

Psammophaga holzmannae and Psammophaga sinhai

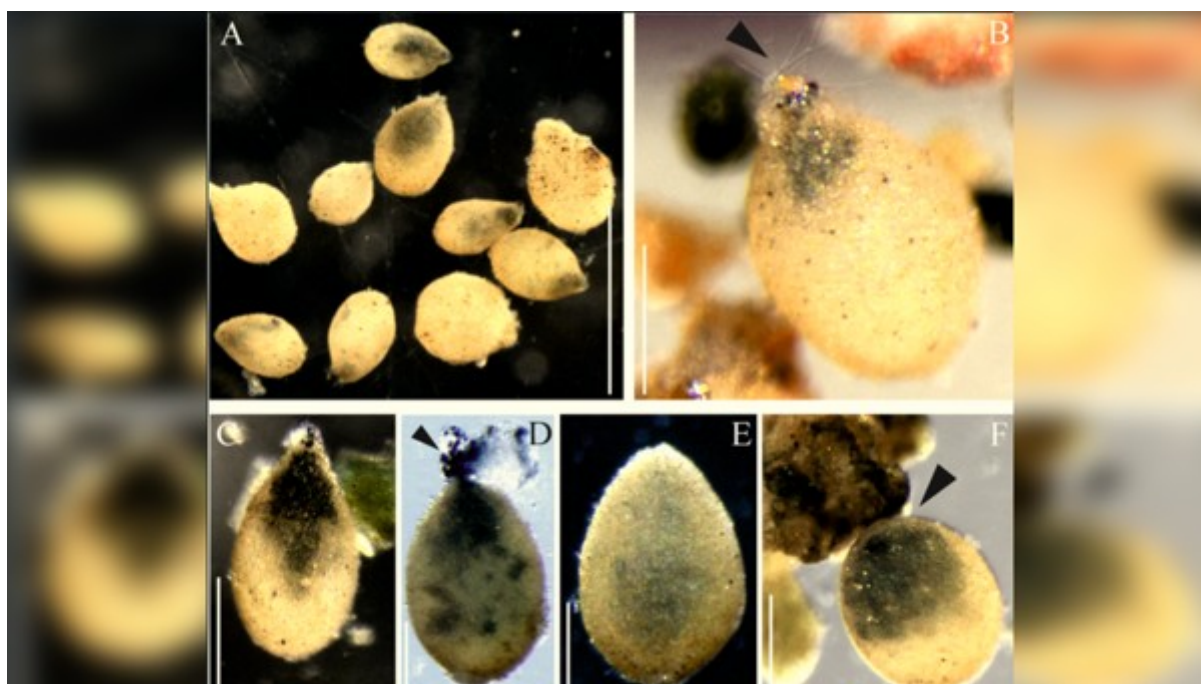
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Why in News?

Scientists from Pune have discovered two new species of microscopic single-celled marine organisms, from the intertidal sediments along the Konkan coast of Maharashtra.

Key Characteristics of the New Species

- **Classification** - They belong to the genus *Psammophaga*, a group of benthic **foraminifera** (single-celled eukaryotic protists).
- **Nomenclature** - The name *Psammophaga* derives from Greek (*psammo* meaning sand, and *phaga* meaning eater).
- It refers to their unique habit of **ingesting micro-particles** and agglutinating sand grains to construct their protective shell-like structures (tests).
- **Location** - Discovered in the coastal intertidal zones along the Konkan region of western India.
- **Taxonomic Nomenclature**
 - *Psammophaga holzmannae* - Named in honor of Dr. Maria Holzmann, a prominent Swiss scientist known for pioneering molecular research on foraminifera.
 - *Psammophaga sinhai* - Named in honor of Dr. Rajiv Sinha / eminent Indian researchers for contributions to coastal geology and marine science.



About Foraminifera (Forams)

- **Definition** - Single-celled marine protists protected by hard shells (tests) made of calcium carbonate, silica, or agglutinated mineral sediment particles.
- **Distribution** - Found throughout global oceans, ranging from shallow intertidal beaches to deep ocean trenches.
- **Ecological Significance**
 - **Bio-indicators** - Highly sensitive to changes in salinity, temperature, and heavy metal concentration.
 - It makes them vital indicators of coastal marine ecosystem health and ocean acidification.
 - **Nutrient Cycling** - Form a crucial component of the benthic food web by breaking down organic detritus and recycling nutrients within coastal sediments.
 - **Paleo-climate Proxies** - Their fossilized shells are widely used by geologists and paleoclimatologists to reconstruct historical ocean temperatures and sea-level fluctuations.

Reference

[Times of India | Pune scientists uncover 2 new marine species](#)

