Journal of Fisheries and Zoological Sciences, 1(4)/October-December, 51-56
DOI: https://doi.org/10.65385/JFZS0031

Research Paper

New Distributional Record of a *Marengo* Species (Araneae: Salticidae) from Chhattisgarh, India

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How to Cite

Nayak, J. (2026) New Distributional Record of a *Marengo* Species (Araneae: Salticidae) from Chhattisgarh, India. *Journal of Fisheries and Zoological Sciences, 1(4), 51-56.* https://doi.org/10.65385/JFZS0031

ISSN: 3108-1991 (online)

Article History
Received 14 September 2026
Accepted 16 November 2026
First Online 21 November 2026

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Keywords
Chhattisgarh
Gariaband
Jumping spider
Salticidae
Species

Abstract

Chhattisgarh is a biodiversity rich state located in the centre of India. In this state, *Marengo sachintendulkar* (adult male) jumping spider species have been recorded for the first time in forest region of Gariaband (Chhattisgarh). The specimen was collected from the leaves of a *Madhuca indica* tree in the Bhuteshwar Nath forest region of Gariaband, using the hand-picking method. This species has already been recorded in three states of India, Gujarat, Tamil Nadu and Kerala. Chhattisgarh is the fourth state where it has been recorded. In the present study, complete description of this species like morphology, body pattern, locality, recorded area and specimen details have been given. This jumping spider species and genus has been recorded for the first time in the state. This record extends the known geographical distribution of the genus *Marengo* and adds to the documented diversity of Salticidae in Chhattisgarh. The finding highlights the importance of systematic surveys and biodiversity documentation in the state, particularly in forest and semi-natural habitats. Further intensive surveys and taxonomic studies are recommended to determine the distribution, habitat preference and diversity of *Marengo* species in Chhattisgarh and other unexplored regions of central India.

1. Introduction

Marengo G. W. Peckham & E. G. Peckham, 1892 is a genus of jumping spider belonging to the family Salticidae, which was first recorded in 1892 (Peckham and Peckham, 1892). So far, 12 species have been recorded under this genus, which are found exclusively in Asia (Peckham and Peckham, 1892; WSC, 2026). In India, only four species have been recorded under this genus; among them, *Marengo crassipes*, is found in both India and Sri Lanka (Singh *et al.,* 2023), whereas the remaining three species *Marengo batheryensis*, *Marengo sachintendulkar*, and *Marengo zebra* have been recorded exclusively in India (Singh *et al*., 2023; WSC, 2026). *Marengo sachintendulkar* Malamel, Prajapati, Sudhikumar & Sebastian, 2019 is an Indian endemic species of jumping spider that was first recorded in 2019 in Gujarat, Kerala, and Tamil Nadu (Malamel *et al.,* 2019). Subsequently, it was recorded in Kerala (Singh *et al.,* 2023; Sudhin *et al.,* 2019; Sumesh and Sudhikumar, 2020), and later, once again in Gujarat (Parmar *et al.,* 2023). It has been recorded in only three states within India.

Chhattisgarh is a highly significant state in terms of spider diversity, where numerous spider species are found; however, only a few species of jumping spiders (Family Salticidae) have been recorded in the state so far (Nichat *et al.,* 2025a). Recently, several species of jumping spiders have been recorded in the state. *Stenaelurillus metallicus* (Nayak *et al.,* 2025a), *Stenaelurillus jagannathae* (Nayak, 2025), and *Epocilla aura* were recorded in the forest region of Gariaband (Nichat *et al.,* 2025b; Singh *et al.,* 2023), and It has been recorded in eight districts of Chhattisgarh (Nayak *et al.*, 2026a). Endemic to India, mainly reported from southern and western India, including Gujarat (Malamel *et al.*, 2019; Parmar *et al.*, 2023), Kerala (Sumesh & Sudhikumar, 2020; Malamel *et al.*, 2019), and Tamil Nadu (Malamel *et al.*, 2019) (WSC, 2026). The present study fills this research gap and explores new distributional records of a jumping spider *Marengo sachintendulkar* Malamel, Prajapati, Sudhikumar & Sebastian, 2019 in the state of Chhattisgarh.

2. Materials and Methods

2.1 Sample Collection and analysis

In the present study, a Salticid spider specimen was collected by hand picking method from Bhuteshwar forest region located in Gariaband district of Chhattisgarh state (Figure 1). This specimen was randomly observed on the leaf of *Madhuca indica* tree during site visit (Figure 2-3).

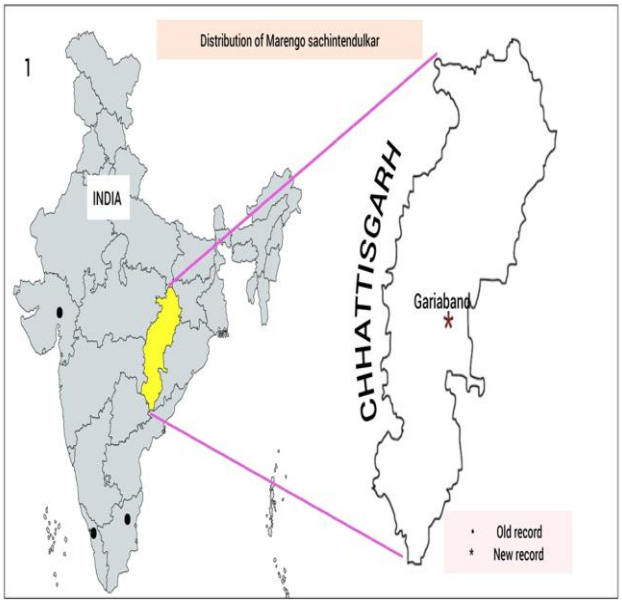


Figure 1: The map represents old and new record of salticid spider species *Marengo sachintendulkar* in India and Chhattisgarh region



Figure 2-3: Collection area (Bhuteshwar Nath forest region) & Specimen collection

2.2 Identification of sample

For better study of the specimen, it was preserved in 70% ethanol and deposited in the department of Zoology of Govt. D. B. Girl's Post Graduate College Raipur, Chhattisgarh. The specimen is kept in vial no. DBZ355. This specimen was thoroughly analyzed with the help of Stereozoom microscope, during the analysis focus was given on the morphology of the specimen such as eye configuration, pedipalps structure and body pattern. For its identification, help of recent published literature has been taken and identification has been done by matching it with the morphological keys of the literature.

3. Results

A complete description of the newly recorded species including morphology, taxonomy, details of specimen examination, and collection location is provided below.

Taxonomy

Salticidae Blackwall, 1841

Marengo G. W. Peckham & E. G. Peckham, 1892

Marengo sachintendulkar Malamel, Prajapati, Sudhikumar & Sebastian, 2019 (Figure 4-13)

3.1 Specimen Examination

Marengo sachintendulkar (Adult male) 1♂ specimen collected from Bhuteshwar Nath forest region in Gariaband, Chhattisgarh, India. Location 20°36'11"N and 82°02'51"E, elevation 378.29m. The spider specimen was collected on 06.vii.2025 05:49 PM [+05:30 GMT] on the leaf of *Madhuca indica* tree by Jashavant Nayak. The specimen was preserved in 70% ethanol and deposited in a lab of the Department of Zoology in Govt. D. B. Girls Post Graduate College Raipur, Chhattisgarh, India.

3.2 General Morphology

Cephalothorax: The cephalothorax is slightly larger than the abdomen and is brown in color. It is rectangular at the anterior end, whereas it is pointed at the posterior end, where it attaches to the pedicel. The pedicel connects the cephalothorax and the abdomen. They possess eight eyes, of which the anterior median eye is the largest in size. The anterior lateral and posterior lateral eyes are of equal size. The posterior median eye is the smallest. These eyes are covered from above by small hairs. The abdomen and opisthosoma are oval in shape, and the dorsal part is black, while the ventral part is pale brown. The dorsal surface has a whitish transverse stripe that ends in the lateral part.

Leg I is quite distinct from the other legs. This leg possesses only three spines. The femur is short, wide, strong, brown, and hairy. The patella is thick in size. The tibia is dark in color; its anterolateral part bears a tuft of small, dark hairs and appears swollen. The metatarsus is medium-sized and hairy. The tarsus is short, cylindrical, and hairy, while the claw is small. The coxa of Leg II is short and wide; the trochanter is small and thick. The femur is strong, brown, cylindrical, and long, with a smooth dorsal surface; several spines are attached to its ventral side. The patella is small, thick, strong, and

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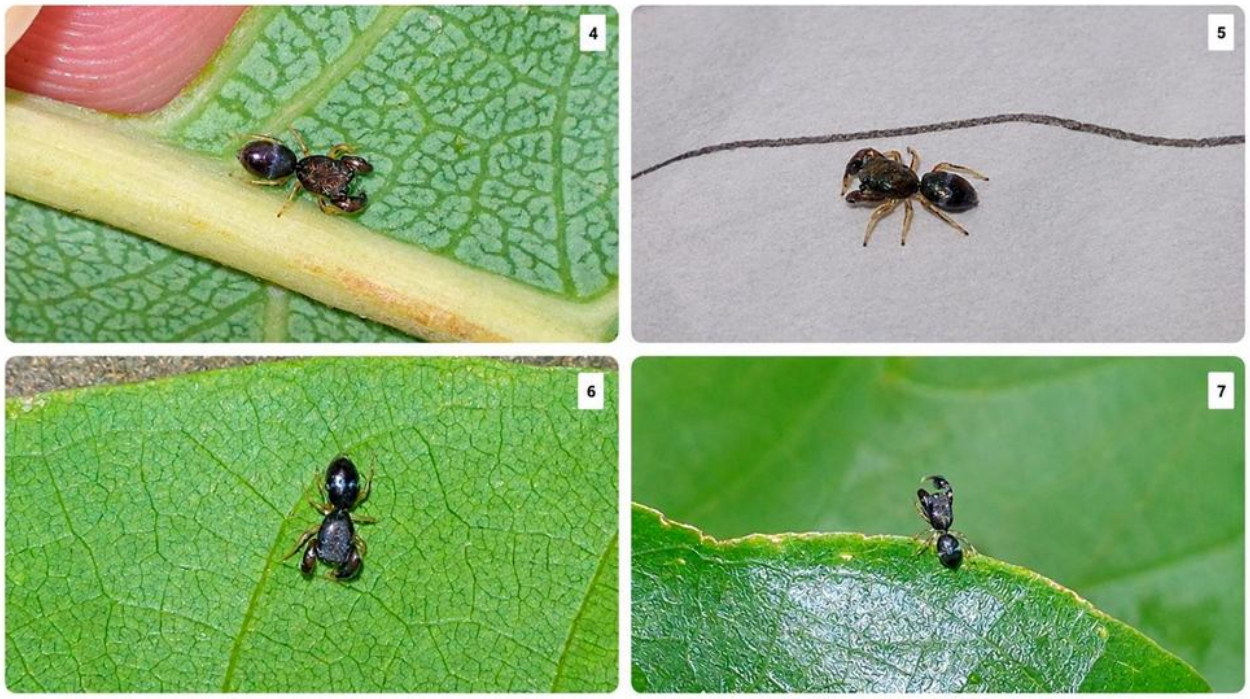


Figure 4-7: *Marengo sachintendulkar* Malamel, Prajapati, Sudhikumar & Sebastian, 2019 (adult male)

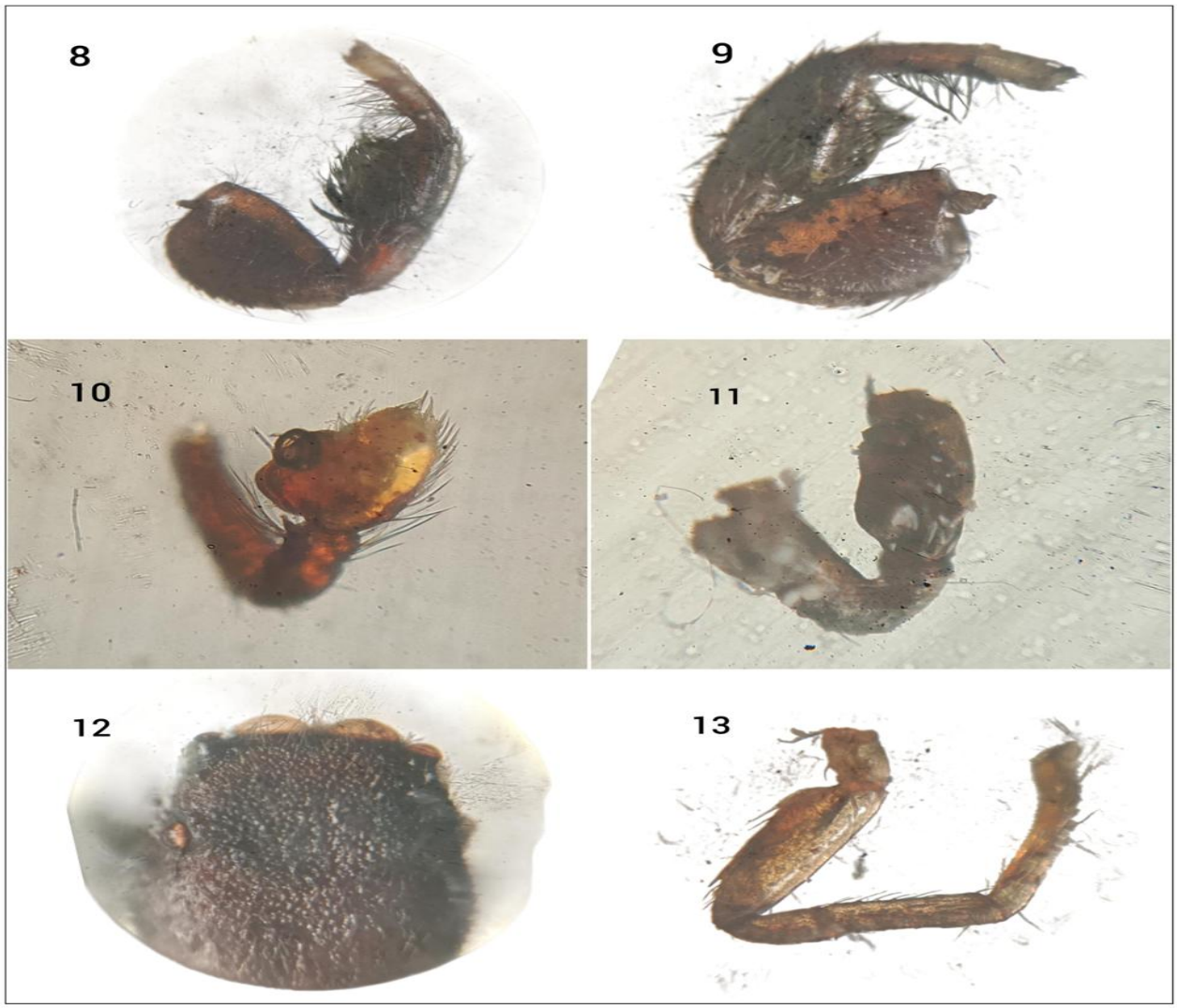


Figure 8-13: *Marengo sachintendulkar* Malamel, Prajapati, Sudhikumar & Sebastian, 2019 (adult male); 8- Leg I dorsal; 9- Leg I ventral; 10, 11- male genital; 11; eye arrangement; 13- Leg II.

cylindrical, with spines present on its ventral surface. The metatarsus is long and cylindrical. The tarsus is short, and a claw is attached to its terminal end. The claws are completely covered with small hairs.

Pedipalp: The retrolateral tibial apophysis is short, broad, and triangular in shape. The embolus is black and long, with a pointed tip. The embolus coil is slightly more than one turn and is situated in the lateral part of the embolus. The sperm duct is of medium size and is located in the lateral region of the embolus. The cymbium is oval-shaped; its dorsal region is covered with tiny hairs, while a bulbous is located in the ventral region. This bulbous is large and oval-shaped; it protrudes outward from the cymbium and appears swollen. The median apophysis was not observed in this.

3.3 Diagnosis

Abdomen with a median discontinuous whitish transverse band and two anteromedial longitudinal stripes reaching the transverse band, only four spines on tibia I, (six in all the Marengo species), the orientation of the embolic coil, the embolus narrowing at its distal end, with a sharp pointed tip (Malamel *et al*., 2019).

4. Discussion

Malamel and his colleagues collected both male and female specimens of M. sachintendulkar; however, in this study, only a male specimen was collected from Chhattisgarh. While it resembles the species M. crassipes,, its male genitalia and body pattern differ somewhat from that species. The male specimen collected is exactly similar to the male specimens collected by Malamel and his colleagues. There is a transverse whitish band on the abdomen, two longitudinal whitish bands are attached to the transverse band, Anterior median eyes are large and oval, posterior median eyes are small, anterior lateral and posterior lateral eyes are of similar size, tibia of first pairs of legs have four spines, femur is wide thick and strong, embolus is narrow and coiled. All these characteristics are similar; it is on the basis of these similarities that this species has been identified.

Under the genus Marengo G. W. Peckham & E. G. Peckham, 1892, 12 species have been recorded in Asia, out of which only four species have been documented in India. 33.33% of all species are found in India. Out of these four species, Marengo sachintendulkar Malamel, Prajapati, Sudhikumar & Sebastian, 2019 is a jumping spider species, which has been recorded in only three states of India, Gujarat, Kerala and Tamil Nadu. This species has been recorded for the first time in Chhattisgarh state. With this study, Chhattisgarh has now become the fourth state where this species is found. The discovery of this species within the state demonstrates that other spider species may also exist in various parts of the region, as the state is characterized by dense vegetation and extensive forest cover. Chhattisgarh is a biodiverse state, home to a diverse array of flora and fauna. Spider species are more common in habitats with high vegetation, providing adequate food, shelter, and mate. Finding this species here increases the likelihood of finding other species of this genus as well.

The recorded species will play a crucial role in the future by assisting researchers in understanding spider diversity. It will facilitate identification by enabling comparisons with other species within this genus whether they are previously recorded or newly discovered. All characteristics of the currently recorded specimen match exactly with those of the specimen collected by Malamel et al., 2019. The identification of this specimen is based on this similarity in characteristics.

5. Conclusion

This study reports a new distributional record for Marengo sachintendulkar Malamel, Prajapati, Sudhikumar & Sebastian, 2019, a species of jumping spider. This species, along with its genus, is recorded from the state of Chhattisgarh for the first time. The recording of this species indicates that Chhattisgarh possesses significant spider diversity, and it is likely that other spider species are also present. Further advanced studies could lead to the discovery of additional species found in the state. The present record also highlights the importance of systematic surveys and continuous field investigations for documenting the spider fauna of Chhattisgarh. Detailed taxonomic studies, supported by morphological examination, photographic documentation, and, where possible, molecular approaches, may help in improving the accuracy of species identification and distributional knowledge. Continued exploration of different habitats and forest regions of the state may reveal previously undocumented species and extend the known geographic ranges of several taxa. Such studies will contribute to the development of a comprehensive checklist of spiders of Chhattisgarh and provide valuable baseline information for biodiversity assessment, ecological research, and future conservation planning.

6. Statements and Declarations

Ethical Approval: Not Applicable

Conflict of Interest: The authors declare that they have no conflict of interest.

Funding statement: The authors declare that no financial support or external funding was received for this research.

Acknowledgements: The authors gratefully acknowledge Dr. Kiran Gajpal, Principal, Govt. D.B. Girl's P.G. College, Raipur, Chhattisgarh, for providing institutional Support and Encouragement throughout the study and access to laboratory facilities essential for

the completion of this research. Sincere thanks are also extended to the Tejeshwar Diwan and local people from Kokasara block for Valuable guidance about area and environment.

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