The sea trees of Trondheim

by Rudolf Svensen

Pictures by Erling Svensen

My 10-litre deco-gas cylinder thumps rhythmically against my hip as I battle the current's efforts to knock me off the wall. Below is the abyss - should I slip and fall I would travel 100m before hitting the bottom.

Ahead I see it, a sea tree, perhaps the first ever to be observed by a diver. Broadside on to the current, it looks like a big fan. It is eating!

On the opposite side of the sea tree Frank Emil has obviously managed to settle on firm ground, because I can see his camera flashing continually.

Sea trees (Paragorgia arborea) normally grow to 1-2m, but can reach as much as 6m. These horn corals usually live between 200 and 1300m deep, but we have found the exception, in this shallow habitat in Norway's Trondheimsfjord. Here unique marine conditions allow such corals to grow within reach of divers.

Sea trees are filter-eaters, picking out their food from the water that passes through their polyps. The one we have found has all its polyps out, and thered, flower-like eating organs make a beautiful spectacle.

We would have liked to track down some of the numerous marine creatures that live on such corals, but we have been at 55m and all too soon have to return to the surface.

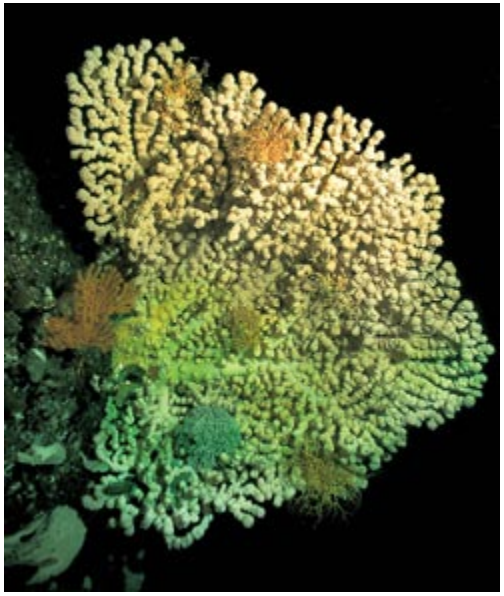
On our way up we pass orange sea bushes (Paramuricea placomus), their flat sides set against the current. These are smaller relatives of the sea tree, corals that form colonies up to 1m in height as far up as 25m from the surface.

Colonies are shaped like fans and are known to have many lodgers, particularly amphipods and isopods. Six thousand five hundred such small crustaceans have been found on a single sea bush just 35cm high.

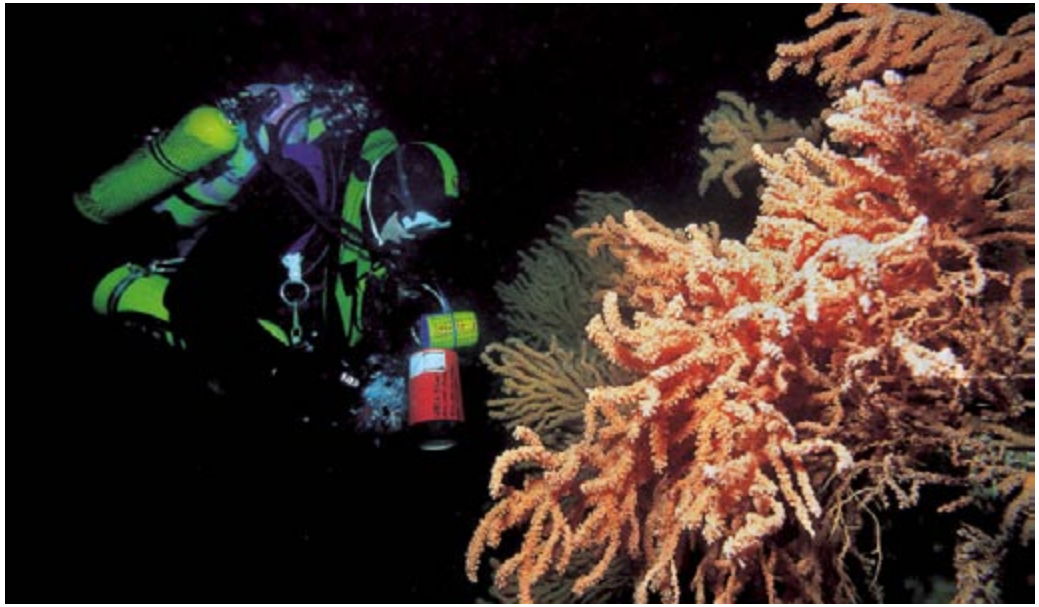
We stop at 30m and take pictures of the basket stars sitting on top of a big sea bush. At 9m we exchange breathing gas and begin a 30-minute decompression. A week of diving in Skarnsundet at the head of Trondheimsfjord is about to end.

Eight days earlier we had driven 1200km to arrive, loaded down with equipment, in the town of Steinkjer, We had spent more than six months planning this autumn expedition, and besides our photographic and diving equipment we had a compressor, GPS, portable echo-sounder, laptop computer with software for dive

The Trondheimsfjord is the fjord in Norway that receive most freshwater of all fjords in Norway. This provides the best conditions we have for deep water marine life to come up to quite shallow water.



(Left) Paramuricea placomus is a gorgonian coral seen in the fjord below 18 metres. (Right) Paragorgia arborea can grow to 6 metres high, but usual size is 2 metres like this one. It grows approx. 2 cm every year. Pictured at 55 metres. Subal Nikon F90, 14 mm Sigma lens, Hartenberger strobes. Fuji Velvia, F8 1/125th.



(Left) We have seen ratfish at 8 metres in Trondheimsfjord. They ascend in the late evening and seem to follow krill. Subal Nikon F90, 60 mm Nikkor lens, Hartenberger strobes. Fuji Velvia, F11 1/200th. (Right) Frank Emil Moen with his pony and deco-gas under his arm at 55 metres on Skallen reef with some Primnoa resedaeformis corals, only found deeper than 100 metres elsewhere. Subal Nikon F90, 14 mm Sigma lens, Hartenberger strobes. Fuji Velvia, F8 1/125th.

planning and tide tables, and 15,000 litres of nitrox 80 for decompression.

We planned to use a computer program to set up deco schedules and plan bottom times. Alternative dives would be simulated on the computer before we hit the water, and each diver brought his own collection of diving profiles.

As we had six days of diving (one day off for every three days of diving), we would allow twice as much deco time as necessary on every dive. Even on shallow night dives down to 20m the plan was to breathe nitrox 80 before ascending.

We hoped not simply to take pictures of sea bushes - which in this part of the world can be found all over the place - not only of the sea tree, but of the ratfish and of no less a phenomenon than a coral reef in Norwegian waters.

The sun set several hours ago. We pad along the pier, fully equipped for diving. After today's earlier meeting with the corals, we are planning to snoop about in the shallows with our cameras.

Erling and Frank Emil are a few metres ahead of me as we slide down the narrow crevice in the steep cliff. Our lights creep over the rock, where sea cucumbers strive to stand firm in the current.

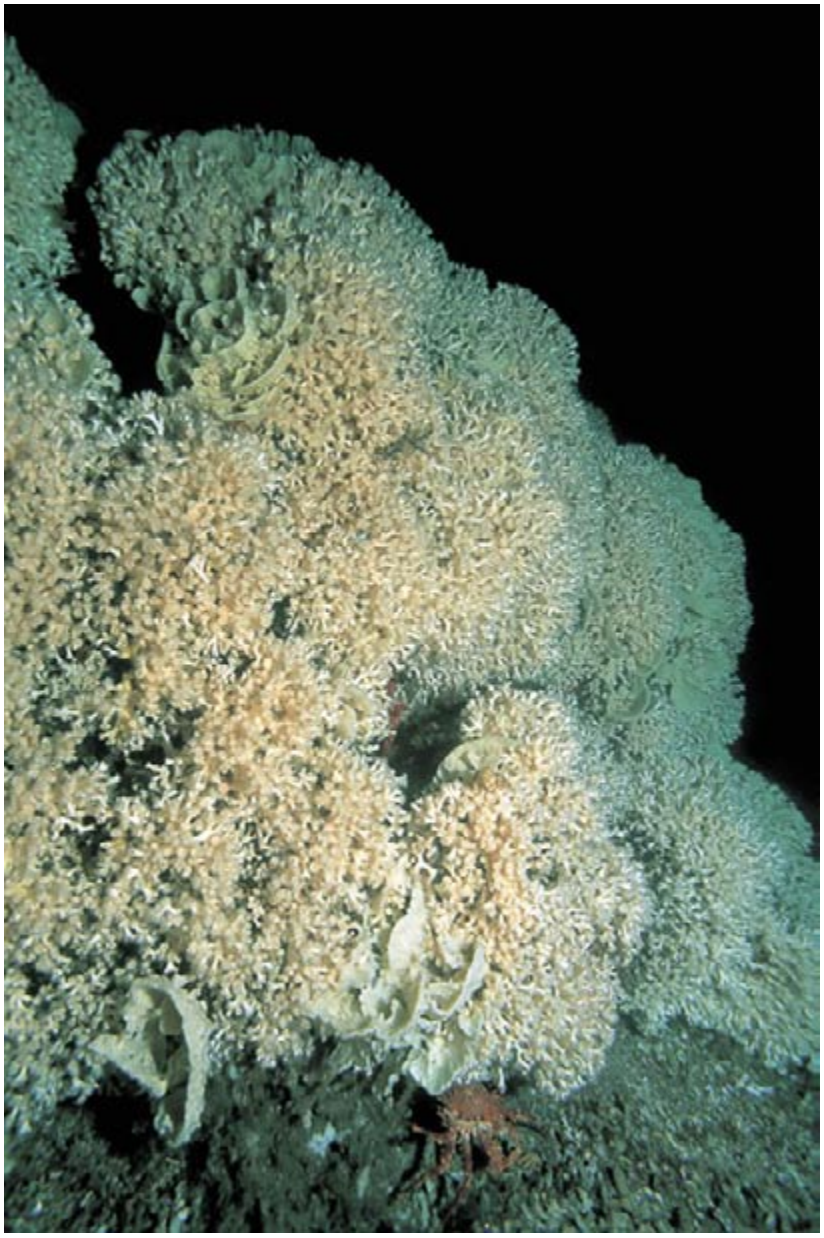
Just below me at about 16m I see a long, narrow fish sliding into Erling's torchbeam. The next few minutes are chaos.

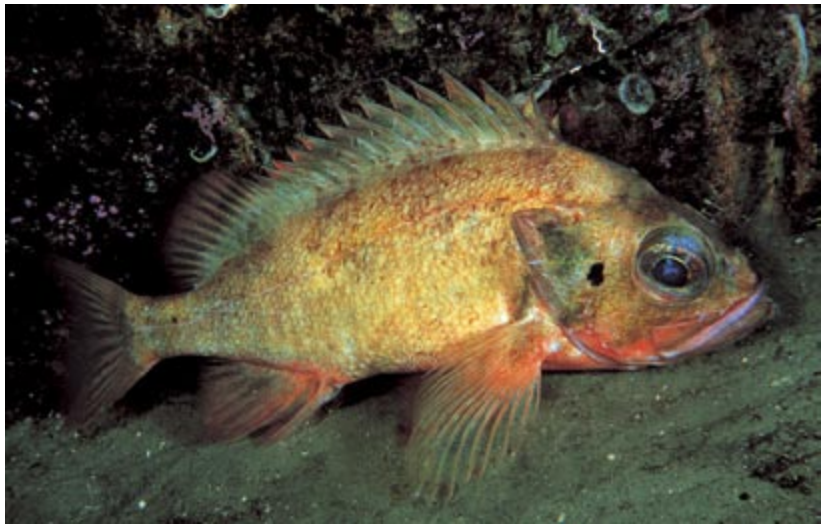
We have found another stray from the deep, a creature we had been curious to see for years - the ratfish, or sea mouse.

We had seen it before only in illustrations. Its Latin name, Chimaera monstrosa, originates from Greek mythology and refers to a fire-breathing goat with a snake's body and a lion's head. Pictures show a creature with big, golden eyes and a whip-like tail.

The others catch sight of the ratfish at the same time as me, but it is not alone - there are five of these "monsters"in the cleft.

In their efforts to take pictures





(Left) Lophelia pertusa is a stony reef-building coral and the reef-builder. The shallowest known reef is at 38 metres in Trondheimsfjord. Subal Nikon F90, 14 mm Sigma lens, Hartenberger strobes. Fuji Velvia, F5.6 1/125th..
(Above) The Norway redfish is quite a common sight for divers in Norway. It can grow to 30 cm and can be seen from 10 metres and deeper. Subal Nikon F90, 60 mm Nikkor lens, Hartenberger strobes. Fuji Velvia, F22 1/200th.

while stopping themselves descending, the divers' fins stir up a lot of mud.

Their lights keep flashing, and I stay above and out of the way until things calm down. The eyes of the ratfish are very sensitive, and the flashes obviously make them uneasy.

Two of them head towards me. Their heads resemble those of dogs, and their big eyes sparkle with green brilliance in the light of my torch.

One comes close and "snuffs" at my camera before turning back down and disappearing. moving with incredible grace.

Suddenly they are all gone, leaving in the crevice three dazed divers amid clouds of mud. Later in the week we would meet these extraordinary fish several more times.

The sky is bright, and the sea is almost calm. I am sweating as I arrange the equipment, and the excitement in the boat is almost tangible. Have we found it? Soon we will have an answer.

I tumble into the water and slide down the shotline. It is low tide, and there is little current. I need to check that there really is a reef down here. If I cannot find anything near the mooring, I will play out my line and make a circular search out from the shotline.

The computer indicates that I am near the bottom. Expectantly I play my light down into the darkness. A big, white object appears as I land on the dark sand. I identify it as a sponge. As the light sweeps up the slope, I can just make out something else big and white on the edge of the cone. I swim somewhat nervously into the unknown.

I will never forget that swim. Large fan sponges and trees of ricegrain corals (Primnoa resedaeformis) surround me, and Norway haddock (Sebastes viviparus) hang around in the water. I feel as if I am in some weird, bewitched forest.

These quaint creatures have never before been disturbed by humans. Why should such beauty be hidden under masses of cold, dark water?

The Senopleustes latipes amphipode is common in the corals in the fjord. Subal Nikon F90, 60 mm Nikkor lens, Hartenberger strobes. Fuji Velvia, F22 1/200th.

It really is the Lophelia reef (Lophelia pertusa), and not one but three. They are not big; Lophelia reefs of up to 500,000sq m have been found in Norwegian waters, usually on the Continental shelf between 200 and 400m. This one is at 55m. "Our reefs" are no bigger than a VW van, but that doesn't matter. We have found what we were looking for.

Carefully I touch the fragile corals. They are quite hard, like stone corals in warm waters, and the reef reminds me of a thick thornbush. It bears a striking resemblance to shallow tropical coral reefs.

I have hardly time to acknowledge a few shrimps and a couple of troll lobsters before I have to head back to the shotline. On my way back I pick up a small, loose piece of live coral from the bottom. Perhaps it was torn off by a fisherman's jig.

The deco-stops give me time to absorb the dive, which ranks among the most wonderful experiences of my diving career. I want to go straight back down, but there is plenty of time.

Five days later we leave the reef for the last time. Nothing has changed. The Norway haddock is still hanging in the water, and the coral fans wave goodbye. The six films we have taken on the reef are likely to include pictures of several species never before photographed by divers.

It has been a successful expedition. After only three dives, all our objectives had been achieved - to see the sea tree, ratfish and coral reef.

Diving in Skarnsundet can be very challenging and is not recommended for beginners. We constantly had to fight unpredictable currents, sometimes going in opposite directions along the wall on the same dive. In some places currents also went straight up or down in a wedge-like formation.

The area off Skarnsundet is biologically very interesting and less difficult to dive, but it is still possible to see sea bushes in the relatively shallow and still waters. There are few diveable wrecks in this area, but for anyone interested in marine fauna it is unique. Divers are likely to visit in great numbers in coming years.

Travel by ferry or fly from the UK to Oslo or Bergen, hire a car for the 650km drive to Skarnsundet, or fly on to Vaernes, 80km from the site. Accommodation is available at Vangshylla Rorbuer at the western end of Skarnsundet, in new cottages that sleep up to six and cost £300 a week. Call Svein Gusta, tel. 00 47 74155641. Boats can be rented locally, air can be obtained from the local fire station or Steinkjer Diving Club 25km away. Viz is best in winter but varies from 0-40m. The water is cold, between 4-7°C at depth, possibly warmer at the surface in summer.

Rudolf Svensen
Photos by Erling Svensen

www.uwphoto.no