

Pitcairn Looks At the World of Echinoderms

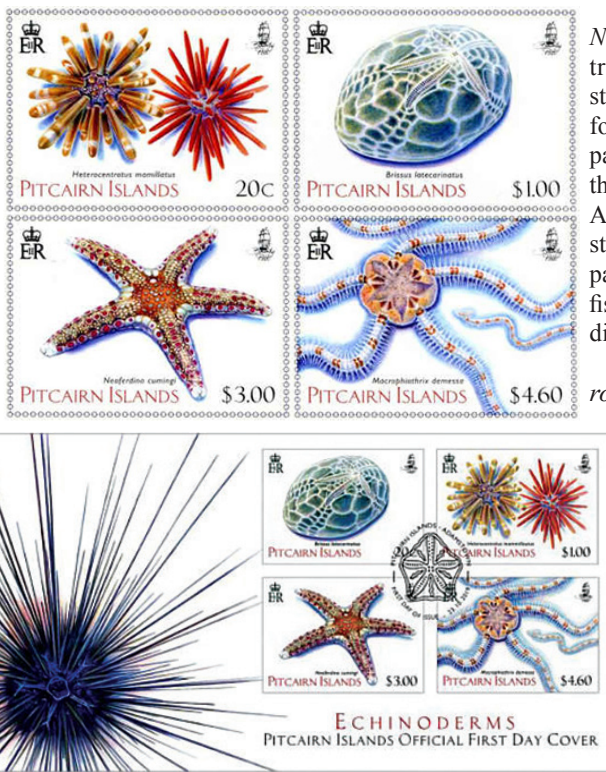
On October 23, 2019, the Pitcairn Islands Philatelic Bureau issue release a colorful set of four stamps and a First Day Cover featuring Echinoderms, one of the most diverse groups of marine invertebrates.

Echinoderms include starfish, brittle stars, sea cucumbers, sea urchins, sand dollars and crinoids. They play important ecological roles from the shore environment to the deeper seas. The four examples selected are:

Upper left, Slate Pencil Urchin *Heterocentrotus mamillatus*. This species is a large sea urchin, with some specimens reaching over 8 cm in diameter, with spikes up to 10 cm. Most specimens are bright red, but brown and purple colourations are also seen.

This species can be found throughout the tropical waters of the Indo-Pacific region (from the east coast of Africa to the Pacific archipelagos). Sea urchins are primarily marine grazers and tend to eat the algae in closest proximity to them. The main predator is fish although its thick, rounded magnesium calcite spines allows it to bore into hard substrates and defend itself against predators, wave drag, and pressure.

Upper right, Keeled Heart Urchin *Brissus latecarinatus*. This sea urchin is found around tropical to mid-latitude countries, mainly in the Indo-Pacific, Atlantic, and Mediterranean, in shallow water sands and shell gravels. It is identifiable because of the star visible on the armour casing which is covered with spines. They feed on plants and small invertebrates found between sand particles. Fertilisation is external and brooding is common.



Lower left, Cuming's Sea Star *Neoferdina cumingi*, is native to the tropical Indo-Pacific region. This starfish has a wide variety of colour forms and is typically symmetrically patterned with distinctive spots and the tip of each arm curling upwards. Although the feeding habits of this starfish have not been studied, it is part of the order *Valvatida*, and starfish in this order typically engulf and digest their food.

Lower right, Brittle Star *Macrophiothrix demessa*. Closely related to starfish they are found in the Indo-Pacific, Malaysia and Pitcairn regions and live in reef communities, where they hide under rocks and even within other living organisms. They crawl across the sea floor using their flexible arms for locomotion. They have five long, slender, whip-like arms which may reach up to 24 inches in length on the largest specimens.

Also known as serpent stars. *M. demessa* is one of over 2,000 species of brittle stars live today with more than 1200 of these species found in deep waters. Brittle stars are generally scavengers with small organic particles moved into the mouth by the tube feet. They may also prey on small crustaceans or worms. They can readily regenerate lost arms or arm segments and often use this ability to escape predators.

For more information and to purchase this and previous still-available issues, please go to the official website of the Pitcairn Islands Philatelic Bureau, <http://www.stamps.gov.pn>.