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FAUNAL BIODIVERSITY OF TETRAGNATHIDAE (ARANEOMORPHAE: ARANEAE: ARACHNIDA) IN INDIA

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Abstract: Faunal biodiversity of the long-jawed spiders (Tetragnathidae: Araneomorphae: Araneae: Arachnida) in different states of India and union territories is presented herewith. A total of 77 species placed under 17 genera of Tetragnathidae were recorded in all states and union territories of India except Nagaland, Daman & Diu and Dadra & Nagar Haveli, Delhi and Ladakh, out of which, 30 species (39%) were endemic. However, among them 8 species seem to be erroneous report or misidentification. Maximum number of species were recorded from Kerala (35 species) followed by Maharashtra, Tamil Nadu and West Bengal (24 species in each), Karnataka (22 species), Gujarat (21 species), Odisha (15 species) and less number in other states. Eleven species of Tetragnathidae are widely distributed, viz. *Tetragnatha mandibulata* Walckenaer, 1842 (23 states, 3 union territories), *Leucauge decorata* (Blackwall, 1864) (22 states, 2 union territories), *Tetragnatha javana* (Thorell, 1890) (19 states, 1 union territory), *Leucauge celebesiana* (Walckenaer, 1841) (17 states, 1 union territory), *Guizygiella indica* (Tikader and Bal, 1980) (15 states), *Leucauge tessellata* (Thorell, 1887) (14 states), *Opadometa fastigata* (Simon, 1877) (14 states), *Tylorida ventralis* (Thorell, 1877) (13 states, 1 union territory), *Tetragnatha ceylonica* O. Pickard-Cambridge, 1869 (11 states, 2 union territories), *Tetragnatha keyserlingi* Simon, 1890 (12 states, 1 union territory), and *Tetragnatha andamanensis* Tikader, 1977 (10 states, 2 union territories). About half of the species of Tetragnathidae recorded in India are recorded only in one state or from the type localities. Hence, extensive faunistic surveys for these spiders are required particularly in north Indian states and union territories.

Keywords: India, Long-jawed orb weavers, Stilt spiders, Stretch spiders, Tetragnathidae.

INTRODUCTION

Spider is the common name of the members belonging to the order Araneae (Arthropoda: Chelicerata: Arachnida). They are among the most common and abundant predators mostly of insects in terrestrial ecosystems throughout the world. There is hardly any terrestrial habitat on this globe that escapes the presence of spiders. They also demonstrate a very diverse range of lifestyles and foraging behaviours (Coddington and Levi, 1991; Selden, 2016; Nyffeler and Birkhofer, 2017). In one estimate, the global spider community consumes 400-800 million tons of prey (mostly insects) per year. Another ecological significance of spiders is that they serve as a food source for an extremely diverse complex of predators-parasitoids-parasites, birds, amphibians, lizards, snakes, shrews, mice, bats, fish etc. (Nyffeler and Birkhofer, 2017). At present, spiders comprise 49,235 species placed

in 4,209 genera belonging to 128 families (WSC, 2021). However, there exist many species in the wild and museums that still await description and classification. It is estimated that only 20-30% of the existing species have been described. Despite recent researches on the faunistic biodiversity of spiders in India, their number is not enough as compared to other parts of the world. For example, Canada is known for its cold climate and relatively limited biodiversity, yet 1477 species of spiders belonging to 45 families are recorded (Bennett *et al*., 2019). India has a very rich biodiversity, has a tropical climate with biodiversity hotspots, has the manpower to conduct biodiversity surveys, but the best account so far lists only 1856 species belonging to 477 genera in 61 families (Caleb and Sankaran, 2021). Recently, the species distribution and checklist of 48 families of spiders has been updated in India (Sharma *et al.*, 2020a, b, 2021; Singh, 2021; Singh and Singh, 2020, 2021; Singh *et al.*, 2020a, b, c, d, e, f, g, 2021a, b; Tiwari and Singh, 2021; Tiwari *et al.*, 2021a, b).

Tetragnathidae Menge, 1866 is an araneomorph and ecribellate, entelegyne or secondary haplogyne spiders commonly called longed-jawed orb weavers or long-jawed spiders or stretch spiders or stilt spiders. They have an elongated body (2-23 mm long) having long slender legs with 3 tarsal claws and elongated chelicerae. They have 8 subequal eyes arranged in two rows of 4 equally distant or with the medial eyes closer to each other than laterals which are either spaced apart or contiguous. These spiders hold their back pair of legs out to the back of their body and their two front pairs of legs to the front when they are at rest. Like most of the spiders, males of long-jawed spiders are usually smaller than females often having an inflated base of the abdomen with relatively longer chelicerae than females. These spiders spin more or less horizontal orb webs which are loosely woven with an open hub with few wide-set radii and spiral with no signal line or retreat. The spider usually sits in the centre of the web. The webs are temporary and may be rebuilt daily. These spiders are often found in vegetation near water. When disturbed, these spiders drop to the ground or rush into the vegetation and enfold their legs around a stalk or adopting a stretch posture with legs stretched out. Adults of one of the genus, *Pachygnatha* Sundevall, 1823 do not spin orb webs and are hunters seeking their prey in the vegetation or at ground level, however, their shorter-legged immatures do spin orb webs. The elongated chelicerae of males, often armoured with numerous teeth, of several species are used to lock the female chelicerae during copulation (Eberhard and Huber, 1998). These long-jawed spiders restrain their prey by grasping it with their legs and the leg-like palps/pedipalps and inject poison/digestive juices through fangs located at the tips of the chelicerae. The egg sacs are usually kept on the ground, behind the barks or fastened in the vegetation and often watched over by the females. The egg sacs of few species of *Tetragnatha* Latreille, 1804 look like bird droppings. Morphological, phylogenetic and behavioural relationships between the species of Tetragnathidae are well illustrated by Álvarez-Padilla and Hormiga (2011).

The Tetragnathidae includes about 989 described species in 50 genera (WSC, 2021). The family has a worldwide distribution particularly highly diverse in the tropical and subtropical regions and is associated with some of the most important and fragile ecosystems of the world, wetlands and river ecosystems, often building their orb webs very close to the water surface. Some of the tetragnathids provide a striking example of dispersion abilities and ecological plasticity. Several species of the genus *Meta* C.L. Koch, 1836 live in the caves.

Though spiders, being mostly entomophagous, are among the most abundant biocontrol agents in many agroecosystems, their role in biological control is still disputed because they not only consume pest populations but also the biocontrol agents (predators/parasitoids) and thus may hamper the biocontrol of the pests caused by those bioagents (Singh, 2021). However, in irrigated rice at the early crop stages, the natural control of insect population is mainly attributed to spiders and the most abundant spiders assessed across the cropping season were

Tetragnatha spp. in South East Asian countries. Four species, *Tetragnatha javana* (Thorell, 1890), *Tetragnatha keyserlingi* Simon, 1890, *Tetragnatha mandibulata* Walckenaer, 1842, and *Tetragnatha virescens* Okuma, 1979, together comprised 10 to 40% of the spiders (Barrion and Litsinger, 1984; Singh and Singh, 2014; Joshi and Venkateshwarlu, 2016).

Despite their role as insect predators and being crucial to the health of terrestrial ecosystems, only 5 species, *Mesida thorelli* (Blackwall, 1877) (in Seychelles, vulnerable) (Gerlach, 2014a), *Meta barreti* (Kulczyński, 1899) (in Madeira, crucial) (Cardoso *et al.*, 2018a), *Meta dolloff* Levi, 1980 (in Mexico, vulnerable) (World Conservation Monitoring Centre, 1996), *Meta stridulans* Wunderlich, 1987 (in Madeira, least concern) (Cardoso *et al.*, 2018b) and *Tylorida mornensis* (Benoit, 1978) (in Seychelles, endangered) (Gerlach, 2014b) were listed in IUCN Red List of Threatened Species. However, none of the species recorded in India is on this list. Indeed, no attempt was made in this direction even though several species are known only from their type localities.

Information regarding the Indian Tetragnathidae is inadequate and highly incoherent primarily due to the unexplored diversity of these spiders in several parts of the country. There are several species of these spiders yet to be described and several species recorded from India have also been misidentified as many species reported from India are said to be identified by using existing old literature without a re-examination of the corresponding types and without consulting any spider taxonomist (Singh, 2021; Singh and Singh, 2021). Hence, these reports need re-examination. At present, a moderate amount of knowledge of Tetragnathidae is available in India but the pieces of information are all scattered in the literature of faunistic surveys and so far no consolidated account is available regarding their distribution pattern across the country. Therefore, this present work was undertaken to provide up-to-date information about this family in India in the light of modern taxonomic information.

MATERIALS AND METHODS

This checklist is based on the literature published in recent past books, journals and few authentic theses, websites, and World Species Catalog up to March 13, 2021. Some references of the faunistic survey were omitted because of repetition. In most of the literature, published earlier, several errors crept in the scientific names of the spiders 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 (Singh, 2021; Singh and Singh, 2020, 2021; WSC, 2021). If a spider species is identified only up to a generic level, it was considered as species if no other species of that genus is reported within the state. In the present checklist, attempts have been made to correct the errors in the scientific names of the spiders following World Spider Catalog. Only those synonymies were mentioned that were reported in India. All the endemic species are marked with (*). Seemingly, misidentified and erroneous records are marked with (+). Only those species were considered endemic that were exclusively found only in India. If the spider species is not endemic, its elsewhere distribution is also provided following World Spider Catalog (WSC, 2021).

RESULTS AND DISCUSSION

In India, Walckenaer (1841) was the first to describe a long-jawed spider, *Tetragnatha bengalensis* collected from West Bengal. Thereafter, Stoliczka (1869) described a species, *Tetragnatha irridescens* from the same state. After one and half decade, O. Pickard-Cambridge (1885) reported *Tetragnatha extensa* (Linnaeus, 1758) from Jammu and Kashmir, a diversely distributed species at present. In 1891, four more species of long-jawed spiders were described and one species was recorded by Thorell (1891) from Andaman and Nicobar Islands, namely *Leucauge nicobarica* (Thorell, 1891), *Leucauge tristicta* (Thorell, 1891), *Tetragnatha delumbis* Thorell, 1891 and *Tetragnatha parvula* Thorell, 1891 and *Tetragnatha mandibulata* Walckenaer, 1842. After a year, Thorell (1892) recorded another

species, *Leucauge pusilla* (Thorell, 1878) again from Andaman and Nicobar Islands. Thereafter, Pocock (1900) recorded 2 species from Maharashtra (*Leucauge celebesiana* (Walckenaer, 1841) and *Tetragnatha geniculata* Karsch, 1892) and in 1901, he described four species from Meghalaya (*Leucauge beata* (Pocock, 1901); *Orsinome armata* Pocock, 1901; *Tetragnatha coelestis* Pocock, 1901; *Tetragnatha paradisea* Pocock, 1901) and one species from Kerala (*Tylorida marmorea* (Pocock, 1901)). Consequently, several species of long-jawed spider were described or recorded in 20th century before independence (Pocock, 1904; Simon, 1906; Sherriffs, 1919, 1928; Gravely, 1921a, b; Hingston, 1927). Among the Indian authors, Tikader (1977) was the first to describe a species of Tetragnathidae, *Tetragnatha andamanensis* from Andaman and Nicobar Islands. Later on, Tikader and Bal (1980), Tikader (1982), Patel and Reddy (1990, 1993) described four more species of long-jawed spider from Andhra Pradesh, Gujarat, Himachal Pradesh and Maharashtra. In the present century, Gajbe (2004), Bodkhe *et al.* (2014), Bodkhe and Manthen (2015), Kulkarni *et al.* (2017) and Sankaran *et al.* (2017, 2020), Malamel *et al.* (2018) and Basumatary and Brahma (2019) described eight species from Assam, Goa, Gujarat, Madhya Pradesh, Maharashtra and Kerala.

At present, 77 species placed in 17 genera were described or recorded from India, out of which, 30 species (39%) were endemic. However, the Indian record is only 7.8% of the world Tetragnathidae fauna. All these spiders were distributed in all the Indian states except Nagaland and three union territories, Dadra & Nagar Haveli and Daman & Diu, Delhi and Ladakh (Figure 1). Eight species marked with () seem to be erroneous report or misidentification. However, Caleb and Sankaran (2021) enlisted only 55 species of Tetragnathidae described under 12 genera and the rest of the species recorded in India are either overlooked by them or are cases of misidentification.

Maximum of 35 species of these spiders were recorded in Kerala followed by 24 species each in Maharashtra, Tamil Nadu and West Bengal, 22 species in Karnataka, 21 species in Gujarat, 15 species in Odisha, and less number of species is recorded in other states (Figure 1). No species is recorded in Nagaland, Dadra and Nagar Haveli and Daman and Diu, Delhi and Ladakh and need extensive research work in these regions.

Out of 77 species of Tetragnathidae recorded in India, eleven species are widely distributed, viz. *Tetragnatha mandibulata* Walckenaer, 1842 (23 states, 3 union territories), *Leucauge decorata* (Blackwall, 1864) (22 states, 2 union territories), *Tetragnatha javana* (Thorell, 1890) (19 states, 1 union territory), *Leucauge celebesiana* (Walckenaer, 1841) (17 states, 1 union territory), *Guizygiella indica* (Tikader and Bal, 1980) (15 states), *Leucauge tessellata* (Thorell, 1887) (14 states), *Opadometa fastigata* (Simon, 1877) (14 states), *Tylorida ventralis* (Thorell, 1877) (13 states, 1 union territory), *Tetragnatha ceylonica* O. Pickard-Cambridge, 1869 (11 states, 2 union territories), *Tetragnatha keyserlingi* Simon, 1890 (12 states, 1 union territory), and *Tetragnatha andamanensis* Tikader, 1977 (10 states, 2 union territories). About half of the species of Tetragnathidae recorded in India are recorded only in one state or from the type locality. Hence, extensive faunistic surveys for these spiders are required.

Regarding the distribution of two species, namely, *Tetragnatha tenera* Thorell, 1881 and *Tetragnatha chauliodus* (Thorell, 1890) which were earlier reported to be distributed in India (Siliwal *et al.*, 2005; Keswani *et al.*, 2012; Caleb and Sankaran, 2021; WSC, 2021); I could not trace any faunistic literature regarding their distribution in India. I requested Dr. Theo Blick of the Editorial Board Member of World Spider Catalog on February 22, 2021 regarding their distribution in India who clarified that the distribution of both of the species in India is probably wrong. Therefore, on this ground, I have not included these two species in the present checklist of Tetragnathidae in India.

Following is the detailed list of these spiders distributed in Indian states and union territories and elsewhere.

I. Specieswise list of long-jawed spiders (Tetragnathidae) in Indian states and Union Territories

1. *Atelidea nona* Sankaran *et al.*, 2017*
- Kerala (Sankaran *et al.*, 2017)

2. *Dolichognatha lonarensis* Bodkhe and Manthen, 2015*
- Goa (Pandit and Dharwadkar, 2020)
- Maharashtra (Bodkhe and Manthen, 2015)

3. *Dolichognatha longiceps* (Thorell, 1895)
- Kerala (Sunil Jose, 2014)
- Elsewhere: Myanmar, Thailand

4. *Dyschiriognatha* sp.
- Uttarakhand (Uniyal *et al.*, 2011)

5. *Eucta* sp.
- Madhya Pradesh (Gajbe, 2003a)
- Tamil Nadu (Sherriffs, 1919)

6. *Glenognatha dentata* (Zhu and Wen, 1978)
Syn. *Dyschiriognatha dentata* Zhu and Wen 1978
- Kerala (Sebastian *et al.*, 2005, 2011; Sudhikumar *et al.*, 2005a; Mathew *et al.*, 2014)
- Mizoram (Chowdhury *et al.*, 2017)
- Elsewhere: Bangladesh, China, Myanmar, Philippines, Vietnam

7. *Glenognatha ganeshi* (Bodkhe *et al.*, 2014)*
Syn. *Dyschiriognatha ganeshi* Bodkhe *et al.*, 2014
- Maharashtra (Bodkhe *et al.*, 2014)

8. *Glenognatha paullula* Sankaran *et al.*, 2020*
- Kerala (Sankaran *et al.*, 2020)

9. *Guizygiella indica* (Tikader and Bal, 1980)*
Syn. *Zygiella indica* Tikader and Bal, 1980)
- Andhra Pradesh (Rao *et al.*, 2005)
- Bihar (Priyadarshini *et al.*, 2015)
- Chhattisgarh (Ekka and Kujur, 2015)
- Gujarat (Patel, 2003b; Siliwal *et al.*, 2003a, b; Solanki and Kumar, 2015; Yadav *et al.*, 2017)
- Haryana (Malik andGoyal, 2017)
- Karnataka (Nautiyal *et al.*, 2017)
- Kerala (Joseph *et al.*, 2017; Sumesh and Sudhikumar, 2020)
- Madhya Pradesh (Gajbe, 2003a, 2003b, 2004a, 2007; Patil, 2012; Keswani, 2014)
- Maharashtra (Tikader and Bal, 1980; Tikader, 1982; More and Sawant, 2013; Sawane, 2016; Lanka *et al.*, 2017)
- Manipur (Biswas and Biswas, 2004; Kananbala *et al.*, 2018)
- Rajasthan (Kaur *et al.*, 2014; Lawania and Trigunayat, 2015; Lawania and Mathur, 2017; Malhotra *et al.*, 2019)
- Tamil Nadu (Sugumaran, 2001)
- Uttar Pradesh (Hore and Uniyal, 2008a)
- Uttarakhand (Hore and Uniyal, 2008b)
- West Bengal (Biswas and Biswas, 1992, 2004)

10. *Guizygiella melanocrania* (Thorell, 1887)
Syn. *Araneus melanocrania* (Thorell, 1887); *Zygiella melanocrania* (Thorell, 1887)
- Gujarat (Siliwal *et al.*, 2003a, b; Solanki and Kumar, 2015; Yadav *et al.*, 2017)
- Karnataka (Nautiyal *et al.*, 2017)
- Madhya Pradesh (Gajbe, 2003a)
- Maharashtra (Bastawade, 2008a; Meshram, 2011)
- Manipur (Biswas and Biswas, 2004; Kananbala *et al.*, 2018)
- Odisha (Gravely, 1922; Tikader and Bal, 1980; Tikader, 1982; Majumder, 2004, 2005; De and Palita, 2018)
- Rajasthan (Chauhan *et al.*, 2009; Lawania and Mathur, 2017; Kumari *et al.*, 2017)
- Tamil Nadu (Sherriffs, 1919; Caleb, 2020a)
- West Bengal (Biswas and Biswas, 1992; Biswas and Biswas, 2004; Majumder, 2004, 2005; Majumder and Talukdar, 2013)
- Elsewhere: China, Laos, Myanmar, Pakistan

11. *Guizygiella nadleri* (Heimer, 1984)+
- Kerala (Sumesh and Sudhikumar, 2020)
- Elsewhere: China, Laos, Vietnam

12. *Guizygiella shivui* (Patel and Reddy, 1990)*
Syn. *Zygiella shivui* Patel and Reddy, 1990
- Gujarat (Patel and Reddy, 1990; Patel, 2003b; Yadav *et al.*, 2017)

13. *Guizygiella* sp.
- Chhattisgarh (Ekka andKujur, 2015)
- Goa (Pandit and Dharwadkar, 2020)
- Gujarat (Solanki and Kumar, 2014)
- Odisha (Biswas, 1987)
- Tamil Nadu (Caleb, 2020b)
- Uttarakhand (Uniyal *et al.*, 2011)

14. *Leucauge beata* (Pocock, 1901)*
Syn. *Argyroepeira beata* Pocock, 1901)
- Meghalaya (Pocock, 1901)

15. *Leucauge bituberculata* Baert, 1987+
- Kerala (Sebastian *et al.*, 2005)
- Elsewhere: Galapagos Islands

16. *Leucauge blanda* (L. Koch, 1878)
- Maharashtra (Chapke, 2012)
- Elsewhere: China, Korea, Japan, Russia (Far East), Taiwan

17. *Leucauge celebesiana* (Walckenaer, 1841)
Syn. *Tetragnatha celebesiana* Walckenaer, 1837**)**
- Arunachal Pradesh (Biswas and Biswas, 2006)
- Assam (Tikader, 1970, 1982)
- Bihar (Yadav *et al.*, 2016)
- Chhattisgarh (Gajbe and Sharma, 1994; Kujur and Ekka, 2016)
- Gujarat (Patel, 2003b; Yadav *et al.*, 2017)
- Jammu and Kashmir (Khan, 2009, 2011a, b; Khan and Rather, 2012; Sharma, 2014; Punjoo and Bhat, 2015)
- Karnataka (Nautiyal *et al.*, 2017; Prashanthakumara and Venkateshwarlu, 2017)
- Kerala (Subrahmaniam, 1955; Joseph *et al.*, 1998; Patel, 2003a; Sebastian *et al.*, 2005, 2011)
- Madhya Pradesh (Gajbe, 2003a)
- Maharashtra (Pocock, 1900; Tikader, 1970, 1982)
- Meghalaya (Gravely, 1921b; Tikader, 1970, 1982; Biswas and Majumder, 1995)
- Mizoram (Biswas and Biswas, 2007)
- Odisha (Gravely, 1921a; Biswas, 1987)
- Sikkim (Tikader, 1970, 1982)
- Tamil Nadu (Pocock, 1900; Sherriffs, 1919; Tikader, 1970, 1982; Umarani and Umamaheswari, 2013)
- Uttar Pradesh (Hore and Uniyal, 2008a, b; Kumar *et al.*, 2017; Singh and Singh, 2014; Sharma and Singh, 2018a, b)
- Uttarakhand (Biswas and Biswas, 2010; Quasin and Uniyal, 2011; Uniyal *et al.*, 2011)
- West Bengal (Pocock, 1900; Gravely, 1921b; Tikader, 1970, 1982; Biswas and Biswas, 1992; Majumder and Talukdar, 2013)
- Elsewhere: China, Indonesia (Sulawesi), Japan, Korea, Laos, New Guinea, Russia (Far East), Vietnam

18. *Leucauge decorata* (Blackwall, 1864)
Syn. *Nephila angustata* Stoliczka, 1869; *Argyroepeira angustata* (Stoliczka, 1869); *Tetragnatha decorata* Blackwall, 1864
- Andhra Pradesh (Rao *et al.*, 2005; Palem *et al.*, 2016)
- Assam (Tikader, 1982; Majumder, 2004, 2005; Chetia and Kalita, 2012; Singh *et al.*, 2012, 2013; Basumatary and Brahma, 2017)
- Bihar (Gravely, 1921b; Tikader, 1970, 1982; Majumder, 2004)
- Chhattisgarh (Tikader, 1970; Kujur and Ekka, 2016)
- Goa (Pandit and Pai, 2017; Pandit and Dharwadkar, 2020)
- Gujarat (Tikader, 1982; Patel and Vyas, 2001; Patel, 2003b; Siliwal *et al.*, 2003b; Majumder, 2004, 2005; Solanki and Kumar, 2014; Solanki and Kumar, 2015; Suthar *et al.*, 2017; Yadav *et al.*, 2017)
- Haryana (Malik and Goyal, 2017)
- Jammu and Kashmir (Thakur *et al.*, 1995; Sharma, 2014)
- Karnataka (Gravely, 1921b; Sherriffs, 1928; Tikader, 1970, 1982; Majumder, 2004, 2005; Bhat *et al.*, 2013; Joshi and Venkateshwarlu, 2016; Rao *et al.*, 2018; Shraddha and Chaturved, 2019)
- Kerala (Subrahmaniam, 1955; Tikader, 1982; Patel, 2003a; Sebastian *et al.*, 2005; Sudhikumar *et al.*, 2005b; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015; Adarsh and Nameer, 2016; Rajeevan *et al.*, 2019)
- Madhya Pradesh (Gajbe, 2003a, 2004a, b; Sharma *et al.*, 2010; Patil, 2012; Keswani, 2014)
- Maharashtra (Bastawade and Khandal, 2006; Meshram, 2011; Rithe, 2012; More and Sawant, 2013; Shukla *et al.*, 2015; Sawane, 2016; Wankhade and Manwar, 2016)
- Meghalaya (Gravely, 1921b; Tikader, 1982; Biswas and Majumder, 1995; Majumder, 2004, 2005; Bhattacharya *et al.*, 2017)
- Odisha (Tikader, 1970, 1982; Majumder, 2004, 2005; De and Palita, 2018; Choudhury *et al.*, 2019)
- Puducherry (Simon, 1906; Tikader, 1982; Majumder, 2004, 2005)

- Punjab (Kumari, 1983)
- Rajasthan (Chauhan *et al.*, 2009; Kaur *et al.*, 2014; Lawania and Trigunayat, 2015; Kumari *et al.*, 2017; Lawania and Mathur, 2017)
- Sikkim (Tikader, 1970, 1982; Majumder, 2004, 2005)
- Tamil Nadu (Gravely, 1921b; Tikader, 1970, 1982; Ganesh Kumar and Velusamy, 1996; Sugumaran, 2001; Sugumaran *et al.*, 2007; Karthikeyani *et al.*, 2017; Caleb, 2020a, b)
- Telangana (Sailu *et al.*, 2017)
- Tripura (Dey *et al.*, 2013)
- Uttar Pradesh (Hore and Uniyal, 2008a, b; Anjali and Prakash, 2012; Lawania and Mathur, 2014; Singh and Singh, 2014; Kumar *et al.*, 2017; Sharma and Singh, 2018a, b)
- Uttarakhand (Simon, 1889; Gravely, 1921b; Tikader, 1970, 1982; Uniyal and Hore, 2006; Gupta and Siliwal, 2012; Quasin and Uniyal, 2011; Uniyal *et al.*, 2011; Pooja *et al.*, 2019; Siddhu *et al.*, 2020)
- West Bengal (Stoliczka, 1869; Gravely, 1921b; Tikader, 1970, 1982; Biswas and Biswas, 1992; Majumder, 2005; Talukdar and Majumder, 2008; Majumder and Talukdar, 2013; Sen *et al.*, 2015; Raychaudhuri *et al.*, 2016; Saha *et al.*, 2016, 2017)
- Elsewhere: Australia, Bangladesh, China, Indonesia, Japan, Myanmar, Pakistan, Papua New Guinea, Philippines, Thailand

19. *Leucauge ditissima* (Thorell, 1887)
- Tamil Nadu (Sherriffs, 1919)
- Elsewhere: Myanmar, Sri Lanka

20. *Leucauge dorsotuberculata* Tikader, 1982*
- Kerala (Sudhikumar *et al.*, 2005b; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015; John and Tom, 2018)
- Maharashtra (Tikader, 1982; Deshmukh and Tekade, 2019)

21. *Leucauge granulata* (Walckenaer, 1837)
Syn. *Leucauge bengalensis* Gravely, 1921; *Leucauge argentata* (O. Pickard-Cambridge, 1869)
- Kerala (Subrahmaniam, 1955; Malamel and Sebastian, 2018)
- Tamil Nadu (Sherriffs, 1919)
- West Bengal (Gravely, 1921b; Tikader and Biswas, 1981; Tikader, 1982; Biswas and Biswas, 1992; Majumder, 2005)
- Elsewhere: Australia, China, French Polynesia, Sri Lanka, Sunda Island

22. *Leucauge nicobarica* (Thorell, 1891)*
Syn. *Callinethis nicobarica* Thorell, 1891
- Andaman and Nicobar Islands (Thorell, 1891)

23. *Leucauge parangscipinia* Barrion and Litsinger, 1995
- Uttarakhand (Gupta and Siliwal, 2012)
- Elsewhere: Philippines

24. *Leucauge pusilla* (Thorell, 1878)
Syn. *Meta pusilla* Thorell, 1878; *Argyroepeira pusilla* (Thorell, 1878)
- Andaman and Nicobar Islands (Thorell, 1892; Sherriffs, 1928)
- Elsewhere: Indonesia

25. *Leucauge rubrotrivittata* Simon, 1906*
- Himalayan plateaus (Simon, 1906)

26. *Leucauge tessellata* (Thorell, 1887)
- Andhra Pradesh (Rao *et al.*, 2005; Palem *et al.*, 2016)
- Arunachal Pradesh (Biswas and Biswas, 2006)
- Assam (Gravely, 1921b; Tikader, 1970, 1982; Majumder, 2004, 2005; Chetia and Kalita, 2012; Singh *et al.*, 2012, 2013; Basumatary and Brahma, 2017)
- Gujarat (Tikader, 1982; Siliwal *et al.*, 2003b; Patel, 2003b; Majumder, 2004, 2005; Bastawade and Borkar, 2008; Suthar *et al.*, 2017; Yadav *et al.*, 2017)
- Karnataka (Tikader, 1982; Majumder, 2004, 2005; Shraddha and Chaturved, 2019)
- Kerala (Tikader, 1982; Patel, 2003a; Majumder, 2004, 2005; Sudhikumar *et al.*, 2005b; Bastawade and Borkar, 2008; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2016; Rajeevan *et al.*, 2019)
- Maharashtra (Majumder, 2004, 2005; Bastawade and Khandal, 2006; Bastawade and Borkar, 2008)
- Manipur (Biswas and Biswas, 2004; Kananbala *et al.*, 2018)
- Meghalaya (Biswas and Majumder, 1995; Biswas and Biswas, 2004, 2007)
- Mizoram (Biswas and Biswas, 2007)
- Odisha (Gravely, 1921a; Biswas, 1987)

- Sikkim (Tikader, 1970, 1982; Majumder, 2004, 2005; Bastawade and Borkar, 2008)
- Tamil Nadu (Gravely, 1921b; Kapoor, 2008)
- West Bengal (Gravely, 1921b; Tikader, 1970, 1982; Biswas and Biswas, 1992; Biswas and Biswas, 2004; Majumder, 2005; Bastawade and Borkar, 2008; Majumder and Talukdar, 2013; Sen *et al.*, 2015; Raychaudhuri *et al.*, 2016; Saha *et al.*, 2016, 2017)
- Elsewhere: China, Moluccas, Laos, Vietnam

27. *Leucauge tristicta* (Thorell, 1891)*
Syn. *Callinethis tristicta* Thorell, 1891)
- Andaman and Nicobar Islands (Thorell, 1891)

28. *Leucauge venusta* (Walckenaer, 1837)+
- Arunachal Pradesh (Chetry and Moran, 2019)
- Assam (Chetia and Kalita, 2012)
- Karnataka (Tabasum *et al.*, 2018)
- Elsewhere: Canada, USA

29. *Leucauge* sp.
- Bihar (Goswami *et al.*, 2015)
- Chhattisgarh (Ekka and Kujur, 2015)
- Gujarat (Parasharya and Pathan, 2013)
- Jammu and Kashmir (Khan, 2009, 2011a, b; Punjoo and Bhat, 2015)
- Karnataka (Bhat *et al.*, 2013)
- Kerala (Sebastian *et al.*, 2005)
- Odisha (Choudhury *et al.*, 2019)
- Rajasthan (Lawania and Trigunayat, 2015)
- Tamil Nadu (Kapoor, 2008; Dharmaraj *et al.*, 2018)
- Uttar Pradesh (Hore and Uniyal, 2008a, b; Lawania and Mathur, 2014)
- Uttarakhand (Uniyal *et al.*, 2011)
- West Bengal (Talukdar and Majumder, 2008; Ghosh *et al.*, 2018)

30. *Meotipa sahyadri* Kulkarni *et al.*, 2017*
- Goa (Kulkarni *et al.*, 2017)
- Gujarat (Kulkarni *et al.*, 2017)
- Maharashtra (Kulkarni *et al.*, 2017)

31. *Meotipa ultapani* Basumatary and Brahma, 2019*
- Assam (Basumatary and Brahma, 2019)

32. *Mesida culta* (O. Pickard-Cambridge, 1869)
Syn. *Leucauge sexpustulata* Simon, 1906; *Leucauge culta* (O. Pickard-Cambridge, 1869); *Tylorida culta* (O. Pickard-Cambridge, 1869); *Tetragnatha culta* O. Pickard-Cambridge, 1869
- Goa (Bastawade and Borkar, 2008)
- Himalayan plateaus (Simon, 1906)
- Jammu and Kashmir (Punjoo and Bhat, 2015)
- Karnataka (Tikader, 1982; Bastawade and Borkar, 2008)
- Kerala (Sebastian *et a*l., 2005, 2011; Sudhikumar *et al.*, 2005b; Sunil Jose *et al.*, 2008)
- Manipur (Kananbala *et al.*, 2018)
- Tamil Nadu (Reimoser, 1934; Kapoor, 2008)
- West Bengal (Gravely, 1921b; Tikader, 1982; Biswas and Biswas, 1992; Bastawade and Borkar, 2008; Majumder and Talukdar, 2013)
- Elsewhere: Sri Lanka

33. *Mesida* sp.
- Goa (Pandit and Dharwadkar, 2020)

34. *Meta abdomenalis* Patel and Reddy, 1993*
- Andhra Pradesh (Patel and Reddy, 1993)

35. *Meta menardi* (Latreille, 1804)
- Jammu and Kashmir (Caporiacco, 1935)
- Elsewhere: Europe, Iran, Turkey

36. *Meta mixta* O. Pickard-Cambridge, 1885
Syn. *Argyrepeira mixta* (O. Pickard-Cambridge, 1885), mis named by Caporiacco, 1935
- Jammu and Kashmir (Caporiacco, 1935)
- Elsewhere: Pakistan

37. *Meta simlaensis* Tikader, 1982*
- Himachal Pradesh (Tikader, 1982)

38. *Meta* sp.
- Uttar Pradesh (Hore and Uniyal, 2008a, b)

39. *Metellina* sp.
- Uttarakhand (Uniyal *et al.*, 2011)

40. *Okileucauge* sp.
- Kerala (Joseph *et al.*, 2017)

41. *Opadometa fastigata* (Simon, 1877)
Syn *Leucauge fastigata* Simon, 1877; *Argyroepeira fastigiata* (Simon, 1877)
- Arunachal Pradesh (Chetry and Moran, 2019)
- Assam (Chetia and Kalita, 2012; Basumatary and Brahma, 2017)
- Goa (Pandit and Dharwadkar, 2020)

- Gujarat (Thumar, 2019)
- Himachal Pradesh (Bastawade, 2008b)
- Karnataka (Sherriffs, 1928; Bhat *et al.*, 2013; Shraddha and Chaturved, 2019)
- Kerala (Joseph *et al.*, 1998; Tikader, 1982; Patel, 2003a; Sudhikumar *et al.*, 2005b; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015; Adarsh and Nameer, 2016; John and Tom, 2018)
- Maharashtra (Bastawade and Khandal, 2006; Rithe, 2012; More and Sawant, 2013)
- Odisha (Gravely, 1921a, b; Biswas, 1987; Tikader, 1982; De and Palita, 2018)
- Tamil Nadu (Gravely, 1921b; Sugumaran, 2001; Sugumaran *et al.*, 2007; Kapoor, 2008; Umarani and Umamaheswari, 2013; Dharmaraj *et al.*, 2018)
- Tripura (Dey *et al.*, 2013)
- Uttar Pradesh (Gravely, 1921b)
- Uttarakhand (Gravely, 1921b; Tikader, 1982; Gupta and Siliwal, 2012)
- West Bengal (Sen *et al.*, 2015; Raychaudhuri *et al.*, 2016; Saha *et al.*, 2016)
- Elsewhere: China, Malaysia, Myanmar, Philippines, Sulawesi, Taiwan

42. *Opadometa* sp.
- Kerala (Sebastian *et al.*, 2005)
- Maharashtra (Lanka *et al.*, 2017)

43. *Orsinome armata* Pocock, 1901*
- Kerala (Sebastian *et al.*, 2011)
- Meghalaya (Pocock, 1901; Sherriffs, 1928)

44. *Orsinome vethi* (Hasselt, 1882)
Syn. *Orsinome listeri* Gravely, 1921; *Labulla nepula* Tikader, 1970
- Assam (Caleb *et al.*, 2018)
- Gujarat (Siliwal *et al.*, 2003a; Solanki and Kumar, 2014)
- Sikkim (Tikader, 1970)
- West Bengal (Gravely, 1921a, b; Sherriffs, 1928; Caleb *et al.*, 2018)
- Elsewhere: China, Indonesia, Laos, Malaysia, Vietnam

45. *Orsinome* sp.
- Kerala (Mathew *et al.*, 2014)

46. *Tetragnatha andamanensis* Tikader, 1977
- Andaman and Nicobar Islands (Tikader, 1977; Majumder, 2004)
- Assam (Singh *et al.*, 2012, 2013)
- Gujarat (Siliwal *et al.*, 2003a)
- Jammu and Kashmir (Thakur *et al.*, 1995)
- Jharkhand (Agrawal and Ghose, 1995)
- Kerala (Sebastian et al., 2005; Sudhikumar *et al.*, 2005a; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2016)
- Manipur (Biswas and Biswas, 2004; Kananbala *et al.*, 2018)
- Mizoram (Biswas and Biswas, 2007)
- Tamil Nadu (Majumder, 2005)
- Tripura (Biswas and Majumder, 2000)
- Uttarakhand (Biswas and Biswas, 2010)
- West Bengal (Biswas and Biswas, 1992, 2004, 2007; Majumder, 2004, 2005)
- Elsewhere: Bangladesh

47. *Tetragnatha bengalensis* Walckenaer, 1841*
- Kerala (Joseph *et al.*, 2017)
- Maharashtra (Rithe, 2012)
- West Bengal (Walckenaer, 1841)

48. *Tetragnatha bituberculata* L. Koch, 1867
- Kerala (Sumesh and Sudhikumar, 2020)
- Elsewhere: Australia, Japan, New Guinea

49. *Tetragnatha bogotensis* Keyserling, 1865
Syn. *Tetragnatha chauliodus* (Thorell, 1890, m.i. by Basu and Raychaudhuri, 2016); *Tetragnatha mandibulata bidentata* Gravely, 1921
- Gujarat (Patel, 2003b)
- Madhya Pradesh (Gravely, 1921b)
- Maharashtra (Gravely, 1921b)
- West Bengal (Gravely, 1921b; Basu and Raychaudhuri, 2016)
- Elsewhere: Africa, Bangladesh, Brazil, Caribbean, China, Hispaniola, Italy, Mexico, Nepal, Paraguay, Peru, Seychelles, Spain, Yemen

50. *Tetragnatha cambridgei* Roewer, 1942+
- Gujarat (Yadav *et al.*, 2017)
- Elsewhere: Central America, Mexico, Puerto Rico

51. *Tetragnatha caudicula* (Karsch, 1879)
- West Bengal (Raychaudhuri *et al.*, 2016; Saha *et al.*, 2016)
- Elsewhere: China, Japan, Korea, Russia, Taiwan

52. *Tetragnatha ceylonica* O. Pickard-Cambridge, 1869
Syn. *Meta gracilis* Stoliczka, 1869; *Tetragnatha gracilis* (Stoliczka, 1869)
- Andaman and Nicobar Islands (Pocock, 1900)
- Odisha (Gravely, 1921a
- Assam (Roy *et al.*, 2017)
- Bihar (Gravely, 1921b)
- Kerala (Gravely, 1921b; Subrahmaniam, 1955; Sebastian et al., 2005, 2011; Sunil Jose *et al.*, 2008)
- Karnataka (Gravely, 1921b)
- Maharashtra (Pocock, 1900; Gravely, 1921b)
- Meghalaya (Roy *et al.*, 2017)
- Odisha (Gravely, 1921b; Panda *et al.*, 2011)
- Puducherry (Leardi in Airaghi, 1901)
- Tamil Nadu (Pocock, 1900; Simon, 1906; Sherriffs, 1919; Gravely, 1921b; Karthikeyani *et al.*, 2017; Caleb, 2020b)
- Uttar Pradesh (Sharma and Singh, 2018a, b)
- West Bengal (Stoliczka, 1869; Pocock, 1900; Gravely, 1921b; Sengupta *et al.*, 2014; Sen *et al.*, 2015; Basu and Raychaudhuri, 2016)
- Elsewhere: Japan, New Guinea, Philippines, Seychelles, South Africa, Thailand

53. *Tetragnatha chamberlini* (Gajbe, 2004)*
Syn. *Eucta chamberlini* Gajbe, 2004)
- Chhattisgarh (Kujur and Ekka, 2012, 2016; Ekka and Kujur, 2015)
- Madhya Pradesh (Gajbe, 2004a; Patil, 2012)
- Rajasthan (Lawania and Trigunayat, 2015)
- Uttar Pradesh (Hore and Uniyal, 2008a, b; Lawania and Mathur, 2014)

54. *Tetragnatha cochinensis* Gravely, 1921*
- Karnataka (Gravely, 1921b; Joshi and Venkateshwarlu, 2016)
- Kerala (Subrahmaniam, 1955; Sebastian *et al*., 2005; Sudhikumar *et al.*, 2005a; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015)
- Maharashtra (Lanka *et al.*, 2017)
- Odisha (Choudhury *et al.*, 2019)
- Tamil Nadu (Gravely, 1921b; Sherriffs, 1928; Karthikeyani *et al.*, 2017)

55. *Tetragnatha coelestis* Pocock, 1901*
- Meghalaya (Pocock, 1901; Sherriffs, 1928)

56. *Tetragnatha delumbis* Thorell, 1891*
- Andaman and Nicobar Islands (Thorell, 1891; Gravely, 1921b; Sherriffs, 1928)

57. *Tetragnatha demissa* L. Koch, 1872
Syn. *Tetragnatha foliifera* Simon, 1898
- Puducherry (Sherriffs, 1928)
- Elsewhere: Australia, Cyprus, South Africa, Seychelles, Tanzania, Tonga

58. *Tetragnatha elongata* Walckenaer, 1837+
- Karnataka (Mubeen and Basavarajappa, 2018)
- Kerala (Sumesh and Sudhikumar, 2020)
- Elsewhere: Argentina, Canada, England, Jamaica, Mexico, Panama, USA

59. *Tetragnatha extensa* (Linnaeus, 1758)
Syn. *Tetragnatha estensa* (Linnaeus, 1758)
- Gujarat (Parmar and Patel, 2015; Yadav *et al.*, 2017; Solanki *et al.*, 2020)
- Jammu and Kashmir (O. Pickard-Cambridge, 1885; Caporiacco, 1935)
- Puducherry (Leardi in Airaghi, 1901)
- Elsewhere: Caucasus, Central Asia, China, Europe, Greenland, Iran, Iraq, Japan, Kazakhstan, Korea, North America, Russia, Turkey

60. *Tetragnatha fletcheri* Gravely, 1921
- Gujarat (Patel and Vyas, 2001; Patel, 2003b)
- Karnataka (Bhat *et al.*, 2013; Nautiyal *et al.*, 2017)
- Kerala (Sebastian *et al*., 2005; Adarsh and Nameer, 2016)
- Meghalaya (Gravely, 1921b; Sherriffs, 1928) Elsewhere: Bangladesh

61. *Tetragnatha foliferens* Hingston, 1927 *
- Andaman and Nicobar Islands (Hingston, 1927)

62. *Tetragnatha foveata* Karsch, 1892
- Lakshadweep (Pocock, 1904)
- Elsewhere: Maldive Island, Sri Lanka

63. *Tetragnatha geniculata* Karsch, 1892
- Chhattisgarh (Kujur and Ekka, 2016)
- Jharkhand (Gravely, 1921b)
- Madhya Pradesh (Gajbe, 2004c)
- Maharashtra (Pocock, 1900; Gravely, 1921b)
- Tamil Nadu (Sherriffs, 1919; Gravely, 1921b; Karthikeyani *et al.*, 2017)
- Elsewhere: China, Sri Lanka, Vietnam

64. *Tetragnatha hasselti* Thorell, 1890
- Odisha (Biswas, 1987)

- West Bengal (Sen *et al.*, 2015; Basu and Raychaudhuri, 2016)
- Elsewhere: Bangladesh, China, Indonesia

65. *Tetragnatha irridescens* Stoliczka, 1869*
- West Bengal (Stoliczka, 1869; Gravely, 1921b; Sherriffs, 1928)

66. *Tetragnatha isidis* (Simon, 1880)
Syn. *Eucta isidis* Simon, 1880
- Tamil Nadu (Reimoser, 1934)
- Elsewhere: Caucasus, Central Africa, Egypt, Europe, France, Georgia, Hungary, Iberian Peninsula, Iran, Italy, Kazakhstan, Russia

67. *Tetragnatha javana* (Thorell, 1890)
Syn. *Eucta javana* Thorell, 1890
- Arunachal Pradesh (Pathak *et al.*, 2020)
- Assam (Singh *et al.*, 2012, 2013; Basumatary and Brahma, 2017)
- Bihar (Gravely, 1921b; Tikader, 1970; Yadav *et al.*, 2016)
- Goa (Halarnkar and Pai, 2018)
- Gujarat (Patel, 2003b; Siliwal *et al.*, 2003a; Yadav *et al.*, 2017)
- Jammu and Kashmir (Khan, 2011b; Khan and Rather, 2012; Sharma, 2014)
- Jharkhand (Gravely, 1921b; Tikader and Biswas, 1981)
- Karnataka (Gravely, 1921b; Tikader, 1970; Tikader and Biswas, 1981; Joshi and Venkateshwarlu, 2016; Nautiyal *et al.*, 2017)
- Kerala (Gravely, 1921b; Sebastian *et al.*, 2005)
- Maharashtra (More and Sawant, 2013; Nerlekar *et al.*, 2016)
- Manipur (Kananbala *et al.*, 2018)
- Meghalaya (Tikader, 1970)
- Mizoram (Chowdhury *et al.*, 2017)
- Odisha (Gravely, 1921b; Tikader, 1970; Tikader and Biswas, 1981; Biswas, 1987)
- Sikkim (Tikader, 1970; Tikader and Biswas, 1981)
- Tamil Nadu (Gravely, 1921b; Tikader, 1970; Ganesh Kumar and Velusamy, 1996; Sugumaran, 2001; Vinothkumar, 2012; Karthikeyani *et al.*, 2017; Caleb, 2020b)
- Uttar Pradesh (Khan and Mishra, 2003; Singh and Singh, 2014; Sharma and Singh, 2018a, b)
- Uttarakhand (Siddhu *et al.*, 2020)
- West Bengal (Gravely, 1921b; Tikader, 1970; Tikader and Biswas, 1981; Biswas and Biswas, 1992; Majumder and Talukdar, 2013; Sengupta *et al.*, 2014; Sen *et al.*, 2015; Basu and Raychaudhuri, 2016)
- Elsewhere: Africa, Bangladesh, China, Formosa, France, Japan, Malaysia, Myanmar, New Guinea, Philippines, Thailand

68. *Tetragnatha josephi* Okuma, 1988
- West Bengal (Basu and Raychaudhuri, 2016)
- Elsewhere: Malaysia, Singapore

69. *Tetragnatha keyserlingi* Simon, 1890
Syn. *Tetragnatha maxillosa* Thorell, 1895; *Tetragnatha listeri* Gravely, 1921
- Andhra Pradesh (Palem *et al.*, 2016)
- Arunachal Pradesh (Pathak *et al.*, 2020)
- Bihar (Goswami *et al.*, 2015; Yadav *et al.*, 2016)
- Gujarat (Patel and Vyas, 2001; Patel, 2003b; Parmar and Patel, 2015; Yadav *et al.*, 2017)
- Jammu and Kashmir (Khan, 2006, 2009, 2011b; Khan and Rather, 2012; Punjoo and Bhat, 2015)
- Karnataka (Nautiyal *et al.*, 2017)
- Kerala (Patel, 2003a; Sudhikumar and Sebastian, 2005; Sebastian *et al.*, 2005; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015, 2016)
- Mizoram (Chowdhury *et al.*, 2017)
- Odisha (Choudhury *et al.*, 2019)
- Tamil Nadu (Gravely, 1921b; Sherriffs, 1928)
- Uttar Pradesh (Singh and Singh, 2014; Sharma and Singh, 2018a, b)
- Uttarakhand (Uniyal *et al.*, 2011; Gupta and Siliwal, 2012)
- West Bengal (Gravely, 1921b; Majumder and Talukdar, 2013; Basu and Raychaudhuri, 2016; Chakraborty *et al.*, 2016)
- Elsewhere: Africa, Brazil, Caribbean, Central America, Japan, Korea, New Hebrides, Philippines, Polynesia, Thailand

70. *Tetragnatha mandibulata* Walckenaer, 1842
Syn. *Tetragnatha minatoria* Simon, 1877
- Andaman and Nicobar Islands (Thorell, 1891; Pocock, 1900; Tikader, 1966; Tikader, 1977; Singh *et al.*, 2013)
- Andhra Pradesh (Palem *et al.*, 2016; Pathak *et al.*, 2020)
- Assam (Gravely, 1921b; Chetia and Kalita, 2012; Singh *et al.*, 2012)
- Bihar (Gravely, 1921b; Tikader, 1977; Majumder, 2005)

- Goa (Bastawade and Borkar, 2008; Halarnkar and Pai, 2018; Pandit and Dharwadkar, 2020)
- Gujarat (Patel and Vyas, 2001; Patel, 2003b; Yadav *et al.*, 2017)
- Haryana (Malik and Goyal, 2017)
- Jammu and Kashmir (Khan, 2006)
- Jharkhand (Gravely, 1921b; Tikader and Biswas, 1981)
- Karnataka (Gravely, 1921b; Majumder, 2005; Joshi and Venkateshwarlu, 2016; Nautiyal *et al.*, 2017; Shraddha and Chaturved, 2019)
- Kerala (Subrahmaniam, 1955; Tikader, 1977; Patel, 2003a; Sebastian *et al.*, 2005; John and Tom, 2018; Rajeevan *et al.*, 2019)
- Madhya Pradesh (Sharma *et al.*, 2010; Shukla *et al.*, 2015)
- Maharashtra (Bastawade and Khandal, 2006; Bastawade, 2008a; Meshram, 2011; Sawane, 2016; Wankhade and Manwar, 2016)
- Manipur (Kananbala *et al.*, 2018)
- Meghalaya (Bhattacharya *et al.*, 2017)
- Odisha (Gravely, 2021a, b; Tikader, 1977; De and Palita, 2018; Choudhury *et al.*, 2019)
- Puducherry (Leardi in Airaghi, 1901; Simon, 1906)
- Punjab (Kumari, 1983)
- Rajasthan (Tikader, 1961, 1966; Chauhan *et al.*, 2009; Kumari *et al.*, 2017)
- Sikkim (Tikader, 1977)
- Tamil Nadu (Sherriffs, 1919; Gravely, 1921b; Tikader, 1977; Ganesh Kumar and Velusamy, 1996; Majumder, 2005; Karthikeyani *et al.*, 2017; Caleb, 2020a, b)
- Telangana (Rao *et al.*, 2005; Sailu *et al.*, 2017)
- Uttar Pradesh (Khan and Mishra, 2003; Singh and Singh, 2014; Kumar *et al.*, 2017; Sharma and Singh, 2018a, b)
- Uttarakhand (Gupta and Siliwal, 2012)
- West Bengal (Gravely, 1921b; Tikader, 1966, 1977; Biswas and Biswas, 1992; Majumder, 2005; Talukdar and Majumder, 2008; Majumder and Talukdar, 2013)
- Elsewhere: Australia, Bangladesh, Brazil, British Guiana, Caribbean, Central America, China, France, Guyana, Hawaii, Japan, Malaysia, New Guinea, Philippines, Seychelles, Thailand, West Africa

71. *Tetragnatha montana* Simon, 1874[+]
- Jammu and Kashmir (Punjoo and Bhat, 2015)
- Elsewhere: Caucasus, Central Asia, Europe, Iran, Kazakhstan, Russia, Turkey

72. *Tetragnatha moulmeinensis* Gravely, 1921[+]
- Karnataka (Nautiyal *et al.*, 2017)
- Elsewhere: Myanmar

73. *Tetragnatha nitens* (Audouin, 1826)
- Manipur (Kananbala *et al.*, 2018)
- Tamil Nadu (Sugumaran, 2001)
- Elsewhere: Macaronesia, Madagascar, Mediterranean, New Zealand, North and
- South America, Pacific Is., Tropical and subtropical Asia

74. *Tetragnatha okumae* Barrion and Litsinger, 1995[+]
- Karnataka (Nautiyal *et al.*, 2017)
- Elsewhere: Philippines

75. *Tetragnatha paradisea* Pocock, 1901*
- Meghalaya (Pocock, 1901; Sherriffs, 1928)

76. *Tetragnatha parvula* Thorell, 1891*
- Andaman and Nicobar Islands (Thorell, 1891; Sherriffs, 1928)

77. *Tetragnatha sutherlandi* Gravely, 1921*
- Bihar (Gravely, 1921b)
- Gujarat (Patel and Vyas, 2001; Yadav *et al.*, 2017)
- Karnataka (Nautiyal *et al.*, 2017)
- Kerala (Patel, 2003a; Sudhikumar *et al.*, 2005b; Sunil Jose *et al.*, 2008)
- Maharashtra (Rithe, 2012)
- Tamil Nadu (Gravely, 1921b; Sherriffs, 1928)
- West Bengal (Gravely, 1921b; Majumder and Talukdar, 2013)

78. *Tetragnatha vermiformis* Emerton, 1884
Syn. *Tetragnatha mackenziei* Gravely, 1921
- Chhattisgarh (Kujur and Ekka, 2016)
- Bihar (Gravely, 1921b)
- Karnataka (Gravely, 1921b)
- Kerala (Gravely, 1921b; Subrahmaniam, 1955; Sebastian et al., 2005, 2011; Sunil Jose *et al.*, 2008)
- Maharashtra (Gravely, 1921b)
- Odisha (Gravely, 1921b)
- Tamil Nadu (Caleb and Karthikeyani, 2020)
- West Bengal (Gravely, 1921b; Sudhikumar *et al.*, 2008; Sebastian *et al.*, 2012)
- Elsewhere: Brazil, North and Central America, Temperate and tropical Asia

79. *Tetragnatha virescens* Okuma, 1979
- Manipur (Kananbala *et al.*, 2018)

- Kerala (Betz, 2015; Betz and Tscharntke, 2017)
- Telangana (Anitha and Vijay, 2016)
- Elsewhere: Bangladesh, Indonesia, Philippines, Sri Lanka

80. *Tetragnatha viridorufa* Gravely, 1921*
- Assam (Chetia and Kalita, 2012)
- Goa (Pandit and Dharwadkar, 2020)
- Gujarat (Parmar, 2013; Parmar *et al.*, 2015)
- Karnataka (Bhat *et al.*, 2013; Joshi and Venkateshwarlu, 2016; Mubeen and Basavarajappa, 2018)
- Kerala (Subrahmaniam, 1955; Sunil Jose *et al.*, 2004; Adarsh and Nameer, 2015; John and Tom, 2018; Smitha and Sudhikumar, 2020)
- Maharashtra (More and Sawant, 2013)
- Manipur (Kananbala *et al.*, 2018)
- Odisha (Gravely, 2021a, b; Choudhury *et al.*, 2019)
- Tamil Nadu (Gravely, 1921b; Sherriffs, 1928; Dharmaraj *et al.*, 2018; Caleb and Karthikeyani, 2020)

81. *Tetragnatha* sp.
- Assam (Das *et al.*, 2015)
- Bihar (Priyadarshini *et al.*, 2015)
- Chhattisgarh (Mishra and Shrivastava, 2002)
- Goa (Pandit and Pai, 2017)
- Gujarat (Siliwal *et al.*, 2003b; Parmar *et al.*, 2015; Yadav *et al.*, 2017)
- Jammu and Kashmir (Khan, 2009, 2011a, b; Khan and Rather, 2012; Punjoo and Bhat, 2015)
- Karnataka (Nautiyal *et al.*, 2017; Mubeen and Basavarajappa, 2018)
- Kerala (Sebastian et al., 2005; Adarsh and Nameer, 2015)
- Madhya Pradesh (Gajbe, 2004a, c)
- Odisha (Gravely, 1921b; Biswas, 1987)
- Rajasthan (Lawania and Mathur, 2017)
- Tamil Nadu (Sherriffs, 1919; Sivaperuman and Thiyakesan, 1999; Sugumaran *et al.*, 2007; Kapoor, 2008)
- Uttar Pradesh (Khan and Mishra, 2003)
- Uttarakhand (Uniyal *et al.*, 2011; Gupta and Siliwal, 2012; Siddhu *et al.*, 2020)
- West Bengal (Chakraborty *et al.*, 2016)

82. *Tylorida flava* Sankaran *et al.*, 2017*
- Kerala (Sankaran *et al.*, 2017)

83. *Tylorida marmorea* (Pocock, 1901)
Syn. *Orsinome marmorea* Pocock, 1901; *Pachygnatha silentvalliensis* Biswas and Roy, 2004; *Tylorida sataraensis* Kulkarni, 2014)
- Kerala (Pocock, 1901; Subrahmaniam, 1955; Biswas and Roy, 2004; Sunil Jose *et al.*, 2008; Sankaran *et al.*, 2017)
- Madhya Pradesh (Gravely, 1921b)
- Maharashtra (Kulkarni, 2014; Sankaran *et al.*, 2017)
- Tamil Nadu (Sherriffs, 1919; Gravely, 1921b; Karthikeyani *et al.*, 2017; Sankaran *et al.*, 2017)
- Elsewhere: China

84. *Tylorida striata* (Thorell, 1877)
Syn. *Linyphia nicobarensis* Tikader, 1977
- Andaman and Nicobar Islands (Tikader, 1977)
- Assam (Chetia and Kalita, 2012; Basumatary and Brahma, 2017)
- Goa (Pandit and Dharwadkar, 2020)
- Gujarat (Kulkarni and Yadav, 2015; Yadav *et al.*, 2017)
- Karnataka (Mubeen and Basavarajappa, 2018)
- Kerala (Kulkarni and Yadav, 2015; Sankaran *et al.*, 2017; Sumesh and Sudhikumar, 2020)
- Maharashtra (Kulkarni and Yadav, 2015)
- Meghalaya (Roy *et al.*, 2017)
- Uttarakhand (Siddhu *et al.*, 2020)
- West Bengal (Roy *et al.*, 2017)
- Elsewhere: Australia, China, Comoros, SE Asia

85. *Tylorida ventralis* (Thorell, 1877)
Syn. *Leucauge pondae* Tikader, 1970; *Leucauge ventralis* (Thorell, 1877)
- Assam (Chetia and Kalita, 2012)
- Goa (Halarnkar and Pai, 2018)
- Gujarat (Parasharya and Pathan, 2013; Parmar and Patel, 2015)
- Karnataka (Bhat *et al.*, 2013; Joshi and Venkateshwarlu, 2016; Mubeen and Basavarajappa, 2018; Rao *et al.*, 2018)
- Kerala (Gravely, 1921b; Tikader, 1982; Joseph *et al.*, 1998; Patel, 2003a; Majumder, 2005; Sudhikumar *et al.*, 2005b; Sebastian *et al.*, 2005; Sunil Jose *et al.*, 2008; Adarsh and Nameer, 2015, 2016; Sankaran *et al.*, 2017; Rajeevan *et al.*, 2019)
- Lakshadweep (Pocock, 1904)
- Maharashtra (Lanka *et al.*, 2017)
- Meghalaya (Bhattacharya *et al.*, 2017)

- Rajasthan (Lawania and Mathur, 2017)
- Sikkim (Tikader, 1970, 1982)
- Tamil Nadu (Dharmaraj *et al.*, 2018)
- Uttar Pradesh (Hore and Uniyal, 2008a, b)
- Uttarakhand (Siddhu *et al.*, 2020)
- West Bengal (Sherriffs, 1919; Gravely, 1921b; Tikader and Biswas, 1981; Tikader, 1982; Biswas and Biswas, 1992; Majumder, 2005; Sen *et al.*, 2015)
- Elsewhere: China, Formosa, Indonesia, Japan, Lakshdweep, Laos, Malaysia, Maldive Islands, New Guinea, Taiwan

86. *Tylorida* sp.
- Assam (Das *et al.*, 2015)
- Goa (Pandit and Pai, 2017; Pandit and Dharwadkar, 2020)
- Kerala (Mathew *et al.*, 2014)
- Odisha (Gravely, 1921a)
- Tripura (Dey *et al.*, 2013)
- Uttar Pradesh (Hore and Uniyal, 2008a)

87. *Wolongia papafrancisi* Malamel *et al.*, 2018*
- Kerala (Malamel *et al.*, 2018)

II. Distribution of long-jawed spiders (Tetragnathidae) in different states of India

1. **Andhra Pradesh:** *Guizygiella indica, Leucauge decorata, Leucauge tessellata, Meta abdomenalis, Tetragnatha keyserlingi, Tetragnatha mandibulata*

2. **Arunachal Pradesh:** *Leucauge celebesiana, Leucauge tessellata, Leucauge venusta, Opadometa fastigata, Tetragnatha javana, Tetragnatha keyserlingi*

3. **Assam:** *Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Leucauge venusta, Meotipa ultapani, Opadometa fastigata, Orsinome vethi, Tetragnatha andamanensis, Tetragnatha ceylonica, Tetragnatha javana, Tetragnatha mandibulata, Tetragnatha viridorufa, Tylorida striata, Tylorida ventralis*

4. **Bihar:** *Guizygiella indica, Leucauge celebesiana, Leucauge decorata, Tetragnatha ceylonica, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha sutherlandi, Tetragnatha vermiformis*

5. **Chhattisgarh:** *Guizygiella indica, Leucauge celebesiana, Leucauge decorata, Tetragnatha chamberlini, Tetragnatha geniculata, Tetragnatha vermiformis*

6. **Goa:** *Dolichognatha lonarensis, Guizygiella* sp., *Leucauge decorata, Meotipa sahyadri, Mesida culta, Opadometa fastigata, Tetragnatha javana, Tetragnatha mandibulata, Tetragnatha viridorufa, Tylorida striata, Tylorida ventralis*

7. **Gujarat:** *Guizygiella indica, Guizygiella melanocrania, Guizygiella shivui, Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Meotipa sahyadri, Opadometa fastigata, Orsinome vethi, Tetragnatha andamanensis, Tetragnatha bogotensis, Tetragnatha cambridgei, Tetragnatha extensa, Tetragnatha fletcheri, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha sutherlandi, Tetragnatha viridorufa, Tylorida striata, Tylorida ventralis*

8. **Haryana:** *Guizygiella indica, Leucauge decorata, Tetragnatha mandibulata*

9. **Himachal Pradesh:** *Meta simlaensis, Opadometa fastigata*

10. **Jharkhand:** *Tetragnatha andamanensis, Tetragnatha geniculata, Tetragnatha javana, Tetragnatha mandibulata*

11. **Karnataka:** *Guizygiella indica, Guizygiella melanocrania, Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Leucauge venusta, Mesida culta, Opadometa fastigata, Tetragnatha ceylonica, Tetragnatha cochinensis, Tetragnatha elongata, Tetragnatha fletcheri, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha moulmeinensis, Tetragnatha okumae, Tetragnatha sutherlandi, Tetragnatha vermiformis, Tetragnatha viridorufa, Tylorida striata, Tylorida ventralis*

12. **Kerala:** *Atelidea nona, Dolichognatha longiceps, Glenognatha dentata, Glenognatha paullula, Guizygiella indica, Guizygiella nadleri, Leucauge bituberculata, Leucauge celebesiana, Leucauge decorata, Leucauge dorsotuberculata, Leucauge granulata, Leucauge tessellata, Mesida culta, Okileucauge* sp., *Opadometa fastigata, Orsinome armata, Tetragnatha andamanensis, Tetragnatha bengalensis, Tetragnatha bituberculata, Tetragnatha ceylonica, Tetragnatha cochinensis, Tetragnatha elongata, Tetragnatha fletcheri, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha sutherlandi, Tetragnatha vermiformis, Tetragnatha virescens, Tetragnatha viridorufa, Tylorida flava, Tylorida marmorea, Tylorida striata, Tylorida ventralis, Wolongia papafrancisi*

13. **Madhya Pradesh:** *Eucta* sp., *Guizygiella indica, Guizygiella melanocrania, Leucauge celebesiana, Leucauge decorata, Tetragnatha bogotensis, Tetragnatha chamberlini, Tetragnatha geniculata, Tetragnatha mandibulata, Tylorida marmorea*

14. **Maharashtra:** *Dolichognatha lonarensis, Glenognatha ganeshi, Guizygiella indica, Guizygiella melanocrania, Leucauge blanda, Leucauge celebesiana, Leucauge decorata, Leucauge dorsotuberculata, Meotipa sahyadri, Opadometa fastigata, Tetragnatha bengalensis, Tetragnatha bogotensis, Tetragnatha ceylonica, Tetragnatha cochinensis, Tetragnatha geniculata, Tetragnatha javana, Tetragnatha mandibulata, Tetragnatha sutherlandi, Tetragnatha vermiformis, Tetragnatha viridorufa, Tylorida marmorea, Tylorida striata, Tylorida ventralis, Leucauge tessellata*

15. **Manipur:** *Guizygiella indica, Guizygiella melanocrania, Leucauge tessellata, Mesida culta, Tetragnatha andamanensis, Tetragnatha javana, Tetragnatha mandibulata, Tetragnatha nitens, Tetragnatha virescens, Tetragnatha viridorufa*

16. **Meghalaya:** *Leucauge beata, Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Orsinome armata, Tetragnatha ceylonica, Tetragnatha coelestis, Tetragnatha fletcheri, Tetragnatha javana, Tetragnatha mandibulata, Tetragnatha paradisea, Tylorida striata, Tylorida ventralis*

17. **Mizoram:** *Glenognatha dentata, Leucauge celebesiana, Leucauge tessellata, Tetragnatha andamanensis, Tetragnatha javana, Tetragnatha keyserlingi*

18. **Odisha:** *Guizygiella melanocrania, Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Opadometa fastigata, Tetragnatha ceylonica, Tetragnatha ceylonica, Tetragnatha cochinensis, Tetragnatha hasselti, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha vermiformis, Tetragnatha viridorufa, Tylorida* sp.

19. **Punjab:** *Leucauge decorata, Tetragnatha mandibulata*

20. **Rajasthan:** *Guizygiella indica, Guizygiella melanocrania, Leucauge decorata, Tetragnatha chamberlini, Tetragnatha mandibulata, Tylorida ventralis*

21. **Sikkim:** *Leucauge celebesiana, Leucauge decorata, Leucauge tessellata, Orsinome vethi, Tetragnatha javana, Tetragnatha mandibulata, Tylorida ventralis*

22. **Tamil Nadu:** *Eucta* sp., *Guizygiella indica, Guizygiella melanocrania, Leucauge celebesiana, Leucauge decorata, Leucauge ditissima, Leucauge granulata, Leucauge tessellata, Mesida culta, Opadometa fastigata, Tetragnatha andamanensis, Tetragnatha ceylonica, Tetragnatha cochinensis, Tetragnatha geniculata, Tetragnatha isidis, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha nitens, Tetragnatha sutherlandi, Tetragnatha vermiformis, Tetragnatha viridorufa, Tylorida marmorea, Tylorida ventralis*

23. **Telangana:** *Leucauge decorata, Tetragnatha mandibulata, Tetragnatha virescens*

24. **Tripura:** *Leucauge decorata, Opadometa fastigata, Tetragnatha andamanensis, Tylorida* sp.

25. **Uttar Pradesh:** *Guizygiella indica, Leucauge celebesiana, Leucauge decorata, Meta* sp., *Opadometa fastigata, Tetragnatha ceylonica, Tetragnatha chamberlini, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tylorida ventralis*

26. **Uttarakhand:** *Dyschiriognatha* sp., *Guizygiella indica, Leucauge celebesiana, Leucauge decorata, Leucauge parangscipinia, Metellina* sp., *Opadometa fastigata, Tetragnatha andamanensis, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tylorida striata, Tylorida ventralis*

27. **West Bengal:** *Guizygiella indica, Guizygiella melanocrania, Leucauge celebesiana, Leucauge decorata, Leucauge granulata, Leucauge tessellata, Mesida culta, Opadometa fastigata, Orsinome vethi, Tetragnatha andamanensis, Tetragnatha bengalensis, Tetragnatha bogotensis, Tetragnatha caudicula, Tetragnatha ceylonica, Tetragnatha hasselti, Tetragnatha irridescens, Tetragnatha javana, Tetragnatha josephi, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha sutherlandi, Tetragnatha vermiformis, Tylorida striata, Tylorida ventralis*

III. Distribution of long-jawed spiders (Tetragnathidae) in different union territories of India

1. **Andaman and Nicobar Islands:** *Leucauge nicobarica, Leucauge pusilla, Leucauge tristicta, Tetragnatha andamanensis, Tetragnatha ceylonica, Tetragnatha delumbis, Tetragnatha foliferens, Tetragnatha mandibulata, Tetragnatha parvula, Tylorida striata*

2. **Jammu and Kashmir:** *Leucauge celebesiana, Leucauge decorata, Mesida culta, Meta menardi, Meta mixta, Tetragnatha andamanensis, Tetragnatha extensa, Tetragnatha javana, Tetragnatha keyserlingi, Tetragnatha mandibulata, Tetragnatha montana*

3. **Lakshadweep:** *Tetragnatha foveata, Tylorida ventralis*

4. **Puducherry:** *Leucauge decorata, Tetragnatha ceylonica, Tetragnatha demissa, Tetragnatha extensa, Tetragnatha mandibulata*

IV. Unknown places in Himalayan plateaus: *Leucauge rubrotrivittata, Mesida culta*

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