

5. India Phonte Bijoyi – Environment

Researchers have discovered a microscopic crustacean from the Kavaratti lagoon in Lakshadweep, which has now been formally established as a new genus and a new species. A microscopic marine crustacean discovered from the Kavaratti lagoon (Lakshadweep, SE Arabian Sea) has been formally described as a new genus and new species- *Indiaphonte bijoyi*.

Crustaceans

Crustaceans are a major group of arthropods (exoskeleton + jointed legs), predominantly aquatic. They occur in marine, freshwater, and (rarely) terrestrial habitats.

Examples

1. Macroscopic- crabs, shrimps/prawns, lobsters, crayfish, krill
2. Microscopic- copepods, ostracods (important for food webs and nutrient cycling)

Classification of *Indiaphonte bijoyi*

Phylum- Arthropoda

Subphylum- Crustacea

Class- Copepoda (tiny crustaceans; many are planktonic, some benthic)

Order- Harpacticoida (mostly benthic copepods, abundant in marine sediments)

Family- Laophontidae (highly diverse harpacticoid family)

Etymology (Naming logic)

Indiaphonte (genus)- honours India.

bijoyi (species)- honours Dr. S. Bijoy Nandan, associated with marine sciences at CUSAT.

Habitat and ecological category

Habitat- sediments of shallow lagoon ecosystems (Kavaratti lagoon).

Meiofauna- falls under meiofauna—small invertebrates (generally < 1 mm) living within aquatic sediments.

Key morphological points (What makes it distinct)

Microscopic- requires microscope-based taxonomy and high-detail morphological examination.

Reported distinguishing/diagnostic traits include

1. swimming leg segmentation patterns,
2. caudal rami (tail appendage) structure, and
3. antenna/antennule morphology.

Notable taxonomic feature- the formal description notes the species is “without sexual dimorphism in the male P3 endopod”—a rare character state used to justify erecting a new genus.

Size and sexual differences (exam-useful facts) - Length range (reported in current affairs summaries)

1. Females- ~518–772 μm
2. Males- ~508–756 μm

Note- while some summaries state females are slightly larger, the taxonomic paper’s key point highlighted in news coverage is the absence of sexual dimorphism in a specific male appendage (P3 endopod).

Ecological and economic significance of harpacticoid copepods

Foundation of benthic food webs- they graze on microalgae/biofilms and are prey for higher trophic levels (fish larvae, small invertebrates).

Nutrient cycling- help recycle organic matter in sediments; contribute to ecosystem productivity.

Aquaculture relevance- copepods are widely used as live feed because of favourable nutrition profiles (important for fish larval rearing).

Bioindicators– high sensitivity to pollution and environmental stress makes them useful indicators of ecosystem change.

Scientific importance- Why “new genus” matters

Declaring a new genus (not just a new species) implies–

1. the organism’s traits do not fit within any existing genus-level diagnosis,
2. and it represents a distinct evolutionary/morphological lineage within the family.

Broader implication– reinforces the point that Indian island ecosystems (like Lakshadweep lagoons) remain under-sampled and can yield significant taxonomic discoveries

Source– <https://www.thehindu.com/news/national/kerala/microscopic-crustacean-discovered-in-kavaratti-established-as-a-new-genus-and-species-say-researchers/article70521769.ece>

