



Description of New Jumping Spider species *Epocilla aura* Dyal, 1935 (Aranae: Salticidae: Chrysillini) from Gariaband district, Chhattisgarh State, India

Avinash R. Nichat¹, Jashvant Nayak^{2*}, Premal Sori³ and Hitesh Kumar Warte⁴

¹Department of Zoology, M.M.V. P.G. College Bhakhara, Dhamtari, Chhattisgarh, India

²Department of Zoology, Govt. Dudhadhari Bajrang Girls Postgraduate College Raipur, Chhattisgarh, India

³Department of Botany, Govt. Mahaprabhu Vallabhacharya Postgraduate College Mahasamund, Chhattisgarh, India

⁴Department of Zoology, Govt. Pt. Shyam Shankar Mishra College Deobhog, Gariyaband, Chhattisgarh, India
jashvantnayak415@gmail.com

Available online at : www.isca.in, www.isca.me

Received 27th January 2025, revised 27th March 2025, accepted 19th April 2025

Abstract

The present study deals with a new spider species, *Epocilla aura* Dyal, 1935 reported in Gariaband district of Chhattisgarh state, India. It is a new genus and species on the Chhattisgarh spider fauna list. A new spider species *Epocilla aura* Dyal, 1935 is added to the spider fauna list of Chhattisgarh. This discovery will help in better understanding the spiders in Chhattisgarh and their diversity.

Keywords: Spider, Aranae, Salticidae, *Epocilla aura*, Gariaband.

Introduction

Spiders are small, predatory, carnivorous, terrestrial creatures. They represent phylum Arthropoda, class Arachnida, and order Aranae. They are creatures found everywhere in the world except Antarctica¹. There are different types of spider species in the world. They are different from each other in morphology, behaviour and adaptation. Their body structure is suitable for simple survival in their environment. Where some spider species are very large (Tarantula) and some are very small. Some spiders are highly predatory, like jumping spiders (family Salticidae) and some spiders are less predatory². Some spider species perform Thanatosis behaviour (*Indoxysticus minutus*) while some spiders are not³.

There are different types of strategy that make him the most dominant creature in the world. A group of spiders belongs to the Salticidae family (called salticids or jumping spiders). Salticids are highly predatory, and they never spin webs. They produce silk for case formation and transportation between one place to another place⁴. Their eye and leg configuration is different from all the spider families. There are 52, 647 spider species belong to 4415 genera from 136 families in the world. The Salticidae family has the dominant number of spider species in the world⁵. The family Salticidae black wall, 1841 represents 6804 species belonging to 689 genera.

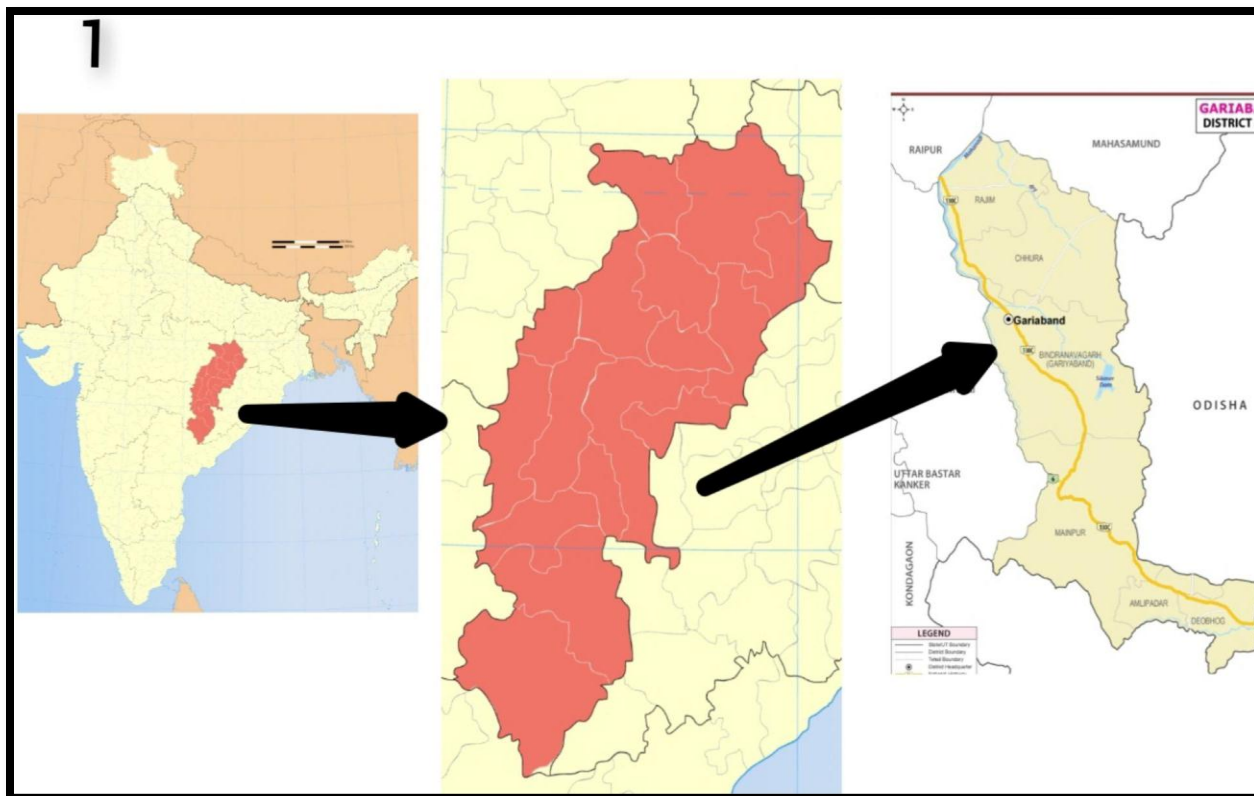
Other families, Frontferreidae, Huttonidae, Megahexuridae, Myrmecalcatoridae, Trogloraptoridae represent only one spider species. In India, a total of 2,245 spider species belong to 563

generator 65 families are documented, where the Salticidae family represent 352 species under 115 genera are listed. In Chhattisgarh no more documentation of spider fauna in all districts⁶.

In Chhattisgarh no more documentation of spider fauna in all districts and regions. Firstly 118 species of 52 Genera under 17 families identified in Ram Jharna, Raigarh, where only 4 species of Salticidae Are found⁷. Rose Garden Raigarh 20 spider species belong to 13 Genus under 6 families are documented where 2 Salticidae are documented Plexippus paykuli and Rhene⁸. In Gomarda Wildlife Sanctuary 120 species of spider Belong to 49 Genera and 16 families are documented where 4 species of Salticidae are listed⁹. 63 spider species and 38 Genera under 10 families, where 3 Salticidae are listed from Indra Vihar Park, Raigarh Kujur. In Achankmar Wild Life Sanctuary, Bilaspur 27 species of spider documented¹⁰.

In Gariyaband district first documented 13 species under 13 Genus and 8 families where only one Salticids was observed, *Plexippus Paykuli*¹¹. In Kharun river region 45 spider species under 9 families where 5 Salticids are observed¹². 55 Spider species under 45 Genera and 13 families observed in Deobhog Region Gariyaband district where most 12 Salticids are observed¹³.

Till now, 12 species of *Epocilla* genus have been observed all over the world, which have 6 synonyms. Out of which only seven species are found in India, six have been identified at the species level and one at the genus level. *Epocilla aura* Dyal, 1935 has been observed only in eight states in India². It was first



observed in Punjab in 1981. After that it was observed in Jammu Kashmir¹⁴, Kerala and most recently in Gujarat^{15,16}.
Figure-1: Map Study area (India, Chhattisgarh, Gariaband).

Methodology

The spider specimen was photographed by infinix smart HD camera and GPS map camera version 1.4.22. The specimen is identified by its morphological characters, which are explained by Indian literature. We use some literature “Spider Genera of India” by published literature (1935 to 2025) and Inaturalist mobile app for identification of these spider species¹⁷⁻²⁷.

Results and Discussion

Jumping or spider is a very large group of a spider group that are found in every corner of the world, their body morphology is very complex. *Epocilla aura* (Dyal, 1935) are the first species reported in Chhattisgarh which is well mentioned in this research paper.

Family	Salticidae blackwall, 1841 ²³
Genera	<i>Epocila</i> Thorell, 1887 ²⁵
species	<i>Epocilaaura</i> Dyal, 1935 ²⁶
Synonyms	<i>Thianiaaura</i> Dyal, 1935 ²⁶
	<i>Marpissatigrina</i> Tikader, 1965 ²⁷
	<i>Marpissatigrina</i> Tikader & Biswas, 1981 ⁶

Epocillapakhtankhwa Ali et.al. 1981¹⁷

Study Material or Specimen: The jumping spider specimen (*Epocilla aura*, female) was collected from the leaf of teak (*Tectonagrandis*) tree from Bindranavagarh region, forest area of Gariaband district of Chhattisgarh, India on 01/01/25. (05:11 PM GTM + 05:30). The area is situated having Latitude 20.602572 and Longitude 82.042927. This species was collected in the evening time by Jashavant Nayak and Premal Sori. This species was studied in the Biology lab of Shraddha Public School, Gariaband.

Diagnosis: Holotype: female, *Epocilla aura* (Dyal, 1935), Cephalothorax is smaller than abdomen, reddish brown striped line present both side, broad front line cover the anterior median eye. Posterior median eye and poster lateral eye present dorsal area of cephalothorax. Legs are yellowish brown semi transparent without hair. Leg III is larger than all legs. Coxa is white rather than other part of leg. Sternum oval and yellow. Lateral marginal line continue on dorsal part of carapace, first two line broad, large, heart shaped, Leg III and IV band are anteriorly inviginate, leg V is small and last, not inviginate interiorly.

Distribution: Pakistan and India (Haryana, Jammu and Kashmir, Kerala, Gujarat, Maharashtra, Mizoram, West Bengal, Punjab)^{17,18}.

Habitat: They are arboreal and make their nests in the trunks of large trees; when they need a food, they come into the ground.



Figure-2: *Epocillaaura* Dyal, 1935. Female dorsal view © Jashavant Nayak.



Figure-3: Female *Epocilla aura* Dyal, 1935, with GPS location and pictures (Dorsal view) © Jashavant Nayak.

Conclusion

The present study deals with a new spider species, *Epocilla aura* Dyal, 1935 in Gariyaband district of Chhattisgarh state, India. Addition of a new species to the Chhattisgarh spider fauna list. Spiders are important for the ecosystem and human beings. They are prey of birds and other spiders, the predators of insects. The study increased one new spider species that helps to understand the diversity and the importance of spiders in Chhattisgarh. Chhattisgarh is a state where spiders are abundant, but there is not any work about spiders, so we hope that it is the initiation of research to study spider diversity and their importance for the ecosystem. Jumping spiders are the more diverse spider group. The most important for nature are pest controller, food chain management and mosquito terminator.

References

1. Nichat, A. R., Shaffi, S. A., Warte H. K., Nayak, J., (2024). A study of biodiversity of spider species (arachnida : araneae : araneomorphae) in kokasara region, Kalahandi, Odisha, India. *African Journal of Biological Sciences*, 6 (15), 2663-2187.
2. Singh R., Singh B. B., & Singh G. (2023). Spider Fauna of India, Asian Biological Research Foundation, Prayagraj, India. *Nature Light Publications*, Pune ISBN- 978-81-959483-4-5.
3. Nayak, J., Sori, P., & Sahu, L., (2024). Thanatosis Behaviour in the *Indoxysticus minutus* Tikader, 1960 (Araneae: Thomisidae) in Gariyaband, Chhattisgarh, India. *International Journal of Research in Academic World*, 3(12), 94-95.
4. Das, S., Roy, S. & Mukhopadhyay, A. (2010). Diversity of arthropod natural Enemies in the tea plantations of North Bengal with emphasis on their Association with tea pests. *Current Science*, 99(10), 1457-1463.
5. World Spider Catalog (2024). World Spider Catalog. Version 25.5. Natural History Museum Bern, online at <http://wsc.nmbe.ch>,
6. Tikader, B. K. & Biswas, B. (1981). Spider fauna of Calcutta and vicinity: Part-I. *Records of the Zoological Survey of India*, 30, 1-149.
7. Kujur R. & Ekka A. (2015). Spider diversity of Ram Jharna, Raigarh District, Chhattisgarh, India. *Research J. Pharm. and Tech.*, 8(7), 813- 819.
8. Kujur R. & Ekka A. (2016). Spatial diversity of Spiders of Rose Garden, Raigarh, Chhattisgarh, India. *IJARSE*, 5(11), 139- 144.
9. Kujur R. & Ekka A. (2016). Exploring the Spider fauna of Gomarda Wildlife Sanctuary, Chhattisgarh, India. *International Research Journal of Biological Sciences*, 5(6), 31-36.
10. Toppo, A. K., K. R. & Nishad, H., (2020). Diversity of Spider in Achankmar Wild Life Sanctuary district Bilaspur, Chhattisgarh. *Life Sciences Bulletin*, 17(1&2), 117- 119.
11. Sen, D.L. (2021). Biodiversity of Spider Fauna At, Gariaband, Chhattisgarh, India. *International Research Journal of Modernization in Engineering Technology and Science*, 3(10), 953- 962.
12. Toppo, A. K., Sahu, K. R. & Nishad, H., (2022). Diversity of Spider Fauna of Kharun River at Khutaghat Dam, District Bilaspur, Chhattisgarh, India. *International Journal of Food and Nutritional Sciences*, 11(12), 14170-14176.
13. Nichat, A. R., Warte, H. K., Nayak, J., (2024). Spider diversity (Arachnida: Araneae) in Deobhog region Gariyaband Chhattisgarh India. *International Journal of Innovation and Science and Engineering*, 11(8), 39 – 45.

14. Sadana, G.L. (1983). An addition to the spider fauna of the Jammu and Kashmir State. Proceedings of the Workshop of High Altitude Ecology, Zoological Survey of India, Kolkata, 73-75.
15. Sathiamma, B., Jayapal, S. P. & Pillai, G. B. (1987). Observations on spiders (Order: Araneae) predacious on the coconut leaf eating caterpillar *Opisina Arenosella* Wlk. (= *Nephantis serinopa* Meyrick) in Kerala: Feeding potency. *Entomon*, 12(1), 45-47.
16. Parmar, S., Patel, K., Prajapati, D., Patel, H. & Trivedi, J. (2023). A preliminary Checklist of spiders of Hemchandracharya North Gujarat University Campus, Patan, Gujarat, India. *Munis Entomology & Zoology*, 18 (1), 590-599.
17. Ali, P. A., Maddison, W. P., Zahid, M. & Butt, A. (2018). New chrysilline and aelurilline jumping spiders from Pakistan (Araneae, Salticidae). *Zoo Keys*, 783, 1-15
18. Caleb, J. T. D., Sanap, R. V., Prajapati, D. A. & Bambhaniya, P. (2021). Taxonomic notes on two jumping spider species of the genus *Epocilla* Thorell, 1887 (Araneae: Salticidae: Chrysillini) from India and Pakistan. *Arthropoda Selecta*, 30(2), 221-229.
19. Nichat AR., Harris KK., Warte HK., Dubey M., Sori P. & Nayak J. (2025). Spiders Diversity in North East Gariaband Forest Regions of Chhattisgarh, India. *Uttar Pradesh Journal of Zoology*, 46(4), 119-127. DOI: <https://doi.org/10.56557/upjoz/2025/v46i44808>
20. Nayak J., Sori P., Sahu L., Bharti D. (2025). A new observational record of jumping spider (Araneae: Salticidae: Aelurillini: Aelurillina) *Stenaelurillus metallicus* Caleb & Mathai, 2016 in Chhattisgarh, India. *International Journal of Biology Research* 10(1) 19-21. <https://www.biologyjournal.in/assets/archives/2025/vol10issue1/10007-1740555118544.pdf>
21. Nayak J., Sori. P. and Bharti D. (2025). Description of a New Spider *Meotipasahyadri* Kulkarni, Vartak, Deshpande & Halali, 2017 (Araneae: Theridiidae) in Chhattisgarh, India. *International Journal of Research Publication and Reviews* 6(2) 4518-4521. <https://doi.org/10.55248/gengpi.6.0225.1026>
22. Nayak J. & Sori P. (2025). *Hamadruas hieroglyphica* Thorell, 1887 (Araneae: Oxyopidae): First Description of a lynx Spider In Chhattisgarh, India. *International Research Journal of Modernization in Engineering Technology and Science*: 7(3): 632-634. DOI: <https://www.doi.org/10.56726/IRJMETS68434>
23. Nayak J., Warte H.K., Sori P. & Sahu L. (2025). Study on Jumping Spiders (Araneae: Araneomorphae: Salticidae) Diversity in Shraddha Public School Campus Gariaband, Chhattisgarh, India. *International Journal of Latest Technology In Engineering, Management & Applied Science*, 14(3), 350-353. DOI : <https://doi.org/10.51583/IJLTEMAS.2025.140300037>
24. Ayan Mandal, Debomay Chanda, Atul Vartak, and Siddharth Kulkarni (2020). A Field Guide to the Spider Genera of India. Om Publications, India, pp 1-408. ISBN: 9789354167164.
25. Żabka, M. (1985). Systematic and zoogeographic study on the family Salticidae (Araneae) from Viet-Nam. *Annales Zoologici, Warszawa*, 39, 197-485.
26. Dyal, S. (1935). Fauna of Lahore. 4.—Spiders of Lahore. Bulletin of the Department of Zoology of the Panjab University, 1, 119-252, pl. 11-17.
27. Tikader, B. K. (1965). A new species of spider of genus *Marpissa* (Salticidae) from India. *Science and Culture* 31: 261-262.