

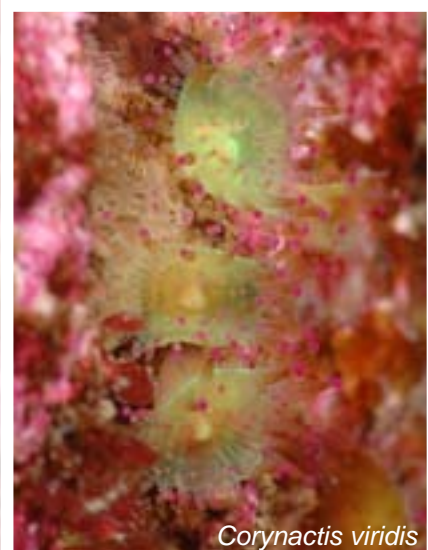


Duncansby Head

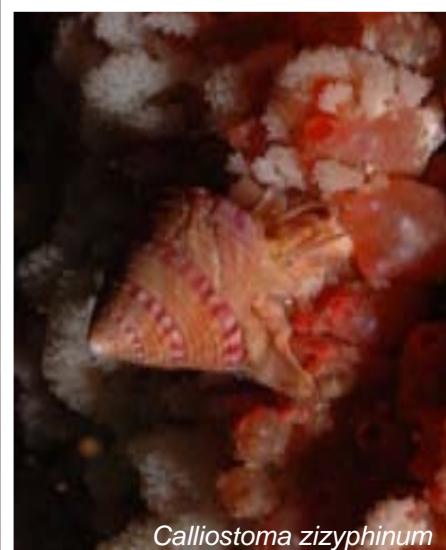


Muckle Skerry

# Pentland Skerries & Caithness 2005



*Corynactis viridis*



*Calliostoma zizyphinum*



*Tubularia indivisa*



*Dendrodoa grossularia*



*Taurulus bubalis*



*Galathea strigosa*

Photos: George Brown



## The Pentland Firth

The treacherous waters of the Pentland Firth give rise to some spectacular underwater scenery. On the north side of the Firth, better described as a strait, are the islands of Hoy and South Ronaldsay of the Orkney Islands and on the south side is the mainland between Dunnet Head in the west to Duncansby Head in the east. In-between are the islands of the Pentland Skerries, around which are some of the fastest tides in the world (16 knots being reported close to the west of the Pentland Skerries). In May 2005 a team of divers from Inverness Sub-Aqua Club conducted a Seasearch survey around Duncansby Head and the Pentland Skerries. Divers from the Caithness Sub-Aqua Club also undertook surveys in 2005.



*Henricia sp.*

## Duncansby Head

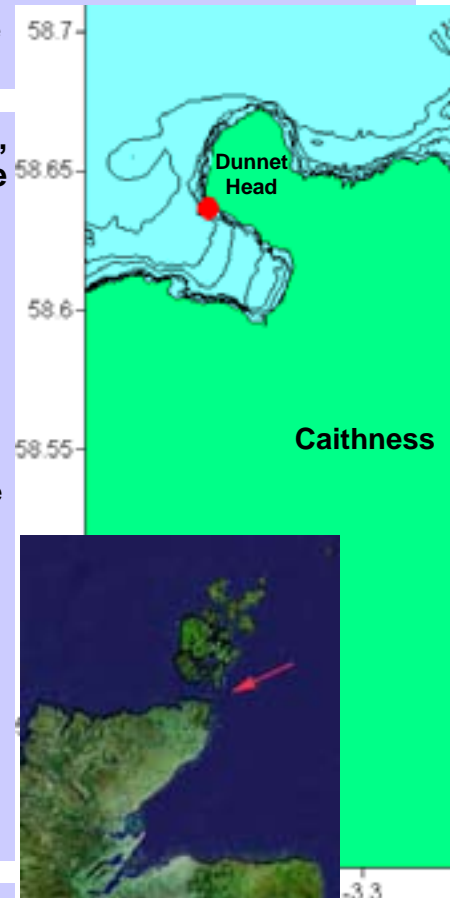
The towering cliffs at Duncansby Head reach 64 metres in height and are characterised by stacks, arches and steep-sided inlets locally known as geos. The layered mudstone provides an ideal nesting site for thousands of seabirds. The cliffs resound with the sound of calling guillemots, razorbills, gannets and kittiwakes, which fill every available space. Underwater the geos give way to huge sheltered caverns leading out to tide and wave battered walls on the seaward side.



Inside a geo

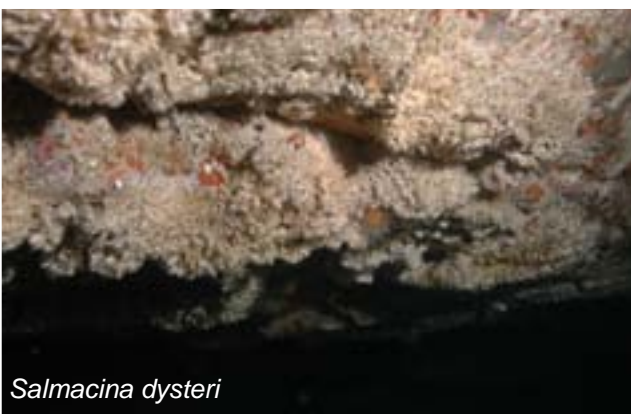
### Inside the Geos (Geo of Sclaites, Duncans Bay) Baxter Rock and the Lighthouse Caves

Below the waves of the vertical-walled, narrow geos are spacious, lightless chambers, yet the surface is open (surveyed May 05). The layered mudstone cliffs stretch back into the land by up to 50 metres. The floors of the caverns (~15 m deep) were strewn with large boulders and covered in broken egg shells from the guillemot colonies on the cliffs above. Despite the extreme tidal movement and wave action, life abounds even here. The walls were covered in a mixture of the white *Clathrina* sponge, the bright red baked-bean seasquirt *Dendrodoa grossularia* and the long dark green bryozoan *Alcyonidium* protruded from the wall like over-sized pipe cleaners. In the deeper and darker reaches of the wall, there was a carpeting of the coral worm *Salmacina dysteri*. At the geo entrance, the light shone through a meadow of oaten pipe hydroid *Tubularia indivisa*.



## On the seaward walls at Duncansby Head

The communities changed abruptly on the seaward walls (surveyed May 05). Kelp *L. hyperborea* covered much of the walls, interspersed with several species of anemones including dense patches of jewel anemones *Corynactis viridis*, sponges such as elephant's hide sponge *Pachymatisma johnstonia* and extensive



*Salmacina dysteri*

hydroid/echinoderm/bryozoan animal turf. Several species of nudibranch were also recorded



*Alcyonidium sp.*

here, such as the violet seaslug *Flabellina pellucida* and the white hedgehog seaslug *Acanthodoris pilosa*. Shoals of pollack *Pollachius pollachius* and saithe *Pollachius virens* sauntered around the entrance to the geos.



## The Pentland Skerries

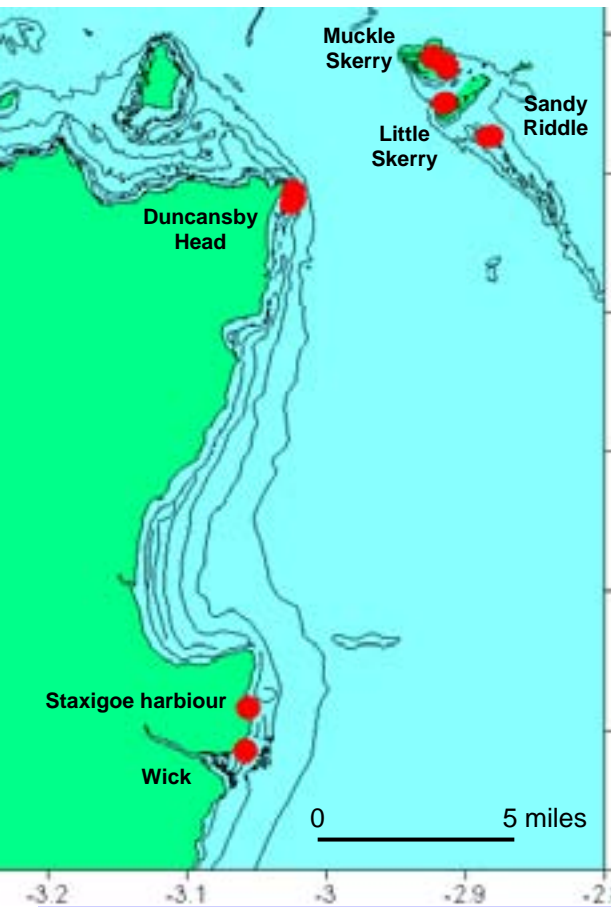
The four uninhabited islands of the Pentland Skerries (Muckle Skerry, Little Skerry, Lough Skerry and Clettack Skerry), to the northeast of Duncansby Head, are home to a grey seal colony and an abundance of highly territorial and vicious terns. This area exhibits fast currents and strong tides, not to mention some of the roughest seas in the UK.

### Little Skerry (site 2)

This shallow bay on the northern side of Little Skerry (surveyed May 05), surrounded by a bedrock wall, was completely covered in kelp forest (predominantly *L. hyperborea*). The rock wall was carpeted in red algae and occasional elephants hide sponge. Other wall inhabitants included the oaten pipe hydroid, starfish such as the spiny starfish *Marthasterias glacialis*, the Devonshire cup coral *Caryophyllia smithii* and the long-spined sea scorpion *Taurulus bubalis*. Amongst the kelp was an abundance of crustaceans and molluscs, such as the painted top shell *Calliostoma zizyphinum* and the blue rayed limpet *Helcion pellucidum*. To the north of Little Skerry were patches of the protected habitat maerl *Lithothamnion corralloides*.



Muckle Skerry



### Muckle Skerry

Similar to Little Skerry (surveyed May 05), the north side of Muckle Skerry was characterised by a vertical bedrock wall to approximately 7 metres. This wall was blanketed in dead men's fingers *Alcyonium digitatum* and red algae with occasional clumps of the oaten pipe hydroid. On descending the wall the seabed gently shelved to a depth of 12 metres with a covering of thick kelp forest (*L. hyperborea*).

Approximately 100 metres offshore lies the wreck of the Kathe

Niederkirchener, which sank in 1965. The wreck was smothered in red seaweeds. Peacock worms were commonly recorded attached to the wreckage and shoals of pollack surrounded it. Nearby the seabed changed to a boulder strewn reef with mixed red seaweeds and kelp park interspersed with clearings of coarse sand. Butterfish *Pholis gunnellus* and the brightly coloured red/pink common sunstar *Crossaster papposus* were found among the boulders.



*Henricia* sp.

### Wick and surrounds

The rocky reefs surveyed from the shore in Caithness in the surroundings of Wick and Dunnet Head are composed of Caithness flagstone and exhibit a stepped appearance with vertical walls and flat platforms. At Staxigoe harbour (surveyed Mar 05), 2 miles north of Wick, a 3 metre bedrock wall gives way to a stepped seabed with kelp on the platforms and cobbles and pebbles overlying the bedrock in the troughs. The wall was covered with short animal turf, among which were species such as the sea hare *Aplysia punctata*, nudibanchs and the strawberry worm *Eupolymnia nebulosa*.

At North Head, on the north side of Wick harbour, lies the wreck of the St. Nicholas (surveyed Nov 05). A gulley leads out through the shelving rock down to 12 metres, after which is a gently shelving seabed with sand patches interspersed by boulders, cobbles and pebbles and kelp park. This area was inhabited by occasional Queen scallops *Aequipecten opercularis*, crabs and starfish.

On the west side of Dunnet Head (surveyed Dec 05), at a depth of 13 to 20 metres, the shelving bedrock was inhabited by animal turf on the horizontal surfaces and kelp on the vertical. Large shoals of pollack and saithe were seen above the reef, and ballan wrasse *Labrus bergylta* and rock cook *Centrolabrus exoletus* under the boulders.



*Urticina felina*

Photos: George Brown



*Pagarus bernhardus*

## Sandy Riddle

The Sandy Riddle (surveyed May 05) is a bank of sand SSE of the Pentland Skerries. It is composed of sand dunes with a series of level platforms at a depth of between 17 and 24 metres. Each platform is between 15 and 25 metres in length. The area has exceptionally strong tidal flows and downfalls leading to depths exceeding 40 to 60 metres nearby. The dune waves were approximately 10 metres from crest to crest and of a depth of approximately 1 metre. Buried in the sand, composed entirely of large fragments of shells, worm casts and urchins, were an abundance of sandeels *Hyperoplus immaculatus*.



*Hyperoplus immaculatus*

The surveys of Duncansby Head and the Pentland Skerries were organised by George Brown of Inverness SAC in May 2005. Seasearch participants in addition to George, included Judith and Steve Colligan, Donald Macneill, Bruce Greig and Jimmy Whyte from Inverness SAC, Jonie and Richard Guest, formerly from the Caithness SAC and Marion Perutz, Seasearch Northeast Scotland Coordinator. The shore dives were carried out by Jonie and Richard Guest, Lee Cartwright and Maurice Edmunds throughout 2005. The photos were taken by George Brown.

This summary report was produced by Seasearch North-east Scotland Coordinator, Dr Marion Perutz, with a grant from the Moray Firth Partnership. Seasearch is coordinated by the Marine Conservation Society and supported by the organisations below.

This species list includes some examples of species in this diverse region of Caithness.

## Species list

Phylum/ no. species recorded	Examples of species found	Common name
<b>Porifera</b> (Sponges)	11 <i>Clathrina</i> <i>Halichondria panicea</i> <i>Pachymatisma johnstonia</i> <i>Scypha ciliata</i>	Breadcrumb sponge Elephant hide sponge A sponge
<b>Cnidaria</b> (Anemones, corals, hydroids, jellyfish)	17 <i>Actinothoe sphyrodeta</i> <i>Alcyonium digitatum</i> <i>Caryophyllia smithii</i> <i>Corynactis viridis</i> <i>Sagartia elegans</i> <i>Thuiaria thuja</i> <i>Tubularia indivisa</i>	Sandalled anemone Dead men's fingers Devonshire cup coral Jewel anemone Elegant anemone Bottlebrush hydroid Oaten pipe hydroid
<b>Annelida</b> (Segmented worms)	5 <i>Sabella pavonina</i> <i>Salmacina dysteri</i>	Peacock worm Coral worm
<b>Crustacea</b> (Barnacles, crabs, lobsters)	17 <i>Galathea squamifera</i> <i>Homarus gammarus</i> <i>Inachinae</i> <i>Pagurus bernhardus</i> <i>Palinurus elephas</i>	Olive squat lobster Common lobster Small spider crabs Common hermit crab Spiny lobster/ crayfish
<b>Mollusca</b> (Shells, seaslugs octopus)	18 <i>Anomiidae</i> <i>Calliostoma zizyphinum</i> <i>Trivia monacha</i> <i>Aplysia punctata</i> <i>Acanthodoris pilosa</i> <i>Flabellina pellucida</i> <i>Onchidoris bilamellata</i>	Saddle oysters Painted topshell European cowrie Sea hare White hedgehog seaslug Violet seaslug A seaslug
<b>Bryozoa</b> (Sea mats)	5 <i>Alcyonidium diaphanum</i> <i>Crisia</i> <i>Bryozoa indet crusts</i>	Sea chervil Crispy threads Encrusting bryozoans
<b>Echinodermata</b> (Starfish, sea urchins brittlestars)	14 <i>Antedon bifida</i> <i>Henricia sp.</i> <i>Marthasterias glacialis</i> <i>Ophiocomina nigra</i> <i>Ophiopholis aculeata</i> <i>Porania pulvillus</i>	Common featherstar Bloody henry Spiny starfish Black brittlestar Crevice brittlestar Red cushion star
<b>Tunicata</b> (Sea squirts)	10 <i>Aplidium proliferum</i> <i>Ascidia mentula</i> <i>Ciona intestinalis</i> <i>Dendrodia grossularia</i> <i>Lissoclinum perforatum</i> <i>Morchellium argus</i> <i>Sidnyum elegans</i>	A seasquirt Red seasquirt Yellow-ringed seasquirt Baked bean seasquirt White perforated seasquirt Four spotted squirt A seasquirt
<b>Pisces</b> (Fish)	8 <i>Ammodytes tobianus</i> <i>Hyperoplus immaculatus</i> <i>Pollachius pollachius</i> <i>Taurulus bubalis</i> <i>Trisopterus minutus</i>	Lesser sandeel Greater sandeel Pollack Long-spined sea scorpion Poor cod
<b>Algae</b> (Seaweeds)	14 <i>Laminaria digitata</i> <i>Laminaria hyperborea</i> <i>Laminaria saccharina</i> <i>Lithothamnion coralloides</i>	Oar weed/ tangle kelp Cuvie/ forest kelp Sugar kelp Maerl