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ARTHROPODA: DIPLURA

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FAUNA OF INDIA CHECKLIST



ARTHROPODA: DIPLURA

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Introduction: The class Diplura comprises small, soft-bodied, wingless arthropods, commonly known as two-pronged bristletails. Most Diplurans range in size from 2 mm to 5 mm, though some species of Japyx can grow up to 50 mm. They lack eyes and are generally unpigmented, except for some species that have darkened cerci. Diplurans possess long, bead-like segmented antennae that extend forward from the head, and a pair of cerci projecting backward from the last of their tenth abdominal segments.

The cerci can be long and filamentous or short and pincer-like, sometimes leading to confusion with earwigs. The name Diplura is derived from the Greek words diplo ("two") and uros ("tail"), referring to these paired cerci. Species within this group are highly agile, but their fragile nature makes collection and preservation for identification challenging.

Pioneering research on Dipluran fauna in India was conducted by Silvestri (1930, 1931, 1933),

Rani, and Mitra (1977). A checklist compiled by Mandal documents 18 species across 9 genera, belonging to 4 families of Indian Diplura.

Global Diversity: The global diversity of the class Diplura comprises 1008 species belonging to 141 genera (Sendra *et al.*, 2021).

Diversity in India: The first Indian species of Diplura was introduced to the global scientific community through the work of Silvestri (1913, 1930, 1931, 1933), who later described several Dipluran species from India. Rani and Mitra (1977) further contributed by describing a subspecies of Campodeid Diplura from the country. According to Mandal (2011), the Indian Dipluran fauna was initially represented by 18 species across 9 genera, belonging to 4 families. However, with some species now synonymized, India currently has 17 species under 8 genera, all belonging to 4 families, of which 14 species are endemic.

Table-1: Diversity of Diplura in the various states of India

Sl. No.	State/UT	No. of Species	No. of Endemic Species
	INDIA TOTAL	17	15
1	Andhra Pradesh	0	0
2	Arunachal Pradesh	0	0
3	Assam	1	0



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

Endemism: India is home to 15 endemic species, including 1 from the Anajapygidae family, 9 from Japygidae family, 1 from Projapygidae family and 4 from Campodeidae family.

Habitat: These species can be found under stones, in leaf litter, on the forest floor, in mountain ecosystems, agricultural fields, and any other areas where moisture is present and a suitable substratum is available.



Ecological Significance: Diplurans play a crucial role in terrestrial ecosystems. They feed on soil micro- and meso-arthropods, soil mites, fungi, and detritus, as well as other diplurans. Their feeding habits contribute significantly to the decomposition and recycling of organic material.

Human Significance: Diplurans are important for maintaining soil fertility through the decomposition and humification of organic matter.

Threatened Species (IUCN): No species of diplurans are currently classified as threatened by the International Union for Conservation of Nature (IUCN).

Protected Species (WPA, 2022): There are no species of diplurans protected under the Wildlife Protection Act (WPA) of 2022.

Species Under CITES: No species of diplurans are listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Invasive Alien Species: There are no invasive alien species (IAS) within the dipluran class.

Research Gaps: The fauna of this group remains under-studied, mainly due to their limited presence in the soil and inadequate surveys. Diplurans have been reported in only a few states and Union Territories, including, Himachal Pradesh, Jharkhand, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttarakhand, West Bengal and Jammu & Kashmir. This scarcity of data highlights the need for more research and studies on this group in India.

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

Class Diplura Börner, 1904

Family Anajapygidae Bagnall, 1918

1. *Anajapyx carli* Pagés, 1997*

Family Japygidae Haliday, 1864

2. *Mesjapyx immsi* (Silvestri, 1930)*
3. *Indjapyx annandalei* Silvestri, 1930*
4. *Indjapyx gravelyi* Silvestri, 1930*
5. *Indjapyx harrisoni* Silvestri, 1936*
6. *Indjapyx petrunkevitchi* Silvestri, 1936*
7. *Indjapyx heteronotus* Silvestri, 1930*
8. *Indjapyx pruthii* Silvestri, 1931*
9. *Indjapyx seymourii* Silvestri, 1930*
10. *Grassjapyx indica* (Silvestri, 1913)*

Family Projapygidae, Cook 1896

11. *Symphylurinus indicus* Silvestri, 1937*

Family Campodeidae Meinert, 1865

12. *Simlacampa clayae* Conde, 1957*
13. *Lepidocampa juradii bengalensis* Rani and Mitra, 1977*
14. *Lepidocampa weberi* Oudemans, 1890
15. *Lepidocampa weberi nepalensis* Conde, 1993
16. *Paracampa gravelyi* (Silvestri, 1933)*
17. *Lepidocampa gravelyi submissa* Silvestri, 1933



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