

Bestiary in the Bay

Observing life in the Bay of Fundy

By Scott Leslie

The ebb tide gets pinched into a powerful eight-knot current as it passes through the narrows of Grand Passage between Long and Brier Islands at the western tip of Nova Scotia. The current meets head on with the brisk wind, whipping the water into a froth of standing waves. Our lobster fishing boat pitches and rolls through the passage as we make our way to our dive site in the Bay of Fundy, home of the world's highest tides. Samuel de Champlain first sailed these turbulent waters some 400 years ago, when he discovered what was to become Canada.

The torrent of Grand Passage behind us, our destination looms into view: Gull Rock. Three kilometres off Nova Scotia's Brier Island, this obdurate basalt islet looks pretty unremarkable; that is until you look below the surface.

Swept by powerful currents, the waters around this column of rock that rises 40 metres from the seafloor is replenished twice daily by a smorgasbord of plankton. This constantly renewed supply of food upon which the marine ecosystem

rests is why the Bay of Fundy is one of the richest cold-water ecosystems on Earth.

With the tide low and slack right now, there's a brief window of opportunity to dive in still water. With my camera in hand, I roll over the side of the boat into the numbing 4 C water, protected in my drysuit and plenty of woollies. Through the crystal clear water I can see my destination below, a kelp-covered rock jutting from the side of the reef. Descending past 10 metres I find myself in a constellation of hundreds of luminous little jellyfish, each carrying a cargo of minute amphipods. I don't know if they are feeding on the jellies, or simply hitching a ride, but they certainly make an interesting subject!

High tide at the head of the Bay of Fundy where the tides can be up to 15 metres.

A lion's mane jellyfish cruises just beneath the surface of the Bay of Fundy. Common in the bay, the lion's mane is the world's largest jelly, with a diameter of 2.5 metres and tentacles up to 15m long.





(Left) A ctenophore named Mertensia ovum can be common in the bay at times.

(Centre) A jellyfish with a cargo of little hitch-hikers of unknown species.

(Above) A lion's mane jelly drifts through sunbeams, it's bell raised like the wings of a bird

All the images were shot with a Nikon F90x in Aquatica housing using nikkor 20mm lens, sigma 24mm macro or a 60mm micro nikkor. The topside shots are taken with a Canon 20D with a 15-30mm zoom.

Like inner-space voyageurs, the animals we commonly know as “jellies” drift through the Bay of Fundy in their billions. The Bay is home to many species, including the largest of all, the Lion’s Mane Jellyfish, which can reach a diameter of 2.5 metres and have tentacles over 15 metres long. This animal has only one predator we know of, that antediluvian giant wanderer of the seas, the Leatherback turtle.

Jellyfish are referred to as macro-plankton (from the Greek for “large wanderers”), and like other plankton they generally float passively in the

boundless sea. Transparent, and often as beautiful as crystal, their life’s journey through the ocean is controlled more by tides and currents than by any primitive instinct or locomotive ability they might possess. They are a truly ancient family, having plied the oceans of the world for hundreds of millions of years.

Photographing any animal that drifts in mid-water is particularly difficult and the small size of these jellies makes it more so. Lacking a solid surface as a reference point while looking through

a small viewfinder calls for some careful buoyancy control to hover steadily in mid-water.

Because an abundance of jellies at any given place is unpredictable and their position in the sea is completely at the mercy of ocean currents, I am fortunate to find as many as I have. Working quickly, I set exposure and adjust my strobes to capture these little jewels on film. Time is of the essence; I have only about fifteen minutes of still water before the tide begins to flood and soon I must ascend to the waiting boat.



A sea raven peers menacingly through some sea lettuce as it waits in ambush

Slack water is so brief here that if I want to do more than one tank, I have to face an inescapable fact: at least one dive will have to be done while the tide is running! Luckily, the boat captain tucks into the small eddy behind Gull Rock, where it's safe from the raging current flowing past on either side. Back in the water with a fresh tank,

I descend to 15 metres where sea gooseberries drift through the long stalks of broadleaf kelp, vacuuming up plankton that is invisible to me. Their eight rows of tiny cilia, or "combs" flash neon green



and red as they refract the light from my strobes.

On the bottom I find a myriad of oddly shaped animals-fan worms, anemones, nudibranchs, lampshells, sea stars, sponges and sea peaches-clinging to the rock and creating a rococo tapestry of red, pink, orange, white, yellow, black and blue. Such a rainbow of life conjures up images of a tropical reef, not the cold waters of the Bay of Fundy.

The multitude of body designs here illustrates the basic difference between biodiversity



(Top left) The long-horned scuplin sometimes becomes prey for the larger sea raven

Top right) A winter storm rages along the Nova Scotia side of the Bay of Fundy

(Bottom left) A lumpfish in it's bright red breeding colour rests among the broadleaf kelp

(Bottom right) A northern lobster emerges from a hiding place under a rock





A slender sea star at rest on some kelp

on land and in the sea. Virtually all the terrestrial animals belong to just two phyla -chordata and arthropoda- major taxonomic groupings of organisms based on the fundamental form of their bodies. The former includes all mammals, birds, reptiles, and amphibians (not to mention 22,000 species of fish in fresh and saltwater) and the latter, insects, spiders, and most other crawly things that can be seen with the naked eye on land. It's a different story underwater, however,



Though it doesn't look like one, this is actually a member of the jellyfish family, a trumpet-stalked jelly to be precise

and on this one little reef beneath the Bay of Fundy, I have found at least seven different phyla of animals. Each one is as distinct from the others as an ant is from an anteater.

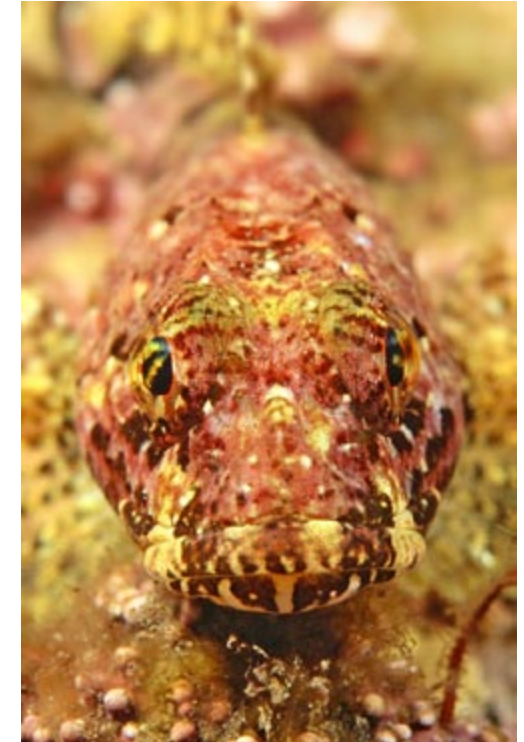
Using a macro lens-it's the small end of the spectrum that's inhabited by the really fascinating organisms- I begin photographing in the still water of the eddy. Beneath the sea, appearances can be deceiving and things aren't always what they seem. Case in point: despite being



Frilled anemones are a common species throughout the Bay of Fundy

distinctly clam-like, the northern lampshells tucked into the vertical crevice in front of me aren't related to clams or any other mollusk. Members of an entirely different phylum, brachiopoda, lampshells and their ilk sweep a lace-like "hand" back and forth snatching tiny prey from the water. Having changed little in 600 million years, many members of this ancient phylum are considered living fossils.

Nearby I find a red-gilled



This tiny pink sculpin blends perfectly with its surroundings

nudibranch, one of the more common species of "sea slug" found in the northwest Atlantic. Shaped like the fuselage of an airplane, these 30mm long animals possess a prominent mane of gills and two protruding nose stalks. Their appearance is bizarre and evidently they avoid becoming a meal by tasting very bad (it would have sucked to have been the biologist who had to check that out in the name of science!). Farther down the reef, I spot a sea raven.



(Far left) This red-gilled nudibranch finds itself on the tentacles of a frilled anemone



(Top centre) A school of sand lance swim through a sandy cove



(Above) This sea raven has swallowed a long-horned sculpin, a fish nearly two-thirds its size.

(Left) Close-up of a winter flounder, showing its Picasso-esque face

This lugubrious bottom-dweller conceals itself in ambush among some sea lettuce. Of course, he's no threat to me, but small flounder, sculpins and rock gunnels had better keep an eye peeled since sea ravens can swallow a fish two-thirds their size in a single gulp. Despite their menacing countenance and resemblance to the deadly stonefish of southern seas, sea ravens are somewhat curious, tame creatures.

Near the sea raven's hideout I spot a lumpfish amidst the kelp looking up at me with its

big saucer eyes. The slow moving, blunt-headed fish rises from the bottom and swims in a circle over its precious patch of eggs, settling again once I've passed. In late spring, males in their brilliant red breeding colour, use a specially evolved suction disk to attach themselves to the rocky bottom where they guard their eggs. The young will hatch out and eventually make use of their own disk to anchor themselves to the safety of a kelp frond to hide from predators and to rest. These endearing denizens of the sea propel themselves through the water

by fluttering their pectoral fins and rather small tails, moving in a slow, deliberate manner over the bottom, Tai Chi masters of the sea.

At 43 metres deep I come to Gull Rock's base. The flat muddy bottom dissolves into the murk in every direction. But even here life abounds, and I find a metre-long ocean pout rolled up on the mud like a firehose. Aptly named, the eel-like fish waits for dinner to happen by before engulfing it with an enormous mouth rimmed by fat, pouty lips. Just a few metres away several large winter flounders



A short-honed scuplin in its kelpy habitat

snuffle through a sandy patch. Every time one moves, legions of Acadian hermit crabs scatter in a starburst of legs, claws and shells. Comically asymmetrical like something right out of a Picasso, these flounders have both eyes on the right side of the head. When they're very young they look like an average fish, but as they get older one eye "migrates" to the other side of the head.

After 30 minutes of exploring, I sense a change in the sea. The eddy begins to dissipate as the tide turns. I don't want to be fighting the

current at this depth, so it's about time to finish my dive. As I near the surface, a curious harbour seal comes out of nowhere and does barrel rolls as it circles me, as if to celebrate its discovery of a bubble blowing undersea monster. I am amazed at the display of effortless agility as it swoops, pivots and pirouettes with powerful grace like a Pitts Special stunt plane at an airshow. I tuck into the shelter of an overhang for a moment to watch, but the seal disappears into the dancing ball of sunlight above. With my air



Low tide at the same spot as earlier, showing how transformed the seascapes is when the tide is low. Note the people standing on the bottom of the sea on the right side of the photo.

almost gone and a deco limit fast approaching, I take one last look at this remarkable place before the accelerating tide snatches me from the reef and pulls me into the open sea as I ascend.

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