FAUNA OF INDIA CHECKLIST

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ARTHROPODA: SYMPHYLA

G.P. Mandal

Apterygota section, Zoological Survey of India, M – Block, New Alipore, Kolkata – 700053, India. gpmandal.zsi@gmail.com; https://orcid.org/0000-0002-5688-1391 *Corresponding author: gpmandal.zsi@gmail.com

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Comments on the checklist:
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ZOOLOGICAL SURVEY OF INDIA
Ministry of Environment, Forest & Climate Change

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G.P. Mandal

*Apterygota section, Zoological Survey of India, M – Block, New Alipore, Kolkata – 700053, India. gpmandal.zsi@gmail.com; https://orcid.org/0000-0002-5688-1391 *Corresponding author: gpmandal.zsi@gmail.com*

Introduction: Members of the class Symphyla under subphylum Myriapoda, are commonly called garden centipedes. They are soil inhabiting arthropods, smaller and translucent, without eyes, long antennae, can move rapidly through pores between soil particles and are typically found upto 50 cm deep in the soil. Symphyla ranges 2 to 10 millimetre long. Adult Symphyla has twelve pairs of legs whereas juveniles have six pairs. Symphylas resemble centipedes, but are very small and non - poisonous. They lack eyes and antennae serve as sensory organs. Body has two parts: head and trunk; head consists of a pair of long, segmented antennae along with post-antennal organ and three pairs of mouthparts. The trunk comprises 15-24 segments, first segment is large and usually provided with a pair of legs, the last segment is slender, lacks legs, and possesses a pair of cerci. Each pair of legs with an eversible structure is called coxal sac. Symphylans have two families - Scutigerellidae and Scolopendrellidae. Former has first pair of legs more than half as long as following pairs while the latter has first pair of legs less than half as long as following pairs.

Global Diversity: In the world, about 201 species under 14 genera were recorded (Domínguez, 2009). Scheller (1971) worked on Symphyla from Ceylon and Peninsular India. Hansen (1903, 1904) described the genera and species of the class Symphyla.

Diversity in India: Scheller (1971), described ten species of Symphyla under two genera recorded from India. But at present, Symphyla reports from India show 11 spp. under 02 genera; 05 spp. belonging to genus *Symphylella* Silvestri, 1902 and 06 spp. belonging to genus *Hanseniella* Bagnall, 1913. Gravely (1910), described a sub-species of *Scutigerella unguiculata* Hansen, from Calcutta. Imms (1908), described a new species of Symphyla from the Himalayas. Mandal (2019) described the collection, preservation and identification of Symphyla.

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

Sl. No.	State/UT	No. of Species	No. of Endemic Species
	INDIA TOTAL	**11**	**3**
1	Andhra Pradesh	0	0
2	Arunachal Pradesh	0	0
3	Assam	0	0
4	Bihar	0	0
5	Chhattisgarh	0	0
6	Gujarat	0	0
7	Goa	0	0
8	Haryana	0	0
9	Himachal Pradesh	0	0

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

Endemism: 03 species of the genus *Hanseniella* Bagnall, 1913, are endemic to India.

Habitat: These are terrestrial, widespread soil-dwelling arthropods, present in most soil types, with a preference for loose or cracking soils or soils rich in organic matter.

Ecological Significance: Symphyla consume decaying vegetation, but can cause considerable harm in agricultural fields by consuming seeds, roots and root hairs in cultivated soil thus causing agricultural damage.

Human Significance: Symphyla has a significant influence on economy because it attacks roots of wide range of plant species. The damage caused by it is immense in cotton and sugarcane plantation.

Threatened species as per IUCN: There is no such threatened species of Symphyla as per IUCN.

Protected species as per WPA (2022): There is no such protected species of Symphyla as per WPA (2002).

Species under CITES: No species of Symphyla has been listed under CITES.

Invasive alien species: No species of Symphyla has been listed as Invasive Alien Species (IAS).

Gap areas: Very little taxonomic work in India has been done on this group. Out of 28 states and 08 UTs, Symphyla has only been reported from Puducherry, West Bengal and Maharashtra. So, there is an ample scope to work on this agricultural pest from other states and UTs as well.

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

Class Symphyla Ryder, 1880

Order Scolopendrellida Hoffman, 1969

Family Scolopendrellidae Newport, 1845

1. *Symphylella asiatica* Scheller, 1971
2. *Symphylella foucquei* Jupeau, 1954
3. *Symphylella oligosetosa* Scheller, 1971
4. *Symphylella plumosa* Scheller, 1971
5. *Symphylella vulgaris* (Hansen, 1903)

Family Scutigerellidae Bagnall, 1913

6. *Hanseniella aculeata* Jupeau, 1954*
7. *Hanseniella caldaria* (Hansen, 1903) *
8. *Hanseniella conisetosa* Scheller, 1971*
9. *Hanseniella hortulana* Scheller, 1971
10. *Hanseniella orientalis* (Hansen, 1903)
11. *Hanseniella unguiculata* (Hansen, 1903)

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