

Chocolate Chip Sea Star

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Chocolate Chip Sea Star Latest News

Scientists recently discovered a remarkable light-transmitting skeletal structure at the tips of the arms of the chocolate-chip sea star, which channels about 70% of incident light and concentrates it nearly threefold at its base.

About Chocolate Chip Sea Star

- Chocolate Chip Sea Star, also known as the **horned sea star**, is a species of highly recognizable **ornamental sea star**.
- Scientific Name: *Protoreaster nodosus*

Chocolate Chip Sea Star Habitat and Distribution

- They are found in the **warm, shallow waters** of the **Indo-Pacific region**, including the Red Sea, the Indian Ocean, and the western Pacific Ocean.
- They inhabit **coral reefs**, **sandy lagoons**, and **seagrass beds**, typically at depths of up to 30 meters.

Chocolate Chip Sea Star Features

- These sea stars can grow up to 12 inches in diameter.
- They have a **creamy white base** and **dark brown projections, resembling chocolate chips**.
- **Often** they are **tan-colored**, but they can be **other shades as well**.
- Like all sea stars, these guys can **regenerate lost body parts**.
- **When threatened**, they can **lose one of their five limbs** (a process known as autotomy) to escape predators, and the lost limb may regenerate over time.
- They are **carnivores** and typically feed on detritus, small invertebrates, and even the soft tissue of corals.

Chocolate Chip Sea Star Recent Findings

- **On the tip of each arm**, a skeletal part contains an **array of cone-shaped structures** that, like optic fibres, **transmit 70% of incident light** and **concentrate it nearly 3x at the base**.
- Overall, the array **captures light from a 120° field of view** and **'brightens' it 8x inside the arm**.
- Scientists said engineers could use the design for lightweight sensors and displays.

Key Facts about Sea Stars

- Although sea stars are often called "**starfish**," they're **not related to fish**.
- They are **invertebrates** related to sea urchins, sea cucumbers, and sand dollars, which are all **echinoderms**.
 - "**Echinoderm**" means **spiny skin**—a reference to their **hard, calcified skin**, which helps to protect them from predators.
- They have **radial symmetry** and **tube feet that help them move using water pressure**.
- There are close to **2,000 species** of sea stars in the world's oceans. **Most species** have **five arms**, but **some have many more—even as many as 40**.
- They are **often found under rocks or in crevices**. **Their mouth**, on the **underside of their body**, has **no teeth**.
- When feeding, **sea stars wrap their arms around their prey and push their stomach out of their mouth to eat** their food.
- They're **toxic to some predators**, but if captured, sea stars can drop an arm to try to escape.
- They can **regrow lost arms**—and **even an entire new body** from a single arm and part of the central disc of their body.

News: **TH**

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