

On a Collection of Collembola from the Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah (West Bengal)

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The Acharya Jagadish Chandra Bose Indian Botanic Garden is located in the Gangetic plain at Shibpur area of Howrah district of West Bengal state. The Garden sprawls over an area of around 109 hector (270 acres). It is situated between latitude 22°33'N and longitude 88°30'E. The entire area has a good distribution of bamboos, orchids, palms, and plants of the screw pine genus. The present communication is based on a survey conducted by authors in November-December, 2016.

The collembolans are small, wingless, entognathous hexapods with a spring-like forked jumping organ and the furcula situated below the fourth abdominal segment. They are minute in size range from 0.25 mm to 6 mm in length and with 4 segmented antennae.

A total of 25 species under 20 genera belonging to 13 families of Collembola have been recorded in this study, from different habitats of Indian Botanic Garden. Out of 25 species, 11 species were already earlier recorded. This is first consolidated report of collembola from Indian Botanic Garden. All collections were made by the authors. Identification of specimens was done using a phase contrast compound microscope following Christiansen & Bellinger (1998).

Review of literature reveals that study of Collembola fauna of West Bengal was first initiated by Imms (1912), from Indian Botanic Garden and Indian Museum Campus, Calcutta. Thereafter, Mukherjee (1932), Choudhuri (1961), Choudhuri & Roy (1965, '67), Hazra (1976, '84), Hazra & Choudhuri (1981), Hazra et al. (2007), Mandal (2011), Mitra et al. (1977) have studied collembola from different ecosystems of West Bengal.

Collembola were extracted from soil samples by employing stainless steel corers. The cores were then placed on modified high gradient extraction apparatus. Specimens were mounted under a coverslip in Hoyer's solution, and were studied under a Leica Digital Module (DM 2500) microscope. All specimens are deposited in the Apterygota Section, Zoological Survey of India (ZSI), Kolkata. Results are given in Table 1.

Acknowledgements : The authors are grateful to the Director, Dr. Kailash Chandra, Zoological Survey of India, Kolkata for giving opportunity to study the material and

laboratory facilities. Thanks are also due to Dr. A. K. Hazra, ex-Emeritus Scientist, for encouragement and to the members of Apterygota section for their help and co-operation.

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Table 1. List of collembola from Indian Botanic Garden, Howrah.

Family	Genus / species	Distribution
1 Hypogastruridae	1. <i>Willemia</i> sp.	West Bengal: Indian Botanic garden
2 Neanuridae	2. <i>Pseudachorutes</i> sp.	West Bengal: Indian Botanic garden
3 Tullbergidae	3. <i>Paratullbergia indica</i> Salmon, 1965	West Bengal: Indian Botanic garden; Kerala
4 Onychiuridae	4. <i>Allonychiurus indicus</i> (Choudhuri & Roy, 1965)	West Bengal: Indian Botanic garden
5 Brachystomellidae	5. <i>Brachystomella terrafolia</i> Salmon, 1944	West Bengal: Indian Botanic garden; Kerala
6 Isotomidae	6. <i>Proisotoma minuta</i> (Tullberg, 1871)	West Bengal: Indian Botanic Garden
	7. <i>Hemisotoma thermophila</i> (Axelson, 1900) Bagnall, 1949	West Bengal: Indian Botanic garden; Himachal Pradesh; Arunachal Pradesh; Sikkim; Kerala
	8. <i>Isotomurus ciliatus</i> Stach, 1947	West Bengal: Indian Botanic Garden
	9. <i>Isotomurus balteatus</i> (Reuter, 1876)	West Bengal: Indian Botanic garden; Uttaranchal; Arunachal Pradesh; Manipur; Odisha; Tripura
7 Entomobryidae	10. <i>Sinella curviseta</i> Brook, 1882	West Bengal: Indian Botanic garden; Himachal Pradesh; Uttar Pradesh; Arunachal Pradesh; Assam; Punjab; Sikkim
	11. <i>Lepidocyrtus (Ascocyrtus) scaber</i> Ritter, 1911	West Bengal: Indian Botanic garden
	12. <i>Lepidocyrtus (Cinctocyrtus) medius</i> Schaeffer, 1898	West Bengal: Indian Botanic garden; Jammu & Kash- mir; Sikkim; Kerala, Manipur, Mizoram, Nagaland and Tripura
	13. <i>Lepidocyrtus (Ascocyrtus)</i> <i>magnificus</i> Carpenter, 1924	West Bengal: Indian Botanic garden; Jammu & Kash- mir; Sikkim; Arunachal Pradesh; Manipur; Mizoram; Nagaland; Sikkim and Tripura
	14. <i>Pseudosinella petterseni</i> Borner, 1901	West Bengal: Indian Botanic garden; Kerala
	15. <i>Entomobrya</i> sp.	West Bengal: Indian Botanic garden
	16. <i>Seira indica</i> (Ritter, 1911)	West Bengal: Indian Botanic garden; Arunachal Pradesh; Assam; Nagaland; Maharashtra; Sikkim and Uttarakhand
8 Paronellidae	17. <i>Salina bengalensis</i> Mitra, 1973	West Bengal: Indian Botanic garden
	18. <i>Salina javana</i> (Handschin, 1928)	West Bengal: Indian Botanic garden
9 Cyphoderidae	19. <i>Cyphoderus albinus</i> Nicolet, 1842	West Bengal: Indian Botanic garden
	20. <i>Cyphoderus javanus</i> Borner, 1906	West Bengal: Botanic Garden; Darjeeling; Kerala; Maharashtra; Uttar Pradesh; Arunachal Pradesh; Manipur; Mizoram; Sikkim; Odisha
10 Nelliidae	21. <i>Neelus murinus</i> Folsom, 1896	West Bengal: Indian Botanic Garden; Kerala
11 Arrhopalitidae	22. <i>Pygmarrhopalites habeii</i> (Yosii, 1956)	West Bengal: Indian Botanic Garden; Sikkim
12 Dicyrtomidae	23. <i>Calvatomina pagoda</i> (Yosii, 1966)	West Bengal: Indian Botanic Garden
13 Sminthuridae	24. <i>Sphaeridia pumilis</i> (Krausbauer, 1898)	West Bengal: Indian Botanic Garden; Kerala; Uttar Pradesh; Maharashtra: Mumbai
	25. <i>Sminthurus viridis</i> (Linn., 1758)	West Bengal: Indian Botanic Garden
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