

## Low Tide at North Haven

The weather could not have been kinder on the afternoon of Friday, 2<sup>nd</sup> March as 18 of us investigated the invertebrates of North Haven at low tide. The tide did not go as far out as I had hoped, but nevertheless there were plenty of pools and crannies amongst the seaweed-covered rocks at the eastern corner of the beach. Enthusiastic searching by the bairns, using hand nets and bare hands, quickly resulted in half a dozen long-spined sea scorpions *Taurulus bubalis*, each subtly patterned to match its rock or seaweed background, a couple of shore crabs *Carcinus maenas*, two brittlestars and a beadlet anemone *Actinia equina*. A stream of molluscs also made their way to the seawater-filled containers on the beach. There were no surprises: limpet *Patula vulgaris*, flat, common and small periwinkle *Littorina obtusata*, *L. littorea* & *L. neritoides*, grey topshell *Gibbula cineraria*, toothed topshell *Monodonta lineata* and dogwhelks *Nucilla lapillus* - of various ages - are typical of sheltered rocky shores around the isle. We are beginning to get familiar with the common sea mat *Membranipora membranacea* on the fronds of kelp and its fellow bryozoan, the seaweed mimic hornwrack *Flustra foliacea*. Despite their plant-like appearance, both are colonies of tiny invertebrates living cheek by jowl.

The easily recognisable invertebrates were returned to their pools and rocks, but we retained a sample of the less certain and smaller biota. These were carted back to Schoolton where, the following day, most of the group gathered again to study and enjoy down the lens of a microscope. Two very small slender slaters with protruding centre to the telson (tail) proved to be *Idotea granulosa*. A few gammarids (small shrimp-like crustaceans) had been taken. The largest, and darkest, were caught mating. They keyed out to *Chaetogammarus marinus*. One of a much smaller, paler species had progressed further. It was carrying eggs. There were a few of these and they were *Gammarus duebeni*. The smallest of the lot was *Hyale nilssoni*. There were four of these.

Some digging and raking over of the sand at low tide failed to produce much in the way of invertebrates. However, two small, coiled bristleworms were caught. Under the microscope they were found to be rather attractive, with long thin red paddles on each segment and a pair of translucent flaps at the base of each paddle. There are many bristleworm species so it was an effort to track it down, but I eventually arrived with confidence at *Glyceria lapidum*. The *Glyceria* was not the only challenge. Although brittlestars are frequent on Fair Isle lower shores, they are far from straightforward to identify. We eventually determined our two as the common brittlestar *Ophiothrix fragilis*.

We brought back with us a few pieces of cast seaweed. Attached to these were hydroids, another colony animal that would pass, for many, as a plant. A reasonably sized one on a robust stipe of red seaweed was *Abietinaria abietina*. The microscope detected another, copiously occupying forks in a piece of the seaweed *Plumaria elegans*. It was tiny but distinctive, stems and branches crowded with goblet-like structures (hydrothecae) each merging with the next, yet I was unable to name it from any of my books - most frustrating! A brown, rubbery "seaweed" with protruding fingers was another colony of bryozoans, the sea chervil *Alcyonidium diaphanum*. Had we searched the shoreline more extensively, we would have found many more cast animals masquerading as plants.

Finally, a fly! You do not need to live long on this island to experience an invasion of rather flattened hairy flies venturing into the house. Even in winter, they seem to find their way in. These are the kelp fly *Coelopa frigida*. They lay their eggs on seaweed thrown up on the beaches. As the seaweed rots down it provides an ideal home for the maggot-like larvae. The act of rotting provides an easily digestible “soup” and heat as a by-product (just like compost or silage), so there is food and a favourable micro climate for a year round lifecycle – hence the invasions of the adults on calm winter nights. The larvae must make an important contribution to the winter survival of turnstones, purple sandpipers and even starlings foraging amongst the banks of weed. I found no kelp flies on North Haven beach. Instead, much to my surprise, I found a female yellow dung fly *Scathophaga stercoraria*. If it was attracted to sheep dung, it was clearly not aware that this was below high water mark!

***Nick Riddiford, 7<sup>th</sup> March 2007***