



JULY 2025
ONLINE VERSION 2.0

ZOOLOGICAL SURVEY OF INDIA

Ministry of Environment, Forest & Climate Change

ARTHROPODA: ARACHNIDA: SOLIFUGAE, Sundevall, 1833

Mrinmoy Kumar Kayal^{1,2} & Souvik Sen^{1,3,*}

¹Zoological Survey of India, Prani Vigyan Bhawan, M-Block, New Alipore, Kolkata – 700053, West Bengal, India; ²mrinmoykayal2012@gmail.com; <https://orcid.org/0009-0003-2324-0306>; ³sensouvik07@gmail.com; <https://orcid.org/0000-0002-7149-5376>; *Corresponding author: sensouvik07@gmail.com

DOI : <https://doi.org/10.26515/Fauna/2/2025/Arthropoda:Arachnida:Solifugae>

Key words: Solifugae, camel spiders, sun spiders, India, checklist, arachnid diversity.

Citation: Kayal, M. K. & Sen, S. 2025. Fauna of India Checklist: Arthropoda: Arachnida: Solifugae. Version 2.0. Zoological Survey India. DOI: <https://doi.org/10.26515/Fauna/2/2025/Arthropoda:Arachnida:Solifugae>

Comments on the checklist:

E-mail your comments and suggestions to improve the checklist to zsifaunachecklists@gmail.com; sensouvik07@gmail.com

FAUNA OF INDIA CHECKLIST



ARTHROPODA: ARACHNIDA: SOLIFUGAE, Sundevall, 1833

Mrinmoy Kumar Kayal^{1,2} & Souvik Sen^{1,3,*}

¹Zoological Survey of India, Prani Vigyan Bhawan, M-Block, New Alipore, Kolkata – 700053, West Bengal, India; ²mrinmoykayal2012@gmail.com; <https://orcid.org/0009-0003-2324-0306>; ³sensouvik07@gmail.com; <https://orcid.org/0000-0002-7149-5376>; *Corresponding author: sensouvik07@gmail.com

Introduction: Solifugae, commonly known as camel spiders, wind scorpions, or sun spiders, is an order of fast-moving arachnids found in deserts and arid regions. The most prominent character of the order Solifugae is the large chelicerae, which are often longer than the prosoma, and used for cutting and crushing prey (Punzo, 1998). Their body is divided into a cephalothorax and abdomen, with long, hairy legs adapted for speed (Hebets *et al.*, 2023). Unlike scorpions, solifugids lack a stinger and tail, and unlike true spiders, they have massive, forward-facing chelicerae instead of fangs. The individuals of this order are endemic indicators of desert biome. A recent fossil study estimated

that the crown group Solifugae diverged during the Carboniferous period, approximately 318–331 million years ago (Kulkarni *et al.*, 2023).

Global diversity: A total of 1221 species of camel spiders under 144 genera and 12 families are reported across the world. However, 05 fossil species under 05 genera have also been described (World Solifugae Catalog, 2022).

Diversity in India: 21 species belonging to 06 genera under 03 families have been described from India.

Diversity in states:

Sl. No.	State/Union Territory	No. of Species	No. of Endemic Species
1	Andhra Pradesh	2	2
2	Arunachal Pradesh	0	0
3	Assam	1	1
4	Bihar	2	1
5	Chhattisgarh	1	1
6	Gujarat	4	2
7	Goa	0	0
8	Haryana	1	0
9	Himachal Pradesh	1	0
10	Jharkhand	1	1



Sl. No.	State/Union Territory	No. of Species	No. of Endemic Species
11	Karnataka	1	1
12	Kerala	0	0
13	Madhya Pradesh	3	1
14	Maharashtra	4	3
15	Manipur	0	0
16	Meghalaya	0	0
17	Mizoram	0	0
18	Nagaland	0	0
19	Odisha	1	1
20	Punjab	1	0
21	Rajasthan	2	1
22	Sikkim	0	0
23	Tamil Nadu	5	4
24	Telangana	2	2
25	Tripura	0	0
26	Uttar Pradesh	1	1
27	Uttarakhand	1	0
28	West Bengal	2	0
29	Andaman & Nicobar	0	0
30	Chandigarh	0	0
31	Dadra Nagar Haveli, Daman & Diu	0	0
32	Delhi	1	0
33	Jammu & Kashmir	0	0
34	Ladakh	1	1
35	Lakshadweep	0	0
36	Puducherry	0	0
37	State Unknown	2	0
	INDIA Total	21	13

Endemism: Out of 21 camel spiders, 13 species are endemic to India.

Habitat: Camel spiders are found in all types of warm deserts and scrublands in all continents except Antarctica and Australia. They inhabit semi-arid areas and scrub (Punzo, 1998). In India, they are also reported from forests. Some of the species can dig holes in the ground, and the females live in burrows for the protection of

themselves and their young during the breeding-season (Pocock, 1900). They are nocturnal in habit and exclusively carnivorous.

Ecological Significance: Camel spiders are active predators and feed upon termites, darkling beetles, and other small, ground-dwelling arthropods. They are very aggressive hunters and voracious feeders (Cloudsley-Thompson, 1961). Being predatory in nature,



camel spiders help in maintenance of ecological balance by moderating the richness of its prey.

Human Significance: Camel spiders usually do not attack humans. However, their chelicerae can penetrate human skin. It is very painful if a camel spider bites a human.

Threatened species: None of the species is included in the list of threatened species as per IUCN.

Protected Species as per WPA (2022): None of

the species is considered as protected species as per WPA (2022).

Species under CITES: None of the species is considered under CITES.

Invasive alien species: None of the species is treated as invasive alien species.

Gap areas: In India, camel spiders are very poorly documented. It is expected that more studies can provide us with the exact diversity of these arachnids and lead to new findings.

Systematic list of Solifugae of India (*Endemic species marked with **)

Order Solifugae Sundevall, 1833

Family Daesiidae Kraepelin, 1899

1. *Gluviopsis atrata* Pocock, 1900 *

Family Galeodidae Sundevall, 1833

2. *Galeodes agilis* Pocock, 1895
3. *Galeodes annandalei* Hirst, 1908
4. *Galeodes australis* Pocock, 1900 *
5. *Galeodes bengalicus* (Roewer, 1934) *
6. *Galeodes ctenogaster* (Roewer, 1934) *
7. *Galeodes dekanicus* (Roewer, 1934) *
8. *Galeodes fatalis* (Lichtenstein, 1796)
9. *Galeodes gravelyi* (Roewer, 1934) *
10. *Galeodes indicus* Pocock, 1900 *
11. *Galeodes orientalis* Stoliczka, 1869
12. *Galeodes pallescens* Hirst, 1908 *
13. *Galeodes rufulus* Pocock, 1900
14. *Galeodes sabulosus* Pocock, 1900
15. *Galeodes turki* Harvey, 2002 *

Family Rhagodidae Pocock, 1897

16. *Rhagoderma assamensis* Roewer, 1933 *
17. *Rhagoderma nigriceps* (Pocock, 1895)
18. *Rhagodima annulata* (Simon, 1885) *
19. *Rhagodima nigrocincta* (Bernard, 1893) *
20. *Rhagodoma vittata* (Pocock, 1899) *
21. *Rhagodopa brevipes* (Gervais, 1842)

References:

- Cloudsley-Thompson, J. L. 1961. Some aspects of the physiology and behaviour of *Galeodes arabs*. *Entomologia Experimentalis et Applicata*, **4**(4): 257–263.
- Hebets, E. A., Oviedo-Diego, M., Cargnelutti, F., Bollatti, F., Calbacho-Rosa, L., Mattoni, C. I., Olivero, P., Simian, C., Abregú, D., Vrech, D.E. and Peretti, A.V. 2024. A scientist's guide to Solifugae: How solifuges could advance research in ecology, evolution, and behaviour. *Zoological Journal of the Linnean Society*, **202**(2): zlad174.



- Kulkarni, S. S., Steiner, H. G., Garcia, E. L., Iuri, H., Jones, R. R., Ballesteros, J. A., Gainett, G., Graham, M. R., Harms, D., Lyle, R. and Ojanguren-Affilastro, A. A. 2023. Neglected no longer: Phylogenomic resolution of higher-level relationships in Solifugae. *Iscience*, **26**(9).
- Pocock, R.I. 1900. Some new or little-known Thelyphonidae and Solifugae. *Annals of natural history*, **5**(7): 294–306.
- Punzo, F. 1998. The Biology of Camel-Spiders (Arachnida, Solifugae). Kluwer Academic Publishers, Norwell, Massachusetts: 301 pp.
- World Solifugae Catalog. 2022. *World Solifugae Catalog*. Natural History Museum Bern, online at <http://wac.nmbe.ch> (accessed on 17th January, 2025).

