodectus sp.
Family: Theridiidae

Loxosceles sp.
Family: Sicariidae

Misumena sp.
Family: Thomisidae

Pholcus sp.
Family: Pholcidae

Scytodes sp.
Family: Scytodidae



Tetragnatha sp.
Family: Tetragnathidae

Ummidia sp.
Family: Ctenizidae

Note:
Red eyes not visible from front in *Maevia* and *Misumena*

Source: Internet

Eye pattern of spider families

Web as identification key

Webs of spiders can sometimes be considered as an identification key for classifying them upto family or genus level. But since all spiders do not build significant webs, non-web building spiders can not be identified correctly using this key. Different types of webs are –

1. **Orb webs**
   Circular to oval shaped webs with radiating frame and spiral silk threads. Members of family Araneidae, Tetragnathidae, Nephilidae and Uloboridae build orb webs.

2. **Irregular or tangled webs**
   Such webs are irregular maze of threads and are built by members of family Theridiidae and Pholcidae.

3. **Sheet webs**
   Such webs are formed by closely woven silk threads in one plane with their supporting threads extending in all directions. Members of genus *Linyphia* build such webs.

4. **Funnel webs**
   Such webs are like sheet webs in structure but has an extended tube on one end which leads to the spiders retreat. Members of family Aglenidae and Lycosidae build such webs.

5. **Triangular webs**
   Such webs are similar to orb webs but are reduced to only a triangular portion. Members of genus *Hyptiotes* build such webs.

6. **Single line snare**
   Such webs are further reduced webs with a horizontal line attached to two different branches of trees. Members of genus *Miagrammopes* builds single line snare webs.

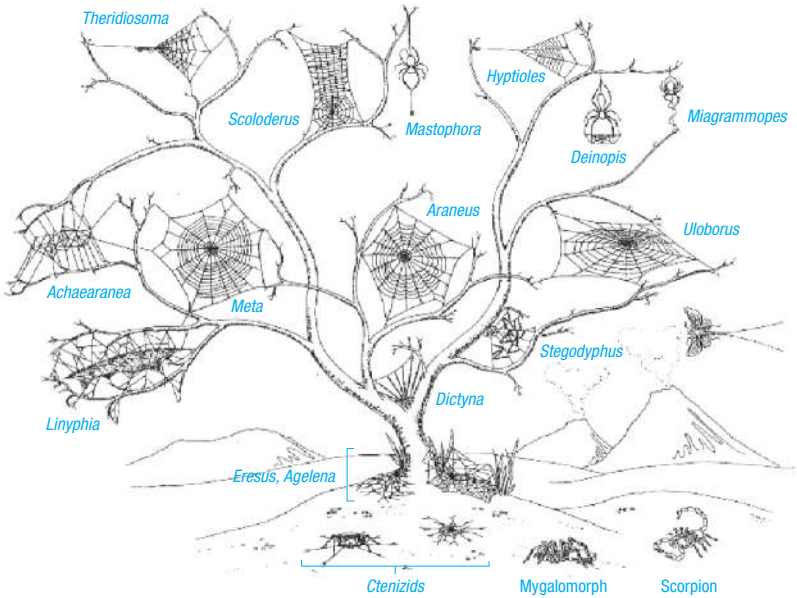


Illustration of different spider webs by F. Vollrath and P. Senden, 2007
(Annual Review of Ecology, Evolution and Systematics)

Symbols used in this book

- ♀ Female
- ♂ Male
- Spiders active during day time
- Spiders active both at day and night time
- Spiders active during night time

SPIDER GUILD STRUCTURE

Ecological guild of spider is defined as non-phylogenetic groups of species that share one or a series of important resources. Based on several ecological characteristics such as web type, active or passive ambushers, stenophagous or euryphagous prey range, ground or vegetation dweller and nocturnal or diurnal habit, spiders are classified into eight* ecological guilds.

Sl. No.	GUILD	COMMON FAMILIES
1.	Sensing Web weavers	Hersiliidae, Idiopidae, Liphistidae
2.	Sheet Web weavers	Linyphiidae, Pisauridae
3.	Orb Web weavers	Araneidae, Nephilidae, Tetragnathidae, Uloboridae
4.	Space Web weavers	Pholcidae, Theridiidae
5.	Specialists	Oxyopidae
6.	Ground Hunters	Corinnidae
7.	Ambush Hunters	Sicariidae, Thomisidae
8.	Other Hunters	Clubionidae, Salticidae, Miturgidae, Scytodidae

* Cardoso P, Pekár S, Jocqué R, Coddington JA (2011) Global Patterns of Guild Composition and Functional Diversity of Spiders. PLoS ONE 6(6): e21710. doi:10.1371/journal.pone.0021710

STUDY AREA

The State of Assam can be divided into three parts, namely, the Brahmaputra valley, the Barak valley and the Assam range. The present study was conducted at selected Protected Areas (PAs) of Upper Assam namely the Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and the Jeypore Reserve Forests which falls under the fertile plains of Brahmaputra valley. The mosaic habitats of these PAs harbour wide diversity of flora and fauna ranging from small to mega species.

Kaziranga National Park

The Kaziranga National Park (26° 39' 17" N – 93° 20' 51"E) falls under Nagaon, Golaghat and Sonitpur districts of Assam. It covers an area of 430 km² and is the largest Protected Area on the southern bank of the river Brahmaputra. The habitat of Kaziranga is such that the water bodies and grasslands form a significant part of this national park. The vegetation of the national park may be broadly divided into three type's namely alluvial inundated grasslands, Tropical Wet Evergreen Forest and Tropical Semi-evergreen forest. *Saccharum ravennae, Phragmites karka, Arundo donax, Imperata cylindrica* etc. and other *Saccharum* spp. are the major grass species of this national park. Tree species such as *Aphanamixis polystachya, Talauma hodgsonii, Dillenia indica, Garcinia tinctoria, Ficus* spp. etc. *Barringtonia acutangula* grows in the waterlogged areas. Kaziranga is famous for its large mammals such as Indian One-horned Rhinoceros, Asian Elephant, Wild Buffalo, Swamp Deer, Gaur, Sambar and Tiger. The park also harbours more than 490 species birds including 24 globally threatened species.

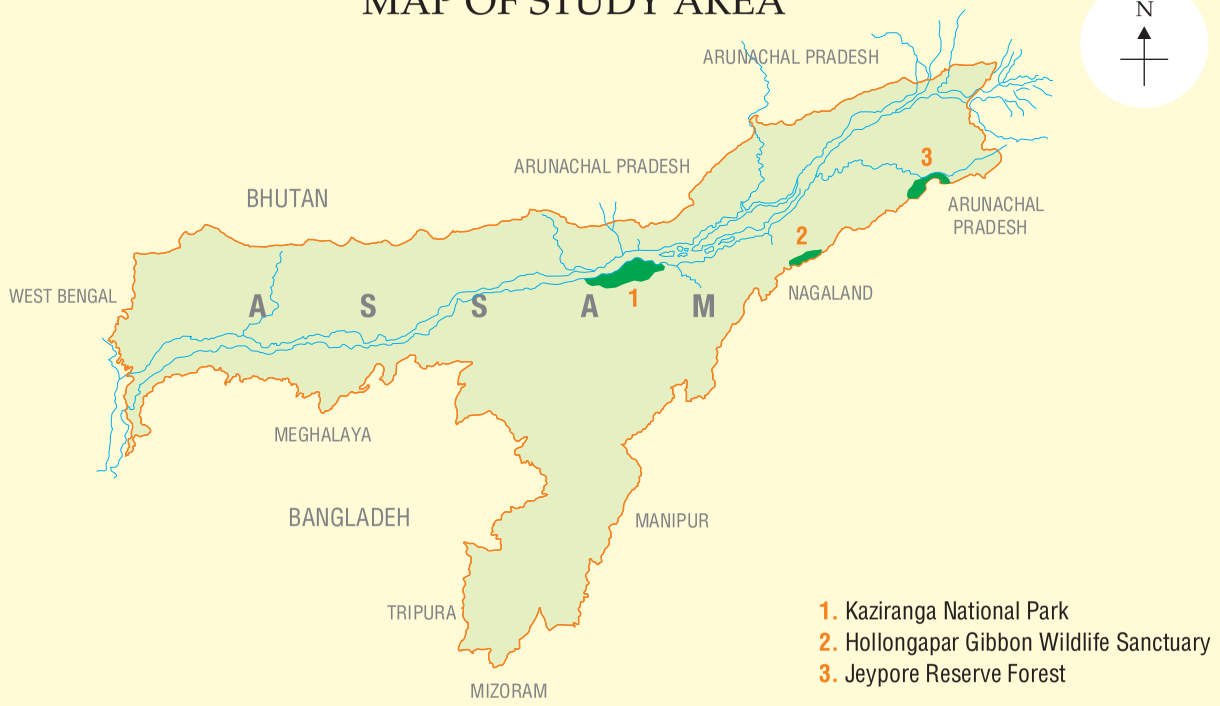
Hollongapar Gibbon Wildlife Sanctuary

The Hollongapar Gibbon Wildlife Sanctuary (26° 37' 47'' N – 94° 22' 47''E) is located in Jorhat District. It covers an area of 20.98 km². The Wildlife Sanctuary is mainly dominated by Tropical Semi-evergreen Forest. Despite being a small area, the forest is still intact. Major canopy trees of the Sanctuary include *Dipterocarpus macrocarpus, Shorea assamica, Atrocarpus chaplasha, Tetrameles* sp., *Mesua ferrea, Sapium baccatum, Amoora wallichii* etc. The Sanctuary is famous for its primate population mainly Hoolock Gibbon (*Hylobates hoolock)* and Stump-tailed Macaque (*Macaca arctoides)*. Other primate species of the Sanctuary include Pig-tailed Macaque, Rhesus Macaque, Capped Langur and Slow Loris. The Sanctuary also harbour viable population of avian fauna. Other fauna of the Sanctuary includes Asian Elephant, Tiger, Leopard, Leopard Cat, Sambar, Barking Deer etc. The Sanctuary also harbours more than 200 species of birds.

Jeypore Reserve Forest

The Jeypore Reserve Forest ($27^0$06'– $27^0$16'N - $95^0$21'–$95^0$29'E) is located in Dibrugarh District. It covers an area of 108 km^2. The forest type of the reserve forest is "Assam Valley tropical wet evergreen forest" which is commonly known as tropical rainforest. The forest is characterized by top canopy of trees dominated by *Dipterocarpus macrocarpus* reaching heights of 50m, a middle canopy dominated by *Mesua ferrea* and *Vatica lanceifolia* and undergrowth flora consisting of woody shrubs such as *Saprosma ternatum*, *Livistona jenkinsiana* and canes like *Calamus erectus*, etc. Bamboo species such as *Dendrocalamus hamiltonii*, *Pseudostachyum polymorphum* and climbers such as *Derris oblonga* are common. The major fauna of the reserve include large mammals such as Elephant *(Elephas maximus)*, Barking Deer *(Muntiacus muntjak)*, Bengal Tiger *(Panthera tigris)*, Leopard *(Panthera pardus)*, Clouded Leopard *(Neofelis nebulosa)*, Wild Boar *(Sus scrofa)*, etc. Primates such as Hoolock Gibbon (*Hoolock hoolock)*, Capped Langur *(Trachypithecus pileatus)* and Rhesus Macaque *(Macaca mulatta)* are also found in this reserve forest. This forest also harbours more than 300 species of birds including 14 globally threatened species.

MAP OF STUDY AREA



List of species described in this book

Sl.No.	Family	Scientific Name
1.	Araneidae	*Araneus mitificus* *Argiope aemula* *Argiope catenulata* *Argiope pulchella* *Cyclosa* sp. *Crytarachne raniceps* *Cyrtophora moluccensis* *Eriovixia* sp. *Gasteracantha diadesmia* *Gasteracantha kuhli* *Neoscona bengalensis* *Neoscona mukerjei* *Neoscona nautica* *Parawixia dehaani*
2.	Clubionidae	*Clubiona drassodes*
3.	Corinnidae	*Castianeira zetes*
4.	Eutichuridae	*Cheiracanthium danieli*
5.	Hersiliidae	*Hersilia savignyi*
6.	Linyphiidae	*Linyphia* sp.
7.	Lycosidae	*Pardosa pseudoannulata*
8.	Nephilidae	*Herennia multipuncta* *Nephila kuhlii* *Nephila pilipes*
9.	Oxyopidae	*Oxyopes birmanicus* *Oxyopes javanus* *Oxyopes shweta*
10.	Pholcidae	*Artema atlanta* *Crossopriza lyoni*

Sl.No.	Family	Scientific Name
11.	Salticidae	*Asemonea tenuipes* *Bavia* sp. *Brettus albolimbatus* *Epeus indicus* *Epeus tener* *Hasarius adansoni* *Myrmarachne plataleoides* *Phintella vittata* *Plexippus paykulli* *Portia fimbriata* *Rhene flavigera* *Telamonia dimidiata*
12.	Scytodidae	*Scytodes pallida*
13.	Sparassidae	*Heteropoda nilgirina* *Heteropoda venatoria* *Olios milleti*
14.	Tetragnathidae	*Leucauge decorata* *Leucauge tessellata* *Tetragnatha mandibulata* *Tylorida striata*
15.	Theraphosidae	*Chilobrachys assamensis*
16.	Theridiidae	*Argyrodes flavescens* *Chrysso argyrodiformis* *Chikunia nigra*
17.	Thomisidae	*Amyciaea forticeps* *Camaricus formosus* *Thomisus pugilis*

ARANEIDAE
(Clerck, 1757)

These are small to medium spiders and are commonly known as orb weavers. Members of this family generally build orb webs except the genus *Cyrtophora*, which builds tent webs. Cephalothorax vary in shape, fovea may or may not be present. Eight eyes are present arranged in two rows. Chelicerae are strong. Abdomen is variable in size with six simple spinnerets. Females are with single clawed pedipalp. Legs are covered with numerous spines. A total of 28 genera and 163 species of this family are reported from India (2012).

Family: Araneidae

Photograph: Phalgun Chetia

Pale orb weaver or Kidney garden spider

Araneus mitificus Simon 1886

Guild Structure: Orb web weavers

Pale orb weaver or Kidney garden spider

Araneus mitificus Simon 1886

Distinguishing Characters:

- Size: Female 6-8 mm, Male 3-5 mm.
- Cephalothorax covered with hairs and pubescence. Chelicerae yellow coloured.
- 8 eyes arranged in two rows. Anterior median eyes are largest, posterior median eyes encircled by black rings.
- Abdomen globular with a kidney shaped black spot and two pairs of small tubercles at posterior end.
- Thin yellow-black parallel lines slope down the abdomen distally.
- The abdomen ends in a black mark segmented with thin yellow coloured lines. Leg formula 1243.

Distribution Range:

- India to Philippines, Japan, New Guinea.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Found commonly in garden among the bushes, short trees etc.
- The spider builds its resting nest by folding small leaf like a cone later ties the edges with sticky threads. The spider sits by facing towards the opening of the nest.
- Web is usually smaller in size and characteristically with a missing section.

Diet:

- Polyphagous. Prefers small sized arthropods.

Family: Araneidae

Photograph: Phalgun Chetia

Oval cross spider

Argiope aemula Walckenaer 1841

Guild Structure: Orb web weavers

Oval cross spider

Argiope aemula Walckenaer 1841

Distinguishing Characters:

- Size: Female 25-30 mm, Male 5-8mm.
- Easily identified with the presence of stabilimentum in the web.
- Cephalothorax is narrow anteriorly, covered with white pubescence and with irregular yellowish patches.
- Chelicerae small, weak and reddish brown in colour.
- Eight eyes are arranged in form of trapezium.
- Abdomen oval, anteriorly overlapping the cephalothorax, with alternate black and yellow lines and white patches.
- Legs are long with sharp spines, tarsal segment bears claw, femur of all legs with yellow patches ventrally. The third pair of legs is short than the other three pairs.
- Ventral surface of the abdomen has two yellow lines and four yellow spots.

Distribution Range:

- India to Philippines, Sulawesi and New Hebrides.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- It spins orb web of high adhesiveness and with cruciate (X-shaped) stabilimentum.
- It is found near human settlements. Prefers open, dry environment.
- Upon disturbance the spider vibrates the web or move to the other side of the web.

Diet:

- Small medium sized arthropods, pests of crop fields.

Family: Araneidae

Photograph: Phalgun Chetia

Grass cross spider

Argiope catenulata Doleschall 1859

Guild Structure: Orb web weavers

Grass cross spider

Argiope catenulata Doleschall 1859

Distinguishing Characters:

- Size: Female 15-17 mm, Male 6-8 mm.
- Cephalothorax is narrow in front and broad at posterior end, clothed with white pubescence.
- Eight eyes present, posterior median eyes encircled by black rings, lateral eyes situated on prominent tubercles.
- Chelicerae small, weak and brown in colour.
- Abdomen elongated, oval shaped and covered with pubescence and hairs. Dorsally abdomen has yellow and white transverse patches and stripes. 5 pairs of sigilla present.
- Legs long, strong and covered with spines.

Distribution Range:

- India to Philippines and New Guinea.

Recorded from:

- Kaziranga National Park.

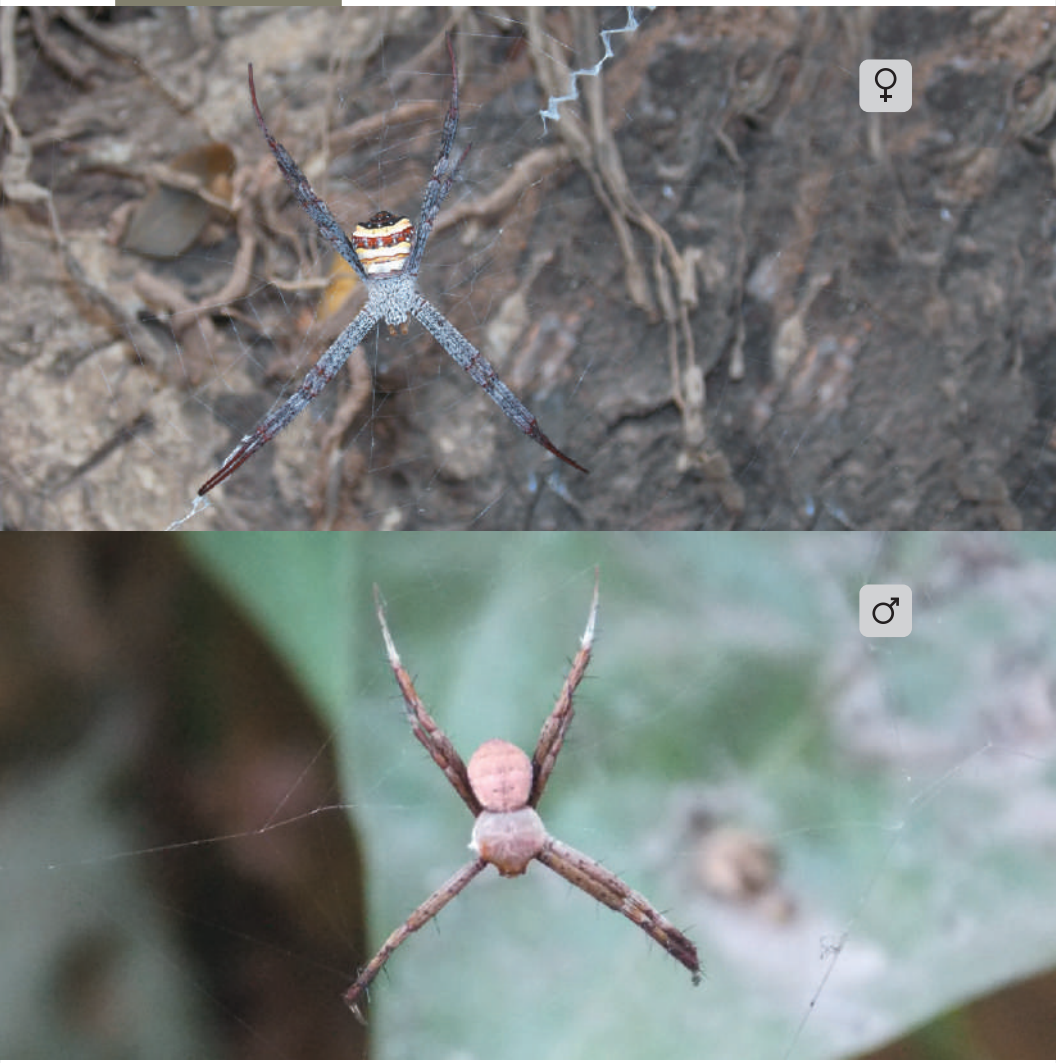
Habit and Habitat:

- Prefers humid habitat.
- Commonly seen in grassland areas constructing orb webs with circular stabilimentum around bushes, shrubs and short trees.
- Upon disturbance the spider run off to the opposite side of the web.

Diet:

- Polyphagous. Prefers small flies and other arthropods.

Family: Araneidae



Photographs: Sangeeta Das

Garden cross spider

Argiope pulchella Thorell 1881

Guild Structure: Orb web weavers

Garden cross spider

Argiope pulchella Thorell 1881

Distinguishing Characters:

- Size: Female 8-10 mm, Male 4-6 mm.
- Cephalothorax covered with thick layer of pubescence. Chelicerae small and weak.
- 8 eyes present, posterior median eyes encircled by black rings and lateral eyes located on tubercles.
- Easily identified with the presence of cruciate (x-shaped) stabilimentum in the web.
- Alternate white, yellow, black or red coloured parallel bands with spots present on abdomen.
- The abdomen is broad but ends with sharp tapering distally.
- Legs long, strong, alternately brown and yellow coloured and covered with hairs and spines.

Distribution Range:

- India to China and Indonesia.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore reserve forest.

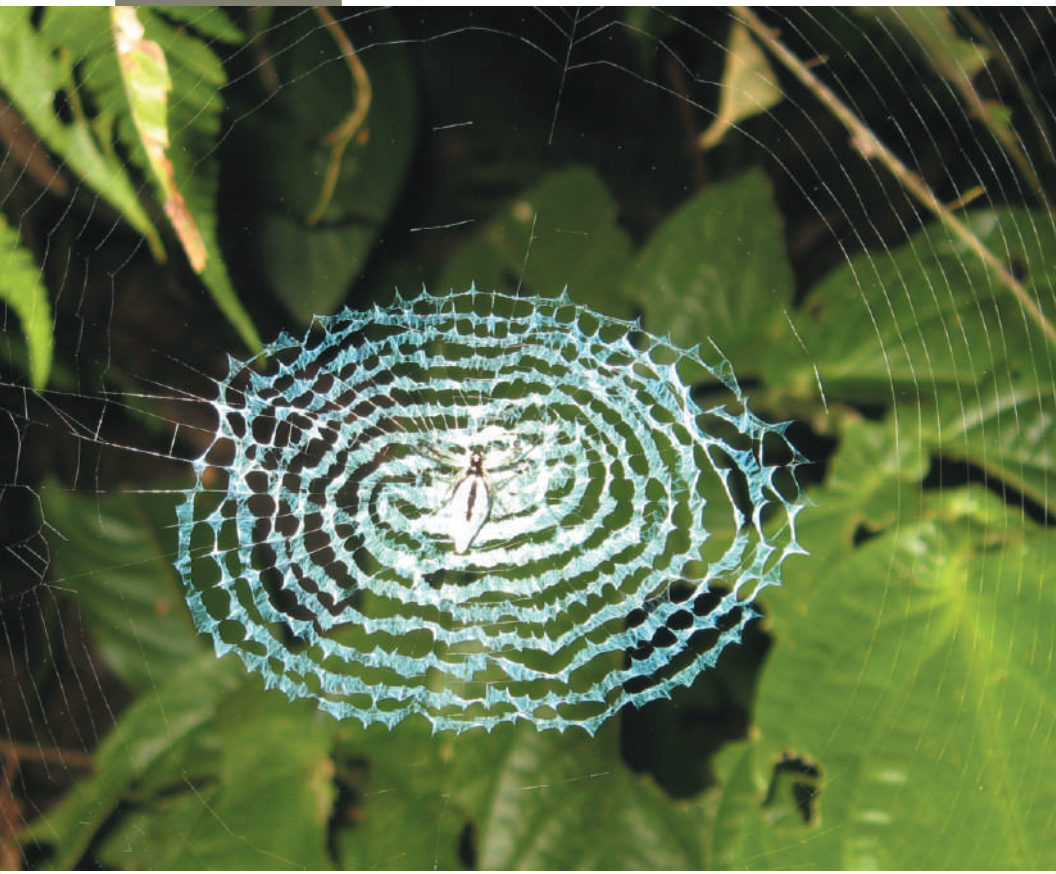
Habit and Habitat:

- It is found commonly in gardens, woodlands, grasslands and crop fields.
- Upon disturbance the spider vibrates the web or move to the other side of the web.
- Prefers dense, moist environment.
- Builds perfect orb webs and rest at the center of the web in upside down position.

Diet:

- Polyphagous. Prefers small arthropods, pests in crop fields, etc.

Family: Araneidae



Photograph: Phalgun Chetia

Cyclosa spider

Cyclosa sp.

Guild Structure: Orb web weavers

Cyclosa spider

Cyclosa sp.

Distinguishing Characters:

- Size: Female 5-8 mm, Male 3-5 mm.
- Cephalothorax is narrow anteriorly; an oblique groove separates the thoracic and the cephalic region.
- Ocular region trapezium in shape, anterior median eyes larger than the posterior median eyes, lateral eyes are situated on prominent tubercles.
- Abdomen conical, pointed posteriorly, with paired shoulder humps and an unpaired posterior hump.
- Abdomen silvery, a blackish band arises from the anterior tip of the abdomen extends to mid dorsum.
- Legs moderately long and covered with hairs and spines.

Distribution Range:

- India, Bangladesh, Philippines and Malaysia.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Prefers moist habitat, seen around forest edges.
- The spider constructs orb webs with circular stabilimentum.
- On disturbance jumps from the web to the ground and hide under vegetation.

Diet:

- Polyphagous. Prefers small flies and other arthropods.

Family: Araneidae

Photograph: Phalgun Chetia

Crytarachne raniceps Pocock 1900
Guild Structure: Orb web weavers

Crytarachne raniceps Pocock 1900

Distinguishing Characters:

- Size: Female 6-9 mm, Male 2-5 mm.
- Cephalothorax is narrow anteriorly and broad posteriorly and without any hairs.
- Legs are strong without spines.
- Abdomen is subtriangular, more sclerotized and overlaps the cephalothorax.
- Abdomen with a distinct pair of sigilla.
- Inverted cup shaped lateral shoulder humps are present on the abdomen.

Distribution Range:

- India and Sri Lanka

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Constructs web in trees. Webs are highly elastic in nature.
- A thick clump of web is present at the point of rest in leaves or any surface.
- Do not easily quit the web upon disturbance.

Diet:

- Polyphagous. Prefers bugs, beetles, flies, etc.

Family: Araneidae

Photograph: Phalgun Chetia

Communal tent web spider

Cyrtophora moluccensis Doleschall 1857

Guild Structure: Orb web weavers

Communal tent web spider

Cyrtophora moluccensis Doleschall 1857

Distinguishing Characters:

- Size: Female 19-24 mm, Male 6-8 mm.
- Cephalothorax elongated, covered with white pubescence.
- Eight eyes present, all encircled by black rings and lateral pair of eyes situated on tubercles.
- Sternum olive brown colour with a white strip running medially.
- Chelicerae small and weak.
- Abdomen is oval shaped, covered with white pubescence and with a pair of blunt hump anteriorly. Dorsal surface white coloured with olive green lines. Four pairs of sigilla present.
- Bright yellow spots encircle the entire spinnerets bilaterally.
- Legs long, strong and covered with fine hairs, coxal segment yellowish.

Distribution Range:

- India to Japan, Indonesia, Papua New Guinea, Australia, Fiji and Tonga.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Generally found in the woodlands or plantations (bamboo) of upper Assam.
- Prefers thick vegetation, open sunshine areas.
- Builds tent shaped webs instead of typical orb webs which can be up to 60 cm in diameter

Diet:

- Polyphagous. Prefers flies, beetles, etc.

Family: Araneidae

Photographs: Phalgun Chetia

Bird dropping spider

Eriovixia sp.

Guild Structure: Orb web weavers

Bird dropping spider

Eriovixia sp.

Distinguishing Characters:

- Size: Female 7-9 mm, Male 3-5 mm.
- Cephalothorax is narrowed anteriorly and wide posteriorly, covered with hairs.
- Ocular region orange in colour, eight eyes present, lateral pair of eyes present on tubercles.
- Abdomen creamish white in females and yellowish white in males, cone shaped with irregular pointed outgrowth in dorsum. Tail like hump present at the posterior end. Males have a black broad band on the dorsal surface.
- Three pairs of sigilla located in mid dorsal surface and two pairs of chalk-white spots present in the ventral surface of the abdomen.
- The spider rest with its anterior pairs of legs positioned forward and posterior pairs positioned backward in males and all legs positioned forward in females.

Distribution Range:

- India, China to Philippines and New Guinea.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly found in garden, builds nest on shrubby vegetation and medium heighted trees on under surface of leaves
- It constructs orb web at evening and consumes up its web at night.
- Builds nest like retreat in the vegetation of leaf surface.

Diet:

- Polyphagous. Prefers mosquitoes, houseflies and other small sized insects.

Family: Araneidae

Photograph: Mazedul Islam

Spiny orb weaver

Gasteracantha diadesmia Thorell 1887

Guild Structure: Orb web weavers

Spiny orb weaver

Gasteracantha diadesmia Thorell 1887

Distinguishing Characters:

- Size: Female 9-10 mm.
- Cephalothorax black in colour, covered white small white hairs.
- Chelicerae strong, stout and black in colour.
- Abdomen flattened, broader than longer, presence of hard and spiny protrusion and with alternate yellow-black parallel thick lines.
- Median spines are larger than the anterior and posterior spines.
- 5 distinct sigilla present at the posterior yellow band.
- Sternum very narrow, marked with only a small yellow spot ventrally.
- Legs are black and strong.

Distribution Range:

- India to Philippines.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Prefers dense and moist environment, builds web inside the forest across tracks or corridors.
- Generally found in the woodlands of upper Assam.
- Upon disturbance the spider often leaves the web to near vegetation.

Diet:

- Polyphagous. Small sized arthropods.

Family: Araneidae

Photograph: Sangeeta Das

Black and white spiny spider
Gasteracantha kuhli CL Koch 1837
Guild Structure: Orb web weavers

Black and white spiny spider

Gasteracantha kuhli CL Koch 1837

Distinguishing Characters:

- Size: Female 6-8mm, Male 3-5mm.
- Cephalothorax brownish black in colour, slightly elongated but blunt anteriorly. Cephalothorax clothed with grey coloured hairs.
- Eight eyes present, posterior median eyes encircled by black rings.
- Chelicerae strong, stout and brown in colour.
- Abdomen almost octagonal, overlaps the cephalothorax, generally white in colour with black spiny edges, black patches and distinct sigilla. Ventrum black in colour.
- Edges of abdomen with spines. Median and posterior spines are sub-equal in size and are larger than the anterior spine.
- Legs are short, yellowish-brown to black in colour and covered with hairs.

Distribution Range:

- India to Japan and Philippines.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Generally builds web around forest edges and open forest areas.
- Builds orb webs with open hubs.

Diet:

- Polyphagous. Prefers small sized flies and arthropods.

Family: Araneidae

Photograph: Phalgun Chetia

Spotted orb weaver

Neoscona bengalensis Tikader and Bal 1981

Guild Structure: Orb web weavers

Spotted orb weaver

Neoscona bengalensis Tikader and Bal 1981

Distinguishing Characters:

- Size: Female 11-13 mm, Male 5-7 mm.
- Cephalothorax elongated, covered with thick hairs. Chelicerae very strong.
- Eight eyes present, anterior median eyes larger than posterior median eyes. Lateral pair of eyes situated on black tubercles.
- Abdomen sub- triangular in shape and brown coloured, covered with white hairs.
- Abdomen has five pairs of sigilla arranged mid-longitudinally on the dorsal surface.
- Legs sclerotized with alternate black and white markings and with spines.

Distribution Range:

- India, Pakistan and Bangladesh.

Recorded from:

- Kaziranga National Park.

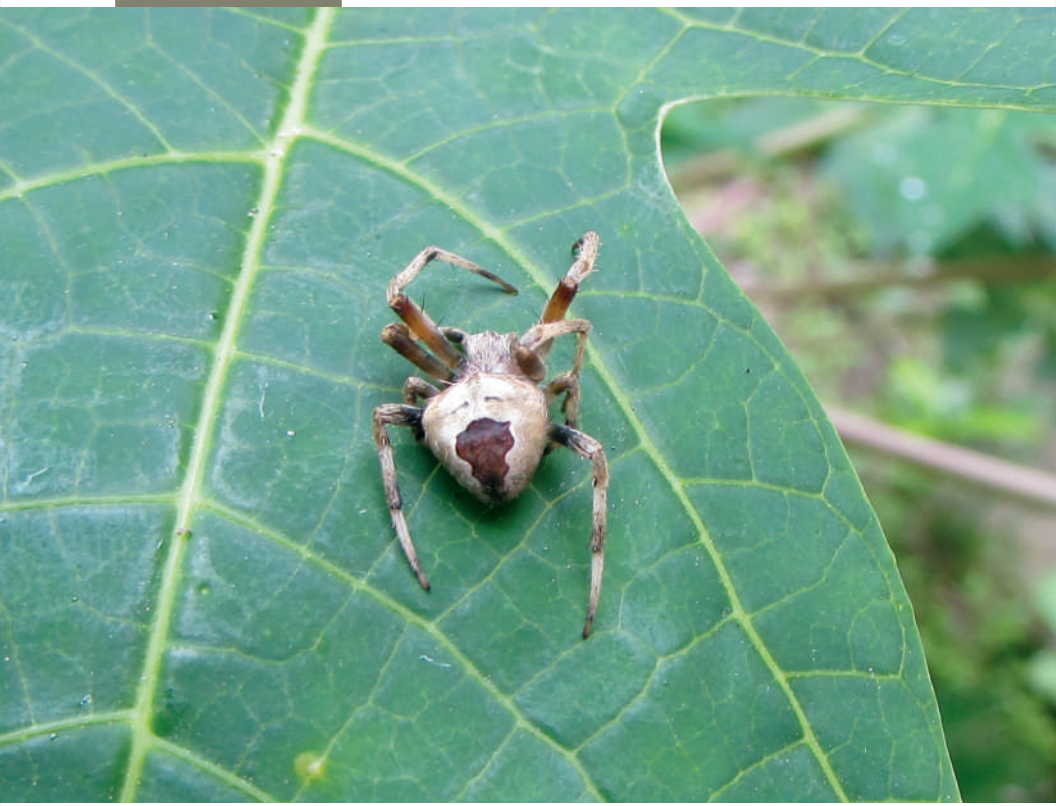
Habit and Habitat:

- Prefers grassland habitat with marshy areas.
- Nocturnal spider that builds orb web of extreme stickiness.
- Upon disturbance the spider hold tight to leaves or branches.

Diet:

- Polyphagous. Prefers butterflies, dragonflies, beetles, etc.

Family: Araneidae



Photograph: Phalgun Chetia

Common garden spider

Neoscona mukerjei Tikader 1980

Guild Structure: Orb web weavers

Common garden spider

Neoscona mukerjei Tikader 1980

Distinguishing Characters:

- Size: Female 6-9mm, Male 5-8mm.
- Cephalothorax elongated, yellowish brown in colour and clothed with pubescence and hairs.
- Eight eyes present, anterior median eyes are encircled with black rings and are larger than the posterior median eyes. Lateral median eyes are present on prominent tubercles.
- Chelicerae strong and yellow in colour.
- Abdomen grey, almost triangular in shape with posterior tapering end and covered with hairs and pubescence. Abdomen with banding pattern mid- longitudinally.
- Five pairs of sigilla present. Variation in colour and banding pattern is common in this species.
- Legs are yellow in colour, long and strong, covered with hairs and spines. Transverse bands are seen on distal ends of leg segments except coxa and trochanter.

Distribution Range:

- India, Pakistan and Bangladesh.

Recorded Range:

- Kaziranga National Park and Hollongapar Gibbon Wildlife Sanctuary.

Habit and Habitat:

- Nocturnal spider, commonly seen in gardens building orb webs amongst shrubs and bushes.
- Generally seen to remain underneath leaf surface during daytime and on web during night.

Diet:

- Polyphagous. Prefers flies, small arthropods, etc.

Family: Araneidae

Photograph: Phalgun Chetia

Grey sphere spider

Neoscona nautica L Koch 1875

Guild Structure: Orb web weavers

Grey sphere spider

Neoscona nautica L Koch 1875

Distinguishing Characters:

- Size: Female 7-9 mm, Male 3-5 mm.
- Cephalothorax is elongated, greyish in colour and broad posteriorly.
- Chelicera blackish with small fangs.
- Abdomen almost spherical to heart shaped and greyish black. A pair of white spot in dorsum anteriorly.
- Longitudinal median grey line with transverse projections are seen on the dorsal surface of abdomen.
- Legs long, blackish, alternate white mark following patella.

Distribution Range:

- Circumtropical.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Prefers grassland habitat with nearby water bodies.
- The spider is nocturnal in nature and builds orb web in open environment.
- Hides under grass blades during daytime and returns to its web by evening.

Diet:

- Polyphagous. Prefers small to medium sized arthropods.

Family: Araneidae

Photograph: Phalgun Chetia

Abandoned web spider

Parawixia dehaani Doleschall 1859

Guild Structure: Orb web weavers

Abandoned web spider

Parawixia dehaani Doleschall 1859

Distinguishing Characters:

- Size: Female 18-20 mm, Male 6-8 mm.
- Cephalothorax reddish brown, narrow anteriorly, covered with hairs, spines and pubescence.
- Ocular region elevated with eight eyes, anterior median eyes larger than the posterior median eyes. Lateral eyes situated on the base of tubercles.
- Abdomen triangular, colour varies from dark brown to light grey and is tapered distally.
- Two distinct pointed anterior, one pointed posterior humps and five pairs of sigilla present dorsally.
- Legs long, strong, reddish brown, covered with pubescence, hairs and spines. Tarsal segment darkest.

Distribution Range:

- India and Philippines to New Guinea.

Recorded from:

- Kaziranga National Park and Hollongapar Gibbon Wildlife Sanctuary.

Habit and Habitat:

- Prefers shade, dense environment and the spider remains camouflaged with the substratum during daytime. The spider hides among dry leaves near its web to avoid predators.
- Builds orb web during night with open hub which appears to be worn out and abandoned.
- When disturbed fall down the web and pretend to be dead with legs retracted close to the body.
- Generally found in woodlands of upper Assam.

Diet:

- Polyphagous. Prefers beetles, nocturnal flies, etc.

CLUBIONIDAE
(Wagner, 1887)

These are medium sized hunting spiders which are commonly known as Sac spiders. Cephalothorax is elongated and ovoid in shape with 2-7 promarginal teeth and 2-4 retromarginal teeth. Slender to stout long chelicerae are present. Eight eyes are present arranged in two rows. Abdomen is oval shaped. Legs are long bearing two claws and covered with spines. Leg formula is represented as 1423. A total of 3 genera and 24 species are reported form India (2012).

Family: Clubionidae

Photograph: Phalgun Chetia

Patchy sac spider

Clubiona drassodes OP Cambridge 1874

Guild Structure: Foliage Hunters

Patchy sac spider

Clubiona drassodes OP Cambridge 1874

Distinguishing Characters:

- Size: Female 6-9mm, Male 4-6mm.
- Cephalothorax slightly elongated, yellow in colour and covered with fine hairs.
- Eight eyes present, anterior row of eyes shorter than posterior row, posterior median eyes are larger than the other pairs.
- Chelicerae with two rows of teeth.
- Abdomen elongated, oval with narrow posterior end, yellowish to brownish- grey in colour and covered with hairs.
- Legs are pale yellow coloured. Femur of second pair of leg has two dorsal spines. Leg formula 4123.

Distribution Range:

- India, Bangladesh and China.

Recorded Range:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- They are commonly found among foliage of broad leaved plants hiding in their silken retreat during day-time.
- They are active hunters and are considered as good bio-control agents in crop fields.

Diet:

- Polyphagous.

CORINNIDAE
(Karsch, 1880)

These are small to medium sized hunting spiders and are commonly known as Ant- mimicking Sac spiders. Body is elongated with almost sclerotized abdomen. Cephalothorax is ovoid in shape. Eight eyes are arranged in two rows. Chelicerae are sturdy. Legs are long and slender. These are free living spiders and are good ant mimics. A total of 36 species from 9 genera are reported from India (2012).

Family: Corinnidae

Photograph: Phalgun Chetia

Black ant-mimicking spider
Castianeira zetes Simon 1897
Guild Structure: Ground Hunters

Black ant-mimicking spider

Castianeira zetes Simon 1897

Distinguishing Characters:

- Size: Female 8-10 mm, Male 5-6 mm
- Cephalothorax elongated and dark brown in colour.
- Eight eyes are arranged in two rows, anterior median eyes are larger than the anterior lateral eyes.
- Chelicerae dark brown and sternum reddish brown in colour.
- Abdomen ovoid, paler in colour with a broad greyish patch present in the anterior half.
- Legs long and dark reddish brown in colour.

Distribution Range:

- India and Bangladesh.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Ground dweller spiders which are seen commonly in summer season running on ground and logs.
- Closely mimic black ants in colouration and behavior.
- Mimics characteristic behavior of ants by moving abdomen up and down while moving forward.

Diet:

- Polyphagous.

EUTICHURIDAE
(Lehtinen, 1967)

On the basis of phylogenetic consideration and precise characterization, a new family Eutichuridae was created by elevation of the sub- family Eutichurinae. It is an order belonging to Araneae. These are medium to large sized spiders with elongated cephalothorax and abdomen. Body is fairly cylindrical and covered with fine hairs. Legs are long and slender. Currently, there are 12 valid genera and 307 valid species worldwide. Valid genus under this family are *Calamoneta* (2 sp.), *Calamopus* (2 sp.), *Cheiracanthium* (196 sp.), *Cheiramiona* (27 sp.), *Ericaella* (4 sp.),*Eutichurus*(26 sp.), *Lessertina* (2 sp.), *Macerio*(8 sp.), *Radulphius* (15 sp.), *Strotarchus*(20 sp.), *Summacanthium* (2 sp.) and *Tecution* (3 sp.).

Family: Eutichuridae

Photograph: Phalgun Chetia

Yellow sac spider

Cheiracanthium danieli Tikader 1975

Guild Structure: Foliage Hunters

Yellow sac spider

Cheiracanthium danieli Tikader 1975*

Distinguishing Characters:

- Size: Female: 9-11 mm, Male: 6-8mm.
- Cephalothorax brownish in colour.
- Eight eyes are present, black in colour and are equally spaced.
- Chelicerae are brownish in colour with dark coloured fangs.
- Abdomen elongated, light brown in colour and covered with pubescence.
- Spinnerets are yellow coloured, posterior spinneret is longer than other spinnerets.
- Legs long and slender; brownish in colour with dark brown spines

Distribution Range:

- India.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- It is a nocturnal spider.
- It is generally found among folded green leaves in a nest like silk retreat during daytime and comes out at night for hunting.

Diet:

- Polyphagous. Prefers medium to large sized arthropods.

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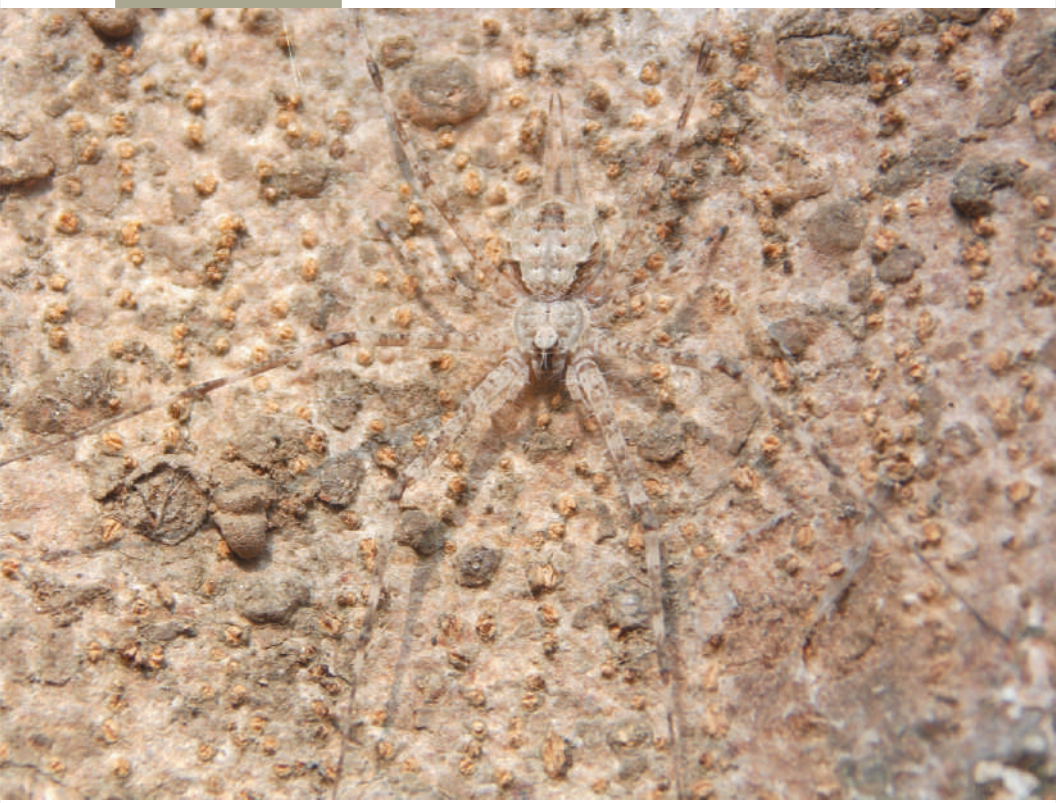
* The genus *Cheiracanthium* was previously placed in family Miturgidae but was transferred to family Eutichuridae in 2014 as according to the World Spider Catalogue,2015.

HERSILIIDAE
(Thorell, 1870)

These are medium sized spiders, commonly known as Two- tailed spiders or bark spiders. Cephalothorax and abdomen are flat and ovoid shaped. Cephalothorax has longitudinal fovea and radiating striations. Eight eyes are arranged in two rows. Chelicerae are weak and with a small fang. Legs are long, covered with spines and with three simple claws. Posterior pair of spinneret is as long as the abdomen. A total of 6 species belonging to 3 genera are reported from India (2012).

Family: Hersiliidae



Photograph: Sangeeta Das

Two-tailed spider

Hersilia savignyi Lucas 1836

Guild Structure: Foliage Hunters

Two-tailed spider

Hersilia savignyi Lucas 1836

Distinguishing Characters:

- Size: Female 8-10 mm, Male 5-8 mm.
- Cephalothorax circular, flattened and broad.
- Anterior lateral eyes are present making an angle in between the anterior and the posterior median eyes.
- Chelicerae small and weak.
- Abdomen almost circular, flattened and broad. Mid-longitudinally a greyish black line covers the abdomen along with lateral white patches. Abdomen greyish in colour but often remains camouflaged with that of the background substrate.
- Spinnerets are exceptionally long and annulated. Posterior spinneret as long as the abdomen.
- Legs are long, slender, annulated with dark rings and with three claws. Third pair of leg is the shortest.

Distribution Range:

- India to Philippines and Sri Lanka.

Recorded Range:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- They live on tree trunks and are seen to remain well camouflaged with that of the tree bark.
- Egg sacs are seen on the grooves of tree barks.
- They are fast runners and are seen to exhibit various colouration due to their camouflaging nature.

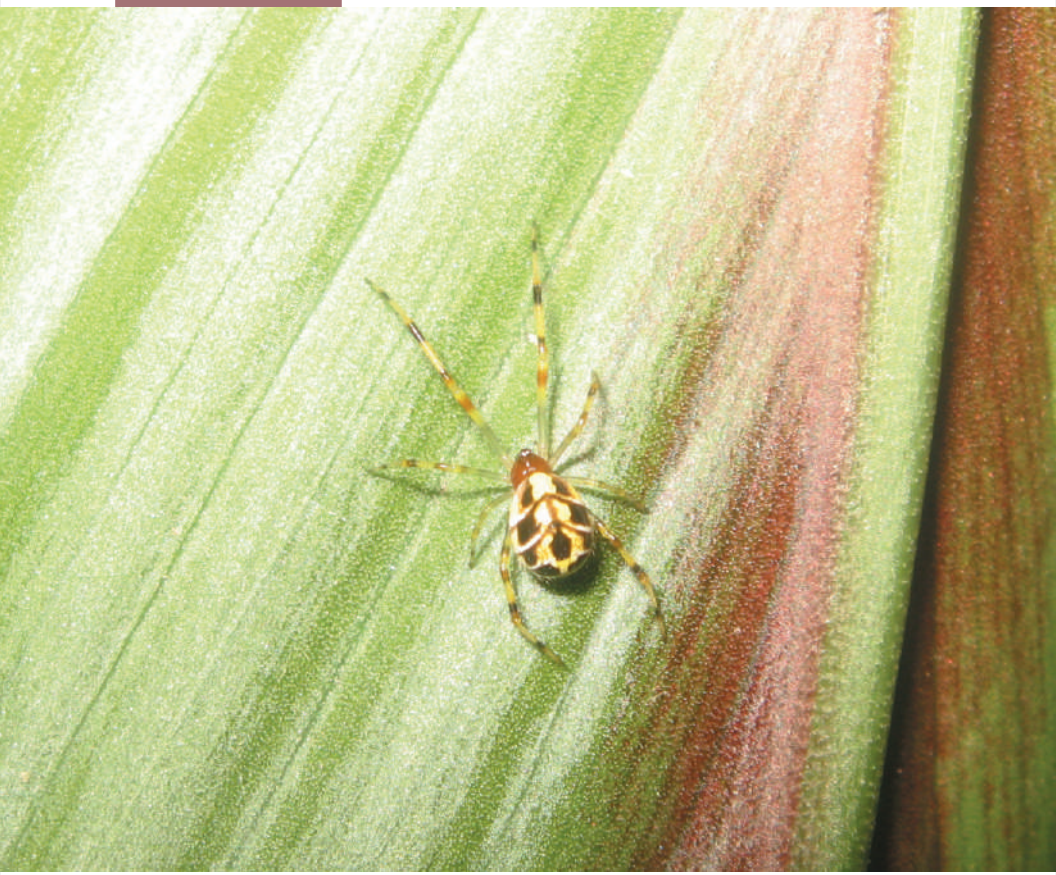
Diet:

- Polyphagous. They generally prefer crawling insects, moths, ants, small arthropods, etc.

LINYPHIIDAE
(Blackwall, 1859)

These are small sized spiders , commonly known as Sheet web spiders, Money spiders or Dwarf spiders. Cephalothorax varies in shape. Eight eyes are arranged in two rows. Chelicerae are strong with strong teeth on fang. Legs are usually slender and three clawed. Setae are present on tarsi and metatarsi. A total of 28 species of 16 genera are reported from India (2012).

Family: Linyphiidae



Photograph: Phalgun Chetia

Linyphid spider

Linyphia sp.

Guild Structure: Sheet web builders

Linyphid spider

Linyphia sp.

Distinguishing Characters:

- Cephalothorax oval shaped, blunt at anterior end and reddish brown in colour.
- Eight small eyes are arranged in two rows, widely spaced on black spots.
- Chelicerae generally strong.
- Abdomen elongated, oval shaped, yellow in colour and with black mid longitudinal line having transverse branches. Two black patches are present on the lateral sides of the anterior half of the abdomen.
- Legs are long, covered with hairs, light greenish- yellow in colour with red and black colour on the joints.

Distribution Range:

- India

Recorded Range:

- Kaziranga National Park.

Habit and Habitat:

- They are known as sheet web spiders as they build sheet like irregular webs.
- They prefer to build webs among leaves at a height of 1-2 m above the ground.

Diet:

- Polyphagous

LYCOSIDAE
(Sundevall, 1833)

These are small to large sized, free living ground spiders and are commonly known as Wolf spiders. Cephalothorax is elongated and carapace remains covered with dense setae. Eight eyes are arranged in three rows. Chelicerae are strong. Abdomen is oval shaped and covered with dense setae. Females carry egg sac attached to their spinnerets and spiderlings on their back. A total of 126 species belonging to 17 genera are reported from India (2012).

Family: Lycosidae

Spiders with spiderlings on its back

Photograph: Phalgun Chetia

Pond wolf spider

Pardosa pseudoannulata

Bösenberg and Strand 1906

Guild Structure: Ground runners

Pond wolf spider

Pardosa pseudoannulata Bösenberg and Strand 1906

Distinguishing Characters:

- Size: Female 8-10 mm, Male 6-8 mm.
- Cephalothorax is brown in colour.
- Eyes arranged in two rows.
- Abdomen is longer than wide.
- Yellow lateral stripe is extended towards the abdomen.
- Legs covered with spines and hairs.

Distribution Range:

- Pakistan to Japan, Philippines and Java.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Found in wet habitat near the edge of water bodies.
- Fast runner, ground dwelling spider.
- Newly hatches spiderlings are seen attached to the body of the females.
- They are good hunters of agricultural pests.

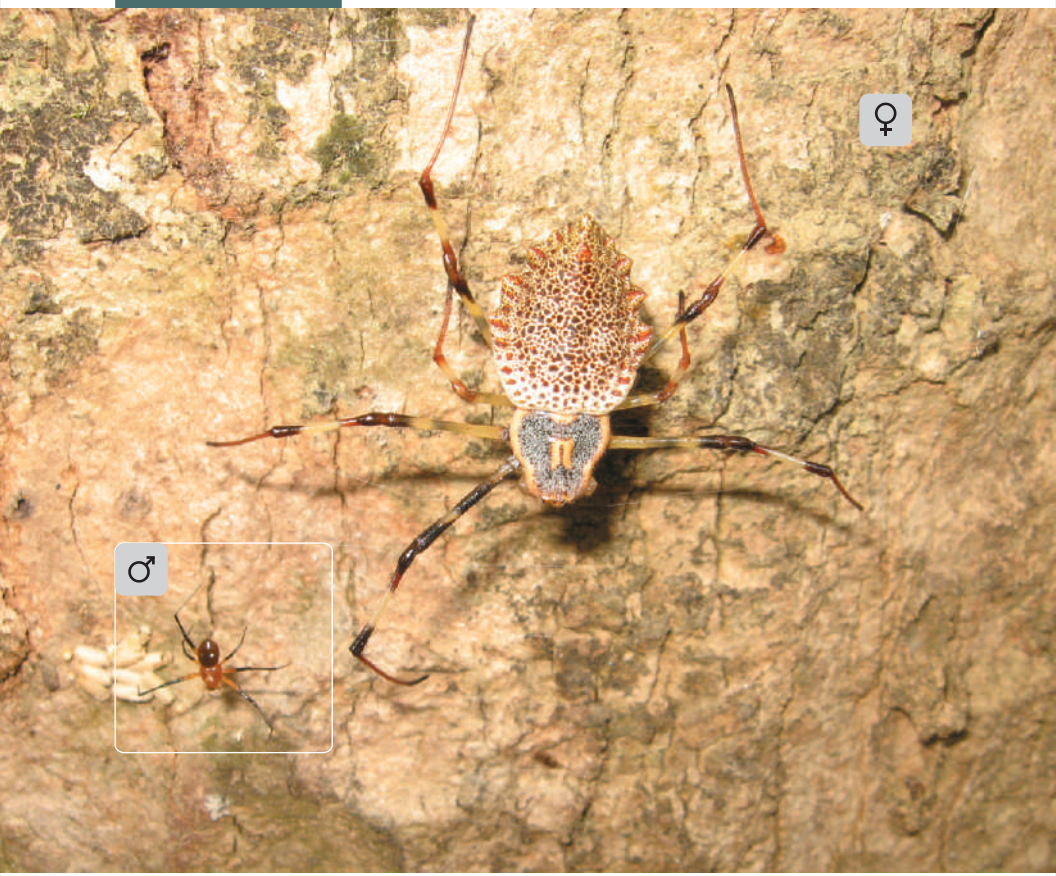
Diet:

- Polyphagous.

NEPHILIDAE
(Simon, 1894)

These are medium to very large sized web building spiders and are commonly known as Long- legged orb weavers. Cephalothorax is elongated. Eight eyes are arranged in two rows. Chelicerae are very strong and stout. Abdomen varies in shape. Legs are long, slender, three clawed and covered with spines. Sexual dimorphism is distinct. A total of 8 species of 3 genera are reported from India (2012).

Family: Nephilidae



Photograph: Phalgun Chetia

Ornamental tree trunk spider

Herennia multipuncta Doleschall 1859

Guild Structure: Orb web weavers

Ornamental tree trunk spider

Herennia multipuncta Doleschall 1859

Distinguishing Characters:

- Size: Female 10-15mm, Male 5-7 mm.
- Cephalothorax elongated and covered with hairs.
- A distinct U shaped white patch present on the cephalic region and dark brown patches on the thoracic region.
- Eight eyes present, anterior median eyes larger than posterior medians, lateral eyes present on prominent tubercles.
- Chelicerae stout, strong and light brown in colour.
- Abdomen flattened, oval with tapering end, paired projections arise from lateral sides, five pairs of sigilla present. Abdomen is tapered proximally, broad in the middle and pointed distally with minute sharp outgrowth.
- Legs are long with sharp spines, tarsus bears claws for attachment. The third pair of legs is short than the other three pairs.

Distribution Range:

- India to China, Borneo and Sulawesi.

Recorded from:

- Kaziranga National Park and Hollongapar Gibbon Wildlife Sanctuary.

Habit and Habitat:

- It is found in dry environment on tree trunks or barks.
- It spins orb web of high adhesiveness.
- The male rest attached to the tree surface while the female rest in the web.
- More than one male may be present around the web of the female.

Diet:

- Polyphagous. Prefers medium to large sized arthropods.

Family: Nephilidae

Photograph: Phalgun Chetia

Black wood spider

Nephila kuhlii Doleschall 1859

Guild Structure: Orb web weavers

Black wood spider

Nephila kuhlii Doleschall 1859

Distinguishing Characters:

- Size: Female 30-35mm, Male 2-5 mm.
- Cephalothorax elongated, brownish black in colour in females and reddish brown with brown coloured patches in males. Cephalothorax clothed with pubescence and hairs.
- Eight eyes present, anterior and posterior median eyes almost equal in size.
- Chelicerae strong and stout, reddish brown in females and light brown in males.
- Abdomen elongated, black, cylindrical and covered with pubescence in females. Four pairs of sigilla present. In males, abdomen is elongated and reddish brown in colour with a black spot on the posterior end.
- Legs are very long and strong, covered with pubescence, hairs and spines.

Distribution Range:

- India to Sulawesi.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- They are commonly found in deep forests and build large sized orb webs in between bushes and trees.
- Males are generally seen to depend upon females for food, hence seen to live a kleptoparasitic life. Kleptoparasitic *Argyrodes* sp. are also often seen on their webs.
- Webs are very elastic and sticky in nature.

Diet:

- Polyphagous. Prefers grasshoppers, crickets, butterflies, flies, etc. Females are seen to consume prey many times greater than their body size.

Family: Nephilidae

Photograph: Phalgun Chetia

Giant wood spider

Nephila pilipes Fabricius 1793

Guild Structure: Orb web weavers

Giant wood spider

Nephila pilipes Fabricius 1793

Distinguishing Characters:

- Size: Female 35-40mm, Male 2-5 mm.
- Cephalothorax elongated, greyish black in colour in females and orange-brown in males. Cephalothorax clothed with yellow coloured pubescence and hairs in males.
- Eight eyes present, anterior and posterior median eyes almost equal in size, lateral pair of eyes closely situated on prominent tubercles. Chelicerae strong; light brown in males.
- Abdomen elongated, black, cylindrical and covered with hairs in females with a pair of longitudinal lines and few yellow patches on the dorsal surface. Five pairs of sigilla present.
- In males, abdomen is elongated and orange- brown in colour with two lateral dark brown bands.
- Legs are very long, slender and strong, reddish brown with black joints. Very few spines are present on legs.

Distribution Range:

- India to China, Philippines and Australia.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- They are commonly found in and around deep forests and build large sized orb webs in between bushes and trees.
- Orb webs are often across 1.5-2 m in diameter.
- Males are generally seen to depend upon females for food, hence seen to live a kleptoparasitic life. Kleptoparasitic *Argyrodes* sp. are also often seen on their webs.
- Webs are very elastic and sticky in nature.

Diet:

- Polyphagous. Prefers grasshoppers, crickets, butterflies, flies , etc. Females are seen to consume prey larger than their body size.

OXYOPIDAE
(Thorell, 1870)

These are small to large sized foliage dwelling spiders and are commonly known as Lynx spiders. Cephalothorax is elongated usually with stripes and spots. Eight eyes are arranged hexagonally on two rows. Chelicerae are long with short fangs. Abdomen is elongated and with bands, spots or stripes. Legs are long, three clawed and are covered with spines. A total of 69 species of 4 genera are reported from India (2012).

Family: Oxyopidae

Photograph: Sangeeta Das

Crossed or Burma lynx spider
Oxyopes birmanicus Thorell 1887
Guild Structure: Stalkers/Specialists

Crossed or Burma lynx spider

Oxyopes birmanicus Thorell 1887

Distinguishing Characters:

- Size: Female 7-10 mm, Male 6-7 mm.
- Cephalothorax slightly elongated and brown to yellow in colour.
- Ocular region brownish yellow in colour with two distinct longitudinal black lines running from anterior median eyes towards mandibles.
- Abdomen pale brown in colour, elongated with tapering posterior end and covered with hairs.
- Dorsal surface of abdomen with distinctive patterns.
- Legs are long and covered with distinct spines, underside of femora has two black lines. Leg formula 1243.

Distribution Range:

- India and China to Sumatra.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly seen in grasses and shrubby vegetation during daytime.
- At night they rest underneath the leaves.
- They are solitary active hunters.
- They do not build web.

Diet:

- Polyphagous. Prefers small to medium sized arthropods.

Family: Oxyopidae

Photograph: Phalgun Chetia

Striped lynx spider

Oxyopes javanus Thorell 1887

Guild Structure: Stalkers/Specialists

Striped lynx spider

Oxyopes javanus Thorell 1887

Distinguishing Characters:

- Size: Female 6-8 mm, Male 5-7 mm.
- Dorsal surface of the cephalothorax with a pale V- shaped mark.
- Brownish patches present on the lateral side of cephalothorax.
- Heart shaped yellowish brown sternum present.
- A dark brown line extends from the anterior median eye to chelicerae. Chelicerae yellowish brown.
- Abdomen elongated with dark brown lateral sides and median white patch.
- Legs long, covered with spines and with black line on ventral sides.

Distribution Range:

- India, China to Java and Phillipines.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

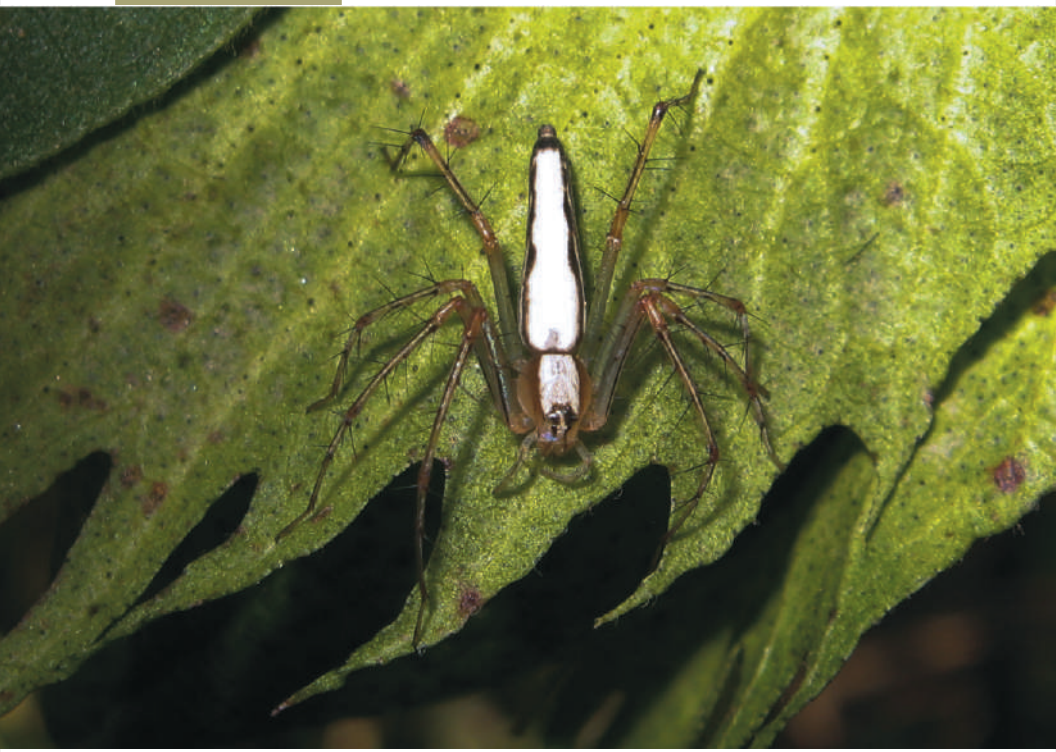
Habit and Habitat:

- Commonly seen on the upper surface of grasses and shrubby vegetation during daytime.
- At night they rest underneath the leaves.
- They are solitary active hunters.
- They do not build web.

Diet:

- Polyphagous. Prefers small to large sized arthropods.

Family: Oxyopidae



Photograph: Phalgun Chetia

White lynx spider

Oxyopes shweta Tikader 1970

Guild Structure: Stalkers/Specialists

White lynx spider

Oxyopes shweta Tikader 1970

Distinguishing Characters:

- Size: Female 7-9mm, Male 5-7 mm
- Cephalothorax covered with white pubescence.
- Two distinct black longitudinal lines present, starting from below of anterior median eye up to above of chelicerae.
- Ocular region whitish in colour.
- A narrow black line is present on either side of cephalic portion of cephalothorax.
- Abdomen elongated and tapered posteriorly.
- A white band extends longitudinally on the abdomen mid-dorsally.
- Legs are long, spiny and greenish–brown in colour.

Distribution Range:

- India and China

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly seen in grasses and shrubby vegetation during daytime.
- At night they rest underneath the leaves.
- Females tend to protect their egg sac by covering them.
- They are solitary active hunters and do not build web.

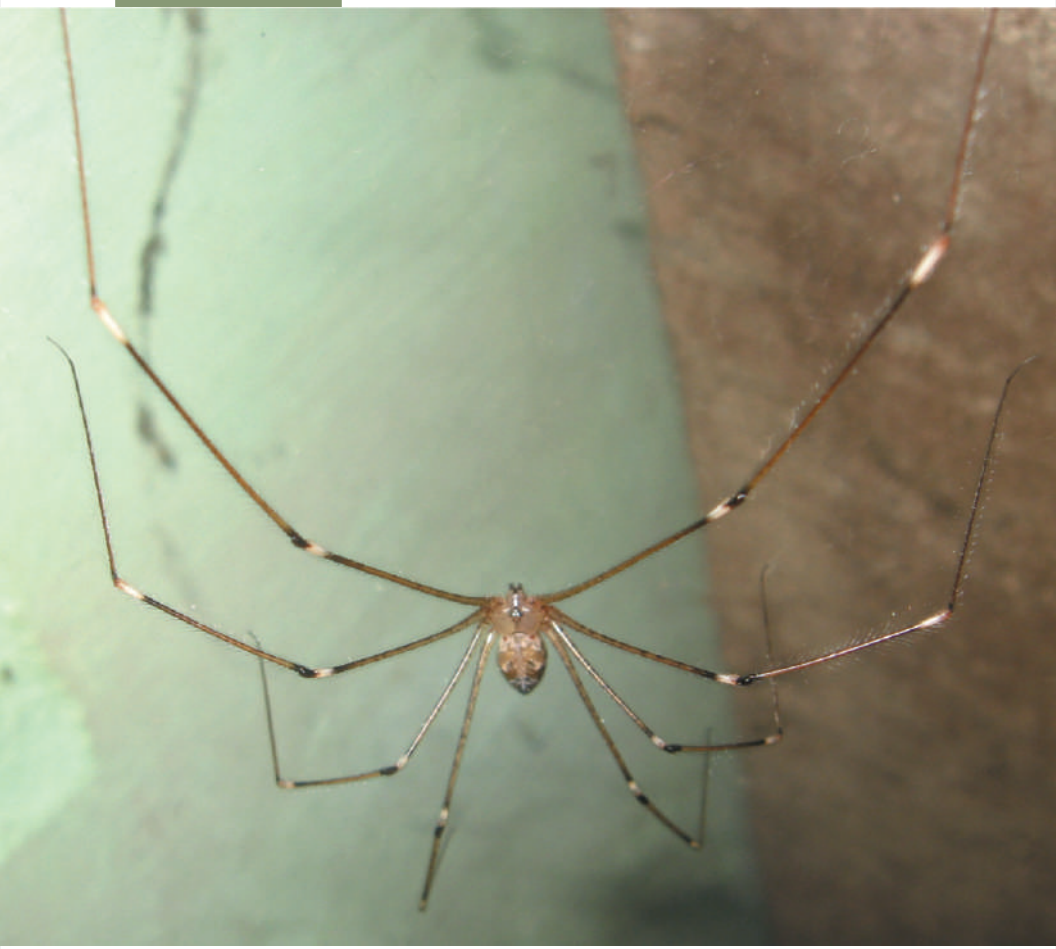
Diet:

- Polyphagous. Prefers small to large sized arthropods.

PHOLCIDAE
(CL Koch, 1850)

Very small to medium sized web building spiders and are commonly known as Daddy- long- leg spiders. Cephalothorax is almost rounded. Six to eight eyes are present. Chelicerae are cylindrical and weak. Abdomen is globular to circular. Legs are very long, fragile and three clawed. They build irregular cob-webs. A total of 9 species belonging to 6 genera are reported from India (2012).

Family: Pholcidae



Photograph: Phalgun Chetia

Oval daddy-long-leg spider

Artema atlanta Walckenaer 1837

Guild Structure: Space web weavers

Oval daddy-long-leg spider

Artema atlanta Walckenaer 1837

Distinguishing Characters:

- Size: Female 8-11 mm, Male 5-7 mm.
- Anterior portion of the cephalothorax conical in shape.
- Carapace has three small brown patches arranged in arrow.
- Eyes eight in number, present at the tip of carapace.
- Abdomen greyish brown, circular and with three rows of grey spots.
- Legs are very long with brown rings on femur and tibia segments.

Distribution Range:

- Pantropical and introduced in Belgium.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Found in and around human habitations.
- They build irregular, convex, dome-shaped webs.

Diet:

- Prefers mosquitoes and other small sized arthropods.

Family: Pholcidae

Photograph: Phalgun Chetia

Box spider

Crossopriza lyoni Blackwall 1867

Guild Structure: Space web weavers

Box spider

Crossopriza lyoni Blackwall 1867

Distinguishing Characters:

- Size: Female 5-7 mm, Male 3-5 mm.
- Greyish white cephalothorax with a mid-longitudinal dark band.
- Dorsal surface of the cephalothorax has a deep excavation.
- Eyes six in number, present at the tipoff cephalothorax.
- Abdomen greyish in colour with white patches.
- Upper posterior end of abdomen has a conical projection.
- Legs very long, covered with black spots and small hairs and with black coloured joints.

Distribution Range:

- Cosmopolitan.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Found in human habitations.
- They build irregular webs and commonly seen in corners of ceiling.
- On disturbance the spider vibrates its web rapidly.

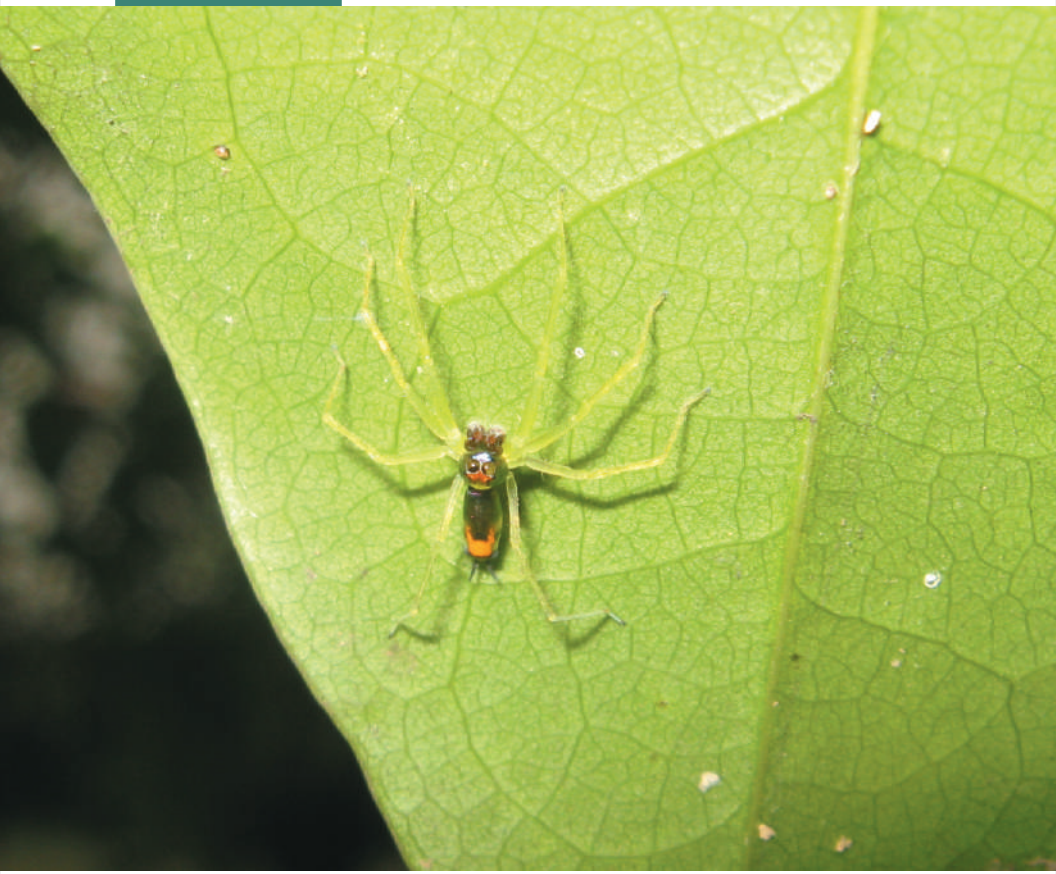
Diet:

- Prefers small sized arthropods.

SALTICIDAE
(Blackwall, 1841)

These are small to medium sized active hunting spiders and are commonly known as Jumping spiders. Cephalothorax has a distinct rectangular quadrangle. Eight eyes are present arranged in three to four rows. Distinctively large anterior median eyes are present. Abdomen round to oval, patterned and covered with hairs. Legs are segmented, usually bearing two claws. A total of 73 genera and 207 species are reported from India(2012).

Family: Salticidae



Photograph: Phalgun Chetia

Tailed jumper

Asemonea tenuipes OP Cambridge 1869

Guild Structure: Stalkers

Tailed jumper

Asemonea tenuipes OP Cambridge 1869

Distinguishing Characters:

- Size: Female 4-6 mm, Male 3-5 mm.
- Cephalothorax elongate with elevated ocular region.
- Cephalothorax is black with a yellow band in the mid-dorsal area and orange coloured ocular region in males. Females are uniformly cream coloured.
- Eight eyes are arranged in four rows, anterior lateral eyes and posterior median eyes are present on distinct tubercles. Ocular area covered with yellow– white hairs.
- Abdomen of male is elongated, yellow coloured with an orange patch and a white mark near the tip. Females have cream coloured abdomen.
- Distinct tail like slender spinnerets present.
- Legs are long, slender, cream coloured and covered with spines.

Distribution Range:

- Sri Lanka and India to Thailand.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Prefer habitats of slightly hilly areas.
- Seen generally under broad leaves of short heighted trees.

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

Scorpion jumper

Bavia sp.

Guild Structure: Stalkers

Scorpion jumper

Bavia sp.

Distinguishing Characters:

- Size: Female 7-9 mm, Male 4-6 mm.
- Cephalothorax blunt at the anterior, round laterally, black in male and brown in females.
- Chelicera long and thin.
- Eight eyes present, anterior median eyes larger than the posterior median eyes.
- V-shaped blackish brown mark on the cephalothorax. Yellow coloured strips are present laterally throughout the body.
- Brown patch extends the whole length of the abdomen.
- Legs long, chitinized and strong. Anterior pair is positioned like the pincers of a scorpion.

Distribution Range:

- India

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Prefers open, dry environment.
- Generally seen on garden plants, shrubs and small sized trees.
- Does not construct web.
- Ambush prey by hiding.

Diet:

- Polyphagous, prefers moths, bugs, etc.

Family: Salticidae

Photograph: Phalgun Chetia

Crescented jumper

Brettus albolimbatus Simon 1900

Guild Structure: Stalkers

Crescented jumper

Brettus albolimbatus Simon 1900

Distinguishing Characters:

- Size: Female 6-7 mm, Male 4-5 mm.
- Cephalothorax oval shaped with a white band present on the lateral surface. In females cephalothorax is brownish orange in colour with a white lateral band.
- Eight eyes present arranged in four rows. Ocular region is small and covered with hairs. Posterior median eyes are very small.
- Abdomen spherical, covered with shiny brown setae. A yellow patch is present on the middle region and with yellow spots on either side.
- Legs are long. Tibia, patella and femur of the first pair of leg are covered with fringes of hairs. Tibia covered with sharp spines.

Distribution Range:

- India and china.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Often seen on small trees and under surface of coconut leaves

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

White spotted green jumper
Epeus indicus Prószyński 1992
Guild Structure: Stalkers

White spotted green jumper

Epeus indicus Prószyński 1992

Distinguishing Characters:

- Size: Female 6-8 mm, Male 4-6mm.
- Cephalothorax roughly spherical and light green in colour.
- Eight eyes are arranged in four rows, ocular area covered with white-brown setae and bright orange setae are present abundantly around the eyes.
- Abdomen is pointed, usually pale green to dull black colour with two rows of white spots present longitudinally.
- Legs long, slender and banded in appearance. Males have more prominent bands than females.

Distribution Range:

- India and Nepal.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Found on foliage of shrubs, bushes and tall trees.
- It is a very active spider.
- Females are seen to guard its eggs in its nest constructed on the undersurface of leaves.

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

Orange crested jumper
Epeus tener Simon 1877
Guild Structure: Stalkers

Orange crested jumper

Epeus tener Simon 1877

Distinguishing Characters:

- Size: Female 7-9 mm, Male 7-8 mm.
- Cephalothorax roughly spherical with elevated ocular area. Males are light yellow in colour with orange hairs covering the ocular area and females are green in colour with pale yellow setae covering the ocular area.
- Eight eyes are arranged in four rows. Upper end of the ocular area has a tuft of long orange hair which forms the characteristic feature of this species.
- Abdomen pointed, yellow in male and green in female and covered with yellow setae.
- Legs are long, black and covered with spines.

Distribution Range:

- India, China, Indonesia (Java), Myanmar, Philippines, Malaysia and Celebes.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Usually found in hilly regions.
- They generally prefer foliage of broad leaved plants.
- They are very active spiders and show ferocious postures when disturbed.

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

Adanson's house jumper
Hasarius adansoni Audouin 1826
Guild Structure: Stalkers

Adanson's house jumper

Hasarius adansoni Audouin 1826

Distinguishing Characters:

- Size: Female 6-8 mm, Male 5-7 mm.
- Cephalothorax almost spherical, black coloured in male and pale yellowish brown colour in female.
- Eight eyes are present, a distinct crescent white patch present behind the ocular region.
- Chelicerae with a promarginal and retromarginal tooth.
- Abdomen broad and spherical, pale yellowish brown in males with an inverted crescent mark at the anterior end and dull yellowish brown with spots on the dorsal surface of females.
- Distinct white tuft of white hairs are present on male pedipalps.
- Legs are long and covered with spines.

Distribution Range:

- Cosmopolitan.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly seen on house walls and ceilings.
- Shows a distinctive behaviour of moving white tufted pedipalps while walking.

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

Red ant-mimicking spider

Myrmarachne plataleoides OP Cambridge 1869

Guild Structure: Stalkers

Red ant-mimicking spider

Myrmarachne plataleoides OP Cambridge 1869

Distinguishing Characters:

- Size: Female 6-7mm, Male 9-11mm.
- Cephalothorax elongated, pale orange in colour. Ocular region flattened.
- Eight eyes present, area surrounding eyes have black colouration.
- Chelicerae very long with swollen tips in males and of normal size and flattened in females.
- Fangs with curved tips.
- Pedicel is very distinct, slender and long.
- Abdomen elongated and pale orange in colour.

Distribution Range:

- India, Sri Lanka, China and Southeast Asia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Commonly seen actively moving on small trees, bushy shrubs and on walls.
- Silk retreats are made on the under surface of leaves.
- They closely mimic red ants in their body structure.

Diet:

- Prefers ants.

Family: Salticidae

Photograph: Phalgun Chetia

Banded phintella

Phintella vittata CL Koch 1846

Guild Structure: Stalkers

Banded phintella

Phintella vittata CL Koch 1846

Distinguishing Characters:

- Size: Female 4-5 mm, Male 3-4mm.
- Cephalothorax small, almost spherical with two broad black lines on bluish-white iridescent body.
- Eight eyes present, ocular region covered with iridescent setae.
- Chelicerae slender with longer, slender and curved fangs.
- Abdomen almost rounded having alternate black bands on bluish-white iridescent body.
- A semi-circular black spot is present near the spinnerets.
- Legs are slender and small.

Distribution Range:

- India to Philippines.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Commonly seen on small bushes and small- medium sized plants.
- Under sunshine they appear to shine due to their iridescent body surface.

Diet:

- Polyphagous.

Family: Salticidae

Photograph (top): Phalgun Chetia
Photograph (bottom): Sangeeta Das

Common zebra jumper

Plexippus paykulli Audouin 1826

Guild Structure: Stalkers

Common zebra jumper

Plexippus paykulli Audouin 1826

Distinguishing Characters:

- Size: Female 7-10 mm, Male 7-9 mm.
- Cephalothorax slightly elongated, pale beige coloured with a white mid dorsal white line in male. Two dark brown bands present on either side of the white line. Lateral margins of the cephalothorax with white bands.
- Cephalothorax of female is pale yellowish brown coloured with a light dorsal band in the cephalic area.
- Eight eyes present.
- Abdomen oval with a narrowing tip, pale beige colour in male and pale yellowish brown colour in female. Abdomen of male has a white longitudinal band with dark brown bands on either side and white lines on the lateral margins.
- Legs long, covered with hairs and spines and with black small lines in male.

Distribution Range:

- Cosmopolitan.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Commonly seen on house walls and tree trunks.
- Very active during daytime.
- Builds silk retreats corners and crevices of walls and tree trunks.

Diet:

- Polyphagous, prefers small flies and insects.

Family: Salticidae

Photograph: Phalgun Chetia

Slender-legged clever jumper
Portia fimbriata Doleschall 1859
Guild Structure: Stalkers

Slender-legged clever jumper

Portia fimbriata Doleschall 1859

Distinguishing Characters:

- Size: Female 6-9 mm, Male 6-7 mm.
- Cephalothorax high, slender, compact and dull coloured.
- Eight eyes are present, anterior median eyes larger than the others, posterior median eyes minute. Ocular area has hairs arranged in combed manner.
- Abdomen elongated, dull coloured with small hairs.
- Legs are long and slender. Tarsal and metatarsal segment very slender, short stiff spines are present on femur, 1st pair of leg has distinct brush like stiff hairs.
- Male and female almost similar in appearance.

Distribution Range:

- India, Nepal, Sri Lanka and Taiwan to Australia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Prefers to live among dry leaves and debris in order to remain camouflaged with the background.
- This species is known to spin web unlike other salticid spiders.

Diet:

- Polyphagous. Prefers to feed on other spiders and their eggs.

Family: Salticidae

Photograph: Phalgun Chetia

Beige beetle jumper

Rhene flavigera CL Koch 1846

Guild Structure: Stalkers

Beige beetle jumper

Rhene flavigera CL Koch 1846

Distinguishing Characters:

- Size: Female 4-5 mm, Male 5-6 mm.
- Cephalothorax almost spherical, flattened, hairy, black coloured with white to yellow lateral patches.
- Eight small sized eyes present, anterior median eyes larger than the others.
- Abdomen spherical, broad and with an incomplete band running at the anterior end and a complete band towards the posterior end.
- Legs are small, 1st pair of legs flat and stout.

Distribution Range:

- India, China and Vietnam to Sumatra.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Seen among bushes, shrubs and small trees.
- They appear similar to beetles.

Diet:

- Polyphagous.

Family: Salticidae

Photograph: Phalgun Chetia

Two-striped jumper

Telamonia dimidiata Simon 1899

Guild Structure: Stalkers

Two-striped jumper

Telamonia dimidiata Simon 1899

Distinguishing Characters:

- Size: Female 9-11mm, Male 8-10 mm.
- Cephalothorax elongated, large and slender, dark brown in males with white central patch and white lateral bands, pale cream coloured in females.
- Eight eyes present, anterior median are larger than the others. Ocular area with characteristic black and white patch with orange hairs.
- Abdomen elongated and pointed posteriorly, dark brown with a white band along the mid-dorsal line in males, cream coloured with two orange lines on dorsal surface of females.
- Legs long and strong with black spines and hairs, legs lighter in colour in females.

Distribution Range:

- India, Bhutan, Indonesia (Sumatra) and Malaysia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Found commonly resting on the undersurface of leaves of bushes and trees.
- Silk retreats and nests are constructed on undersurface of leaves.
- Males show ferocious posture on being disturbed.

Diet:

- Polyphagous.

SCYTODIDAE
(Blackwall, 1864)

These are small to medium sized hunting spider and are commonly known as Spitting spiders. Cephalothorax is rounded and dome shaped. Fovea is absent. Six small eyes are arranged in three rows. Abdomen is broad and oval shaped. Legs are long, slender and with three claws. These spiders are the only group possessing prosomal gland which produces both venom and gluey silk. A total of 1 genus and 9 species are reported from India (2012).

Family: Scytodidae

Photograph: Sangeeta Das

Yellow spitting spider
Scytodes pallida Doleschall 1859
Guild Structure: Foliage hunters

Yellow spitting spider

Scytodes pallida Doleschall 1859

Distinguishing Characters:

- Size: Female 7-9 mm, Male: 4-6 mm.
- Cephalothorax sub-globose in shape, orangish-yellow in colour with brown lines.
- Six eyes are present.
- Sternum oval shaped and greyish in colour.
- Abdomen ovoid in shape and brownish yellow in colour.
- Abdomen covered with numerous hairs and with transverse lines and patches.
- Legs light brown in colour with dark brown joints.

Distribution Range:

- India, China, New Guinea and Philippines .

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- It is a nocturnal spider.
- Common in gardens and wastelands.
- It builds its nest with twisted folded leaves within which it rests during day and goes out for hunting at night.
- It is known as spitting spider because it captures insects by squirting out silk.

Diet:

- Polyphagous.

SPARASSIDAE
(Bertkau, 1872)

These are medium to large sized hunting spiders and are commonly known as Giant crab spiders. Cephalothorax is usually flattened, oval with distinct fovea. Chelicerae are strong and with two rows of teeth. Eight eyes are present arranged in two rows. Abdomen is oval to rounded and covered with small setae. Legs are long and in laterigrade arrangement. A total of 12 genera and 93 species are reported from India (2012).

Family: Sparassidae

Photograph: Phalgun Chetia

Giant litter spider

Heteropoda nilgirina Pocock 1901

Guild Structure: Foliage hunters

Giant litter spider

Heteropoda nilgirina Pocock 1901

Distinguishing Characters:

- Size: Female 21-25 mm, Male 18-20 mm.
- Cephalothorax yellowish brown.
- Abdomen pale coloured with rusty brown spots on lateral sides.
- Anterior median eyes smaller than anterior lateral eyes.
- Outer margin of chelicerae has three teeth.
- Fang reddish in colour, chelicerae yellowish on inner side with a dark spot on basal inner corner.
- Legs long with short distinct spines. Tarsal and metatarsal segments of leg darker in colour.
- Claw of tarsal segment has six or more teeth.

Distribution Range:

- India (Endemic).

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Prefers dry habitat.
- Commonly seen amongst dry leaf litter.

Diet:

- Polyphagous. Prefers medium to large sized arthropods.

Family: Sparassidae

Photograph: Phalgun Chetia

Common house spider

Heteropoda venatoria Linnaeus 1767

Guild Structure: Foliage hunters

Common house spider

Heteropoda venatoria Linnaeus 1767

Distinguishing Characters:

- Size: Female 25-30 mm, Male 20-25 mm
- Cephalothorax yellowish brown in colour.
- A distinct white line is seen above chelicerae and below eyes.
- Male has a broad black band on the carapace.
- Eight eyes present, arranged in to rows.
- Large strong chelicerae present.
- Abdomen oval shaped and yellowish brown in colour.
- Legs are strong and covered with spines.

Distribution Range:

- Pantropical.

Recorded from:

- Kaziranga National Park, Hollongapar Gibbon Wildlife Sanctuary and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly seen inside houses and occasionally on tree trunks.
- It is a nocturnal spider and a good cockroach hunter.
- Females are usually seen to carry disc-shaped egg sac under their body.

Diet:

- Prefers medium to large arthropods like cockroaches.

Family: Sparassidae

Photograph: Phalgun Chetia

Green crab spider

Olios milleti Pocock 1901

Guild Structure: Foliage hunters

Green crab spider

Olios milleti Pocock 1901

Distinguishing Characters:

- Size: Female 15-18 mm, Male 10-12 mm.
- Cephalothorax greenish dorsally.
- Prominent white hairs present between eyes.
- Eyes reddish in colour. Anterior row of eyes larger than the posterior row of eyes.
- Abdomen ovate in shape, greenish yellow dorsally and pale yellow with a broad red band ventrally.
- Legs are long and spiny. Leg I with two claws with six teeth.

Distribution Range:

- India and Sri Lanka.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Found commonly in gardens.
- Hides under green leaves during daytime.
- Perfectly camouflages itself among green leaves, hence difficult to spot it in field.

Diet:

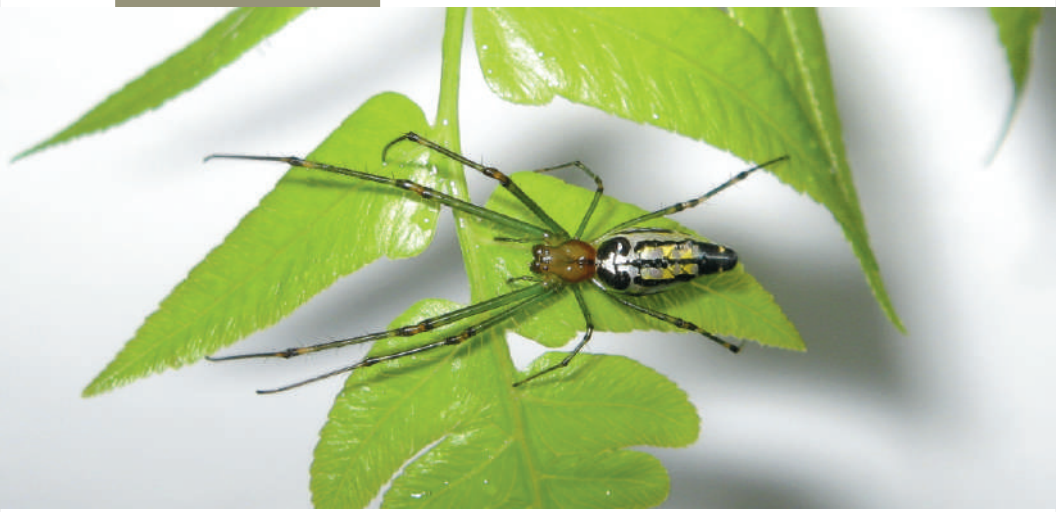
- Polyphagous.

TETRAGNATHIDAE

(Menge, 1866)

These are small to large sized spiders and are commonly known are Long-jawed orb weavers. Cephalothorax is elongated. Eight eyes are present arranged in two rows. Chelicerae may be short and stout or may be long and very well developed. Abdomen is elongated and cylindrical or rounded. Legs are long bearing three claws. A total of 8 genera and 40 species are reported from India (2012).

Family: Tetragnathidae



Photograph: Phalgun Chetia

Three-humped leucauge spider
Leucauge decorata Blackwall 1864
Guild Structure: Orb web weavers

Three-humped leucauge spider

Leucauge decorata Blackwall 1864

Distinguishing Characters:

- Size: Female 8- 10mm, Male 6-8 mm.
- Cephalothorax elongated with a deep groove on the thoracic region.
- Lateral eyes slightly smaller than the median eyes and are situated on prominent tubercles.
- Chelicerae is strong and yellow coloured.
- Abdomen elongated with two anterior and one posterior hump, silvery white in colour with yellow and black lines and patches.
- Legs long, strong, light greenish in colour with black patches and covered with numerous hairs and spines.

Distribution Range:

- Paleotropical.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Usually found in shaded vegetation of gardens and forest.
- It constructs an oblique to horizontal orb web with open hub.
- Usually remains hung in its web with its ventral surface facing upwards.

Diet:

- Polyphagous. Prefers medium sized arthropods.

Family: Tetragnathidae

Photograph: Phalgun Chetia

Silver leucauge spider

Leucauge tessellata Thorell 1887

Guild Structure: Orb web weavers

Silver leucauge spider

Leucauge tessellata Thorell 1887

Distinguishing Characters:

- Size: Female: 9-11 mm, Male: 6-8 mm.
- Cephalothorax elongated with elevated cephalic region and covered with hairs.
- Lateral eyes are smaller than the median eyes and are situated on prominent tubercles, anterior median eyes smaller than the posterior median eyes.
- Chelicerae strong, large and dark brown in colour.
- Abdomen helongated with two anterior and one posterior blunt hump,silver white in colour with white and black patches and lines
- Legs are slender, long and covered with hairs and spines.

Distribution Range:

- India to China, Laos, Taiwan and Moluccas.

Recorded from:

- Kaziranga National Park and Jeypore Reserve Forest.

Habit and Habitat:

- Commonly seen in shrubby vegetation of forest area.
- Builds oblique orb web with open hub.
- Usually remains hung in its web with its ventral surface facing upwards.

Diet:

- Polyphagous. Prefers medium sized arthropods.

Family: Tetragnathidae

Photograph: Phalgun Chetia

Dark tetragnathid spider

Tetragnatha mandibulata Walckenaer 1842

Guild Structure: Orb web weavers

Dark tetragnathid spider

Tetragnatha mandibulata Walckenaer 1842

Distinguishing Characters:

- Size: Female 11-14 mm, Male 7-9 mm.
- Cephalothorax yellowish brown in colour with distinct fovea.
- Eight eyes are arranged in two rows.
- Chelicerae with distinct 16 retro-marginal and 14 pro-marginal teeth. First ventral tooth of the female is forwardly directed.
- Abdomen yellowish brown, elongated with a posterior rounded tip.

Distribution Range:

- West Africa, India to Philippines and Australia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- It is a nocturnal spider that builds web after sunset.
- Builds web among grasses, near water bodies and commonly seen in paddy fields.

Diet:

- Polyphagous.

Family: Tetragnathidae

Photograph: Phalgun Chetia

Striated tylorida spider

Tylorida striata Thorell 1877

Guild Structure: Orb web weavers

Striated tylorida spider

Tylorida striata Thorell 1877

Distinguishing Characters:

- Size: Female 5-7 mm, Male 4- 6 mm.
- Cephalothorax yellow in colour.
- Distinct longitudinal grey bands run from posterior median eyes to fovea.
- Eight eyes are arranged in two rows, eyes with black margins.
- Chelicerae with 3 pro-marginal and 5 retro-marginal teeth.
- Abdomen bright yellow in colour with long white and silver bands.
- Legs are long, yellow in colour and covered with dark brown spines.

Distribution Range:

- India, China to Australia and Comoro Island .

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Generally found in gardens building orb webs with open hub amongst foliage.
- Prefers shady area.

Diet:

- Polyphagous.

THERAPHOSIDAE

(Thorell, 1869)

These are medium to large sized mygalomorph spiders, commonly known as Tarantulas. Cephalothorax with short fovea, eight eyes are present arranged in two rows. Anterior lobe of maxillae is developed into a conical process. Legs have two claws and each claw with one row of teeth. Abdomen is spherical to oval with different patterns. Four book lungs are present. A total of 12 genera and 53 species has been recorded from India(2012).

Family: Theraphosidae

Photograph: Phalgun Chetia

Tarantula

Chilobrachys assamensis Hirst 1909

Guild Structure: Hunters

Tarantula

Chilobrachys assamensis Hirst 1909

Distinguishing Characters:

- Large sized spiders.
- Cephalothorax oval shaped, dark brown in females and brownish black in males.
- Eight eyes are arranged in two rows on tubercles. Anterior median eyes are slightly larger than the anterior lateral eyes.
- Chelicerae large, strong and with stridulating organ present on the outer surface.
- Abdomen oval shaped; dark brown and elongated in females, oval and brownish black in males. In females one pair of sigilla present.
- Two pairs of spinnerets present.
- Legs are long, brown to black in colour with reddish tinge and covered with hairs. Leg formula 4123.

Distribution Range:

- India (Endemic).

Recorded from:

- Kaziranga National Park and Hollongapar Gibbon Wildlife Sanctuary.

Habit and Habitat:

- Generally inhabits in ground burrows and among rock crevices.

Diet:

- Polyphagous. Prefers medium to large sized arthropods.

THERIDIIDAE
(Sundevall, 1833)

These are small to medium sized spiders which are commonly known as Comb-footed spiders or Cobweb spiders. Cephalothorax is variable in shape. Eight eyes are present arranged in two rows which are often encircled with brown rings. Abdomen is variable in shape. Legs are long and three clawed. A specialized series of bristles are present on tarsal segment of fourth leg of larger theridiids known as tarsal comb. A total of 26 genera and 76 species are reported from India(2012).

Family: Theridiidae

Photograph: Phalgun Chetia

Red silver spider

Argyrodes flavescens OP Cambridge 1880

Guild Structure: Scattered line weavers

Red silver spider

Argyrodes flavescens OP Cambridge 1880

Distinguishing Characters:

- Size: Female 4-7 mm, Male 2-5 mm.
- Cephalothorax reddish-orange in colour.
- Ocular region in male bears a horn like projection.
- Triangular shaped abdomen with a projection on the median region.
- Abdomen brownish-orange in colour with silver patches on lateral sides.
- Posterior end of abdomen has a black spot.
- Leg formula 1423. Legs black in colour.

Distribution Range:

- India, Sri Lanka, Southwest China to Japan and New Guinea.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Builds small webs near the webs of *Nephila* sp. spiders.
- Lives a kleptoparasitic life with host spider *Nephila.*

Diet:

- Polyphagous. Prefers small sized arthropods captured by the host web.

Family: Theridiidae

Photograph: Phalgun Chetia

Brush-legged spider

Chrysso argyrodiformis Yaginuma 1952

Guild Structure: Scattered line weavers

Brush-legged spider

Chrysso argyrodiformis Yaginuma 1952

Distinguishing Characters:

- Size: Female 7-9mm, Male 3-5 mm.
- Cephalothorax elongated and light yellow in colour.
- Eight eyes present, anterior median eyes are closer to the lateral eyes than to each other.
- Chelicerae long and pale yellow in colour.
- Abdomen triangular, yellowish to golden in colour with brown lateral lines and silver patches. Few bristles are present on the mid dorsal area.
- Tip of abdomen and spinnerets are surrounded by black hairs. Ventrum paler in colour and distinctly separated from the dorsum.
- Legs are very long, with long bristle- like hairs, scattered spots and brown coloured joints.

Distribution Range:

- India, China, Japan and Philippines.

Recorded Range:

- Kaziranga National Park and Hollongapar Gibbon Wildlife Sanctuary.

Habit and Habitat:

- Commonly found in gardens, resting underneath leaves during daytime.
- This spider is nocturnal in habit.
- On disturbance it retracts its legs closer to the abdomen.

Diet:

- Polyphagous. Prefers small sized flies and arthropods.

Family: Theridiidae

Female spider with juveniles

Photograph: Phalgun Chetia

Black pearl spider

Chikunia nigra OP Cambridge 1880

Guild Structure: Scattered line weavers

Black pearl spider

Chikunia nigra OP Cambridge 1880

Distinguishing Characters:

- Size: Female 4-6 mm, Male: unknown.
- Cephalothorax black in colour.
- Eyes are white, except for the anterior median eyes which are black in colour.
- Chelicerae black in colour. Sternum is heart-shaped, dark brown in colour.
- Abdomen spherical but pointed posteriorly; glossy black in colour.
- Legs pale yellow in color with blackish joints and dark brown longitudinal patches.
- 4th pair of leg has comb-like structure.

Distribution Range:

- Sri Lanka to Taiwan and Indonesia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Resides in under surface of leaves.
- Builds small irregular webs underneath leaves.

Diet:

- Polyphagous. Prefers small sized flies and other arthropods.

THOMISIDAE
(Sundevall, 1833)

These are small to medium sized spiders, commonly known as Crab spiders or Flower spiders. Cephalothorax varies in shape. Eight eyes are arranged in two rows. Chelicerae are free and without cheliceral teeth. Abdomen varies in shape and colour tends to camouflage with the background. Legs are with two claws. First pair of legs are strong and with ventral spines. A total of 164 species belonging to 38 genera are reported from India (2012).

Family: Thomisidae

Photographs: Phalgun Chetia

Red ant spider

Amyciaea forticeps OP Cambridge 1873

Guild Structure: Ambush hunters

Red ant spider

Amyciaea forticeps OP Cambridge 1873

Distinguishing Characters:

- Size: Female 6-9 mm, Male 5-7 mm.
- Cephalothorax elongated with an elevated cephalic region, reddish brown in colour.
- Eyes are arranged in three rows, median eyes smaller than the lateral eyes.
- Abdomen ovoid shaped, little longer than wider, covered wide fine hairs.
- Dorsal surface of abdomen has two black spots on the posterior half.
- Pedicel long.
- Legs long, covered with minute hairs and with two claws on tarsus. Leg formula 1243.

Distribution Range:

- India and China to Malaysia.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Commonly seen in foliage.
- Seen among red ants (*Oecophylla* sp.) colony.
- Black spots present on the abdomen of the spiders resembles the eyes of red ants.

Diet:

- Polyphagous. Prefers red ants.

Family: Thomisidae

Photographs: Sangeeta Das

Brown flower spider
Camaricus formosus Thorell 1887
Guild Structure: Ambush hunters

Brown flower spider

Camaricus formosus Thorell 1887

Distinguishing Characters:

- Size: Female 7-9 mm, Male 4-6 mm.
- Cephalothorax red, covered with black hairs with brown and black patches.
- Eight eyes present arranged in two rows.
- Chelicerae dark brown in colour.
- Abdomen dark brown, covered with black hairs and distinct white coloured lateral bands.
- Legs light coloured, covered with spines and hairs.

Distribution Range:

- India to Sumatra, China and Phillipines.

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Commonly seen to reside on flowers or seen to rest within leaf folds.
- It preys on insects visiting the flowers.

Diet:

- Polyphagous.

Family: Thomisidae

Photograph: Phalgun Chetia

Common rose spider

Thomisus pugilis Stoliczka 1869

Guild Structure: Ambush hunters

Common rose spider

Thomisus pugilis Stoliczka 1869

Distinguishing Characters:

- Size: Female 3-5 mm, Male 1-2 mm.
- Cephalothorax broader, pale brown in colour with two distinct lateral conical projections.
- Eight small sized eyes present. Conical projections of cephalothorax bears lateral eyes.
- Abdomen white to off-white in colour, almost pentagonal, with a pair of shoulder tubercles.
- Leg 1 and 2 are longer than 3 and 4, giving it crab- like appearance. Posterior legs without spines.

Distribution Range:

- India (Endemic).

Recorded from:

- Kaziranga National Park.

Habit and Habitat:

- Found in gardens; residing on flowers.
- It remains well camouflaged with the flower on which it is residing.

Diet:

- Polyphagous. Prefers flower visiting insects.

PHOTO PLATES

Photograph: Sangeeta Das

Araneus sp.

Photograph: Mazedul Islam

Cyclosa sp.

Photograph: Sangeeta Das

Cyrtophora sp.

Photograph: Phalgun Chetia

Eriovixia sp.

Photograph: Mazedul Islam

Gasteracantha sp.

Photograph: Sangeeta Das

Hamadruas sp.

* Identification under process.

Photograph: Sangeeta Das

Hyllus sp.

Photograph: Mazedul Islam

Leucauge sp.

Photograph: Mazedul Islam

Leucauge sp.

Photograph: Sangeeta Das

Menemerus sp.

Photograph: Sangeeta Das

Misumena sp.

Photograph: Sangeeta Das

Mymarachne sp.

* Identification under process.

Photograph: Sangeeta Das

Neoscona sp.

Photograph: Phalgun Chetia

Nephiligyns malabaricans

Photograph: Sangeeta Das

Oxytate sp.

Photograph: Sangeeta Das

Phintella versicolor

Photograph: Sangeeta Das

Phrynarachne sp.

Photograph: Mazedul Islam

Plexippus sp.

* Identification under process.

Photograph: Sangeeta Das

Psechrus sp.

Photograph: Sangeeta Das

Uloborus sp.

Photograph: Sangeeta Das

Zosis sp.

Photograph: Phalgun Chetia

Family: Araneidea

Photograph: Phalgun Chetia

Family: Eutichuridea

Photograph: Sangeeta Das

Family: Filistidae

* Identification under process.

Photograph: Phalgun Chetia

Family: Lycosidae

Photograph: Phalgun Chetia

Family: Oxyopidae

Photograph: Phalgun Chetia

Family: Oxyopidae

Photograph: Phalgun Chetia

Family: Oxyopidae

Photograph: Sangeeta Das

Family: Oxyopidae

Photograph: Sangeeta Das

Family: Oxyopidae

* Identification under process.

Photograph: Phalgun Chetia

Family: Pisauridae

Photograph: Phalgun Chetia

Family: Pisauridae

Photograph: Phalgun Chetia

Family: Salticidae

Photograph: Phalgun Chetia

Family: Salticidae

Photograph: Sangeeta Das

Family: Salticidae

Photograph: Mazedul Islam

Family: Salticidae

* Identification under process.

Photograph: Phalgun Chetia

Family: Sparassidae

Photograph: Phalgun Chetia

Family: Sparassidae

Photograph: Sangeeta Das

Family: Theridiidae

Photograph: Sangeeta Das

Family: Theridiidae

Photograph: Phalgun Chetia

Family: Thomisidae

Photograph: Sangeeta Das

Unidentified

* Identification under process.

Photograph: Sangeeta Das

Unidentified

Photograph: Phalgun Chetia

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Photograph: Phalgun Chetia

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Photograph: Phalgun Chetia

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Photograph: Sangeeta Das

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Photograph: Phalgun Chetia

Unidentified

* Identification under process.

SOME FALLACIES AND FACTS ABOUT SPIDERS

1. FALLACY: **"Spiders are insects."**

   FACT: Spiders and insects are the members of two different classes of phylum Arthropoda. Spiders are as distant from insects, as birds are from fishes. General rule to count out spiders from insects are- spiders have eight legs, a pedicel and a body that is divided into two parts; a cephalothorax and an abdomen, whereas insects have six legs, no pedicel and a body divided into three distinct parts- head, thorax and abdomen.

Comparison between spiders and insects

Morphology	Spiders	Insects
Body parts	Cephalothorax and abdomen	Head, thorax and abdomen
Legs	Eight	Six
Eyes	Simple, usually eight	Compound, two
Wings	Absent	Generally Four (sometimes two or absent)
Antennae	Absent	Two

2. FALLACY: **"Spiders are aggressive and are always ready to bite."**

   FACT: Spiders are not aggressive at all under normal conditions. They may take up aggressive postures when they feel disturbed or threatened. Spiders may only bite if they are stamped upon or are squeezed. Small sized spiders are not aggressive at all and their venom is not a medical threat to humans.

3. FALLACY: **"All spiders make web."**

   FACT: Spider's web is a complex structure made up of silk threads. This structure functions to catch prey. But only a half of the known spiders use webs for capturing prey. Spiders of family Salticidae, Sparrasidae, Thomisidae, etc. do not build web to capture prey

rather they move around actively searching and hunting for living prey. Spiders also use their silk to construct silk retreat for hiding, egg sac to protect their eggs or draglines to retrace back the path they have travelled.

4. FALLACY: **"Spiders in the home are dangerous to children and pets."**

   FACT: House spiders are not blood-suckers and they feed on small insects and other small creatures that enter our house. Very few spiders have venom that can cause medically significant bites and such spiders are not found inside houses.

5. FALLACY: **"All spider bites are fatal to human beings."**

   FACT: Spider bites are not fatal to human beings. There are only a few spiders in the world whose venom contains medically significant toxin and can cause secondary infections if left untreated. Some of the venomous spiders in the world include- Brazilian wandering spider, Black widow spider, Brown recluse and Sydney funnel web spiders.

SOME INTERESTING INFORMATION ABOUT SPIDERS

- There are approximately 38,000 known species of spiders. Scientists believe there are probably as many more to be discovered.
- Spiders are found on every continent except Antarctica.
- An estimated 1 million spiders live in one acre of land. The number might be closer to 3 million in the tropics. It is estimated that a human is never more than 10 feet away from a spider—ever.
- Spiders eat more insects than birds and bats combined.
- Male spiders weave a small "sperm" web. They then place a drop of semen on the web, suck it up with their pedipalps, and then use the pedipalp to insert the sperm into the female.
- When a spider travels, it always has four legs touching the ground and four legs off the ground at any given moment.
- Hummingbirds use small sticks and the silk from spider webs to weave a nest for themselves.

- Spiders have blue blood. In humans, oxygen is bound to hemoglobin, a molecule that contains iron and gives blood its red color. In spiders, oxygen is bound to hemocyanin, a molecule that contains copper rather than iron.
- Giant trapdoor spiders are considered living fossils because they are similar to spiders that lived over 300 million years ago. They are found in southeastern Asia, China, and Japan and are over 4 inches across, including their legs.
- The world's biggest spider is the goliath spider (*Theraphosa blondi*). It can grow up to 11 inches wide, and its fangs are up to one inch long. It hunts frogs, lizards, mice, and even small snakes and young birds.

Source: Internet

Theraphosa blondi

- The world's smallest spider is the *Patu marplesi* (Guinness world records, December 2015). It is so small that 10 of them could fit on the end of a pencil.
- The most deadly spiders in the world include the black widow, funnel web, and brown recluse spiders. One of the most feared spiders in the world, the tarantula, actually has surprisingly weak venom and a bite that feels more like a wasp sting.
- The most venomous spider in the world is the Brazilian Wandering Spider, or the banana spider. This aggressive spider wanders the forest floors of Central and South America looking for food. Just a small amount of venom is enough to kill a human.

Source: Internet

Patu marplesi

- The word "spider" comes from the Old English word *spithra* and is related to the German *spinne,* both of which mean "spinner." The word "spinster" is also related and means "one who spins thread."
- Spiders have inspired scientists to make space robots. For example, the "Spidernaut" is a mechanical spider that is designed to crawl over the outside of a spacecraft to carry out repairs. Its weight is spread evenly over its eight legs to avoid damaging the surface of

the spacecraft. Scientists have also designed miniature pieces of equipment with parts that move just like a spider's leg.

Cartoon: Debolina Dey

- Arachnophobia is the fear of the spiders. It is one of the most common phobias in North America and Europe. Arachnophobia is less common in tropical places where there are more large, hairy spiders.
- A spider's muscles pull its legs inward, but cannot extend its legs out again. Instead, it must pump a watery liquid into its legs to push them out. A dead spider's legs are curled up because there is no fluid to extend the legs again.
- The silk in a spider's web is five times stronger than a strand of steel that is the same thickness. A web made of strands of spider silk as thick as a pencil could stop a Boeing 747 jumbo jet in flight. Scientists still cannot replicate the strength and elasticity of a spider's silk.
- While most spiders build a new web every day, the web of the gold orb can last several years and can even catch birds.

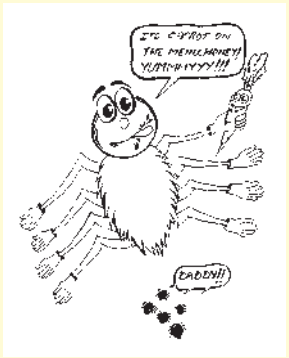
Cartoon: Debolina Dey

- Wolf spiders can run at speeds of up to 2 feet per second.
- Spiders do not have teeth, so they cannot chew their food. Instead, they inject digestive juices into the innards of their meal. Then the spider sucks up its innards.
- Aquatic spiders are the only spiders that spend their entire lives in water. The spiders construct a "diving bell" that allows them to live and spin webs underwater. They use their legs like a fishing pole to pull in insects, tadpoles, and even small fish.
- Spiders are the only group of animals to build webs of various kind such as sheets, tangles, ladders, and the elegant orb web. When most people think of a web, they think of an orb web.

- The Darwin bark spider creates the strongest material made by a living organism. Their giant webs can span rivers, streams, and even lakes and is 10 times stronger than Kevlar.
- The *Bagheera kiplingi* is the world's only (mostly) vegetarian spider.
- Some species of jumping spiders can see light spectrums that humans cannot. Some can see both UVA and UVB light.
- A female black widow needs to mate only once. After she has mated, she can produce eggs for the rest of her life, which is about 2 years.
- Hundreds of years ago, people put spider webs on their wounds because they believed it would help stop the bleeding. Scientists now know that the silk contains vitamin K, which helps reduce bleeding.
- A tarantula can liquefy the body of a mouse in just 2 days, leaving behind a pile of just skin and bones.
- Most spiders live for about a year. However, some tarantulas live more than 20 years.

Source: Internet

Bagheera kiplingi



Cartoon: Debolina Dey

SOME VENOMOUS SPIDERS OF THE WORLD

1. Brazilian Wandering Spider (*Phoneutria* sp.)

They are mainly found in tropical South America, with one species in Central America. These spiders are members of the Ctenidae family of wandering spiders.

Source: Internet

Phoneutria sp.

According to the Guinness World Records the Brazilian wandering spider (*Phoneutria fera*) is officially the world's most venomous spider. Its venom has a powerful neurotoxin which is nearly 20 times more potent than the venom of the Black Widow spider. Its venom is as potent as the venom of many deadly snake species and its effects are also similar. The symptoms of envenomation includes loss of muscle control leading to breathing problems which may cause respiratory paralysis and eventually asphyxiation, causes intense pain and even priapism in humans. Erections in males resulting from the bite are uncomfortable, can last for many hours and can lead to impotency.

2. Sydney funnel web *(Atrax robustus)*

Atrax is a genus of family Hexathelidae. Thesespiders are usually found in Sydney, Australia. Its venom contains a compound known as atracotoxin, an ion channel inhibitor, which makes the venom highly toxic for humans. Its antivenom was developed by a team headed by Struan Sutherland at the Commonwealth Serum Laboratories, Melbourne which became available in 1981. Since then, there have been no recorded deaths from Sydney funnel-web spider bites.

Source: Internet

Atrax robustus

3. Brown Recluse / Chilean Recluse (*Loxosceles* sp.)

The Chilean recluse spider is a venomous spider of the family Sicariidae. This spider is native to South America and is considered by some to be the most dangerous of all recluse spiders. Its bite is known to frequently result in severe systemic reactions, including death. It is common in Chile, and can be found in Perú, Ecuador, Argentina, Uruguay, and south and eastern Brazil.

Source: Internet

Loxosceles sp.

This spider is not aggressive and usually bites only when pressed against human skin, such as when putting on an article of clothing. *Loxosceles* spiders have potent tissue-destroying venoms containing the dermonecrotic agent called sphingomyelinase D. The venom may cause a wide range of effects such as mild skin irritation to severe skin necrosis, called cutaneous loxoscelism and a systemic illness called viscerocutaneous loxoscelism. Cutaneous loxoscelism results from serious bites causing a necrotising skin ulcer with destruction of soft tissue. This may take months to heal, leaving deep scars. The damaged tissue will become gangrenous black and eventually slough away. Initially there may be no pain from a bite but eventually wound may grow up to 10 inches in extreme cases. Polyclonal equine intravenous antivenom is produced in Brazil.

The bite of a recluse spider can generally be categorized into one of the following groups:

- Unremarkable - self-healing with minute damage.
- Mild reaction - self-healing damage with itchiness, redness, patterns of aggressive behavior and a mild lesion.
- Dermonecrotic - the uncommon, "classic" recluse bite, producing necrotic skin lesion. In extreme cases, the lesion may be up to 40 cms wide, last for several months, and heal with a permanent scar.
- Systemic or viscerocutaneous - an extremely rare, sometimes fatal systemic reaction to envenomation of the bloodstream.

4. Black Widow Spider (*Latrodectus* sp.)

The genus *Latrodectus* belong to the family Theridiidae and are commonly known as Widow Spiders because of their sexual cannabilism. *Latrodectus* has 32 recognized species distributed worldwide, including the North American black widows, the button spiders of Africa and the Australian redback spiders. Individual species may vary in colour and form but in most species females are black in colour with a reddish hour glass mark on the abdomen.

Source: Internet

Latrodectus sp.

Venom of *Latrodectus* sp. consists of a neurotoxin called latrotoxin, which causes the condition latrodectism. The female black widow has unusually large venom glands and her bite is particularly harmful to humans however *Latrodectus* bites are rarely fatal. Venomous bites may result in systemic effects (latrodectism) including severe muscle pain, abdominal cramps, hyperhidrosis, tachycardia and muscle spasms. Symptoms usually last for 3–7 days, but may persist for several weeks. Since the venom is not likely to be life-threatening, antivenom has been used only as pain relief.

5. Yellow Sac spider (*Cheiracanthium* sp.)

Cheiracanthium is a genus of family Eutichuridae (Previously placed in Miturgidae) which includes member that vary from light yellow to beige colour. Many old world species of Cheiracanthium are reported from northern Europe to Japan, from Southern Africa to India and Australia. The only known species in the New World are *C. inclusum* and *C. mildei*. Venom of sac spiders is considered to be necrotic and known to cause small lesions in humans. Because of the possibly necrotic nature of the wound, MRSA (Methicillin – resistant *Staphylococcus aureus*) infection is considered to be dangerous and victims are advised to seek medical treatment. *C. punctorium* in Europe, *C. mildei* in Europe and North America, *C. inclusum* in America, *C. lawrencei* in South Africa and *C. japonicum* in Japan are known to cause painful bites.

Source: Internet

Cheiracanthium sp.

6. Mouse Spiders (*Missulena* sp.)

Mouse spiders are spiders of the genus *Missulena* of family Actinopodidae. Out of the 13 known species 12 are indigenous to Australia and one named *M. tussulena*, is found in Chile. The bites of several species of mouse spider are found to produce serious symptoms, similar to the Australian funnel-web spider. However, serious envenomings are rare. Th venom of the *M. bradleyi* was found to have toxin similar to the robustoxin found in funnel-web venom and funnel-web antivenom has been found to be effective in treating severe mouse spider bites. Unlike the funnel-web, however, the mouse spider is far less aggressive towards humans and are often known to give dry bites.

Source: Internet

Missulena sp.

7. Six-eyed sand spider (*Sicarius hahni*)

Sicarius is a member of the Sicariidae family. It is found in deserts and other sandy places in southern Africa. Due to its flattened body structure, it is also sometime known as the six-eyed crab spider. Bites by *Sicarius* to humans are uncommon. Toxicological studies have suggested that the venom is particularly potent, with a powerful hemolytic and/or necrotoxic effect. Bites should be treated similar to cytotoxic bites in order to prevent secondary infection.

Source: Internet

Sicarius sp.

GLOSSARY

Abdomen: Posterior part of the spider's body that contains the bulk of internal organs. It is also known as opisthosoma.

Annulations: Rings of pigmentation present around the segments of legs.

Appendage: Structures that are projected out from the main body.

Arachnida: Class of air-breathing arthopods that includes scorpions, mites, spiders, harvestmen, etc.

Arachnologist: One who studies about arachnids.

Arachnology: A scientific study of spiders and related organisms.

Araneology: A branch of zoology that deals with study of spiders.

Araneomorphs: Modern spiders or so called true spiders that bear diaxial fangs.

Arthropoda: An invertebrate phylum that has external skeleton and jointed appendages.

Ballooning: A process of dispersal of young spiderlings being carried through air by silken thread.

Book lungs: Respiratory organs of spiders.

Boss: Prominence present of the base of the chelicerae.

Bristle: A long, thin cuticular appendage which is stouter than a hair but slender than a spine.

Bulb: Refers to genital organ i.e. palpal organ in male.

Calamistrum: A comb like area of hairs or bristles present on the dorsal surface of metatarsus IV.

Carapace: A hard plate that forms the dorsal surface of the cephalothorax.

Carnivorous: Animal that feeds on other animals.

Cephalic area: Head region; anterior part of the cephalothorax.

Chelicera: First pair of jaw-like appendage that bears the fang.

Cheliceral teeth: Spine like extension of cheliceral furrow; promargin teeth are present on the outer margin and retromargin teeth are present on the inner margin.

Circumtropical: Organisms which occurs throughout the tropics of the world.

Claw: Short, curved toothed process at the tip of leg or palpus.

Claw tuft: A group of setae of bunch of hairs present on tarsal claws.

Clypeus: Region of head between anterior region of carapace and anterior eyes.

Comb: A row of serrated bristles.

Copulatory opening: Opening of the epigyne through which the male palpal organ is intromitted.

Cosmopolitan: Distribution pattern of an organsim in which the organism can be found in any part of the world.

Coxa: The first segment of the leg.

Coxal gland: An excretory organ of arachnids.

Cribellum: A sieve- like plate which is present in front of the spinnerets; it produces bluish grey silk.

Cribellate spiders: Spiders having both calamistrum and cribellum.

Cryptic colouration: A process which allows an organism to match with the background due to similarities in colouration and/or pattern; camouflage.

Cymbium: Dorsal part of male palpal tarsus.

Dentate: Having teeth.

Diaxial: A form to describe the movement of chelicerae where the fangs articulate with transverse movement.

Diurnal: Organisms those are active during the day-time.

Dorsum: Dorsal surface.

Drag- line silk: Silk that is used to make radial and frame threads of orb webs and also as safety lines by spiders.

Embolus: Intromittent portion of male copulatory organ.

Endemic: A biological population that occurs naturally only within a particular area.

Endite: Also known as maxilla; a chewing plate- like lateral mouth part formed by an extension of basal pedipalp segment.

Envenomation: Injection of spider's venom into the skin that leads to poisoning.

Epigastric furrow: An anterior transverse slit present on the ventral surface of the spider's abdomen.

Epigastric plates: Thick sclerites present on the ventral surface of the spider's abdomen.

Epigyne: A chitinous plate present on the ventral surface of female spider's abdomen in which genital openings are located.

Exoskeleton: Hard external covering present in Arthropods.

Eye formula: Position of eyes which are expressed by digits and separated by colon; example 4:4 means eyes are arranged in two rows having 4 eyes each.

Eye pattern: Arrangement of eyes on the cephalic region.

Fang: Claw like distil portion of the chelicerae through which the poison is injected into the prey.

Family: A taxonomic rank consisting of one or more genera with similar characteristics.

Femur: Third segment of the legs and palp from the base of the appendage.

Fovea: A depression seen on the thoracic region of the carapace where muscles remain attached.

Genital bulb: The male palpal organ.

Genitalia: Structures that are involved in copulation, fertilisation and oviposition.

Genus: A taxonomic rank consisting of one or more species with similar characteristics.

Haemolymph: Blood of Arthropods.

Hirsute: Hairy appearance.

Iridescent: Colourful and lustrous in appearance.

Kevlar: An exceptionally strong, light, man-made fibre used to strengthen cable and sheet materials.

Kleptoparasite: Animal that steals and/or feeds on prey captured by other animals.

Labium: A ventral median sclerite present between maxillae and anterior to the sternum.

Laterigrade: A condition of legs arranged in some spiders whereby they are able to move both sideways as well as forwards.

Leg formula: Sequence of numbers from 1 to 4 which denotes the relative length of legs from longest to shortest. Example, 4123 means fourth pair of leg is the longest and third pair of leg is the shortest.

Leg: A jointed appendage of Arthropods containing 7 segments-coxa, trochanter, femur, patella, tibia, metatarsus and tarsus.

Male palp: Modified palp of male spiders which acts as a copulatory organ.

Malphigian tubule: Excretory and osmoregulatory organ of Arthropods.

Maxillae: Modified coxae of palps.

Mimicry: A process by which a spider copies the shape or form of other animal or thing.

Morphology: Study of form and structure.

Mygalomorph: Group of primitive spiders whose chelicerae articulate forward and backward.

Necrotising arachnidism: Loss of skin and progressive ulceration at the region of spider bite.

Neurotoxin: A type of toxin that paralyses the nervous system.

Nocturnal: Organisms which are active at night.

Ocelli: Eyes of spider; simple eyes.

Ocular quadrangle: The area of the cephalothorax delimited by eyes.

Ocular tubercle: A protuberance on which eyes are situated.

Opisthosoma: Abdomen.

Orb-web: Two dimensional and nearly circular webs.

Order: A taxonomic rank that contains one or more families with similar characteristics.

Paleotropical: It includes tropical areas of Africa and Asia.

Palp: Second appendage of the cephalothorax; also known as pedipalps.

Pantropical: Distribution of an organism only in tropical countries.

Paraxial: A condition of the chelicerae in which the fangs articulate more or less with the body axis.

Pectinate: Set of teeth in a row.

Pedicel: A stalk connecting cephalothorax and abdomen.

Phylum: A higher taxonomic rank which consists of one or more class of organisms with similar characteristics.

Promarginal teeth: Teeth present on dorsal or anterior margin of cheliceral furrow.

Prosoma: Cephalothorax and its appendages.

Retromarginal teeth: Teeth present on posterior or ventral side of cheliceral furrow.

Scape: An elongated sclerotized process of the epigyne.

Sclerite: A single sclerotized part of tegument of the exoskeleton.

Sigilla: A circular area on sternum in Mygalomorphs and on dorsum in Araneomorphs that corresponds to internal muscle attachment.

Species: A taxonomic rank consisting of freely occurring inter-breeding population.

Spiderling: Immature mobile spiders fully independent of egg yolk.

Spigots: Cylindrical cusps at the apex of spinnerets which guides the silk emergence.

Spine: Pointed cuticular structure present on body and legs.

Spinnerets: Appendages of the abdomen from which silk emerges out.

Spur: A cuticular appendage generally heavier than a spine.

Stabilimentum: A band of ribbon- like silk threads present in orb webs of most of the spiders of family Araneidae.

Sternum: A large sclerite present on the ventral side of the abdomen.

Synanthropic: An organism found to inhabit near human habitations.

Tarantula: A group name given to wolf spiders of genus *Lycosa* from Europe, Mygalomorph spiders of USA and Huntsman spiders of Australia.

Tarsal bulb: Expanded end palpal segment in mature male spiders.

Tarsal claw: Claw situated at the tip of the tarsus.

Tarsal comb: Row of serrated bristles on the ventral surface of Fourth tarsus; present in some members of Theridiidae.

Tubercle: A rounded process.

Utrication: Effect produced by the hairs of some Mygalomorph spiders.

Venom gland: A venom secreting gland situated in chelicerae or cephalothorax whose duct opens at the tip of the fang.

Venter: Ventral surface; ventrum.

Vulva: Internal structure of female copulatory organ.

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