IJBI 2 (2), (DECEMBER 2020) 178-201

International Journal of Biological Innovations

Available online: http://ijbi.org.in | http://www.gesa.org.in/journals.php

DOI: https://doi.org/10.46505/IJBI.2020.2215

Review Article

E-ISSN: 2582-1032

DIVERSITY OF MYGALOMORPH SPIDERS (ARANAE: OPISTHOTHELAE) IN INDIA

Rajendra Singh[1*] and Garima Singh[2]

[1]Department of Zoology, Deendayal Upadhyay University of Gorakhpur (U.P.), India
[2]Department of Zoology, Rajasthan University, Jaipur (Rajasthan), India
**Corresponding author:* rsinghgpu@gmail.com

Received: 15.07.2020 **Accepted:** 10.08.2020 **Published:** 14.08.2020

Abstract: A checklist of mygalomorph spiders recorded upto August, 2020 from different states and union territories of India was prepared. A total of 118 species under 31 genera belonging to 8 families are observed to be distributed in 23 states and 4 union territories of India. These primitive spiders are yet to be discovered in Haryana, Madhya Pradesh, Nagaland, Rajasthan, Delhi, Ladakh, Lakshdweep, Daman and Diu. Maximum diversity of these primitive spiders was reported in Tamil Nadu followed by Maharashtra, Kerala and West Bengal. More than 80% of the species of mygalomorph spiders recorded in India were reported from coastal states and union territories. Among the families, more than half (55.5%) of the species diversity can be seen in Theraphosidae (65 species in 13 genera) which were recorded from 23 states and 3 union territories followed by Idiopidae which is distributed in 13 states. More than 90% of known mygalomorph spiders from India are endemic.

Keywords: Checklist, Distribution, Diversity, Mygalomorphae, Primitive spiders.

INTRODUCTION

Spider is the common name of the members of the order Araneae of class Arachnida with 48,696 described species under 4,179 genera and 128 families (WSC, 2020). Keswani *et al.* (2012) updated Indian spider fauna up to 1686 species belonging to 438 genera and 60 families out of which 1238 species of spiders belonging to 340 genera and 58 families were endemic of India. However, there are likely many species that have escaped the human eye to this day and many specimens stored in collections waiting to be described and classified. It is estimated that only one third to one fifth of existing species have been described. The extant spiders belong to only two suborders: Mesothelae and Opisthothelae. The Mesothelae are primitive in the evolutionatry history of spiders and resembles "wind scorpions" or "sun scorpions" in having segmented abdomen and have eight pairs of silk spinning organs or spinnerets placed under the middle of the abdomen. The recent spiders belong to Opisthothelae where abdominal segments are fused and the spinnerets have

moved to the end of the abdomen. The Mesothelae is a very small group of spiders containing only 8 genera and 137 species under single family, Liphistiidae (WSC, 2020), not been reported from India and are restricted only in Southeast Asia, China, and Japan (Coddington, 2005). The suborder Opisthothelae includes two infraorders: Mygalomorphae and Araneomorphae. Mygalomorphae (tarantulas and their close kin) also consists of primitive spiders that resemble the Mesothelae spiders in having chelicerae that move vertically, two pairs of book lungs, a stout body and stout legs (Raven, 1985). However, they do not have segmented abdomens, and the number of spinnerets is one to three pairs unlike Mesothelae (Coddington, 2005). The Araneomorphae include highly evolved spiders that have horizontally moving chelicerae, most have maximally a single pair of book lungs, a relatively small body-size and slender legs except two small primitive families, Gradungulidae (16 species under 7 genera) and Austrochilidae (10 species under 3 genera) that have 2 pair of book lungs.

The Mygalomorphae evolved during the Triassic period (Vollrath and Selden, 2007). They are generally heavily built and hairy (not true hairs, but setae), with large, robust chelicerae and fangs and have ample venom glands inside their chelicerae (Coddington, 2005). These spiders have a world-wide distribution that includes among its ranks large and charismatic taxa such as tarantulas, trapdoor spiders, and highly venomous funnel web spiders. Mostly they spend much of their time in burrows, and some run silk tripwires out from these, but only a few construct webs to capture their prey. They are unable to produce the pirifom silk like Araneomorphae which is used as an instant adhesive to glue silk to surfaces or to other strands of silk. The mygalomorphs are powerful predators and known to prey on frogs, lizards, snakes, small mammals, snails, and even small birds (Armas, 2000; Marcelo *et al.,* 2005; Borges *et al.,* 2016) in addition to insects and other arthropods (Coyle and Ketner, 1990; Pompozzi and Copperi, 2018). In spite of their frightening look, most of the mygalomorph spiders are not harmful to humans, with the exception of the Australian funnel-web spiders (Vetter and Isbister, 2008). As far as size is concerned, the largest spiders are mygalomorphs -*Theraphosa blondi* (Latreille) measures 11 cm long with a leg span of 30 cm (Lewis, 2014; GWRL, 2020). However, few species are very small, even less than one millimeter long. Mygalomorphs secrete at least slightly adhesive silk to build elaborate capture webs that may be a meter in diameter. They also survive up to 25 years unlike araneomorphs, which die after about a year. One female lived for 43 years in Western Australia (Schneider, 2017). They also sexual mature after six years (Punzo, 2007).

The mygalomorph spiders remain poorly studied in India. There are very few studies in 19th (14 references) and 20th century (21 references) regarding the taxonomy and biology of these primitive spiders in India, however, in recent century, more than 115 references are available (present compilation). Siliwal *et al.* (2011) were the first who have given a comprehensive account of historical development, endemism, ecology and conservation of these spiders in India and enlisted 89 species under 27 genera in 8 families. Within a year, 2 species in one genus were added by Keswani *et al.* (2012) who enlisted 91 species under 28 genera and 8 families. Later, Dhali *et al.* (2016) listed 111 species under 32 genera in 8 families. Fourteen species of Indian mygalomorph spiders have been listed in the IUCN Red List in 2008, out of which 7 species were assessed as threatened with extinction (Molur *et al.,* 2008) and Siliwal *et al.* (2011a) recommended immediate conservation actions to prevent the extinction of these threatened tarantulas. The taxonomy of mygalomorph spiders was recently revised and several subfamilies were promoted to families (Opatova *et al.,* 2020). At present, total 3106 species of mygalomorph spiders were described in the world under 358 genera in 30 families (WSC, 2020), however, in India, only 118 species under 32 genera in 9 families are recorded and herewith presented. In this checklist, distribution of mygalomorph spiders from different states and union territories of India is presented with available references in a taxonomic order: superfamily, family, genus and species.

MATERIALS AND METHODS

This checklist is based on the literature published in recent past books, journals and few authentic

theses up to 10 August, 2020. In most of the literature published earlier, several errors crept in their scientific names even in the recent ones. It happened because such contents become outdated quickly and, due to their perceived comprehensiveness, readers sometimes overlook newer sources of data. Additionally, the researches on spider taxonomy are continued with the description of new taxa, their modified status, and the publication of other nomenclatural decisions. In the present compilation, attempts have been made to correct these errors in the scientific names of the spiders following WSC (2020). Only those synonymies were mentioned that were reported in India. Also, those spiders not identified up to specific level, were omitted if some species of that genus were recorded under that genus in that state. However, those were mentioned if either no species of that genus was reported or not reported in that state. The records of mygalomorph spiders are also presented specieswise as well as state and union territories wise for their easy access. All the endemic species are marked with (*). Those spiders which are enlisted as critically endangered, endangered, near threatened, vulnerable are marked with (†).

RESULTS

I. Specieswise check-list and distribution of Indian spiders - 2020

1. Superfamily: Atypoidea

A. Family: Atypidae

Atypidae is a small family consisting of only 3 genera and 54 species in the world, of which only one genus and 2 species are reported from India. The members of the family are commonly known as atypical tarantulas or purseweb spiders. They are skilled ambush predators that spend most of their time in a sock-like, silklined tubular web of which about two thirds is buried in the ground from where they kill their prey (Piper, 2007). These spiders have large chelicerae and relatively long spinnerets. The males are sometimes brightly coloured and wander around looking for females in their tubes (Raven, 1985). The females are reddish-brown or dark-colored. Following is the list of distribution of Atypidae in India.

1. *Atypus sutherlandi* Chennappaiya, 1935*

- West Bengal (Chennappaiya 1935 in Gravely 1935; Siliwal *et al.,* 2011a; Majumder and Talukdar, 2013; Dhali *et al.,* 2016)

2. *Atypus wii* Siliwal *et al.,* 2014*

- Uttarakhand (Siliwal *et al.,* 2014; Dhali *et al.,* 2016)

II. Superfamily: Avicularioidea

A. Family: Barychelidae

The spiders belonging to the family Barychelidae are commonly called as brush-footed trapdoor spiders. They are small to large in size and capable of climbing smooth vertical surfaces with hairy feet. These spiders bear two short spinnerets at the rear of the abdomen, sometimes not projecting. They are distributed mostly in Australia and on the islands Western Pacific and occupy most habitats, from rainforests to arid regions. Most have a door to their burrow, sometimes two. Some species build burrows on trees. Few of them occupy the intertidal zone, in trees or in amongst the mangroves (Murphy and Murphy, 2000) and some members have a rake on the front surface of their chelicerae used for compacting burrow walls (Levi and Levi, 2001). The family is represented by 42 genera and 294 species in the world; however, the family is represented in India by only 12 species under 5 genera. Following is the list of distribution of Barychelidae in India.

1. *Diplothele gravelyi* Siliwal *et al.*, 2009*

- Odisha (Siliwal *et al.,* 2009b, 2011b; Dhali *et al.,* 2016; Chetry and Moran, 2019)

2. *Diplothele tenebrosus* Siliwal *et al.*, 2009*

- Odisha (Siliwal *et al.,* 2009b, 2011b; Dhali *et al.,* 2016; Chetry and Moran, 2019)

3. *Diplothele walshi* Pickard-Cambridge, 1890*

- Odisha (Pickard-Cambridge, 1890; Pocock, 1900a; Gravely, 1921; Siliwal and Molur, 2008; Siliwal *et al.,* 2009b, 2011b; Dhali *et al.,* 2016)
- Tamil Nadu (Gravely, 1915)

4. *Sason andamanicum* (Simon, 1888)*

= *Satzicus andamanicus* Simon, 1887

- Andaman (Simon, 1887; Pocock, 1900a; Raven, 1986; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

5. *Sason rameshwaram* Siliwal and Molur, 2009*

- Tamil Nadu (Siliwal and Molur, 2009b; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

6. *Sason robustum* (Pickard-Cambridge, 1883)

= *Sason armatoris* Pocock, 1900

= *Sason cinctipes* (Pocock, 1892)

- Andhra Pradesh (Siliwal *et al.,* 2011a)
- Kerala (Sunil Jose and Sebastian, 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016
- Maharashtra (Kelkar *et al.,* 2006)
- Tamil Nadu (Raven, 1986; Siliwal *et al.,* 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)
- Uttar Pradesh (Hore and Uniyal, 2008a, 2008b; Hore, 2009)

7. *Sasonichus sullivani* Pocock, 1900*

- Kerala (Pocock, 1900a; Siliwal *et al.,* 2011a; *Dhali et al.,* 2016)
- Uttar Pradesh (Hore and Uniyal, 2008a, b; Hore, 2009)

8. *Sasonichus* sp.

- Odisha (Siliwal and Molur, 2008; Chetry and Moran, 2019)

9. *Sipalolasma arthrapophysis* (Gravely, 1915)*

=*Sasonichus arthrapophysis* Gravely, 1915

- Andhra Pradesh (Javed *et al.,* 2010; Dhali *et al.,* 2016)
- Odisha (Gravely, 1915, 1921a; Siliwal and Molur, 2008; Javed *et al.,* 2010; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

10. *Tigidia konkanensis* Mirza *et al.*, 2016*

- Maharashtra (Mirza *et al.,* 2016)

11. *Tigidia nilgiriensis* Sanap *et al.*, 2011*

- Tamil Nadu (Siliwal *et al.,* 2011a, 2011b; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

12. *Tigidia rutilofronis* Sanap *et al.*, 2011*

- Tamil Nadu (Siliwal *et al.,* 2011a, 2011b; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

13. *Tigidia sahyadri* Siliwal *et al.*, 2011*

- Karnataka (Siliwal *et al.,* 2011a, 2011b; Dhali *et al.,* 2016)

B. Bemmeridae

The family Bemmeridae is recently raised family by splitting Nemesiidae (Opatova *et al.,* 2020) and is represented by 4 genera and 47 species in the world; however, the family is represented in India only by 3 species under 2 genera.

1. *Atmetochilus bifidus* (Gravely, 1935)*

= *Damarchus bifidus* Gravely, 1935

- West Bengal (Gravely, 1935; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

2. *Damarchus assamensis* Hirst, 1909*

- Assam (Hirst, 1909; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- West Bengal (Siliwal *et al.,* 2011a)

3. *Damarchus excavatus* (Gravely, 1921)*

- Odisha (Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

4. *Damarchus* sp.

- Odisha (Choudhury *et al.,* 2019)

C. Family: Halonoproctidae

Halonoproctidae is recently erected family of mygalomorph spiders by splitting Ctenizidae (Godwin *et al.,* 2018). The spiders of this family are commonly called as cork-lid trapdoor spiders which are relatively large, dull black coloured and construct burrows completely lined with silk with cork-lid trapdoor. The top of the lid is camouflaged with debris. When they feel the vibration of prey, they rush out to capture it, and then return to the burrow. Females spend most of her time in their burrows, but males usually wander in search of prey (Levi and Levi, 2001). The family is represented by 6 genera and 93 species in the world, of which 2 genera and 5 species are represented in India. Following is the list of distribution of Halonoproctidae in India.

1. *Conothele giganticus* Siliwal and Raven, 2015*

- Mizoram (Siliwal *et al.,* 2015a; Dhali *et al.,* 2016)

2. ***Conothele khunthokhanbi* Kananbala *et al.*, 2015***

- Manipur (Siliwal *et al.,* 2015a; Dhali *et al.,* 2016; Kananbala *et al.,* 2018)

3. ***Conothele vali* Siliwal *et al.*, 2009***

- Arunachal Pradesh (Siliwal *et al.,* 2009a, 2011b; Dhali *et al.,* 2016)

4. ***Conothele varvarti* Siliwal *et al.*, 2009***

- Odisha (Siliwal *et al.,* 2009a, 2011b; Dhali *et al.,* 2016; Siliwal *et al.,* 2009a; Chetry and Moran, 2019)

5. ***Latouchia cryptica* (Simon, 1897)***

= *Acattyma cryptica* Simon, 1897

- Deccan (specific state is not known; Simon 1897; Dhali *et al.,* 2016)
- Uttarakhand (Dhali *et al.,* 2016)

D. Family: Idiopidae

This family is also known as armoured trapdoor or front-eyed trapdoor spiders. Females are large and robust while males have very long thin legs and usually have a special C-shaped spine on the first leg to protect against being bitten by the female during mating. They construct 30-40 cm deep burrows, and some species close these with a door trap. Each burrow had 2-3 entrances that lead into a main tube. They are unable to climb smooth vertical surfaces. Their diversity and ecology are poorly known because of specialized trapdoor burrows. The longevity of these spiders is relatively longer, one of the idiopid spider lived 43 years (Mason, *et al.,* 2018). The family is represented by 22 genera and 407 species in the world; however, the family is represented in India only by 3 genera and 21 species. Following is the list of distribution of Idiopidae in India.

1. ***Heligmomerus barkudensis* (Gravely, 1921)***

- Odisha (Gravely, 1921; Biswas, 1987; Siliwal and Molur, 2008; Siliwal *et al.,* 2010, 2011b; Dhali *et al.,* 2016; Chetry and Moran, 2019)
- West Bengal (Sen *et al.,* 2012; Dhali *et al.,* 2016)

2. ***Heligmomerus biharicus* (Gravely, 1915)***

= *Idiops biharicus* Gravely, 1915

- Bihar (Gravely, 1915; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

3. ***Heligmomerus garoensis* (Tikader, 1977)***

= *Acanthodon garoensis* Tikader, 1977

= *Idiops garoensis* Tikader, 1977)

- Meghalaya (Tikader, 1977; Dhali *et al.,* 2016)
- West Bengal (Sen *et al.,* 2012; Dhali *et al.,* 2016)

4. ***Heligmomerus maximus* Sanap and Mirza, 2015***

- Kerala (Sanap and Mirza, 2015; Dhali *et al.,* 2016)

5. ***Heligmomerus prostans* Simon, 1892***

- Tamil Nadu (Simon, 1892a ; Pocock 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

6. ***Idiops bombayensis* Siliwal *et al.*, 2005***

= *Acanthodon opifex* Pocock, 1899

- Maharashtra (Pocock, 1899b, 1900a; Siliwal *et al.,* 2005, 2011b; Mirza and Sanap, 2012; Dhali *et al.,* 2016)

7. ***Idiops constructor* (Pocock, 1900)***

= *Acanthodon constructor* Pocock, 1900

- Andhra Pradesh (Rao *et al.,* 2005; Siliwal *et al.,* 2011a; Subba Reddy, 2016)
- Maharashtra (Siliwal *et al.,* 2011a)
- Tamil Nadu (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017; Caleb, 2020a, 2020b)

8. ***Idiops crassus* Simon, 1884**

- Karnataka (Simon, 1885)

9. ***Idiops designatus* Pickard-Cambridge, 1885***

= *Acanthodon designatus* Pocock, 1900

= *Titanidiops designatus* (Pickard-Cambridge, 1885, Caporiacco, 1935b)

- Jammu and Kashmir (Caporiacco, 1935b)

- Punjab (Dhali *et al.,* 2016)

10. *Idiops fortis* (Pocock, 1900)*

= *Acanthodon fortis* Pocock, 1900

- West Bengal (Dhali *et al.,* 2016)

11. *Idiops fossor* (Pocock, 1900)*

= *Acanthodon fossor* Pocock, 1900

- Deccan (specific state is not known; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

12. *Idiops joida* Gupta, Das and Siliwal, 2013*

- Karnataka (Gupta *et al.,* 2013, 2015a; Dhali *et al.,* 2016)

13. *Idiops kaasensis* Mirza *et al.*, 2012*

- Maharashtra (Mirza *et al.,* 2012; Dhali *et al.,* 2016)

14. *Idiops madrasensis* (Tikader, 1977)*

= *Acanthodon madrasensis* Tikader, 1977

- Tamil Nadu (Tikader, 1977; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

15. *Idiops mettupalayam* Ganeshkumar and Siliwal, 2013*

- Tamil Nadu (Gupta *et al.,* 2013; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

16. *Idiops nilagiri* Das and Diksha, 2019*

- Odisha (Das *et al.,* 2019)

17. *Idiops oriya* Siliwal, 2013*

- Odisha (Gupta *et al.,* 2013, 2015; Dhali *et al.,* 2016)

18. *Idiops rubrolimbatus* Mirza and Sanap, 2012*

- Maharashtra (Mirza and Sanap, 2012; Dhali *et al.,* 2016)

19. *Idiops* sp.

- Gujarat (Yadav *et al.,* 2017)
- Karnataka (Prashanthakumara and Venkateshwarlu, 2017)
- Odisha (Siliwal *et al.,* 2008; Choudhury *et al.,* 2019)

20. *Scalidognathus montanus* (Pocock, 1900)*

= *Nemesiellus montanus* Pocock, 1900

- Tamil Nadu (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

21. *Scalidognathus nigriaraneus* Sanap and Mirza, 2011*

- Tamil Nadu (Sanap and Mirza, 2011; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

22. *Scalidognathus tigerinus* Sanap and Mirza, 2011*

- Tamil Nadu (Sanap and Mirza, 2011; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

23. *Scalidognathus* sp.

- Assam (Basumatary and Brahma, 2017)
- Odisha (Choudhury *et al.,* 2019)

E. Family: Ischnothelidae

The family Ischnothelidae is recently raised family by splitting Dipluridae (Opatova *et al.,* 2020) and is represented by 5 genera and 26 species in the world, however, the family is represented in India only by 2 genera and 4 species.

1. *Indothele dumicola* (Pocock, 1900)*

= *Ischnothele dumicola* Pocock, 1900

- Maharashtra (Pocock, 1900a; Coyle, 1995; Siliwal *et al.,* 2011a)
- Mizoram (Dhali *et al.,* 2016)
- West Bengal (Sen *et al.,* 2015; Dhali *et al.,* 2016)

2. *Indothele mala* Coyle, 1995*

- Andhra Pradesh (Coyle, 1995; Dhali *et al.,* 2016)
- Uttar Pradesh (Hore and Uniyal, 2008a)

3. *Indothele rothi* Coyle, 1995*

- Tamil Nadu (Coyle, 1995; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)
- Uttar Pradesh (Hore and Uniyal, 2008b; Hore, 2009)

4. *Indothele* sp.

- Karnataka (Prashanthakumara and Venkateshwarlu, 2017)

5. *Ischnothele indicola* Tikader, 1969*

- Assam (Dhali *et al.,* 2016)
- Meghalaya (Tikader, 1969; Siliwal *et al.,* 2011a)

F. Family: Macrothelidae

Macrothele is the only genus in the family Macrothelidae, and is represented by 35 species in the world, of which 2 species are represented in India. Spiders of this genus are fairly large. These spiders build tube-webs or funnel-webs under rocks or logs, or in crevices in the ground (Zhu and Song, 2000). Following is the list of distribution of Macrothelidae in India.

1. *Macrothele alyrata* (Mirza *et al.*, 2017)*

= *Orientothele alyratus* Mirza *et al.,* 2017

- Tripura (Mirza *et al.,* 2017)

2. *Macrothele vidua* Simon, 1906*

- West Bengal (Gravely, 1915; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

G. Family: Nemesiidae

The members of the family Nemesiidae are commonly known as funnel-web trapdoor spiders. They are dark in colour, brown to black, though some have silvery hairs on their carapace. They are moderately large spiders with strong legs and a body which is about three times as long as it is wide. These spiders live in burrows, often with a hinged trapdoor. This door is pushed up while the spider waits for passing prey. They rarely leave their burrows, catching prey and withdrawing as quickly as possible (Murphy and Murphy, 2000). The family Nemesiidae is represented by 22 genera and 195 species in the world; however, the family is represented in India by 3 genera and 4 species. Following is the list of distribution of Nemesiidae in India.

1. *Damarchilus nigricus* Siliwal *et al.*, 2015*

- Arunachal Pradesh (Siliwal *et al.,* 2015b; Dhali *et al.,* 2016)

2. *Damarchilus rufus* Siliwal *et al.*, 2015*

- Arunachal Pradesh (Siliwal *et al.,* 2015b; Dhali *et al.,* 2016)

3. *Gravelyia striatus* Mirza and Mondal, 2018*

- West Bengal (Mirza and Mondal, 2018)

4. *Raveniola concolor* Zonstein, 2000

- Himalaya (Dhali *et al.,* 2016)

H. Family: Theraphosidae

The spiders of the family Theraphosidae are commonly known as tarantulas and are mainly living in silk-lined burrows in the ground, under rocks and fallen trees. They often leave their burrows at night in search of prey; at such times they may enter homes and other shelters or otherwise come in contact with people. Despite their large size, powerful fangs, and frightening appearance, most tarantulas are not very toxic, only about a dozen genera of tarantulas are considered toxic to humans (Ahmed *et al.,* 2009). Many tarantulas are legally and illegally traded in the pet market and they are one of the most traded invertebrate groups (Molur and Siliwal, 2004; West, 2005; Siliwal *et al.,* 2011a; Fukushima *et al.*, 2019). The family Theraphosidae is the largest family in mygalomorph spiders and represented by 147 genera and 991 species in the world, however, the family is represented in India by 13 genera and 65 species. Following is the list of distribution of Theraphosidae in India.

1. *Annandaliella ernakulamensis* Sunil Jose and Sebastian, 2008*

- Kerala (Sunil Jose and Sebastian 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

2. *Annandaliella pectinifera* Gravely, 1935*

- Tamil Nadu (Gravely, 1935; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

3. *Annandaliella travancorica* Hirst, 1909*

- Kerala (Gravely, 1915; Sunil Jose *et al.,* 2008; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Sunil Jose and Prasanth 2015; Dhali *et al.,* 2016)

4. *Chilobrachys andersoni* (Pocock, 1895)

- India (locality not mentioned; Dhali *et al.,* 2016)

5. *Chilobrachys assamensis* Hirst, 1909*

- Assam (Hirst, 1909; Gravely, 1915; Siliwal *et al.,* 2011a; Keswani and Vankhede, 2012; Gupta *et al.,* 2015b; Dhali *et al.,* 2016)

6. *Chilobrachys femoralis* Pocock, 1900*

- Karnataka (Dhali *et al.,* 2016)

- Maharashtra (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

7. *Chilobrachys fimbriatus* Pocock, 1899*

= *Ischnocolus decoratus* Tikader, 1977

- Andhra Pradesh (Rao *et al.,* 2005; Subba Reddy, 2016)
- Goa (Bastawade and Borkar, 2008; Siliwal *et al.,* 2011a)
- Gujarat (Singh *et al.,* 2000)
- Karnataka (Gravely, 1915; Molur *et al.,* 2008; Siliwal *et al.,* 2011a)
- Maharashtra (Pocock, 1899b, 1900a; Tikader, 1977; Bastawade and Khandal, 2006; Molur *et al.,* 2008; Siliwal *et al.*, 2011a; Dhali *et al.,* 2016)
- Telangana (Rao *et al.,* 2005)

8. *Chilobrachys flavopilosus* (Simon, 1884)

- India (no locality mentioned; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

9. *Chilobrachys fumosus* (Pocock, 1895)*

- Arunachal Pradesh (Siliwal *et al.,* 2011a)
- Assam ? (Pocock, 1895)
- West Bengal (Hirst, 1909; Gravely, 1915; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

10. *Chilobrachys hardwickei* (Pocock, 1895)*

= *Musagetes hardwickii* Pocock, 1895

- Andhra Pradesh (Rao *et al.,* 2005; Subba Reddy, 2016; Dhali *et al.,* 2017)
- Bihar (Gravely, 1915; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Chhattisgarh (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2017)
- Jharkhand (Gravely, 1915; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Kerala (Dhali *et al.,* 2017; Jose *et al.,* 2018)
- Maharashtra (Dhali *et al.,* 2017)
- Odisha (Panda *et al.,* 2011)
- Uttar Pradesh (Pocock, 1900a; Siliwal *et al.,* 2011a)
- West Bengal (Pocock, 1895, 1900a; Gravely, 1915; Molur *et al.,* 2008; Siliwal *et al.,* 2011a; Sen *et al.,* 2012, 2015; Dhali *et al.,* 2017)

11. *Chilobrachys himalayensis* (Tikader, 1977)*

= *Haploclastus himalayensis* (Tikader, 1977)

= *Phlogiodes himalayensis* Tikader, 1977

- Meghalaya (Dhali *et al.,* 2016)
- West Bengal (Tikader, 1977; Biswas and Biswas, 1992; Siliwal and Raven, 2010; Siliwal *et al.,* 2011a; Sen *et al.,* 2012; Majumder and Talukdar, 2013; Dhali *et al.,* 2016)

12. *Chilobrachys khasiensis* (Tikader, 1977)*

= *Ischnocolus khasiensis* Tikader, 1977

- Andhra Pradesh (Majumder, 2005)
- Arunachal Pradesh (Biswas and Biswas, 2006)
- Assam (Singh *et al.,* 2012, 2013)
- Maharashtra (Siliwal, 2009a)
- Meghalaya (Tikader, 1977; Majumder, 2005; Biswas and Biswas, 2006, 2007; Siliwal, 2009a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Mizoram (Biswas and Biswas, 2007)
- West Bengal (Sen *et al.,* 2012, 2015; Dhali *et al.,* 2017)

13. *Chilobrachys nitelinus* Karsch, 1892

- Maharashtra (Bastawade and Khandal, 2006)

14. *Chilobrachys stridulans* (Wood Mason, 1877)*

= *Musagetes masoni* Simon, 1895

= *Chilobrachys masoni* (Pocock, 1895)

- Arunachal Pradesh (Sen *et al.,* 2012; Dhali *et al.,* 2016)
- Assam (Pocock, 1895, 1900a; Hirst, 1909; Gravely, 1915; Schmidt, 2003; Sebastian and Peter, 2009; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Sikkim (Hirst, 1909)
- West Bengal (Gravely, 1915; Siliwal *et al.,* 2011a; Sen *et al.,* 2012; Dhali *et al.,* 2016)

15. *Chilobrachys subarmatus* (Thorell, 1891)*

= *Ischnocolus subarmatus* Thorell, 1891

= *Neochilobrachys subarmatus* (Thorell, 1891)

= *Phlogiellus subarmatus* (Thorell, 1891)

- Kerala (Hirst, 1909)
- Nicobar (Thorell, 1891; Pocock, 1900a; Gravely, 1915; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

16. *Chilobrachys thorelli* Pocock, 1900*

- Assam (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

17. *Chilobrachys* sp.

- Gujarat (Pandey *et al.,* 2004; Parasharya *et al.,* 2011; Yadav *et al.,* 2017)
- Kerala (Sunil Jose *et al.,* 2008; Adarsh and Nameer, 2015)
- Odisha (Choudhury *et al.,* 2019)
- Uttar Pradesh (Hore and Uniyal, 2008a, 2008b)

18. *Cyriopagopus vonwirthi* (Schmidt, 2005)

- Southeast Asia (locality unknown; Keswani *et al.,* 2012; Dhali *et al.,* 2016)

19. *Haploclastus cervinus* Simon, 1892*

- Tamil Nadu (Simon, 1892a; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

20. *Haploclastus devamatha* Prasanth and Sunil Sunil Jose, 2014*

= *Thrigmopoeus psychedelicus* Sanap and Mirza, 2014

- Kerala (Prasanth and Sunil Jose, 2014; Sanap and Mirza, 2014; Dhali *et al.,* 2016; Sankaran and Sebastian, 2018)

21. *Haploclastus kayi* Gravely, 1915*†

- Kerala (Gravely, 1915; Sunil Jose *et al.,* 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Sunil Jose, 2016)

22. *Haploclastus nilgirinus* Pocock, 1899*

- Karnataka (Dhali *et al.,* 2016)
- Kerala (Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Tamil Nadu (Pocock, 1899b, 1900a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017; Moinudheen *et al.,* 2017)

23. *Haploclastus satyanus* (Barman, 1978)*

= *Phlogiodes satyanus* Barman, 1978

- Meghalaya (Barman, 1978; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

24. *Haploclastus tenebrosus* Gravely, 1935*

- Tamil Nadu (Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

25. *Haploclastus validus* (Pocock, 1899)*

= *Phlogiodes robustus* Pocock, 1899

= *Phlogiodes validus* Pocock, 1899

- Maharashtra (Pocock, 1899b, 1900a; Reimoser, 1934; Siliwal and Raven, 2010; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Tamil Nadu (Reimoser, 1934)

26. *Haplocosmia himalayana* (Pocock, 1899)*

= *Selenocosmia himalayana* Pocock, 1899

- Assam (Dhali *et al.,* 2016)
- Himachal Pradesh (Dhali *et al.,* 2016)
- Uttar Pradesh (Hore, 2009; Uniyal and Hore, 2009)
- Uttarakhand (Pocock, 1899b, 1900a; Siliwal *et al.,* 2011a; Gupta and Siliwal, 2012; Dhali *et al.,* 2016)
- West Bengal (Dhali *et al.,* 2016)

27. *Heterophrictus aareyensis* Mirza and Sanap, 2014*

- Maharashtra (Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

28. *Heterophrictus blatteri* (Gravely, 1935)*

= *Plesiophrictus blatteri* Gravely, 1935

= *Plesiophrictus mahabaleshwari* Tikader, 1977

= *Plesiophrictus sataraensis* Gravely, 1915

- Andhra Pradesh (Majumder, 2005)
- Kerala (Smith and Kirk, 2002; Dhali *et al.,* 2016)
- Maharashtra (Gravely, 1915; Tikader, 1977; Majumder, 2005; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

29. *Heterophrictus milleti* Pocock, 1900*

- Maharashtra (Pocock, 1900a; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a)

30. *Heterophrictus raveni* Mirza and Sanap, 2014*

- Maharashtra (Mirza *et al.,* 2014a)

31. *Heterophrictus* sp.

- Odisha (Choudhury *et al.,* 2019)

32. *Lyrognathus crotalus* Pocock, 1895*

= *Lyrognathus pugnax* Pocock, 1900

- Assam (Pocock, 1895; Nunn and West, 2013)
- Meghalaya (Pocock, 1900a; Siliwal *et al.,* 2011a)

33. *Lyrognathus saltator* Pocock, 1900*

- Meghalaya (Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Uttarakhand (Siddhu *et al.,* 2020)

34. *Lyrognathus* sp.

- Manipur (Kananbala *et al.,* 2018)

35. *Neoheterophrictus amboli* Mirza and Sanap, 2014*

- Maharashtra (Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

36. *Neoheterophrictus bhori* (Gravely, 1915)*

= *Plesiophrictus bhori* Gravely, 1915

= *Heterophrictus bhori* (Gravely, 1915)

- Kerala (Gravely, 1915; Sunil Jose *et al.,* 2008; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

37. *Neoheterophrictus chimminiensis* Sunil Jose, 2020*

- Kerala (Sunil Jose, 2019)

38. *Neoheterophrictus crurofulvus* Siliwal *et al.*, 2012*

- Karnataka (Siliwal *et al.,* 2012; Dhali *et al.,* 2016)

39. *Neoheterophrictus madraspatanus* (Gravely, 1935)*

= *Plesiophrictus madraspatanus* Gravely, 1935

- Tamil Nadu (Gravely, 1935; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

40. *Neoheterophrictus sahyadri* Siliwal *et al.*, 2012*

- Karnataka (Siliwal *et al.,* 2012; Dhali *et al.,* 2016)

41. *Neoheterophrictus smithi* Mirza *et al.*, 2014*

- Karnataka (Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

42. *Neoheterophrictus uttarakannada* Siliwal *et al.*, 2012*

- Karnataka (Siliwal *et al.,* 2012; Dhali *et al.,* 2016)

43. *Neoheterophrictus* sp.

- Kerala (Adarsh and Nameer, 2016)

44. *Plesiophrictus fabrei* (Simon, 1892)*

= *Stichoplastus fabrei* Simon, 1892

- Tamil Nadu (Simon, 1892b; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

45. *Plesiophrictus linteatus* (Simon, 1891)*

= *Ischnocolus linteatus* Simon, 1891

- Puducherry (Simon, 1891; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Tamil Nadu (Karthikeyani *et al.,* 2017)

46. *Plesiophrictus meghalayaensis* Tikader, 1977*

- Andhra Pradesh (Majumder, 2005)
- Arunachal Pradesh (Biswas and Biswas, 2007)
- Meghalaya (Tikader, 1977; Majumder, 2005; Biswas and Biswas, 2006; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

47. *Plesiophrictus millardi* Pocock, 1899

= *Plesiophrictus satarensis* Gravely, 1915

- Gujarat (Parasharya *et al.,* 2011; Bharat *et al.,* 2014; Mirza *et al.,* 2014; Yadav *et al.,* 2017)
- Maharashtra (Pocock, 1899b, 1900a; Bastawade and Khandal, 2006; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

48. *Plesiophrictus nilagiriensis* Siliwal *et al.*, 2007*

- Tamil Nadu (Siliwal *et al.,* 2007, 2011b; Siliwal *et al.,* 2008; Mirza *et al.,* 2014a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

49. *Plesiophrictus sericeus* Pocock, 1900*

- Maharashtra (Pocock, 1900a; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

50. *Plesiophrictus* sp.

- Kerala (Patel, 2003a; Sunil Jose *et al.,* 2008; Adarsh and Nameer, 2015)
- Gujarat (Patel, 2003b; Pandey *et al.,* 2004; Yadav *et al.,* 2017)
- Odisha (Gravely, 1921; Siliwal and Molur, 2008)

51. *Poecilotheria fasciata* (Latreille, 1804)

- Tamil Nadu (Simon, 1885)

52. *Poecilotheria formosa* Pocock, 1899*†

= *Poecilotheria nallamalaiensis* Rao *et al.,* 2006

- Andhra Pradesh (Rao *et al.,* 2006; Subba Reddy, 2016)
- Tamil Nadu (Pocock, 1899a, 1900a, 1900c; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

53. *Poecilotheria hanumavilasumica* Smith, 2004†

- Kerala (Sunil Jose, 2017a)
- Tamil Nadu (Smith, 2004; Molur *et al.,* 2008; Siliwal *et al.,* 2008, 2011b; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

54. *Poecilotheria metallica* Pocock, 1899*†

- Andhra Pradesh (Pocock, 1899a, 1900a; Molur *et al.,* 2003, 2008; Siliwal *et al.,* 2011a; Dhali *et al.* 2016; Subba Reddy. 2016)
- Tamil Nadu (Pocock, 1900b; Raman *et al.,* 2019; Caleb and Karthikeyani, 2020)

55. *Poecilotheria miranda* Pocock, 1900*†

- Bihar (Gravely, 1915)
- Jharkhand (Gravely ,1915; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Odisha (Molur *et al.,* 2008; Siliwal and Molur, 2008; Siliwal *et al.,* 2008; Siliwal *et al.,* 2011a)
- West Bengal (Dhali *et al.,* 2016)

56. *Poecilotheria regalis* Pocock, 1899*

= *Ornithoctonus gadgili* Tikader, 1977

- Andhra Pradesh (Gravely, 1935; Molur *et al.,* 2004; Rao *et al.,* 2004, 2005; Bastawade and Khandal, 2006; Siliwal *et al.,* 2011a; Subba Reddy, 2016)
- Goa (Pandit and Pai, 2017)
- Gujarat (Parasharya *et al.,* 2011; Yadav *et al.,* 2017)
- Karnataka (Pocock, 1900b; Gravely, 1915; Tikader, 1977; Smith and Kirk, 2002; Molur *et al.,* 2004; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Kerala (Cheeran and Nagaraj ,1997; Molur *et al.,* 2004; Bastawade and Khandal, 2006; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Maharashtra (Pocock, 1899a, 1900a, 1900c; Molur *et al.,* 2004; More and Sawant, 2013)
- Tamil Nadu (Pocock, 1899a, 1900c; Gravely, 1915, 1935; Molur *et al.,* 2004; Bastawade and Khandal, 2006 ; Siliwal *et al.,* 2008, 2011b; Dhali *et al.,*. 2016; Karthikeyani *et al.,* 2017)
- Telangana (Rao *et al.,* 2005)

57. *Poecilotheria rufilata* Pocock, 1899*†

- Karnataka (Dhali *et al.,* 2016)
- Kerala (Pocock, 1900a; Jose *et al.,* 2007; Molur *et al.,* 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

58. *Poecilotheria striata* Pocock, 1895*†

- Karnataka (Pocock, 1900a; Siliwal *et al.,* 2011a, 2013; Dhali *et al.,* 2016)
- Kerala (Pocock ,1899b, 1900a; Patel, 2003a; Sunil Jose *et al.,* 2008; Siliwal *et al.,* 2011a, 2013; Adarsh and Nameer, 2016; Dhali *et al.,* 2016)
- Tamil Nadu (Pocock, 1900a; Gravely, 1915; Siliwal *et al.,* 2008, 2011b, 2013; Dhali *et al.,* 2016)

59. *Poecilotheria tigrinawesseli* Smith, 2006*

= *Poecilotheria chaojii* Mirza, Sanap and Bhosale, 2014

- Andhra Pradesh (Smith, 2006; Siliwal *et al.,* 2008, 2011b)

- Chhattisgarh (Smith ,2006)
- Maharashtra (Smith, 2006; Mirza *et al.,* 2014b)
- Odisha (Smith, 2006; Siliwal and Molur, 2008; Siliwal *et al.,* 2008)
- Telangana (Siliwal *et al.,* 2008)

60. *Poecilotheria vittata* Pocock, 1895*

- South India? (Pocock, 1899a; Dhali *et al.,* 2016)

61. *Sahydroaraneus collinus* (Pocock, 1899)*

= *Plesiophrictus collinus* Pocock, 1899

- Tamil Nadu (Pocock, 1899b, 1900a; Siliwal *et al.,* 2011a; Mirza *et al.,* 2014a; Dhali *et al.,* 2016; Karthikeyani *et al.,* 2017)

62. *Sahydroaraneus hirsti* Mirza and Sanap, 2014*

- Kerala (Mirza and Sanap, 2014a; Dhali *et al.,* 2016)

63. *Sahydroaraneus raja* (Gravely, 1915)*

= *Plesiophrictus raja* Gravely, 1915

- Kerala (Gravely, 1915; Sunil Jose *et al.,* 2008; Siliwal *et al.,* 2011a;Mirza *et al.,* 2014a; Dhali *et al.,* 2016)

64. *Sahydroaraneus sebastiani* Sunil Jose, 2017*

- Kerala (Sunil Jose, 2016)

65. *Selenocosmia javensis* (Walckenaer, 1837)

- Nicobar (Thorell, 1891; Pocock, 1900a; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

66. *Selenocosmia kulluensis* Chamberlin, 1917*

- Himachal Pradesh (Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

67. *Selenocosmia sutherlandi* Gravely, 1935*

- West Bengal (Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)

68. *Selenocosmia* sp.

- Manipur (Kananbala *et al.,* 2018)

69. *Thrigmopoeus insignis* Pocock, 1899*†

- Goa (Bastawade and Borkar. 2008)
- Karnataka (Pocock, 1899b, 1900a; Bastawade and Borkar, 2008; Molur *et al.,* 2008; Siliwal *et al.,* 2011a; Dhali *et al.,* 2016)
- Kerala (Dhali *et al.,* 2016)

70. *Thrigmopoeus parambikulamensis* Sanjay and Daniel, 2002*

- Kerala (Sunil Jose *et al.,* 2008)

71. *Thrigmopoeus truculentus* Pocock, 1899*†

- Karnataka (Pocock, 1899b, 1900a; Molur *et al.,* 2008; Siliwal and Molur, 2009a; Dhali *et al.,* 2016)
- Maharashtra (Molur *et al.,* 2008; Siliwal and Molur, 2009a; Siliwal *et al.,* 2011a)

II. Distribution of mygalomorph spiders in different states and union territories of India

1. **Andaman and Nicobar:** *Chilobrachys subarmatus, Sason andamanicum, Selenocosmia javensis*
2. **Andhra Pradesh:** *Chilobrachys fimbriatus, Chilobrachys hardwickei, Chilobrachys khasiensis, Heterophrictus blatteri, Idiops constructor, Indothele mala, Plesiophrictus meghalayaensis, Poecilotheria formosa, Poecilotheria metallica, Poecilotheria regalis, Poecilotheria tigrinawesseli, Sason robustum, Sipalolasma arthrapophysis.*
3. **Arunachal Pradesh:** *Chilobrachys fumosus, Chilobrachys khasiensis, Chilobrachys stridulans, Conothele vali, Damarchilus nigricus, Damarchilus rufus, Plesiophrictus meghalayaensis.*
4. **Assam:** *Chilobrachys assamensis, Chilobrachys fumosus, Chilobrachys khasiensis, Chilobrachys stridulans, Chilobrachys thorelli, Damarchus assamensis, Haplocosmia himalayana, Ischnothele indicola, Lyrognathus crotalus, Scalidognathus* sp.
5. **Bihar:** *Chilobrachys hardwickei, Heligmomerus biharicus, Poecilotheria Miranda.*
6. **Chhattisgarh:** *Chilobrachys hardwickei, Poecilotheria tigrinawesseli.*
7. **Deccan:** *Latouchia cryptic, Idiops fossor.*

8. **Goa:** *Chilobrachys fimbriatus*, *Poecilotheria regalis*, *Thrigmopoeus insignis.*
9. **Gujarat:** *Chilobrachys fimbriatus*, *Idiops* sp., *Plesiophrictus millardi*, *Poecilotheria regalis.*
10. **Himachal Pradesh:** *Haplocosmia himalayana*, *Selenocosmia kulluensis.*
11. **Himalaya:** *Raveniola concolor.*
12. **India:** *Chilobrachys andersoni*, *Chilobrachys flavopilosus.*
13. **Jammu & Kashmir:** *Idiops designatus.*
14. **Jharkhand:** *Chilobrachys hardwickei*, *Poecilotheria miranda.*
15. **Karnataka:** *Chilobrachys femoralis*, *Chilobrachys fimbriatus*, *Haploclastus nilgirinus*, *Idiops crassus*, *Idiops joida*, *Indothele* sp., *Neoheterophrictus crurofulvus*, *Neoheterophrictus sahyadri*, *Neoheterophrictus smithi*, *Neoheterophrictus uttarakannada*, *Poecilotheria regalis*, *Poecilotheria rufilata*, *Poecilotheria striata*, *Thrigmopoeus insignis*, *Thrigmopoeus truculentus*, *Tigidia sahyadri*.
16. **Kerala:** *Annandaliella ernakulamensis*, *Annandaliella travancorica*, *Chilobrachys hardwickei*, *Chilobrachys subarmatus*, *Haploclastus devamatha*, *Haploclastus kayi*, *Haploclastus nilgirinus*, *Heligmomerus maximus*, *Heterophrictus blatteri*, *Neoheterophrictus bhori*, *Neoheterophrictus chimminiensis*, *Plesiophrictus* sp., *Poecilotheria hanumavilasumica*, *Poecilotheria regalis*, *Poecilotheria rufilata*, *Poecilotheria striata*, *Sahydroaraneus hirsti*, *Sahydroaraneus raja*, *Sahydroaraneus sebastiani*, *Sason robustum*, *Sasonichus sullivani*, *Thrigmopoeus insignis*, *Thrigmopoeus parambikulamensis*.
17. **Maharashtra:** *Chilobrachys femoralis*, *Chilobrachys fimbriatus*, *Chilobrachys hardwickei*, *Chilobrachys khasiensis*, *Chilobrachys nitelinus*, *Haploclastus validus*, *Heterophrictus aareyensis*, *Heterophrictus blatteri*, *Heterophrictus millet*, *Heterophrictus raveni*, *Idiops bombayensis*, *Idiops constructor*, *Idiops kaasensis*, *Idiops rubrolimbatus*, *Indothele dumicola*, *Neoheterophrictus amboli*, *Plesiophrictus millardi*, *Plesiophrictus sericeus*, *Poecilotheria regalis*, *Poecilotheria tigrinawesseli*, *Sason robustum*, *Thrigmopoeus truculentus*, *Tigidia konkanensis*.
18. **Manipur:** *Conothele khunthokhanbi*, *Lyrognathus* sp., *Selenocosmia* sp.
19. **Meghalaya:** *Chilobrachys himalayensis*, *Chilobrachys khasiensis*, *Haploclastus satyanus*, *Heligmomerus garoensis*, *Ischnothele indicola*, *Lyrognathus crotalus*, *Lyrognathus saltator*, *Plesiophrictus meghalayaensis.*
20. **Mizoram:** *Chilobrachys khasiensis*, *Conothele giganticus*, *Indothele dumicola.*
21. **Odisha:** *Chilobrachys hardwickei*, *Conothele varvarti*, *Damarchus excavates*, *Diplothele gravely*, *Diplothele tenebrosus*, *Diplothele walshi*, *Heligmomerus barkudensis*, *Heterophrictus* sp., *Idiops nilagiri*, *Idiops oriya*, *Plesiophrictus* sp., *Poecilotheria miranda*, *Poecilotheria tigrinawesseli*, *Sasonichus* sp., *Scalidognathus* sp., *Sipalolasma arthrapophysis*.
22. **Puducherry:** *Plesiophrictus linteatus.*
23. **Punjab:** *Idiops designatus.*
24. **Sikkim:** *Chilobrachys stridulans.*
25. **South India:** *Poecilotheria vittata.*
26. **Tamil Nadu:** *Annandaliella pectinifera*, *Diplothele walshi*, *Haploclastus cervinus*, *Haploclastus nilgirinus*, *Haploclastus tenebrosus*, *Haploclastus validus*, *Heligmomerus prostans*, *Idiops constructor*, *Idiops madrasensis*, *Idiops mettupalayam*, *Indothele rothi*, *Neoheterophrictus madraspatanus*, *Plesiophrictus fabrei*, *Plesiophrictus linteatus*, *Plesiophrictus nilagiriensis*, *Poecilotheria fasciata*, *Poecilotheria formosa*, *Poecilotheria hanumavilasumica*, *Poecilotheria metallica*, *Poecilotheria regalis*, *Poecilotheria striata*, *Sahydroaraneus collinus*. *Sason rameshwaram*, *Sason robustum*, *Scalidognathus montanus*, *Scalidognathus nigriaraneus*, *Scalidognathus tigerinus*, *Tigidia nilgiriensis*, *Tigidia rutilofronis*.

27. **Telangana:** *Chilobrachys fimbriatus*, *Poecilotheria regalis*, *Poecilotheria tigrinawesseli*.

28. **Tripura:** *Macrothele alyrata*.

29. **Uttar Pradesh:** *Chilobrachys hardwickei*, *Haplocosmia himalayana*, *Indothele mala*, *Indothele rothi*, *Sason robustum*, *Sasonichus sullivani*.

30. **Uttarakhand:** *Atypus wii*, *Haplocosmia himalayana*, *Latouchia cryptic*, *Lyrognathus saltator*.

31. **West Bengal:** *Atmetochilus bifidus*, *Atypus sutherlandi*, *Chilobrachys fumosus*, *Chilobrachys hardwickei*, *Chilobrachys himalayensis*, *Chilobrachys khasiensis*, *Chilobrachys stridulans*, *Damarchus assamensis*, *Gravelyia striatus*, *Haplocosmia himalayana*, *Heligmomerus barkudensis*, *Heligmomerus garoensis*, *Idiops fortis*, *Indothele dumicola*, *Macrothele vidua*, *Poecilotheria miranda*, *Selenocosmia sutherlandi*.

DISCUSSION

India has 28 states and 8 union territories, from which spiders were recorded from 23 states and 4 union territories. A total of 118 species of mygalomorph spiders were recorded in India under 32 genera in 9 families in the present study. Earlier, Dhali *et al.* (2016) listed these primitive spiders in only 17 states and 2 union territories. In last four years, since Dhali *et al.* (2016), only 7 species were added in their record. Maximum number of species of these spiders were recorded from Tamil Nadu (29 species) followed by Kerala (23 species) and Maharashtra (23 species), West Bengal (17 species) and so on (Figure 1). All 9 families of mygalomorph spiders were not recorded in any state of India, however, maximum number of families was recorded in West Bengal (6 families) but number of genera was maximum in Tamil Nadu (13 genera) followed by West Bengal and Odisha (Figure 2). Earlier, Dhali *et al.* (2016) enlisted maximum number of families from West Bengal followed by Odisha and Tamil Nadu. The distribution pattern

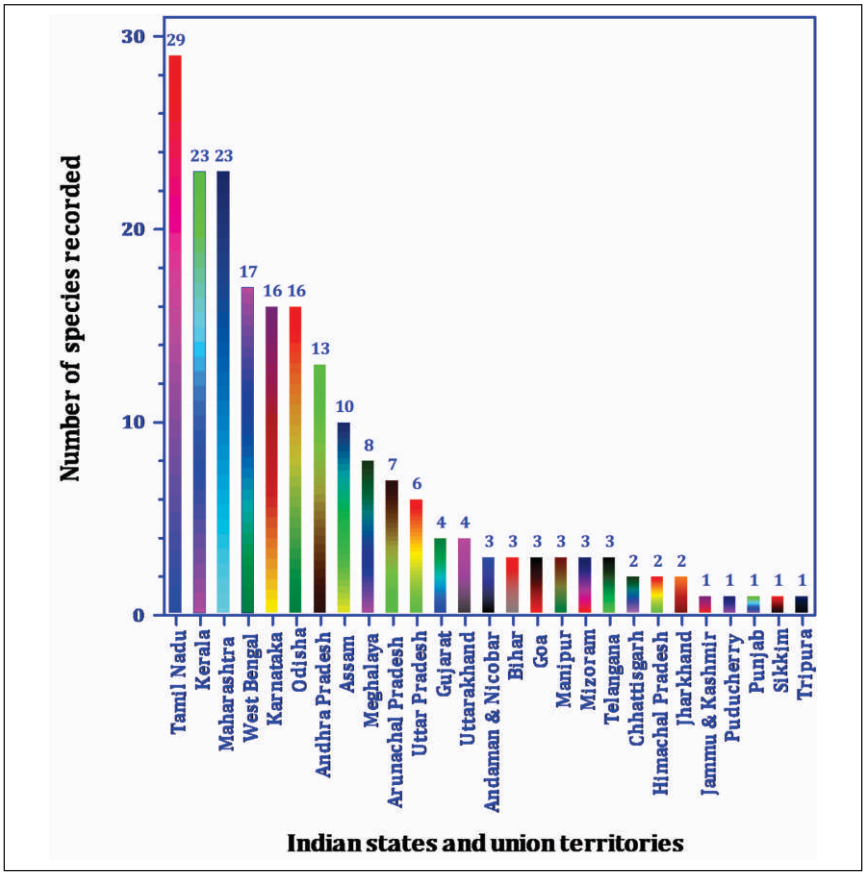

Fig. 1. Diversity of mygalomorph spiders from different Indian states and union territories.

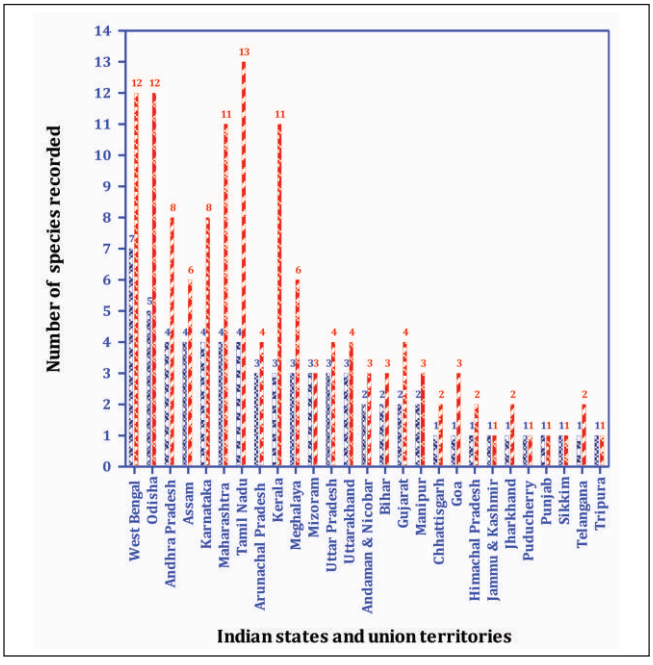

Fig. 2: Diversity of higher taxa (family and genus) of mygalomorph spiders from different Indian states and union territories.

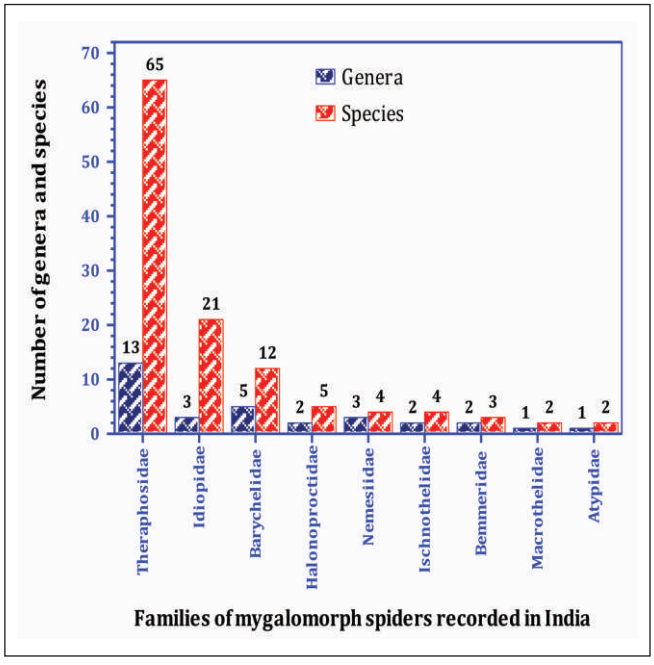

Fig. 3: Species composition of mygalomorph spiders in different families recorded from different Indian states and union territories.

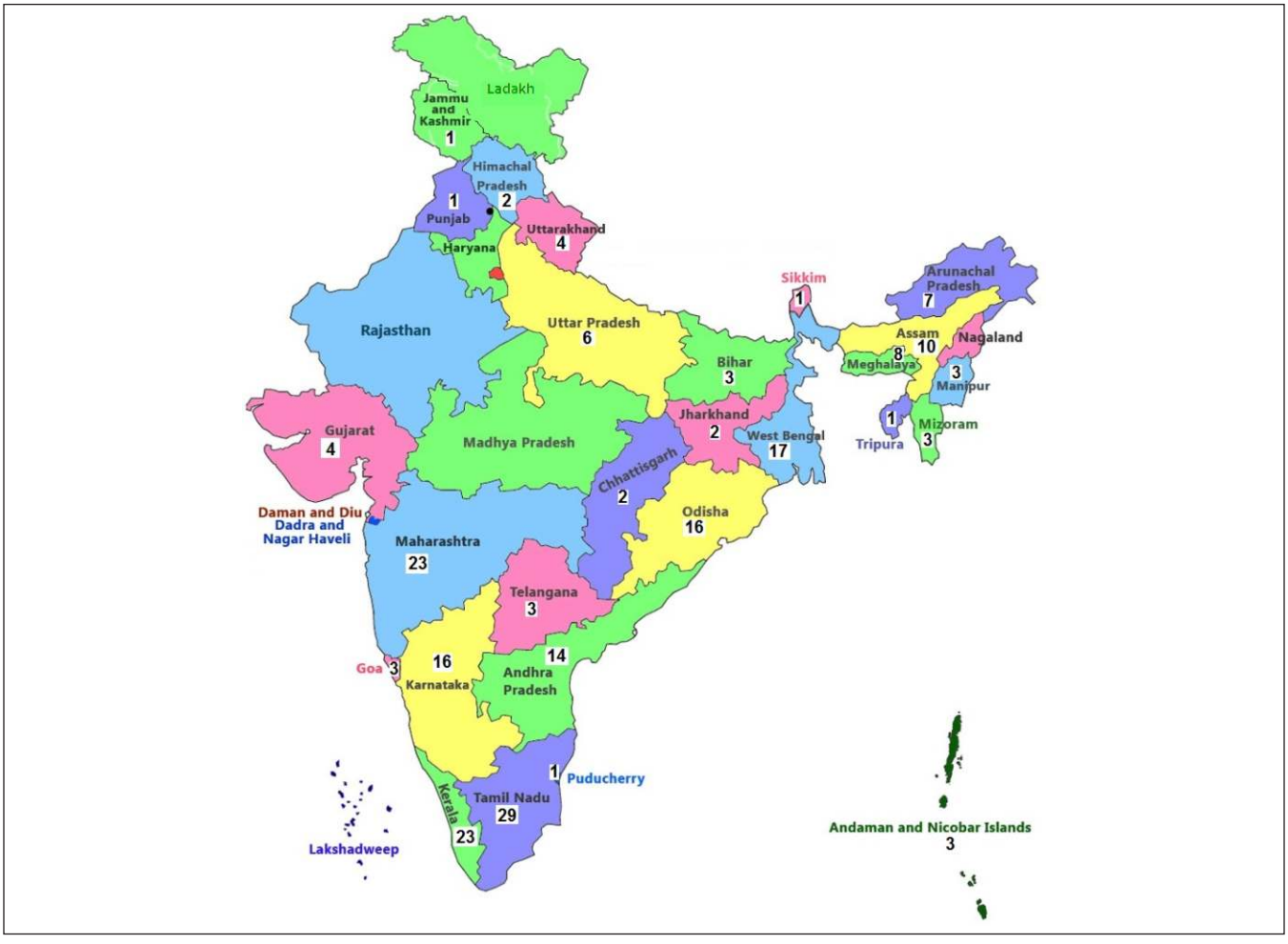

Fig. 4: Number of species of mygalomorph spiders recorded from different Indian states and union territories.

of mygalomorph spiders revealed that 81.5% of the species were recorded from the coastal states, *viz.*, Gujarat, Maharashtra, Karnatak, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, and West Bengal; the union territories, *viz*., Goa, Puducherry and Andaman and Nicobar. Among the families, more than half (55.5%) of the species diversity can be seen in Theraphosidae (65 species in 13 genera) (Figure 3). The family Atypidae is recorded only from West Bengal and Uttarakhand. Theraphosids were recorded from 23 states and union territories out of 27 recorded except Jammu and Kashmir, Punjab and Tripura followed by Idiopidae which is distributed in 13 states. Strangely, being larger states, Madhya Pradesh and Rajasthan, none have recorded a single mygalomorph spider from there (Figure 4). More than 80% of the species of mygalomorph spiders recorded in India were reported from coastal states and union territories. More than 90% of known mygalomorph spiders from India are endemic. There are some reports of few species of this group of spiders whose exact locality is not known, viz. *Idiops fossor* (locality: Deccan), *Chilobrachys andersoni* (locality: India), *Raveniola concolor* (locality: Himalaya; probably Pakistan-WSC, 2020) and *Poecilotheria vittata* (locality: South India?).

CONCLUSION

A total of 118 species under 31 genera belonging to 9 families of mygalomorph spiders were recorded in 23 states and 4 union territories of India. More than 90% of known mygalomorph spiders from India are endemic and more than 80% of the species were reported from coastal states and union territories. Strangely, no mygalomorph spiders were reported from Haryana, Ladakh, Madhya Pradesh, Nagaland and Rajasthan where the presence of these spiders are expected, and hence needs future exploration of these areas along with other states and union territories from where these spiders are not yet to be recorded or poorly recorded.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of the present review paper.

ACKNOWLEDGEMENT

The authors are thankful to Dr. Shelley Acharya, Scientist 'D', Zoological Survey of India, 'M' Block, New Alipore, Kolkata for providing valuable literature.

REFERENCES

1. **Adarsh C.K. and Nameer P.O.** (2015). Spiders of Kerala Agricultural University Campus Thrissur Kerala India. *Journal of Threatened Taxa*. 7(15): 8288–8295.
2. **Adarsh C.K. and Nameer P.O.** (2016). A preliminary checklist of spiders (Araneae: Arachnida) in Chinnar Wildlife Sanctuary Western Ghats India. *Journal of Threatened Taxa*. 8(4): 8703–8713.
3. **Ahmed N., Pinkham M. and Warrell D.A.** (2009). Symptom in search of a toxin: muscle spasms following bites by Old World tarantula spiders (*Lampropelma nigerrimum*, *Pterinochilus murinus*, *Poecilotheria regalis*) with review. *QJM: An International Journal of Medicine*. 102(12): 851–857.
4. **Armas L.F.** (2000): Frogs and lizards as prey of some greater Antillean arachnids. *Revista Ibérica de Aracnologia*. 3: 87–88.
5. **Barman M.** (1978). A new mygalomorph spider of the genus *Phlogiodes* from Khasi-Jaintia hills India (Araneae: Theraphosidae). *Journal of the Bombay Natural History Society*. 75: 168-169.
6. **Bastawade D.B. and Borkar M.** (2008). Arachnida (orders Scorpiones, Uropygi, Amblypygi, Araneae and Phalangida). In: *Fauna of Goa State Fauna Series. Zoological Survey of India, Kolkata*. 16: 211-242.
7. **Bastawade D.B. and Khandal D.** (2006). Arachnida: Araneae (Spiders). In: *Fauna of Sanjay Gandhi National Park (Invertebrates), Borivali, Mumbai (Maharashtra) Conservation Area Series, Zoological Survey of India Kolkata*. 26: 139-184.
8. **Basumatary P. and Brahma D.** (2017). Checklist of spiders from Chakrashila Wildlife Sanctuary Assam. *International Journal of Zoology Studies*. 2(5): 22-26.

9. **Bharat N.P., Harshil P., Ramesh T., Shantilal K.T. and Arun H.D.** (2014). First record of *Plesiophrictus millardi* Pocock 1899 (Araneae: Theraphosidae) from Gujarat India. *Research Journal of Animal Veterinary and Fishery Sciences.* 2(5): 6-9.

10. **Biswas B. and Biswas K.** (1992). Araneae: Spiders. In. *State Fauna Series 3: Fauna of West Bengal, Zoological Survey of India, Kolkata*. 3: 357-500.

11. **Biswas B. and Biswas K.** (2006). Araneae: Spiders. In: *Fauna of Arunachal Pradesh, State Fauna Series, Zoological Survey of India, Kolkata*. 13(2): 491-518.

12. **Biswas B. and Biswas K.** (2007). Araneae: Spiders. In. *Fauna of Mizoram, State Fauna Series, Zoological Survey of India Kolkata*. 14: 455–475.

13. **Biswas B.** (1987). Araneae: Spiders (Families: Araneidae Gnaphosidae and Salticidae) In: *Fauna of Orissa State, Fauna Series, Zoological Survey of India, Kolkata*. pp. 257–272.

14. **Borges L.M., da Rosa C.M., Dri G.F. and Bertani R.** (2016). Predation of the snake *Erythrolamprus almadensis* (Wagler 1824) by the tarantula *Grammostola quirogai* Montes De Oca D'Elía and Pérez-Miles 2016. *Herpetology Notes*. 9: 321-322.

15. **Caleb J.T.D.** (2020a). Spiders (Arachnida: Araneae) from the vicinity of Araabath Lake Chennai India. *Journal of Threatened Taxa*. 12(1): 15186–15193.

16. **Caleb J.T.D.** (2020b). Spider (Arachnida: Araneae) fauna of the scrub jungle in the Madras Christian College campus Chennai India. J*ournal of Threatened Taxa*. 12(7): 15711-15766.

17. **Caleb J.T.D. and Karthikeyani R.** (2020). JoTT Checklist of the spiders of Tamil Nadu (v1.0) 10 February 2020.

18. **Caporiacco L. di** (1935b). Aracnidi dell'Himalaia e del Karakoram raccolti dalla Missione italiana al Karakoram (1929-VII). *Memorie della Società Entomologica Italiana Genova.* 13: 161-263.

19. **Cheeran J.V. and Nagaraj B.N.** (1997). Occurrence of the great Indian spider *Ischnocolus (Poecilotheria) regalis* in Vazhachal forest Kerala. *Zoos'Print Journal.* 12(1): 2829.

20. **Chetry A. and Moran J.** (2019). Diversity of Namsai District, Arunachal Pradesh India. *International Journal of Basic and Applied Research.* 9(7): 343-351.

21. **Choudhury S.R., Siliwal M. and Das S.K.** (2019). Spiders of Odisha: a preliminary checklist. *Journal of Threatened Taxa*. 11(9): 14144–14157.

22. **Coddington J.A.** (2005). Phylogeny and Classification of Spiders. In. Spiders of North America: an identification manual (Eds. Ubick D., Paquin P., Cushing P.E. and Roth V.). American Arachnological Society, pp.18–24.

23. **Coyle F. and Ketner N.** (1990). Observations on the prey and prey capture behavior of the funnelweb mygalomorph spider genus *Ischnothele* (Araneae Dipluridae). *Bulletin of British Arachnological Society*. 8: 97–104.

24. **Coyle F.A.** (1995). A revision of the funnelweb mygalomorph spider subfamily Ischnothelinae (Araneae Dipluridae). *Bulletin of the American Museum of Natural History.* 226: 1-133.

25. **Das S.K., Diksha and Khan R.A.** (2019). A new trapdoor spider species of the genus *Idiops* Perty 1833 (Araneae Mygalomorphae Idiopidae) from Odisha India. *Journal of Asia-Pacific Biodiversity.* 12(4): 678-681.

26. **Dhali D.C., Saha S. and Raychaudhuri D.** (2017). Litter and ground dwelling spiders (Araneae: Arachnida) of reserve forests of Dooars West Bengal (Monograph). *World Scientific News*. 63 : 1-242.

27. **Dhali D.C., Sureshan P.M. and Chandra K.** (2016). Diversity and distribution of indian primitive spiders (Araneae: Opisthothelae: Mygalomorphae) in different state including an annotated checklist. *World Scientific News.* 37: 88-100.

28. **Fukushima C., Mendoza J.I., West R.C., Longhorn S.J., Rivera E., Cooper E.W.T., Hénaut Y., Henriques S. and Cardoso P.**

(2019). Species conservation profiles of tarantula spiders (Araneae Theraphosidae) listed on CITES. *Biodiversity Data Journal*. 7: e39342

29. **Godwin R.L., Opatova V., Garrison N.L., Hamilton C.A. and Bond J.E.** (2018). Phylogeny of a cosmopolitan family of morphologically conserved trapdoor spiders (Mygalomorphae: Ctenizidae) using Anchored Hybrid Enrichment with a description of the family Halonoproctidae Pocock 1901. *Molecular Phylogenetics and Evolution*. 126: 303–313

30. **Gravely F.H.** (1915). Notes on Indian mygalomorph spiders. *Records of the Indian Museum Calcutta*. 11: 257-287.

31. **Gravely F.H.** (1921). The spiders and scorpions of Barkuda Island. *Records of the Indian Museum Calcutta*. 22: 399-421.

32. **Gravely F.H.** (1935). Notes on Indian mygalomorph spiders. II. *Records of the Indian Museum Calcutta*. 37: 69-84.

33. **Gupta N. and Siliwal M.** (2012). A checklist of spiders (Arachnida: Araneae) of Wildlife Institute of India, campus Dehradun, Uttarakhand India. *Indian Journal of Arachnology*. 1(2): 73-91.

34. **Gupta N., Das S.K. and Siliwal M.** (2015a). Natural History of the trapdoor spider *Idiops joida* Gupta et al. 2013 (Araneae: Idiopidae) from the Western Ghats in India. *Journal of Asia-Pacific Biodiversity*. 8(1): 38–42.

35. **Gupta R., Devi O.S. and Islam M.** (2015b). Common spiders from select protected areas of upper Assam. Assam State Biodiversity Board Rehabari Guwahati, pp. 186.

36. **Gupta N., Ganeshkumar M., Das S.K. and Siliwal M.** (2013). Three new species of *Idiops* Perty 1833 (Araneae: Idiopidae) from India. *Zootaxa*. 3635: 237-250.

37. **GWRL** (1920). Guinness World Records Limited 2020. https://www.guinnessworldrecords.com/world-records/largest-spider., retrieved on 10 August, 2020.

38. **Hirst A.S.** (1909). On some new or little-known mygalomorph spiders from the Oriental Region and Australasia. *Records of the Indian Museum Calcutta*. 3(4:30): 383-390.

39. **Hore U. and Uniyal V.P.** (2008a). Effect of prescribed fire on spider assemblage in Terai grasslands India. *Turkish Journal of Arachnology*. 1(1): 15-36.

40. **Hore U. and Uniyal V.P.** (2008b). Diversity and composition of spider assemblages in five vegetation types of the Terai Conservation Area India. *The Journal of Arachnology, American Arachnological Society*. 36(2): 251–258.

41. **Hore U.** (2009). Diversity and structure of spider assemblages in Terai Conservation area, thesis PhD, Saurashtra University Rajkot Gujarat. http://etheses. saurashtra-university.edu/id/eprint/589.

42. **Javed S.M.M., Raven R.J., Tampal F. and Rao K.T.** (2010). Occurrence and redescription of *Sipalolasma arthrapophysis* (Gravely 1915) (Araneae: Barychelidae: Bary-chelinae) from India. *Journal of Threatened Taxa*. 2: 867-875.

43. **Jose A.C., Sudhin P.P., Prasad P.M. and Sreejith K.A.** (2018). Spider diversity in Kavvayi river basin Kerala, Southern India. *Current World Environment*. 13(1): 100-112.

44. **Jose J., Ramachandran K.K. and Nair P.V.** (2007). A preliminary overview and checklist of the spider fauna of Myristica swamp forests of southern Kerala India. *Newsletter of British Arachnological Society*.109: 12-14.

45. **Kananbala A., Bhubaneshwari M. and Siliwal M.** (2018). A checklist of spiders (Arachnidae: Araneae) of Manipur, India with some first records and a new species *Conothele khunthokhanbi* (Family: Ctenizidae). *Journal of Entomology and Zoology Studies*. 6(5): 2209-2214

46. **Karthikeyani R., Caleb J.T.D., Gajbe U.A. and Muthuchelian K.** (2017). Checklist of spiders (Arachnida: Araneae) of the State of Tamil Nadu India. *Munis Entomology and Zoology*. 12(1): 180-193.

47. **Kelkar N., Pethe H. and Dixit T.** (2006). Spiders of Fergusson College Campus Pune. *Fergusson College Magazine*. 97: 35-37.

48. **Keswani S. and Vankhede G.** (2012). Re-description of little known theraphosid spider *Chilobrachys assamensis* Hirst, 1909. *Indian Journal of Arachnology*. 1(2): 24-29.

49. **Keswani S., Hadole P. and Rajoria A.** (2012). Checklist of spiders (Arachnida: Araneae) from India. *Indian Journal of Arachnology*. 1(1): 1–129.

50. **Levi H.W. and Levi L.R.** (2001). Spiders and Their Kin. Golden Guides from St. Martin's Press, NY, pp.160.

51. **Lewis T.** (2014). Goliath encounter: puppy-sized spider surprises scientist in rainforest. *CBC News*, LiveScience.com.

52. **Majumder S.C.** (2005). Studies on some spiders from eastern coastal region of India. *Memoirs of the Zoological Survey of India*. 20(3): 1-57.

53. **Majumder S.C. and Talukdar S.** (2013). Studies on taxonomy and diversity of spiders from Darjeeling Hills with special reference to family Clubioneidae in light of conservation. *Records of Zoological Survey of India, Occasional Paper No*. 340: 1-96.

54. **Marcelo M., De Jesus R.D., de Azevedo and Salette C.** (2005). Predation on amphibians by spiders (Arachnida Araneae) in the Neotropical region. *Phyllomedusa*. 4(1): 39–47.

55. **Mason L.D., Wardell-Johnson G. and Main B.Y.** (2018). The longest-lived spider: mygalomorphs dig deep and persevere. *Pacific Conservation Biology*. 24(2): 203.

56. **Mirza Z.A. and Mondal A.** (2018). A new genus *Gravelyia* with two species of the family Nemesiidae (Araneae: Mygalomorphae) from India. *Acta Arachnologica*. 67(1): 43-48.

57. **Mirza Z.A. and Sanap R.V.** (2012). A new species of the genus *Idiops* and notes on *Idiops bombayensis* Siliwal et al. 2005 (Araneae: Idiopidae) from northern Western Ghats of Maharastra India. *Journal of Arachnology*. 40: 85-95.

58. **Mirza Z.A., Sanap R.V. and Bhosale H.** (2014a). Preliminary review of Indian Eumenophorinae (Araneae: Theraphosidae) with description of a new genus and five new species from the Western Ghats. *PLoS One*. 9(2): e87928.

59. **Mirza Z.A., Sanap R.V. and Bhosale H.** (2014b). Description of a new species of arboreal tarantula of the genus *Poecilotheria* Simon 1885 (Araneae: Theraphosidae) from Satpura Hills, Central India. *Journal of the British Tarantula Society*. 29(2): 60-65.

60. **Mirza Z.A., Sanap R.V. and Kunte K.** (2017). A new genus and new species of diplurid spider (Araneae: Mygalomorphae: Dipluridae) from northeast India. *Journal of Asia-Pacific Biodiversity*. 10(1): 32-38.

61. **Mirza Z.A., Zende J.Y. and Patil V.K.** (2016). Notes on the trapdoor spider genus *Tigidia* Simon 1892 (Araneae: Mygalomorphae: Barychelidae) with description of a new species from Western Ghats India. *Arachnology*. 17(2): 92-94.

62. **Moinudheen N., Jeyabalan D. and Arockianadhan A.S.** (2017). Sighting of nilgiri large burrowing spider *Haploclastus nilgirinus* Pocock 1899 from Nilgiris Western Ghats India. *Indian Journal of Arachnology*. 6(1): 30-33.

63. **Molur S. and Siliwal M.** (2004). Common names of South Asian theraphosid spiders (Araneae: Theraphosidae). *Zoos' Print Journal*. 19(10):1657-1662.

64. **Molur S., Daniel B.A. and Siliwal M.** (2003). Distribution Status and effect of trade on large-bodied (mygalomorph) spiders of the genus *Poecilotheria* and other theraphosid spiders in India. Final report. Wildlife Information Liaison Development (WILD) Society, Coimbatore, Tamil Nadu, India, pp. 57.

65. **Molur S., Daniel B.A. and Siliwal M.** (2004). Distribution of the regal parachute spider *Poecilotheria regalis* Pocock 1899. *Zoos' Print Journal*. 19(10): 1665-1667

66. **Molur S., Siliwal M. and Daniel B.A.** (2008). At last! Indian tarantulas on IUCN Red List. *Zoos' Print*. 23(12): 1–3.

67. **More S. and Sawant V.** (2013). Spider fauna of Radhanagari Wildlife Sanctuary, Chandoli National Parkandkoyna Wildlife Sanctuary. *Indian Journal of Arachnology*. 2(1): 81-92.

68. **Murphy F. and Murphy J.** (2000). An Introduction to the Spiders of South East Asia. Malaysian Nature Society Kuala Lumpur, pp. 689.

69. **Nunn S.C. and West R.C.** (2013). A new species of tarantula spider in the genus *Lyrognathus* Pocock 1895 (Araneae Theraphosidae) from Sumatra. *ISRN Zoology*. ID 590809, pp.13.

70. **Opatova V., Hamilton C.A., Hedin M., De Oca L.M., Král J. and Bond J.E.** (2020). Phylogenetic systematics and evolution of the spider infraorder mygalomorphae using genomic scale data. *Systematic Biology*. 69(4): 671-707.

71. **Panda S.S., Mishra D., Priyadarshini and Parida P.** (2011). Spiders of Nandankanan. Forest Department Government of Odisha, pp. 64.

72. **Pandey C.N., Patel S.P., Chachin S., Chavan Salvi H.H., Patel B.H., Vyas R.R., Trivedi P.P., Jethva B. and Aiyadurai A.** (2004). The status of biodiversity in Purna Wildlife Sanctuary. (A comprehensive ecological and socio-economic study). Gujarat Ecological Education and Research (GEER) Foundation Gandhinagar and Forest Department Government of Gujarat, August 2004, pp. 150.

73. **Pandit R. and Pai I.** (2017). Spiders of Taleigao Plateau Goa India. *Journal of Environmental Science and Public Health*. 1(4) 240–252.

74. **Parasharya B.M., Vyas R.V. and Patel B.H.** (2011). First authentic record of regal parachute spider *Poecilotheria regalis* Pocock, 1899 and further comments in the distribution of Theraphosidae spiders from Gujarat State India. *Journal of the British Tarantula society*. 26(2): 55–62.

75. **Patel B.H.** (2003a). Fauna of protected areas - a preliminary list of spiders with the descriptions of three new species from Parambikulum Wildlife sanctuary Kerala. *Zoos' Print Journal*. 18(10): 1207-1212.

76. **Patel B.H.** (2003b). Spiders of Vansada National Park Gujarat. *Zoos' Print Journal*. 18(4):1079-1083.

77. **Picard-Cambridge O.** (1885). Araneidea. In: Scientific results of the second Yarkand mission; based upon the collections and notes of the late Ferdinand Stoliczka, Ph. D., Government of India, Calcutta, pp. 115.

78. **Picard-Cambridge O.** (1890). On some new species and two new genera of Araneida. *Proceedings of the Zoological Society of London*. 58(4 for 1890): 620-629.

79. **Piper, R.** (2007). Extraordinary Animals: An Encyclopedia of Curious and Unusual Animals. Greenwood Press, pp. 298.

80. **Pocock R.I.** (1895). On a new and natural grouping of some of the Oriental genera of Mygalomorphae, with descriptions of new genera and species. *Annals and Magazine of Natural History*. (6)15: 165-184.

81. **Pocock R.I.** (1899a). The genus *Poecilotheria*: its habits history and species. *Annals and Magazine of Natural History Series* (7) 3: 82–96.

82. **Pocock R.I.** (1899b). Diagnoses of some new Indian Arachnida.*Journal of the Bombay Natural History Society* 12: 744-753.

83. **Pocock R.I.** (1900a). *The Fauna of British India including Ceylon and Burma, Arachnida*. Taylor and Francis London, London, pp. 279.

84. **Pocock R.I.** (1900b). Great Indian spiders. The genus *Poecilotheria*: its habits history and species. *Journal of the Bombay Natural History Society*. 13: 121-133.

85. **Pompozzi G. and Copperi S.** (2018). Feeding frequency prey acceptance and natural diet of the mygalomorph spider *Acanthogonatus centralis* Goloboff, 1995 (Araneae: Nemesiidae). Zoological Studies. 57: e31.

86. **Prasanth M.T. and Sunil Jose K.** (2014). A new species of the genus *Haploclastus* from Western Ghats, India (Araneae: Thera-

phosidae). *Munis Entomology and Zoology*. 9(1): 494-500.

87. **Prashanthakumara S. M. and Venkateshwarlu M.** (2017). Preliminary study of spiders (Araneae: Arachnida) in Gudavi Bird Sanctuary, Shivamogga Karnataka. *International Journal of Recent Scientific Research*. 8(8): 19277-19281.

88. **Punzo F.** (2007). Spiders: Biology Ecology Natural History and Behaviour. Brill. pp. 182.

89. **Raman K., Vimalraj S., Krishnakumar B.M., Balachandran N. and Tomar A.** (2019). Range extension of the Gooty Tarantula *Poecilotheria metallica* (Araneae: Theraphosidae) in the Eastern Ghats of Tamil Nadu India. *Journal of Threatened Taxa*. 11(10): 14373–14376.

90. **Rao K.T., Bastawade D.B., Javed S.M.M. and Krishna I.S.R.** (2006). Description of two new species of spiders of the genus *Poecilotheria* Simon (Araneae: Theraphosidae) and *Tmarus* Simon (Araneae: Thomisidae) from Nallamalai Hills Eastern Ghats, Andhra Pradesh, India. *Records of the Zoological Survey of India*. 106(1): 49-54.

91. **Rao K.T., Bastawade D.B., Javed S.M.M. and Krishna I.S.R.** (2005). Arachnid fauna of Nallamalai Region Eastern Ghats, Andhra Pradesh, India. *Zoological Survey of India*, *Occasioal Paper No*. 239: 1- 42.

92. **Rao K.T., Raju M.P., Krishna I.S.R., Javed S.M.M., Siliwal M. and Srinivasulu C.** (2004). First record of *Poecilotheria regalis* Pocock 1899 from Nallamala Hills Eastern Ghats, Andhra Pradesh. *Zoos' Print Journal*. 19(10): 1668.

93. **Raven R.J.** (1985). The spider infraorder Mygalomorphae (Araneae): cladistics and systematics. *Bulletin of the American Museum of Natural History*. 182:1-180.

94. **Raven R.J.** (1986). A revision of the spider genus *Sason* Simon (Sasoninae Barychelidae Mygalomorphae) and its historical biogeography. *Journal of Arachnology*. 14: 47-70.

95. **Reimoser E.** (1934). Araneae aus Süd-Indien. *Revue Suisse de Zoologie*. 41: 465-511.

96. **Sanap R.V. and Mirza Z.A.** (2011). Two new trapdoor spider species of the genus *Scalidognathus* Karsch 1891 (Araneae: Idiopidae) from the southern Western Ghats of India. *Acta Zoologica Lituanica*. 21: 96-102.

97. **Sanap R.V. and Mirza Z.A.** (2014). A new iridescent tarantula of the genus *Thrigmopoeus* Pocock, 1899 from Western Ghats, India. *Comptes Rendus Biologies*. 337(7-8): 480-486.

98. **Sanap R.V. and Mirza Z.A.** (2015). A new large trapdoor spider species of the genus *Heligmomerus* Simon, 1892 (Araneae: Mygalomorphae: Idiopidae) from Western Ghats India. *Journal of Asia-Pacific Biodiversity*. 8: 242-246.

99. **Sankaran P.M. and Sebastian P.A.** (2018). A new synonym in the subfamily Thrigmopoeinae Pocock, 1900 (Araneae: Theraphosidae). *ZooKeys*. 749: 81-86.

100. **Schmidt G.** (2003). Die Vogelspinnen: Eine weltweite Übersicht. Neue Brehm-Bücherei Hohenwarsleben, pp. 234-239.

101. **Schneider J.** (2017). Farewell to the world's smallest tarantula? https://www.nwf.org/Magazines/National-Wildlife/2017/Oct-Nov/Conservation/Spruce-Fir-Moss-Spider.

102. **Sebastian P.A. and Peter K.V.** (2009). Spiders of India. Universities Press (India) Pvt. Ltd., pp. 614.

103. **Sen S., Dhali D.C., Saha S. and Raychaudhuri D.** (2015). Spiders (Araneae: Arachnida) of reserve forests of Dooars: Gorumara National Park, Chapramari Wildlife Sanctuary and Mahananda Wildlife Sanctuary. *World Scientific News*. 20: 1-339.

104. **Sen S., Saha S. and Raychaudhuri D.** (2012). On the mygalomorphs (Araneae: Mygalomorphae) in the collection of entomology laboratory University of Calcutta. *Munis Entomology and Zoology*. 7: 200-214.

105. **Siddhu J., Lohani H.P., Pathak G. and Kaushal B.R.** (2020). Spider diversity in rice and mix vegetable agro bhabar region of Nainital district, Uttarakhand. *Bulletin of Environment Pharmacology and Life Sciences.* 9(2): 101-105.

106. **Siliwal M. and Molur S.** (2009a). Redescription, distribution and status of the Karwar large burrowing spider *Thrigmopoeus truculentus* Pocock 1899 (Araneae: Theraphosidae), a Western Ghats endemic ground mygalomorph. *Journal of Threatened Taxa.* 1: 331-339.

107. **Siliwal M. and Molur S.** (2009b). A new species of the genus *Sason* (Araneae: Barychelidae) from Rameshwaram Island, Tamil Nadu, India. *Zootaxa.* 2283: 60-68.

108. **Siliwal M. and Raven R.J.** (2010). Taxonomic change of two species in the genus *Haploclastus* Simon, 1892 (Araneae Theraphosidae). *ZooKeys.* 46: 71-75.

109. **Siliwal M. and Molur S.** (2008). An inventory of the spider fauna of Odisha India. Unpublished report submitted to the Odhisa Forest Department Bhubaneshwar. Zoo Outreach Organisation, pp. 12.

110. **Siliwal M., Gupta N. and Molur S.** (2013). The striated parachute spider, *Poecilotheria striata* Pocock, 1895 (Araneae: Theraphosidae): a note on taxonomy distribution and conservation status. *Journal of Threatened Taxa*. 5: 4630-4640.

111. **Siliwal M., Gupta N. and Raven R.** (2012). A new genus of the family Theraphosidae (Araneae: Mygalomorphae) with description of three new species from the Western Ghats of Karnataka, India. *Journal of Threatened Taxa*. 4: 3233-3254.

112. **Siliwal M., Kananbala A., Bhubaneshwari M. and Raven R.** (2015a). Natural history and two new species of the trapdoor spider genus *Conothele* Thorell, 1878 (Araneae: Ctenizidae) from India. *Journal of Arachnology.* 43(1): 34-39.

113. **Siliwal M., Molur S. and Raven R.** (2015b). New genus with two new species of the family Nemesiidae (Araneae: Mygalomorphae) from Arunachal Pradesh, India. *Journal of Asia-Pacific Biodiversity.* 8: 43-48.

114. **Siliwal M., Kumar R.S. and Raven R.** (2014). A new species of *Atypus* Latreille, 1804 (Araneae: Atypidae) from Northern India. *Arthropoda Selecta*. 23(2): 221-224.

115. **Siliwal M., Molur S. and Biswas B.K.** (2005). Indian spiders (Arachnida Araneae): updated checklist, 2005. *Zoo's Print Journal.* 20(10): 1999-2049.

116. **Siliwal M., Molur S. and Daniel B.A.** (2008). Status and conservation of tarantulas in selected hot specks of southern India. Report submitted to Fauna and Flora International, UK, pp. 57.

117. **Siliwal M., Molur S. and Raven R.** (2007). A new species of the genus *Plesiophrictus* (Araneae: Theraphosidae: Ischnocolinae) from Western Ghats India. *Zoo's Print Journal.* 22: 2853-2860.

118. **Siliwal M., Nair M.V., Molur S. and Raven R.** (2009a). First record of the trapdoor spider genus *Conothele* (Araneae Ctenizidae) from India with a description of two new species. *Journal of Arachnology.* 37: 1-9.

119. **Siliwal M., Molur S. and Raven R.** (2009b). Two new species of the genus *Diplothele* (Araneae Barychelidae) from Orissa India with notes on *D. walshi*. *Journal of Arachnology.* 37: 178-187.

120. **Siliwal M., Molur S. and Raven R.** (2010). Transfer of two Indian *Idiops* spp. to the genus *Heligmomerus* Simon 1892 (Araneae: Idiopidae) with redescription of *H. barkudensis* (Gravely, 1921). *Journal of Threatened Taxa.* 2: 940-947.

121. **Siliwal M., Molur S. and Raven R.** (2011a). Mygalomorphs of India: An overview. *ENVIS Bulletin: Arthropods and their Conservation in India*. 14(1): 175-188.

122. **Siliwal M., Gupta N., Sanap R., Mirza Z. and Raven R.** (2011b). First record of the genus *Tigidia* Simon 1892 (Araneae: Barychelidae) from India with description

of three new species from the Western Ghats India. *Journal of Threatened Taxa*. 3(12): 2229-2241.

123. **Simon E.** (1885). Matériaux pour servir à la faune arachnologiques de l'Asie méridionale. I. Arachnides recueillis à Wagra-Karoor près Gundacul district de Bellary par M.M. Chaper. II. Arachnides recueillis à Ramnad district de Madura par M. l'abbé Fabre. *Bulletin de la Société Zoologique de France*. 10: 1-39.

124. **Simon E.** (1887). Etudes sur le arachnides de l'Asie méridionale faisant partie des collections de l'Indian Museum (Calcutta). II. Arachnides recueillis aux îles Andaman par M.R.D. Oldham. *Journal of the Asiatic Society of Bengal. Part II* (*Natural science*). 56: 282-287.

125. **Simon E.** (1891). Etudes arachnologiques. 23e Mémoire. XXXVIII. Descriptions d'espèces et de genres nouveaux de la famille des Avicylariidae. *Annales de la Société Entomologique de France*. 60: 300-312.

126. **Simon E.** (1892a). Histoire naturelle des araignées. Deuxième édition tome premier. Roret, Paris, pp.1-256.

127. **Simon E.** (1892b). Etudes arachnologiques. 24e Mémoire. XXXIX. Descriptions d'espèces et de genres nouveaux de la famille des Avicylariidae (suite). *Annales de la Société Entomologique de France*. 61: 271-284.

128. **Simon E.** (1897). Matériaux pour servir à la faune arachnologique de l'Asie méridionale. V. Arachnides recueillis à Dehra-Dun (N.W. Prov.) et dans le Dekkan par M.A. Smythies. *Mémoires de la Société Zoologique de France*. 10: 252-262.

129. **Singh H.S., Raval B.R., Patel B.H., Tatu K., Patel D., Vyas R. and Patel B.H.** (2000). Biodiversity study on Vansda National Park. Gujarat Ecological Education and Research Foundation Gandhinagar, pp. 176.

130. **Singh S., Borkotoki A. and Sarmah C.K.** (2012). Species distribution of spiders in Barpeta district of Assam: a diversity measure. *International Scientific Research Journal*. 4(1): 47-57.

131. **Singh S., Sarmah C.K. and Borkotoki A.** (2013). Non-parametric estimate of spider species richness in Barpeta district, Assam, India. *Indian Journal of Arachnology*. 2(2): 22-33.

132. **Smith A.M. and Kirk P.** (2002). A field guide on the theraphosid spiders of India and Sri Lanka particularly the Genus *Poecilotheria*. Fitzgerald Publication, London, pp. 26.

133. **Smith A.M.** (2004). A new species of the arboreal theraphosid genus *Poecilotheria* from southern India (Araneae: Mygalomorphae: Theraphosidae) with notes on its conservation status. *Journal of the British Tarantula Society*. 19: 48-61.

134. **Smith A.M.** (2006). A new species of *Poecilotheria* from northern peninsular India (Araneae: Mygalomorphae: Theraphosidae) with notes on its distribution and conservation status. *Journal of the British Tarantula Society*. 21: 83-94.

135. **Subba Reddy H.R.** (2016). Diversity of megalomorphae spiders in Nallamala Forest Andhra Pradesh India. *International Research Journal of Natural and Applied Sciences*. 3(5): 30-38.

136. **Sunil Jose K. and Prasanth M.T.** (2015). New information on *Annandaliella travancorica* Hirst, 1909 from Western Ghats of India (Araneae: Theraphosidae). *Munis Entomology and Zoology*. 10(1): 188-193.

137. **Sunil Jose K. and Sebastian P.A.** (2008). Description of two mygalomorph spiders from south India (Araneae: Barychelidae Theraphosidae). *Revista Ibérica de Aracnología*. 15: 29-34.

138. **Sunil Jose K.** (2017a). New records of *Poecilotheria hanumavilasumica* Smith, 2004 from Western Ghats, Kerala (Araneae: Theraphosidae). *Species*. 18(58): 57-61.

139. **Sunil Jose K.** (2017b). A new species of *Sahydroaraneus* (Theraphosidae) from Western Ghats of Kerala, India. *Journal of*

Entomology and Zoology Studies. 5(3): 186-189.

140. **Sunil Jose K.** (2016). Redescription of *Haploclastus kayi* Gravely 1915 (Araneae: Theraphosidae). *Biosystematica.* 10: 5-10.

141. **Sunil Jose K.** (2019). A new species of megalomorph spider *Neoheterophrictus* from Western Ghats. *Indian Journal of Entomology*. 81(4): 667-669.

142. **Sunil Jose K., Sudhikumar A.V., Davis S. and Sebastian P.A.** (2008). Preliminary studies on the spider fauna (Arachnida: Araneae) in Parambikulam Wildlife Sanctuary in Western Ghats Kerala, India. *Journal of the Bombay Natural History Society*. 105(3): 264–273.

143. **Thorell T.** (1891). Spindlar från Nikobarerna och andra delar af södra Asien. *Kongliga Svenska Vetenskaps-Akademiens Handlingar.* 24(2): 1-149.

144. **Tikader B.K.** (1969). Studies on spider fauna of Khasi and Jaintia hills, Assam, India. Part III. *Journal of the Assam Science Society.* 11: 154-163.

145. **Tikader B.K.** (1977). Studies on some mygalomorph spiders of the families Ctenizidae and Theraphosidae from India. *Journal of the Bombay Natural History Society.* 74: 306-319.

146. **Uniyal V.P. and Hore U.** (2006). Studies on the spider fauna in mixed sal forest area of Chandrabani Dehradun. *Indian Forester*. 132(12a): 83-88.

147. **Vetter R.S. and Isbister G.K.** (2008). Medical aspects of spider bites. *Annual Review of Entomology*. 53:409–429.

148. **Vollrath F. and Selden P.A.** (2007). The role of behavior in the evolution of spiders silks and webs. *Annual Review of Ecology Evolution and Systematics*. 38: 819–846.

149. **West R.C.** (2005). The *Brachypelma* of Mexico. *Journal of the British Tarantula Society*. 20(4):108–119.

150. **WSC** (2020). World Spider Catalog. Version 21.5. Natural History Museum Bern online at http://wsc.nmbe.ch accessed on 10 August, 2020.

151. **Yadav A., Solanki R., Siliwal M. and Kumar D.** (2017). Spiders of Gujarat: a preliminary checklist. *Journal of Threatened Taxa*. 9(9):10697–10716.

152. **Zhu M.S. and Song D.X.** (2000). Review of the Chinese funnel-web spiders of the genus *Macrothele* with descriptions of two new species (Araneae: Hexathelidae). *The Raffles Bulletin of Zoology*. 48(1): 59–64.