

Rich biodiversity: Scientists discover new soil-dwelling Collembola species in state

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Collembola is a soil-dwelling micro-arthropod

Kolkata: Scientists of Zoological Survey of India (ZSI), Kolkata, have made a significant discovery with the identification of a new species of Collembola, a soil-dwelling micro-arthropod, in Bihar.

This finding highlights the rich biodiversity of Collembola in the region and provides new insights into its interaction with soil ecosystems. The new species, *Cyphoderus bihariensis*, has been named after the state. The discovery was made by a team from ZSI's Apterygota section, led by Guru Pada Mandal, along with Koushik Kumar Roy and Kusumendra Kumar Suman. Their re-

search is set to be published in the upcoming issue of *Journal of Insect Biodiversity and Systematics*.

Dhriti Banerjee, director, ZSI, emphasised the ecological significance of Collembola. "Collembola play a major role in soil health, though their importance is often overlooked. They contribute to hu-

mus development, nutrient cycling, organic matter decomposition and overall soil monitoring," she stated.

The new species is characterised by its minute body size, absence of eyes and the presence of a furcula—a ventral abdominal appendage that acts as a jumping organ. Other distinguishing features include feathered dental scales, a multi-toothed mucro, and a unique chaetotaxy (arrangement of body chaetae). Notably, *Cyphoderus bihariensis* has been classified within the 'multidentati' species group, making this the first recorded instance of this group in the country.

Guru Pada Mandal, the team leader, emphasised the

broader significance of the discovery. "This finding enriches our understanding of Collembola diversity in India. The genus *Cyphoderus* currently comprises 86 species worldwide, and with this addition, India now has 10 documented species. Continued research is crucial to further explore this diversity and its vital role in soil ecosystems," he said.

The discovery has been published online as: Roy, K K, Mandal, GP, & Suman, KK (2025). A new species of the genus *Cyphoderus* Nicolet, 1842 (Collembola: Paronellidae), and redescription of *Cyphoderus javanus* Börner, 1906 from India. *Journal of Insect Biodiversity and Systematics*, 11 (in press).