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ZSI Discovers Two New Marine Nematode Species off Tamil Nadu Coast

8 April 2026

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ZSI Discovers Two New Marine Nematode Species off Tamil Nadu Coast

8 April 2026 · 3 min read · 3 tags

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WHY IN NEWS

Scientists from the **Zoological Survey of India (ZSI)** have discovered **two new species of free-living marine nematodes** from the **Tamil Nadu coastline**: *Corononema dhriti* and *Epacanthion indica*. The discovery, formally published in April 2026, adds to India's documented marine biodiversity and highlights the largely unexplored diversity of **meiofauna** (microscopic seafloor organisms) in Indian coastal waters.

THE TWO NEW SPECIES

1. *Corononema dhriti*

PARAMETER	DETAIL
Species name	<i>Corononema dhriti</i>
Named after	Dr Dhriti Banerjee, Director of ZSI
Genus significance	Only the 4th known species of genus <i>Corononema</i> globally
Other known <i>Corononema</i> species	Found in Australia, Thailand, Vietnam
Habitat	Benthic (seafloor), intertidal zone, Tamil Nadu coast

2. *Epacanthion indica*

PARAMETER	DETAIL
Species name	<i>Epacanthion indica</i>
Named after	India (<i>indica</i> = of India)
Unique feature	Specialised mandible-like structures — functions as a microscopic benthic predator
Habitat	Benthic marine sediment, Tamil Nadu coast
Role in ecosystem	Preys on bacteria, diatoms, and smaller meiofauna

WHAT ARE MARINE NEMATODES?

Nematodes (roundworms) are one of the most **abundant and diverse animal groups on Earth**. Marine nematodes specifically are:

- **Free-living** (not parasitic) microscopic worms in the **meiofauna** size range (0.1–1 mm)
- Found in **benthic marine sediments** — from intertidal beaches to deep-sea floors
- Critical to **nutrient cycling**: they feed on bacteria, fungi, and organic matter, remineralising nutrients back into sediment



- **Bioindicators of sediment health** — pollution, dredging, or coastal development alters nematode community structure
- Most diverse metazoan group in marine sediments (up to **10,000 individuals per 10 cm²** in healthy sediments)

SIGNIFICANCE OF THE DISCOVERY

For Indian Marine Biodiversity

- India's **7,516 km coastline** and **Exclusive Economic Zone (EEZ) of 2.37 million km²** contain rich but poorly documented biodiversity
- Most marine biodiversity surveys focus on visible organisms (fish, corals, turtles); meiofauna remain **systematically under-sampled**
- Both species represent **new genus-level records** or significant geographical range extensions

For ZSI's Role

The **Zoological Survey of India (ZSI)**, established in **1916**, is mandated to:

- Survey and document faunal diversity of India
- Maintain the **National Zoological Collections** (~1 million specimens)
- Publish descriptions of new species under the **International Code of Zoological Nomenclature (ICZN)**

Taxonomy and Naming

Under the **ICZN (International Code of Zoological Nomenclature)**, the rules for species naming include:

- **Binomial nomenclature** — Genus + species epithet (Linnaeus, 1758)
- Priority rule — first valid published name holds
- Types (holotypes) deposited in institutional collections (ZSI repository)



MARINE BIODIVERSITY IN INDIA — KEY FACTS

PARAMETER	FIGURE
India's coastline length	7,516 km
India's EEZ	2.37 million km ²
Documented marine species in India	~30,000+ (many undescribed)
ZSI headquarters	Kolkata (founded 1916)
ZSI regional centres	16 across India
ICZN established	1895 (Vienna Congress of Zoology)

UPSC RELEVANCE

GS Paper 3 — Environment

- **Biodiversity documentation** — ZSI, BSI, FSI roles
- **Marine biodiversity** and India's coastal conservation obligations
- **Biological Diversity Act, 2002** and Nagoya Protocol — ABS (Access and Benefit Sharing) implications for newly discovered species
- **Benthic ecosystems** and meiofauna as environmental indicators

Prelims Angle

- Names and characteristics of new species (ZSI discoveries are standard Prelims fodder)
- ZSI's founding year (1916) and headquarters (Kolkata)
- Difference between nematoda and other invertebrate phyla



FACTS CORNER

ITEM	FACT
New species 1	<i>Corononema dhriti</i>
New species 2	<i>Epacanthion indica</i>
Discovery organisation	Zoological Survey of India (ZSI)
Location	Tamil Nadu coastline
<i>Corononema dhriti</i> – named after	Dr Dhriti Banerjee (ZSI Director)
<i>Corononema</i> genus – global count	4 species (now; others from Australia, Thailand, Vietnam)
<i>Epacanthion indica</i> – named after	India
Type of organisms	Free-living marine nematodes (meiofauna)
ZSI founded	1916
ZSI headquarters	Kolkata
India's EEZ	2.37 million km ²

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