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SPIDERS OF ODISHA: A PRELIMINARY CHECKLIST

Sudhir Ranjan Choudhury & Manju Siliwal & Sanjay Keshari Das

1 University School of Environment Management, Guru Gobind Singh Indraprastha University, Sector 16-C, Dwarka, New Delhi 110078, India.
2 Wildlife Institute of India, Post Box #18, Chandrabani, Dehradun, Uttarakhand 248001, India.
3 sudhirranjanchoudhury@gmail.com, manjusiliwal@gmail.com, skdasipu@gmail.com (corresponding author)

Abstract: The present checklist of spiders of Odisha is the result of the compilation of all published literature on spiders and primary data collected during the present study carried out from July 2016 to March 2017 in Odisha. A total of 138 species of spiders belonging to 95 genera and 33 families were recorded in the present study. Of which, seven families, 36 genera and 80 species of spiders were reported for the first time from Odisha. Of these 80 species, 78 spider species were exclusively reported from the Eastern Ghats of Odisha. With this study, spider diversity of Odisha comprised of 248 species belonging to 139 genera and 39 families. Whereas, Eastern Ghats of Odisha comprised of 181 species belonging to 109 genera and 35 families. Of total spiders from Odisha, 23 species were found to be endemic to southern Asia, 49 species endemic to India and 19 species endemic to Odisha.

Keywords: Araneae, araneomorph, diversity, Eastern Ghats, endemic, mygalomorph, new records.

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Author contribution: SRC did majority of the collection of spiders from the field for the present study. He processed, photographed and identified spiders in the laboratory. He helped in compilation of this paper. MS carried out field surveys for collection of mygalomorphs along with SRC and SKD. She did confirmation of spiders and did help SKD and SRC in writing up this paper. SKD did major writing of this paper. He also carried out field surveys for spider collection in Odisha with SRC and MS.

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INTRODUCTION

Spiders represent one of the most diversified groups amongst invertebrates and are ranked seventh in the global biodiversity, with 48,143 species under 4,131 genera and 117 families described from the World (Penney et al. 2003; WSC 2019). About 1,909 species belonging to 488 genera and 64 different families have been reported from India (WSC 2019), of which, about 115 species in 33 genera and eight families are of mygalomorph spiders and the rest of the species are of araneomorph spiders (WSC 2019). This number is very much underestimated and many more species are waiting to be discovered in the country because till date spider studies in India have been restricted to a few areas in the absence of systematic spider surveys for most of the states in India (Sebastian & Peter 2009).

Bio-geographically, Odisha (17.802–22.563° N and 81.383–87.482° E) is an important region as it has faunal representation from the north-east, the Eastern and Western Ghats (Aditya 2015). The diverse habitat supports a good faunal diversity in the State (Anon. 1987, 1989, 1990, 1993). However, spider fauna of Odisha is poorly studied like other parts of India with obscure and sporadic records of this group from various parts of the state. The first spider reported from Odisha was a mygalomorph spider, Diplothela walshi by O. Pickard-Cambridge (1891), later, Gravely (1921, 1931) added 51 species of spiders to it, which included both araneomorphs and mygalomorphs. Subsequent additions to the list of spiders were by Biswas (1975, 1987), Gajbe (1979), Tikader & Malhotra (1980), Tikader (1982), Majumder & Tikader (1991), Ramakrishna et al. (2006), Molur et al. (2008), Siliwal & Molur (2008), Siliwal et al. (2009a,b, 2010), Panda et al. (2011), Gupta et al. (2013, 2015), and Mohapatra et al. (2014), adding almost 100 species to Gravely’s (1921, 1931) contribution. Considering the shortcomings of previous studies, systematic surveys were carried out to document spider diversity from different parts of Odisha.

MATERIALS AND METHODS

Study area

The present study was carried out mainly in the Eastern Ghats of Odisha with a few surveys outside the Eastern Ghats (Fig. 1, Table 1).

The Eastern Ghats represent a discontinuous range of mountains (also known as Malyadri) situated along the eastern coast of India and is one of the important physiographic units with great environmental, socio-economic, cultural and spiritual significance in the peninsular region of our country (Sinha 1971). The Eastern Ghats start in West Bengal and the mountain range continues to pass through Odisha, Andhra Pradesh, Karnataka, and Tamil Nadu. The Eastern Ghats of Odisha (Fig. 1) represent the northern Eastern Ghats. Based on geological and tectonic considerations, the Eastern Ghats in Odisha start from north of Similipal in Mayurbhanj District and run through Malkangiri covering 18 districts of Odisha (Dash et al. 2009). Mountain peaks and foot hills have contrasted weather resulting into a humid habitat in high altitudes to a semiarid habitat in foot hills. Vegetation of this region comes under the northern tropical moist deciduous forests. Physio-geographically, this region is divided into five sub regions: 1. the Similipal and Meghasani mountain, 2. the Mankarnacha-Malaygiri and Gandhamardan mountains of the Baitaran and the Brahmani interfluve, 3. the watershed between the Brahmani and the Mahanadi, 4. the common interfluves of the Mahanadi, the Rushikulya and the Vamsadhara, and 5. the Potangi and Chandragiri mountain ranges. The highest mountain peak is Deomali (1672m), which is situated in the Koraput District of southern Odisha. It is part of the Chandragiri-Pottangi mountain system that forms part of the Indian Peninsula and was a part of the ancient land mass of Gondwana land. Being physio-geographically heterogeneous, the Eastern Ghats of Odisha represent one of the biodiversity-important ecoregion. It is also rich in iron ore and minerals and supports a rich ethnic diversity (Sinha 1971; Dash et al. 2009).

Methods

Spider collection was done from July 2016 to March 2017 covering all seasons (monsoon: July to October; winter: November to February; and summer: March to June). Various sampling methods, viz., vegetation beating, pitfall trapping, sweep-netting, hand-picking, and leaf litter sampling (Koh & Ming 2013) were used to collect spiders. Two to four persons were engaged in active searching for spiders and a total of 1,000 man-hours were spent on collecting spiders in the study area during the entire study period. All possible habitats, viz., dense forest, open forest, wetlands, scrub lands, hill forests, agricultural fields and human settlements were covered in the present study. Specimens, after collecting were preserved in 70% alcohol. All mygalomorph specimens were deposited at Wildlife Information Liaison Development Society (WILD) museum, Coimbatore and all araneomorph specimens were
deposited at Indraprastha University (IPU) museum, Delhi. Spiders were identified examining the specimens under Olympus SZ10 stereozoom microscope. For identification, female genitalia were dissected and cleaned in concentrated lactic acid for 15–20 minutes. Identification was done using different publications by Tikader (1980, 1982, 1987), Tikader & Malhotra (1980), Barrion & Litsinger (1995), Song et al. (1999), Jocqué & Dippenaar-Schoeman (2006), Gajbe (2008), Sebastian & Peter (2009), and Metzner (2017).

Checklist of spiders of Odisha was prepared from the present study data and compiling the species from published literature (peer-reviewed journals) from the state on spiders. Papers published in predatory journals, or unpublished literature like Ph.D. thesis, post-graduation dissertations and newspaper articles were not included in the compilation of the present checklist.

RESULTS AND DISCUSSIONS

Before the present study, 168 species of spiders belonging to 103 genera and 32 families were reported from Odisha and of these, 103 species belonging to 68 genera and 24 families were reported from Eastern Ghats of Odisha (Pickard-Cambridge 1891; Walsh 1891; Gravely 1921, 1931; Biswas 1975, 1987; Gajbe 1979;...
Tikader & Malhotra 1980; Tikader 1982; Majumder & Tikader 1991; Ramakrishna et al. 2006; Molur et al. 2008; Siliwal & Molur 2008; Siliwal et al. 2009a, b, 2010; Panda et al. 2011; Gupta et al. 2013; Mohapatra et al. 2014) (Table 2, Figs. 2). Four species—*Cheiracanthium inclusum* (Hentz, 1847), *Oxyopes lineatipes* (C.L. Koch, 1847), *Oxyopes papuanus* Thorell, 1881, and *Uloborus barbipes* L. Koch, 1872—reported from the state by Panda et al. (2011) and Mohapatra et al. (2014), were probably identified based on photographs and seems to be a clear case of misidentification. So far, these species are known from outside India only. Hence, the present checklist did not consider these species in our checklist and these species need further taxonomic verification.

During the present study, 138 species of spiders belonging to 95 genera and 33 families were reported from Odisha. Of which, seven families, 36 genera and 80 species of spiders were reported for the first time from Odisha. Of these 80 species, 78 spider species were exclusively reported from the Eastern Ghats of Odisha. Here, we would like to make a note that in the present checklist 77 spiders are identified only up to genus level only (Table 2).

Based on all the compilation of previous reports and data from present study, the spider diversity of Odisha comprises 248 species belonging to 139 genera and 39 families and 181 species belonging to 109 genera and 35 families (Table 2; Fig. 2, Image 1A–L). The study shows that over 72% of spiders reported from Odisha are found in the Eastern Ghats of Odisha (Table 2) and hence, the Eastern Ghats contribute largely to the spider diversity of Odisha.

Among the spiders reported in the present study, *Parasteatoda kompirensis* (Bösenberg & Strand, 1906) was reported for the first time from India (Malik et al. 2018) (Table 2). The study also reported two rare spiders—*Inthaeron* spp.—from Odisha, which will be published in different paper. Amongst these spiders reported in Odisha, species richness of family Araneidae (45 spp.) was found to be highest followed by Salticidae (35 spp.) and Lycosidae (17 spp.) (Table 2; Fig. 2). Of the total spiders from Odisha, 23 species were found to be endemic to South Asia and 49 species endemic to India. Of the spiders endemic to India, 19 species are reported from Odisha State only (Table 2).

Though the present study was for a short period and mostly restricted to the Eastern Ghats of Odisha, the findings of this study are significant, as during the study, 80 species for Odisha and one for India were added to the existing list for the first time. Therefore, there is a need to carry out systematic surveys in the entire state covering all the seasons to get an optimum estimate of spider diversity.
Table 2. Checklist of spiders of Odisha

| Species | Catalogue no. | Reference | Remarks |
|---------|---------------|-----------|---------|
| **MYGALOMORPHAE** | | | |
| **Family Barychelidae Simon, 1889 (Trapdoor spiders)** | | | |
| 1 Diplothele gravelyi | WILD-17-ARA-1482 | Siliwal et al. 2009b; PS | α, Ei |
| 2 Diplothele sp. | WILD-17-ARA-1463, 1486 | PS | α, Ei, En |
| 3 Diplothele tenesbrosus | WILD-16-ARA-1380 | Siliwal et al. 2009b; PS | α, Ei |
| 4 Diplothele walshi | Walsh 1891, Gravely 1921; Siliwal & Molur 2008; Siliwal et al. 2009b | | α, Ei |
| 5 Sasonichus sp. | WILD-16-ARA-1381 | Siliwal & Molur 2008; PS | α, Ei |
| 6 Sipalolasma arthrapophysis (Gravely, 1915) | | | |
| **Family Halonoprotidae Pocock, 1901 (Trapdoor spiders)** | | | |
| 7 Conothele varvarti | WILD-17-ARA-1472, 1473, 1474 | Siliwal et al. 2009a; PS | α, Ei |
| **Family Idiopidae Simon, 1889 (Trapdoor spiders)** | | | |
| 8 Heligmomerus barkudensis (Gravely, 1921) | WILD-17-ARA-1454, 1455, 1457, 1481 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Siliwal et al. 2010; PS | α, Ei |
| 9 Idiops anjiya Siliwal, 2013 | | | |
| 10 Idiops sp. | WILD-16-ARA-1400 | PS | α, F |
| 11 Scalidognathus sp. | WILD-16-ARA-1408; WILD-17-ARA-1453, 1456 | PS | α, F, Ei |
| **Family Nemesiidae Simon, 1889 (Wishbone spiders)** | | | |
| 12 Damarchus sp. | WILD-16-ARA-1382, 1383; WILD-17-ARA-1468 | | α, F |
| 13 Gravelyia excavatus (Gravely, 1921) | WILD-16-ARA-1396, 1397, 1398 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; PS | α, Ei |
| **Family Theraphosidae Thorell, 1869 (Tarantula spiders)** | | | |
| 14 Chilobrachys hardwickei (Pocock,1896) | | Panda et al. 2011 | α, F |
| 15 Chilobrachys sp. | WILD-16-ARA-1410, 1411 | PS | α, F |
| 16 Heterophriictus sp. | WILD-16-ARA-1406, 1407, 1413, 1467 | PS | α, F, Ei |
| 17 Plesiophriictus sp. | | Gravely 1921; Siliwal & Molur 2008 | |
| 18 Poecilotheria miranda Pocock, 1900 | | Molur et al. 2008; Siliwal & Molur 2008; Siliwal et al. 2008 | α, Ei, En |
| 19 Poecilotheria tigrinawesseli Smith, 2006 | | Siliwal & Molur 2008 | α, E |
| **ARANEOMORPHAE** | | | |
| **Family Agelenidae C.L. Koch, 1837 (Funnel web spiders)** | | | |
| 20 Agelena sp. | IPU-16-ARA-237 | PS | α, F |
| **Family Amaurobiidae Thorell, 1870 (Funnel web spiders)** | | | |
| 21 Amaurobius sp. | | Gravely 1921 | |
| **Family Araneidae Clerck, 1757 (Orb web or tent web spiders)** | | | |
| 22 Anapasion maritatum (O. Pickard-Cambridge, 1877) | | Gravely 1921 | |
| 23 Arachnura sp. | | Siliwal & Molur 2008 | |
| 24 Araneus bilunifer Pocock, 1900 | IPU-16-ARA-189 | Siliwal & Molur 2008; PS | α, E |
| 25 Araneus ellipticus (Tikader & Bal, 1981) | IPU-17-ARA-318, 319 | Panda et al. 2011; PS | |
| 26 Araneus mitificus (Simon, 1886) | IPU-16-ARA-250 | Mohapatra et al. 2014; PS | |
| 27 Araneus viridissomus Gravely, 1921 | | Gravely 1921; Biswas 1987 | Ei |
| 28 Araniella cucurbitina (Clerck, 1757) | | Siliwal & Molur 2008 | |
| 29 Argiope aemula (Walckenaer, 1842) | IPU-16-ARA-108 | Siliwal & Molur 2008; PS | |
| 30 Argiope anasuja Thorell, 1887 | IPU-16-ARA-58, 349, 350; IPU-17-ARA-362 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS | |

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| Species | Catalogue no. | Reference | Remarks |
|---------|---------------|-----------|---------|
| Argiope catenulata (Doleschall, 1859) | | Biswas 1987; Ramakrishna et al. 2006 | # |
| Argiope minuta Karsch, 1879 | | | |
| Argiope pulchella Thorell, 1881 | IPU-16-ARA-307 | Tikader 1982; Biswas 1987; Ramakrishna et al. 2006; Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| Cyclosa bifida Doleschall, 1859 | IPU-16-ARA-211, 212 | Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| Cyclosa confragos (Thorell, 1892) | | | |
| Cyclosa hexatuberculata Tikader, 1982 | IPU-17-ARA-357 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008 | #, E<sub>n</sub> |
| Cyclosa sp. | IPU-16-ARA-150, IPU-17-ARA-400 | Siliwal & Molur 2008; PS | # |
| Cyclosa sp. | | | |
| Cyclosa spirifera Simon, 1889 | | Siliwal & Molur 2008; PS | # |
| Cyrtarachne sp. | IPU-16-ARA-28, IPU-16-ARA-294 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Mohapatra et al. 2014 | # |
| Cyrtophora cicatrosa (Stoliczka, 1869) | | Gravely 1921; Biswas 1987; Siliwal & Molur 2008 | # |
| Cyrtophora citricola (Forskal, 1775) | | Biswas 1987; Panda et al. 2011; Mohapatra et al. 2014 | # |
| Erivoxia excelsa (Simon, 1889) | IPU-16-ARA-28 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Mohapatra et al. 2014; PS | # |
| Erivoxia lagloizei (Simon, 1877) | IPU-16-ARA-155 | PS | #, F<sub>s</sub> |
| Eriovixia poonaensis (Tikader & Bal, 1981) | | | |
| Gasteracantha geminata (Fabricius, 1798) | IPU-16-ARA-185, 186 | PS | #, F<sub>n</sub>, E<sub>n</sub> |
| Gasteracantha hasselti C.L. Koch, 1837 | IPU-16-ARA-204, IPU-16-ARA-205 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; PS | # |
| Gasteracantha kuhli C.L. Koch, 1837 | | Biswas 1987 | |
| Gasteracantha unguifera Simon, 1889 | IPU-17-ARA-325 | Siliwal & Molur 2008; PS | # |
| Geo spinipes C.L. Koch, 1843 | IPU-16-ARA-155 | PS | #, F<sub>s</sub> |
| Herennia multiplicata (Doleschall, 1859) | | Siliwal & Molur 2008 | |
| Larinia phthica (L. Koch, 1871) | | Biswas 1987; Mohapatra et al. 2014 | |
| Neoscona bengalensis Tikader & Bal, 1981 | | Mohapatra et al. 2014 | E<sub>n</sub> |
| Neoscona molemensis Tikader & Bal, 1981 | | Biswas 1987 | |
| Neoscona mukerjei Tikader, 1980 | IPU-16-ARA-13, 94, 97; IPU-17-ARA-445 | Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; PS | #, E<sub>n</sub> |
| Neoscona naucata (L. Koch, 1875) | | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014 | # |
| Neoscona sp. | IPU-16-ARA-293 | Siliwal & Molur 2008; PS | # |
| Neoscona thesi (Walckenaer, 1841) | IPU-16-ARA-80 | Tikader 1982; Biswas 1987; PS | # |
| Neoscona vigilans (Blackwall, 1865) | | Tikader 1982; Biswas 1987; Panda et al. 2011; Mohapatra et al. 2014 | # |
| Nephila kuhli (Doleschall, 1859) | IPU-16-ARA-115 | Panda et al. 2011; PS | # |
| Nephila pilipes (Fabricius, 1793) | IPU-16-ARA-257, 258, 259 | Biswas 1987; Ramakrishna et al. 2006; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| Parawixia dehaani (Doleschall, 1859) | | Panda et al. 2011; Mohapatra et al. 2014 | # |
| Phonognatha sp. | | | |
| Plebs himalayaensis (Tikader, 1975) | IPU-17-ARA-384, 385 | PS | #, F<sub>n</sub>, E<sub>n</sub> |
| Polys nagpurensis Tikader, 1982 | IPU-17-ARA-429 | PS | #, F<sub>n</sub>, E<sub>n</sub> |
| Thelacantha brevispina (Doleschall, 1857) | IPU-16-ARA-116, 187 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; PS | # |

**Family Cheiracanthidae Wagner, 1887** (Sac or tube spiders)

| Species | Catalogue no. | Reference | Remarks |
|---------|---------------|-----------|---------|
| Cheiracanthium danieli Tikader, 1975 | IPU-17-ARA-417 | Panda et al. 2011; Mohapatra et al. 2014; PS | #, E<sub>n</sub> |
| Species | Catalogue no. | Reference | Remarks |
|---------|---------------|-----------|---------|
| Cheiracanthium melanostomum (Thorell, 1895) | | Biswas 1987; Majumder & Tikader 1991 | |
| 69 | Inthaeron sp. (1) | IPU-16-ARA-111 | PS | #, F, E |
| 70 | Inthaeron sp. (2) | IPU-17-ARA-388 | PS | #, F, E |
| 71 | Clubiona sp. | IPU-16-ARA-225, 227 | Siliwal & Molur 2008; PS | # |
| 72 | Costaneira zetes Simon, 1897 | IPU-16-ARA-89 | PS | #, F, E |
| 73 | Cambalida flavipes (Gravely, 1931) | IPU-16-ARA-241 | PS | #, F, E |
| 74 | Cambalida sp. | IPU-17-ARA-395 | PS | #, F |
| 75 | Corinnomma sp. | | Gravely 1921 | |
| 76 | Anahita smithiesi (Simon, 1897) | IPU-16-ARA-179 | PS | #, F, E |
| 77 | Ctenus narashinhai Patel & Reddy, 1988 | IPU-16-ARA-134 | PS | #, F, E |
| 78 | Ctenus sp. | | Gravely 1921 | |
| 79 | Dicyctyn sp. | | | |
| 80 | Nigma sp. | IPU-16-ARA-179 | PS | #, F |
| 81 | Stegodyphus sarasinorum Karsch, 1891 | IPU-16-ARA-71, 72 | PS | # |
| 82 | Filistata sp. | | Gravely 1921 | |
| 83 | Drassodes astrolagus (O. Pickard-Cambridge, 1874) | IPU-17-ARA-399, 413 | PS | #, F, E |
| 84 | Drassodes poshannensis Tikader & Gajbe, 1977 | IPU-16-ARA-241 | PS | #, F, E |
| 85 | Gnaphosa pouriensis Tikader & Gajbe, 1977 | IPU-16-ARA-366 | PS | #, F |
| 86 | Gnaphosa sp. | IPU-17-ARA-398 | PS | #, F |
| 87 | Sostoicus dherikanalensis Gajbe, 1979 | IPU-17-ARA-378, 403 | PS | #, F |
| 88 | Sostoicus sardaragiris Gajbe, 1979 | | #, F, E | |
| 89 | Setaphis parvula (Lucas, 1846) | IPU-16-ARA-15 | PS | #, F |
| 90 | Setaphis subtilis (Simon, 1897) | | Gravely 1921 | |
| 91 | Zelotes sataraeensis Tikader & Gajbe, 1979 | IPU-17-ARA-420, 422 | | |
| 92 | Zelotes sp. | IPU-17-ARA-420, 422 | | |
| 93 | Hersilia savignyi Lucas, 1836 | IPU-16-ARA-33, 48; IPU-17-ARA-420, 422 | Gravely 1921; Biswas 1987; Ramakrishna et al. 2006; Panda et al. 2011; Mohapatra et al. 2014; PS | |
| 94 | Oedignatha microscutata Reimoser, 1934 | | Majumder & Tikader 1991; Biswas 1987; Ramakrishna et al. 2006 | #, E |
| 95 | Oedignatha scrobiculata Thorell, 1881 | | Gravely 1921; Biswas 1987; Majumder & Tikader 1991 | |
| 96 | Oedignatha sp. | IPU-16-ARA-243, 282; IPU-17-ARA-390 | PS | # |
| 97 | Sphingius barkudensis Gravely, 1931 | | Biswas 1987; Gravely 1931; Majumder & Tikader 1991 | # |
| 98 | Sphingius sp. | | Gravely 1921 | |
| Species | Catalogue no. | Reference | Remarks |
|---------|--------------|-----------|---------|
| **Family Lycosidae Sundevall, 1833 (Wolf spiders)** | | | |
| 99 | Arctosa sp. | | Siliwal & Molur 2008 |
| 100 | Draposa atropalpis (Gravely, 1924) | IPU-16-ARA-106 | Gravely 1924; Tikader & Malhotra 1980; Biswas 1987; PS | #, E<sub>an</sub> |
| 101 | Draposa lyrivulva (Bösenberg & Strand, 1906) | | Gravely 1924; Tikader & Malhotra 1980; Biswas 1987 | E<sub>an</sub> |
| 102 | Draposa oakeyi (Gravely, 1924) | IPU-16-ARA-135 | PS | #, F<sub>an</sub> |
| 103 | Evippe sp. | IPU-16-ARA-147 | PS | #, F<sub>an</sub> |
| 104 | Hippasa agelemoides (Simon, 1884) | | | |
| 105 | Hippasa greenalliae (Blackwall, 1867) | IPU-16-ARA-158 | Gravely 1921; Tikader & Malhotra 1980; Biswas 1987; Panda et al. 2011; PS | #, E<sub>an</sub> |
| 106 | Hippasa sp. | IPU-16-ARA-264 | Siliwal & Molur 2008; PS | # |
| 107 | Lycosa iranii Pocock, 1901 | IPU-17-ARA-424, 425 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| 108 | Lycosa mackenziei Gravely, 1924 | | Panda et al. 2011 | | |
| 109 | Lycosa madani Pocock, 1901 | | Biswas 1987 | E<sub>an</sub> |
| 110 | Lycosa prolifica Pocock, 1901 | IPU-16-ARA-50 | | #, F<sub>an</sub>, E<sub>an</sub> |
| 111 | Ocyale pilosa (Roewer, 1960) | | Biswas 1987; Tikader & Malhotra 1980 | |
| 112 | Pardosa bimana Simon, 1884 | | Tikader & Malhotra 1980; Biswas 1987; Panda et al. 2011 | # |
| 113 | Pardosa mukundii Tikader & Malhotra, 1980 | IPU-16-ARA-84 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| 114 | Pardosa pseudoannulata (Bösenberg & Strand, 1906) | | | |
| 115 | Pardosa sumatranza (Thorell, 1890) | IPU-16-ARA-110 | PS | #, F<sub>an</sub> |
| **Family Mitmidae Simon, 1881 (Pirate spiders)** | | | |
| 116 | Mimetus sp. | IPU-16-ARA-206 | PS | #, F<sub>an</sub> |
| **Family Miturgidae Simon, 1886 (Prowling spiders)** | | | |
| 117 | Syntaria barkudensis (Gravely, 1931) | | Gravely 1931; Biswas 1987 | E<sub>an</sub> |
| **Family Oonopidae Simon, 1890 (Goblin spiders)** | | | |
| 118 | Brignolia sp. | IPU-17-ARA-511, 513, 514 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| 119 | Gamasomophra sp. | IPU-17-ARA-324, 374, 375, 500 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| 120 | Pelicinus sp. | IPU-17-ARA-512 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| **Family Oxyopidae Thorell, 1870 (Lynx spiders)** | | | |
| 121 | Hamadruas sp. | IPU-16-ARA-6 | PS | #, F<sub>an</sub> |
| 122 | Oxyopes bharatiae Gajbe, 1999 | IPU-16-ARA-5, 24 | PS | #, F<sub>an</sub>, E<sub>an</sub> |
| 123 | Oxyopes birmanicus Thorell, 1887 | | Panda et al. 2011; Mohapatra et al. 2014 | # |
| 124 | Oxyopes javanus Thorell, 1887 | | Panda et al. 2011; Mohapatra et al. 2014 | # |
| 125 | Oxyopes shweta Tikader, 1970 | IPU-16-ARA-25 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| 126 | Oxyopes sunandae Tikader, 1970 | | Panda et al. 2011 | #, E<sub>an</sub> |
| 127 | Peucetia harishankarenensis Biswas, 1975 | | Biswas 1975; Biswas 1987 | #, E<sub>an</sub> |
| 128 | Peucetia sp. | IPU-16-ARA-19, 230 | Siliwal & Molur 2008; PS | # |
| 129 | Peucetia viridana (Stoliczka, 1869) | | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014 | # |
| **Family Palpimanidae Thorell, 1870 (Palp-footed spiders)** | | | |
| 130 | Sarascelis raffrayi Simon, 1893 | | Gravely 1921 | |
| **Family Pholcidae C.L. Koch, 1850 (Cellar spiders)** | | | |
| 131 | Artema atlanta Walckenaer, 1837 | | Gravely 1921; Biswas 1987 | |
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| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Pisauridae Simon, 1890 (Nursery web spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Salticidae Blackwall, 1841 (Jumping spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Pisauridae Simon, 1890 (Nursery web spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Salticidae Blackwall, 1841 (Jumping spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Pisauridae Simon, 1890 (Nursery web spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |

**Family Salticidae Blackwall, 1841 (Jumping spiders)**

| Species                     | Catalogue no. | Reference                                                                 | Remarks |
|-----------------------------|---------------|---------------------------------------------------------------------------|---------|
| Crossopriza lyoni (Blackwall, 1867) | IPU-16-ARA-20, 88 | Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS        | #       |
| Pholcus fragilimus Strand, 1907 | IPU-16-ARA-249, 272, 273 | PS                                                                        | #, F    |
| Pholcus sp.                 | IPU-16-ARA-274 | Siliwal & Molur 2008; PS                                                  | #       |
| Smeringopus sp.             |               | Gravely 1921                                                              |         |
| Species | Catalogue no. | Reference | Remarks |
|---------|--------------|-----------|---------|
| Telamonia dimidiata (Simon, 1899) | IPU-16-ARA-143 | Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| Thiana bhamoensis Thorell, 1887 | | | |
| Thyene imperialis (Rossi, 1846) | IPU-16-ARA-99 | PS | #, F, E |
| Scytodes pallida (Doleschall, 1859) | | Gravely 1921, Panda et al. 2011 | # |
| Scytodes thoracica Latreille, 1802 | | Panda et al. 2011 | # |
| Telamonia dimidiata | IPU-16-ARA-143 | Biswas 1987 | |
| Thiana bhamoensis | | | |
| Thyene imperialis | IPU-16-ARA-99 | PS | #, F, E |
| Scytodes pallida | | Gravely 1921, Panda et al. 2011 | # |
| Scytodes thoracica | | Panda et al. 2011 | # |
| Family Scytodidae Blackwall, 1864 (Spitting spiders) | | | |
| Ariadna nebulae Simon, 1906 | | Gravely 1921 | E |
| Ariadna sp. (1) | IPU-17-ARA-447, 448 | PS | #, F, E, E |
| Ariadna sp. (2) | IPU-17-ARA-455, 456 | PS | #, F, E, E |
| Family Segestriidae Simon, 1893 (Tube-dwelling spiders) | | | |
| Makdiops sp. | IPU-17-ARA-430 | PS | #, F, E |
| Selenops radiatus Latreille, 1819 | | Biswas 1987 | |
| Family Selenopidae Simon, 1897 (Giant wall crab spiders) | | | |
| Heteropoda eastwoodi (Pocock, 1901) | IPU-16-ARA-145 | PS | #, F, E |
| Heteropoda kandiana Pocock, 1899 | | Biswas 1987 | E |
| Heteropoda phasmo Simon, 1897 | IPU-16-ARA-305, 312 | PS | #, F, E |
| Heteropoda sexpunctata Simon, 1885 | IPU-16-ARA-90 | Gravely 1921; Biswas 1987; PS | # |
| Heteropoda venatoria (Linnaeus, 1767) | | Gravely 1921; Siliwal & Molur 2008; Mohapatra et al. 2014; Panda et al. 2011 | # |
| Olios irani (Pocock, 1901) | IPU-16-ARA-301 | PS | F |
| Olios isomarci (Latreille, 1806) | | Gravely 1921; Biswas 1987 | |
| Olios milleri (Pocock, 1901) | | Gravely 1931; Biswas 1987; Mohapatra et al. 2014; Panda et al. 2011 | #, E, E |
| Olios punctipes Simon, 1884 | | Biswas 1987 | |
| Olios sp. | IPU-16-ARA-191 | Siliwal & Molur 2008; PS | # |
| Polystes flavidus Simon, 1897 | | Gravely 1921; Biswas 1987 | E |
| Spariolenus tigris Simon, 1880 | | Biswas 1987 | # |
| Family Stenochilidae Thorell, 1873 (Diamond-headed Spiders) | | | |
| Stenochilus hudsoni O. Pickard-Cambridge, 1871 | IPU-16-ARA-575 | PS | #, F, E |
| Family Tetragnathidae Menge, 1866 (Long Jawed Spiders) | | | |
| Guizygiella melanocrania (Thorell, 1887) | | Gravely 1921; Biswas 1987 | |
| Guizygiella sp. | IPU-17-ARA-329 | Panda et al. 2011; Mohapatra et al. 2014; PS | # |
| Leucauge celebensiana (Walckenaer, 1841) | | Biswas 1987 | |
| Leucauge decorata (Blackwall, 1864) | IPU-16-ARA-120 | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Mohapatra et al. 2014; PS | # |
| Leucauge sp. | IPU-16-ARA-55 | PS | #, F, E |
| Leucauge tessellata (Thorell, 1887) | IPU-16-ARA-121, 122 | PS | #, F, E |
| Opadometa fastigata (Simon, 1877) | | Gravely 1921; Biswas 1987; Siliwal & Molur 2008 | |
| Tetragnatha ceylonica O. Pickard-Cambridge, 1869 | | Gravely 1921; Biswas 1987 | |
| Tetragnatha ceylonica | | | |
| Tetragnatha hasselti Thorell, 1890 | IPU-17-ARA-336 | PS | #, F, E |
| Tetragnatha javana (Thorell, 1890) | | Biswas 1987 | |

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| Species                                | Catalogue no.          | Reference                                      | Remarks |
|----------------------------------------|------------------------|------------------------------------------------|---------|
| Tetragnatha mandibulata Walckenaer, 1841 | IPU-16-ARA-129        | Gravely 1921; Biswas 1987; Siliwal & Molur 2008; Panda et al. 2011; Mohapatra et al. 2014; # |
| Tetragnatha maxilliosa Thorell, 1895 | IPU-16-ARA-193, 194    | PS                                             | #, F_2  |
| Tetragnatha sp.                         | IPU-17-ARA-340, 341, 343 | PS                                             | #, F_3  |
| Tetragnatha viridiorufa Gravely, 1921  |                        | Gravely 1921; Biswas 1987                      | E_i     |
| Tylorida sp.                            | IPU-16-ARA-126, 168    | PS                                             | #, F_3  |

**Family Theridiidae Sundevall, 1833 (Comb-footed spiders)**

| Species                                | Catalogue no.          | Reference                                      | Remarks |
|----------------------------------------|------------------------|------------------------------------------------|---------|
| Argyrodes argentatus O. Pickard-Cambridge, 1880 |                          | Gravely 1921                                  |         |
| Argyrodes scintillatus O. Pickard-Cambridge, 1880 | IPU-16-ARA-69, 91      | Siliwal & Molur 2008; #                        |         |
| Episinus sp.                            | IPU-17-ARA-434          | PS                                             | #, F_3  |
| Meotipa andamanensis (Tikader, 1977)   |                        | Mohapatra et al. 2014                          |         |
| Nihonhimea mundula (L. Koch, 1872)     | IPU-16-ARA-66           | Siliwal & Molur 2008; Panda et al. 2011        |         |
| Parasteatoda komprensis (Bösenberg & Strand, 1906) | IPU-16-ARA-271        | PS                                             | #, F_3  |
| Parasteatoda sp. (2)                    | IPU-16-ARA-138          | Siliwal & Molur 2008; #                        |         |
| Parasteatoda sp. (3)                    | IPU-16-ARA-235, 236     | PS                                             | #, F_3  |
| Rhomphaea sp.                           | IPU-17-ARA-335          | Gravely 1921; #                               |         |
| Steatoda sp. (1)                        | IPU-16-ARA-215          | PS                                             | #, F_3  |
| Steatoda sp. (2)                        | IPU-16-ARA-236, IPU-17-ARA-370 | PS                                             | #, F_3  |
| Theridion sp.                           | IPU-17-ARA-469, IPU-16-ARA-36 | Siliwal & Molur 2008; #                       |         |

**Family Thomisidae Sundevall, 1833 (Crab spiders)**

| Species                                | Catalogue no.          | Reference                                      | Remarks |
|----------------------------------------|------------------------|------------------------------------------------|---------|
| Amyciaea forticeps (O. Pickard-Cambridge, 1873) | IPU-16-ARA-112        | PS                                             | #, F_3  |
| Amyciaea sp.                           | IPU-16-ARA-23          | PS                                             | #, F_3  |
| Bomis sp.                              | IPU-16-ARA-27          | PS                                             | #, F_3  |
| Camaricus formosus Thorell, 1887        |                        | Panda et al. 2011; Mohapatra et al. 2014        | #       |
| Camaricus khandalaensis Tikader, 1980   |                        | Panda et al. 2011; Mohapatra et al. 2014        | #, E_i  |
| Camaricus sp.                           | IPU-16-ARA-109         | PS                                             | #, F_3  |
| Camaricus minutus (Tikader, 1960)       |                        | Mohapatra et al. 2014                          | E_m     |
| Indoxysticus sp.                       | IPU-17-ARA-401, 439    | PS                                             | #, F_3  |
| Oxytate sp.                            | IPU-16-ARA-76          | PS                                             | #, F_3  |
| Runcinia sp.                           | IPU-16-ARA-181         | PS                                             | #, F_3  |
| Thomisus lobosus Tikader, 1965          |                        | Mohapatra et al. 2014                          | E_i     |
| Thomisus projectus Tikader, 1960        |                        | Mohapatra et al. 2014                          | E_i     |
| Thomisus pugilis Stoliczka, 1869        |                        | Panda et al. 2011; #                           |         |
| Thomisus sikkimensis Tikader, 1962      |                        | Panda et al. 2011; #                           |         |
| Thomisus sp.                            | IPU-16-ARA-74          | Siliwal & Molur 2008; #                        |         |

**Family Titanocidae Lehtinen, 1967 (Rock weaver spiders)**

| Species                                | Catalogue no.          | Reference                                      | Remarks |
|----------------------------------------|------------------------|------------------------------------------------|---------|
| Pandava laminata (Thorell, 1878)       | IPU-16-ARA-139, 244, 361 | PS                                             | #, F_3  |

**Family Uloboridae Thorell, 1869 (Feather-legged lace weavers)**

| Species                                | Catalogue no.          | Reference                                      | Remarks |
|----------------------------------------|------------------------|------------------------------------------------|---------|
| Uloborus sp.                            | IPU-16-ARA-118, 119    | Gravely 1921; Mohapatra et al. 2014; #          |         |
| Zosis geniculata (Olivier, 1789)       | IPU-16-ARA-224         | PS                                             | #, F_3  |
| Species                        | Catalogue no.          | Reference                      | Remarks |
|-------------------------------|------------------------|--------------------------------|---------|
| **Family Zodariidae Thorell, 1881 (Ant spiders)** |                        |                                |         |
| 241  **Asceua cingulata** (Simon, 1905) | IPU-17-ARA-353, 354    | Gravely 1921; Biswas 1987       | E₁      |
| 242  **Asceua sp.**            |                        | PS                             | #, F₂   |
| 243  **Hermippus arjuna** (Gravely, 1921) |                        | Gravely 1921; Biswas 1987; Siliwal & Molur 2008 | E₂      |
| 244  **Hermippus sp.**         | IPU-16-ARA-286         | Panda et al. 2011; PS          | #       |
| 245  **Mallinella sp.**        | IPU-16-ARA-103, 173, 280 | PS                            | #, F₂   |
| 246  **Storena birenifer** Gravely, 1921 |                        | Gravely 1921; Biswas 1987; Siliwal & Molur 2008 | E₃      |
| 247  **Storena sp.**           |                        | Gravely 1921                  |         |
| 248  **Suffasia sp.**          | IPU-16-ARA-162         | PS                            | #, F₂   |

**Note:** PS - Present Study | # - Report from Eastern Ghats of Odisha | F₁ - First report from India | F₂ - First report from Odisha (outside Eastern Ghats portion of Odisha) | F₃ - First report from Odisha (within Eastern Ghats portion of Odisha) | Eₐ - Endemic to South Asia | Eᵢ - Endemic to India | Eₒ - Reported from Odisha State only | En - Endangered | IPU - Indraprastha University | WILD - Wildlife Information Liaison Development Society.

Image 1. A - Conothele varvarti | B - Araneus mitificus | C - Gasteracantha geminata | D - Argiope anasuja | E - Nephila pilipes | F - Thelacantha brevispina.
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