

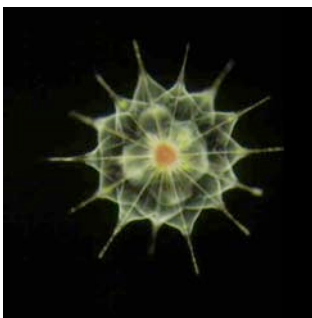
Census of Marine Life Iconic Images

High-resolution versions of the images in this screensaver are available from the Census of Marine Life Education and Outreach office. If you wish to request high-resolution images for use in Census of Marine Life-related photo exhibits, please contact Frank Baker at fbaker@gso.uri.edu or Sara Hickox at sara@gso.uri.edu.



Anemone hermit crab- from the family paguridae (one of two collected from this family on this expedition), collected from cold deep water in a baited trap, appears to have its own species of anemone attached to the shell; that is, it seems that this species of hermit crab has a specific species of anemone associated with it, which does not attach to other species of hermit crabs. The

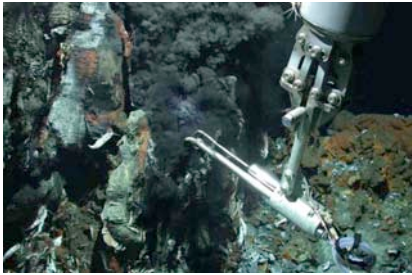
shiny gold color on the claws is a phenomenon not seen before by expedition scientists; they will research whether this "shiny communication" is known or novel in the scientific community. This spectacular crab and its anemone captured the interest of everyone on the cruise, raising more questions than it answers. Image Courtesy of Susan Middleton © 2007



The acantharians are one of the four types of large amoebae that occur in marine open waters. Their fragile skeletons are made of a single crystal of strontium sulfate that quickly dissolves in the ocean water after the cell dies. Image Courtesy of Linda Amaral Zettler, micro*scope



Bluefin Tuna. Image Courtesy of Richard Hermann-Galatée Films



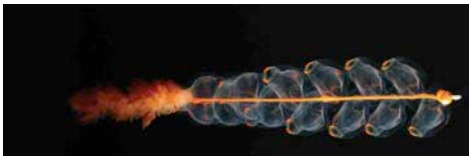
Near a vent 3km beneath the equatorial Atlantic, Census researchers, using equipment attached to the remotely operated vehicle Quest, found shrimp and other life forms. Image Courtesy of MARUM, Bremen University



A new species of Lysianassoid, an amphipod crustacean sampled near Elephant Island, Antarctic Peninsula, during the Polarstern cruise ANTXXIII-8. Image Courtesy of Cédric d'Udekem d'Acoz



Sea nettles, Monterey Bay California, USA. Image Courtesy of Richard Hermann- Galatée Films



Marrus sp., a physonect siphonophore. Image Courtesy of Kevin Raskoff



Great White Shark: When it is calm and confident, the shark's pectoral fins are horizontal. However, it lowers its fins when it makes an intimidating charge. Image Courtesy of Pascal Kobeh – Galatée Films



Cirrate octopod, found at around 800m in the Gulf of Maine. *Stauroteuthis syrtensis* is one of the few bioluminescent octopuses. Photophores in its mouth are believed to fool prey by directing them towards the mouth. It is relatively common off the continental slope of the eastern USA, although it occurs across the North Atlantic. This specimen was photographed during a

2004-2005 expedition to the Mid-Atlantic Ridge. Image Courtesy of David Shale



A new species, this blind lobster with bizarre chelipeds belongs to the rare genus *Thaumastochelopsis*, which was previously known only from four specimens of two species in Australia. The specimen collected during the MNHN/USNM/BFAR AURORA 2007 expedition from about 300m is a new species. Image Courtesy of Tin-Yam Chan, National Taiwan Ocean University,

Keelung.



Nereocystis, a marine alga commonly referred to as bull kelp, is often found in the nearshore and shallow gulf areas of the Pacific coast of North America. Image Courtesy of Brenda Konar



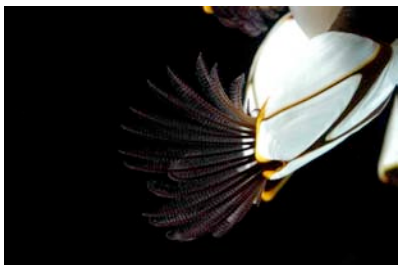
The final diving lessons for this young Weddell seal. It is the size of his mother who is waiting under the water. He will very soon be independent. Image Courtesy of Galatée Films



A lovely pink siphonophore, *Athorybia rosacea*, from the Sargasso Sea is actually a colonial organism similar to the Portuguese Man O'War. Image Courtesy of Laurence Madin, WHOI



Sand fleas (amphipod crustaceans) under nearshore ice in the Beaufort Sea. Ice-associated amphipods are a major food source for Arctic cod, in turn the main prey for ice seals. Image Courtesy of Shawn Harper, University of Alaska Fairbanks.



The goose barnacle *Lepas anatifera*, attached by a flexible stalk to any floating object such as drift wood, plastic pots or fishing boats, has a worldwide distribution. Image Courtesy of David Shale



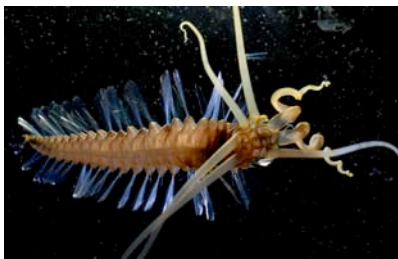
Clione limacina, an Arctic pelagic snail (pteropod). Image Courtesy of Kevin Raskoff



This bizarre new copepod, *Ceratonotus steiningeri*, was first discovered 5,400 meters deep in the Angola Basin in 2006. Within a year it was also collected in the southeastern Atlantic, as well as some 13,000 kilometers away in the central Pacific Ocean. Scientists are puzzled about how this tiny (0.5mm) animal achieved such widespread distribution as they are about how it avoided detection for so long. Image Courtesy of Jan Michels



A Cranchiidean larval squid was collected from the South Atlantic Ocean off the coast of Africa. Image Courtesy of Cheryl Clarke Hopcroft



In October 2007, U. S. and Filipino scientists traveled to the Celebes Sea in Southeast Asia, searching for new species living in its deep water. When they discovered this extraordinary worm—which they named “Squidworm”—they knew they had something completely different. WHOI scientist Larry Madin and National Geographic Society photographer Emory Kristof led the expedition, which was supported by the NOAA Office of Exploration, the National Geographic Society, and the WHOI Ocean Life Institute (OLI). Image Courtesy of Laurence Madin, WHOI



Grey reef shark and blacktip shark hovering over pristine coral reef at Malden Island, Southern Line Islands, Kiribati. Image Courtesy of Enric Sala



A golden lace nudibranch, *Halgerda terramtuentis*, was collected in the waters of the Northwestern Hawaiian Islands. Image Courtesy of Cory Pittman, NOAA, PIFSC, NHIMN



The leafy Seadragon, *Phycodurus eques*, is camouflaged to resemble a piece of drifting seaweed. Image Courtesy of Karen Gowlett-Holmes



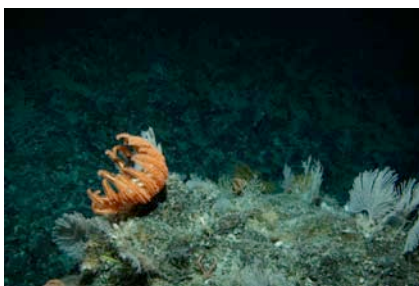
This large anemone is found from the Arctic to Cape Cod along the eastern United States coast. Nearshore they grow up to 15 centimeters in diameter, and offshore tend to be even larger. They are equipped with powerful stinging cells. Expandable mouths open wide enough to allow them to feed on small fish, urchins, crabs, jellies, and other invertebrates that venture too close. Image Courtesy of Andrew J. Martinez



A jellyfish (*Chrysaora melanaster*) moves through the water in the high Arctic Ocean's Canada Basin, an area that was surveyed as part of the Census of Marine Life. Image Courtesy of Kevin Raskoff



Mysid *Gnathophausia* sp. from a net trawl from 2,600 meters. Image Courtesy of David Shale



Brisingiid Starfish on seamount feeding in water current. Also corals and other invertebrate fauna. Image Courtesy of National Institute of Water and Atmospheric Research (NIWA, New Zealand)



The ghost-like sea-angel *Platybrachium antarcticum*, flies through the deep Antarctic waters hunting the shelled pteropods (another type of snail) on which it feeds. Image Courtesy of Russ Hopcroft, University of Alaska Fairbanks



This pink see-through fantasia, *Enypniastes*, is a swimming sea cucumber seen about 2,500 meters deep in the Celebes Sea. In 2007 WHOI biologist Larry Madin led a team of scientists and photographers from the U.S. and the Philippines on an expedition to explore biodiversity in the deep Celebes Sea, supported by the National Oceanic and Atmospheric Administration, the National Geographic Society, and the WHOI Ocean Life Institute. The team used scuba diving, nets, cameras, and ROVs to study the deep sea in this area that has been called a "cradle of biodiversity for shallow water marine animals." Image Courtesy of Laurence Madin



The Arctic copepod, *Euaugaptilus hyperboreus*, uses the elongated setae on its mouth-parts to ensnare struggling prey. Image Courtesy of Russ Hopcroft, University of Alaska Fairbanks



A jelly fish of the genus *Crossota*, collected from the deep Arctic Canada Basin with an ROV. Image Courtesy of Kevin Raskoff



Sockeye salmon. Image Courtesy of Galatée Films



"New" Dumbo (*Grimpoteuthis* sp.), a cirrate octopod, photographed over the Mid-Atlantic Ridge. Image Courtesy of David Shale



Seastar along the shore of Cobscook Bay, Maine, August 2007. Image Courtesy of Christina Kulfan



Collected from the DIVA 2 cruise in February/March 2005 at 5000m depth in the Southern Atlantic Ocean, what appears to be an ancient gold treasure is a magnified crustacean, a tiny copepod. Image Courtesy of Marco Büntzow, Paulo Corgosinho



This striking creature, a Venus flytrap anemone, *Actinoscyphia* sp., was photographed in the Gulf of Mexico. Photo: Ian MacDonald, Florida State University.



The tube anemone, or tube dwelling anemone, lives in a mucous tube on the muddy bottoms of coastal waters, estuaries, and soft seabeds. These attractive anemones are found in tropical and subtropical waters throughout the world, where they can grow up to 15cm (6 in) across and 30cm (12 in) tall. When the anemone is threatened, the animal retracts into its tube for protection. The beautiful stinging tentacles of the tube anemone vary from a vibrant purple to a creamy brown. Credit: Karen Gowlett-Holmes



Vampyroteuthis, or vampire squid, is a cephalopod that lives in the oxygen minimum zone of Monterey Bay, California, at depths of 600-900 meters. Credit: Kim Reisenbichler, MBARI



Gary Cranitch's photographs for CReefs were recognized for excellence by the Australian Institute of Professional Photographers. This spectacular jellyfish inhabits the water of the Great Barrier Reef off Lizard Island, Queensland, Australia. Credit: Gary Cranitch, Queensland Museum



The Antarctic ice fish has no red blood pigments (hemoglobin) and no red blood cells. This is an adaptation to the low temperature. The blood becomes more fluid, as a consequence, the animal saves energy to pump blood through its body. Interestingly the brittle stars are overgrown by a yellow sponge. Credit: J. Gutt © AWI/Marum, Univ. of Bremen Germany



In the abyssal Pacific Ocean at 5000m, a sea cucumber, *Psychropotes longicauda*, ingests sediments from around a field of manganese nodules. It is a widely distributed deposit feeder that uses its upright "sail" to use current energy for transport along the seafloor. Credit: Ifremer, Nordinaut cruise 2004



This octopus specimen was collected at Lizard island in an ARMS (Autonomous Reef Monitoring System) at 14.39S, 145.27E at a depth of 10-12m. Credit: Dr. Julian Finn, Museum Victoria



Three subarctic sunflower stars, *Pycnopodia helianthoides*, crawl along the seafloor in shallow waters off Knight Island in Prince William Sound, Alaska, USA. Credit: Casey Debenham, University of Alaska Fairbanks



South of Easter Island, Census vent explorers discovered a crab so unusual it warranted a whole new family designation, Kiwidae. Beyond adding a new family to the wealth of known biodiversity, its discovery added a new genus, *Kiwa*, named for the mythological Polynesian goddess of shellfish. Its furry or hairy appearance justified its species name, *hirsuta*. Photo: Ifremer, A.Fifis, 2006



Exceeding two meters in length, the Napoleon Wrasse is one of the largest reef fish found in the warm waters of the Indian and Pacific oceans. The intricate blue-green design that decorates the face resembles New Zealand Maori war paint, which is the root of its alternative name, the Maori Wrasse. The designs are also unique to each individual, much like fingerprints. A protogynous hermaphrodite, this wrasse can change its sex from female to male. Credit: Molly Timmers NOAA PIFSC Coral Reef Ecosystem Division



A scanning electron microscope image of a *Protoperidinium pellucidum*, an armored dinoflagellate, collected at Port Jackson in Sydney, Australia. Photo: Stephanie Valentin and D.J. Patterson, micro*scope.



The jewelled squid, *Histiotteuthis bonnellii*, swims above the Mid-Atlantic Ridge at depths from 500m to 2,000m. Credit: David Shale



This photograph taken near Cape Town shows both a newly discovered species of shrimp (*Hippolyte catagrapha*) and a new species of Myzostomid (the yellow object beneath the shrimp). Both are commensal on crinoids. Credit: Guido Zsilavec-SURG



American lobster, *Homarus americanus*, in shallow water off eastern Canada in a protective habitat that also provides home for many other invertebrates. Credit: Mike Strong & Maria-Ines Buzeta



In Alaska's Aleutian Islands, nearshore researchers have discovered new species even in shallow water, such as this kelp, *Aureophycus aleuticus*. Photo: Max K. Hoberg, Institute of Marine Science, University of Alaska Fairbanks.



"Fisherman clothes" Detail of a print by Nicholas De Larmessin, XVII century.



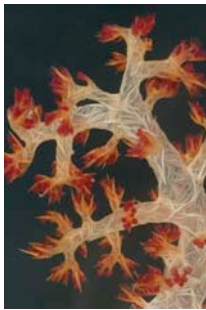
Flamingo tongue snail, *Cyphoma gibbosum*, was photographed near Grand Cayman, British West Indies, and is listed in the Gulf of Mexico biodiversity inventory. Credit: Kacy Moody



Antarctic male pycnogonid bearing its eggs, a marine distant relative of spiders, sampled in the Larsen A area, Antarctic Peninsula, during the Polarstern expedition ANTXXIII-8. Credit: Pablo J. Lopez-Gonzalez Universidad de Sevilla



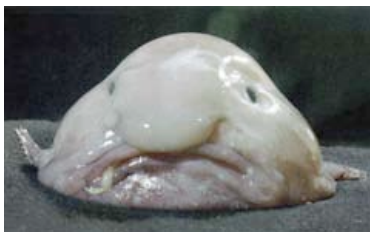
Researcher Dr. Niel Bruce of the Museum of Tropical Queensland studies specimens in lighted aquarium on Lizard Island Reef. Credit: Gary Cranitch-Queensland Museum



Census researchers conducted an inventory of octocorals, named for the eight tentacles that fringe each polyp. Shown is a soft coral, *Dendronephthya*, from coral gardens off Lizard Island. Gary Cranitch, Queensland Museum 2008



Christmas tree worm found at Lizard Island. Credit: John Huisman-Murdoch Univ.



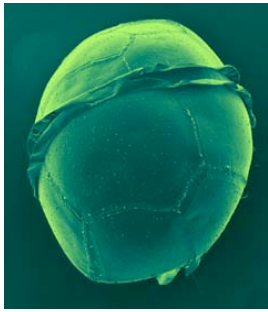
A Fathead (*Psychrolutes microporos*) trawled during the NORFANZ expeditions at a depth between 1013m and 1340m, on the Norfolk Ridge, north-west of New Zealand, June 2003. Photo © NORFANZ Founding Parties Photographer Kerryon Parkinson; additional thanks to Peter McMillan & Andrew Stewart



TOPP scientists at work tagging a bluefin tuna. Credit: Tag-A-Giant



Humpback whales feeding on herrings. Chatham Strait, Alaska, USA. Credit: François Sarano- Galatée Films



A scanning electron microscope image of a Peridinium collected at Port Jackson in Sydney, Australia. Photo: Stephanie Valentin and D.J. Patterson, micro*scope