

Dorset Seasearch: Annual Summary Report 2022

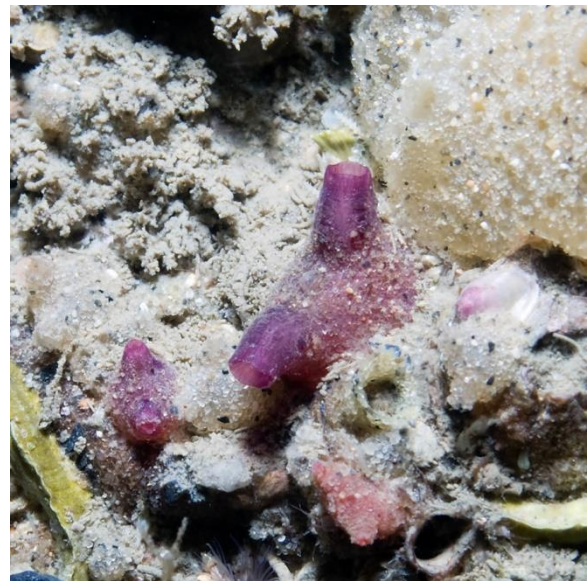


Guillet's Goby pair at nest under a shell. ©Lin Baldock

Compiled by Lin Baldock



The earliest reported dives of the year in January and March were from shore locations in Portland Harbour and under Bournemouth Pier by the usual suspects (Charlotte Bolton, Mike Markey and Lin Baldock). A particularly interesting site was under the bridge at Ferrybridge on the road between Weymouth and Portland, where a host of non-native sea squirts were recorded, including the Compass Sea Squirt (*Asterocarpa humilis*) which had colonised the natural seabed substrate of pebbles and small cobbles already partly consolidated by extensive crusts of the non-native Orange Peel Bryozoan (*Watersipora subatra*). An unusual sea squirt discovered at the same site was *Polycarpa violacea* which, as its name suggests, is a distinctive rich purple colour making it stand out well on grubby grey surfaces despite its small size. It is hoped to sample this species in 2023 for genetic sequencing by scientists based at the Marine Biological Association (MBA) in Plymouth. Occasional large specimens of the Compass Sea Squirt were also recorded from Bournemouth Pier for the first time in 2022. These had been very rare or not recorded on previous visits to the site.



Left: *Polycarpa scuba* (pale siphons at the top on reddish flask-shaped body). ©Charlotte Bolton
Right: The rich purple colour of *Polycarpa violacea*. ©Lin Baldock



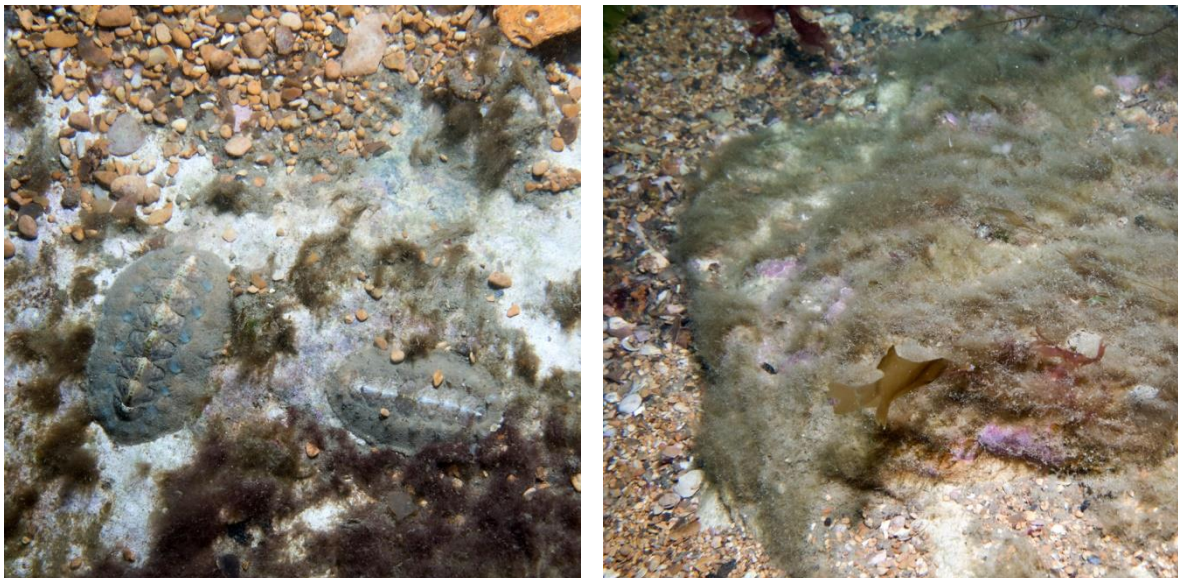
Left: *Pyura squamulosa* (siphons with magenta and cream stripes widely spaced on squat body)
Right: *Asterocarpa humilis* (Compass Sea Squirt) embedded with sponges and colonial sea squirts.
 ©Charlotte Bolton

The first organised Seasearch dives in Dorset were arranged out of Swanage with Swanage Boat Charters¹ at the end of May. The weather was kind but tides were challenging to get two slack(ish) dives both days. The first day found us at two high energy sites at slack water on the Whitehouse Grounds and off Ballard Down. The Whitehouse Grounds supported a dense short turf of both solitary and colonial sea squirts typical of heavily sand scoured, low lying rock with colourful groupings of *Polycarpa scuba* and the “rhubarb and custard” form of *Distomus variolosus* (also of interest to sea squirt specialists based at the MBA). Vertical faces had colourful sponge communities.



Left: Molgulid sea squirt turf. **Right:** Groups of *Distomus variolosus*. ©Lin Baldock

The Ballard Down site was on the edge of the chalk exposure with mobile waves of dead maerl gravel. There were a number of abandoned Black Bream nests around the site probably disrupted by rough weather earlier in the month. Also of interest were the relatively rare Gravel Sea Cucumbers (*Neopentadactyla mixta*) in the mobile maerl gravel, appropriately identified by Clive Le Cocq (based in St Malo, Brittany) as “Leche Doigts”, the French for “Finger Lickers”. Clive also recorded *Melanella alba* a glossy bright white gastropod mollusc which is a parasite of these sea cucumbers.



Left: Chitons (*Acanthochitona fascicularis*) on the edge of an abandoned Black Bream nest.

Right: Abandoned Black Bream nest thickly over grown by filamentous brown algae. ©Lin Baldock

¹ <http://www.kyarra.com/>



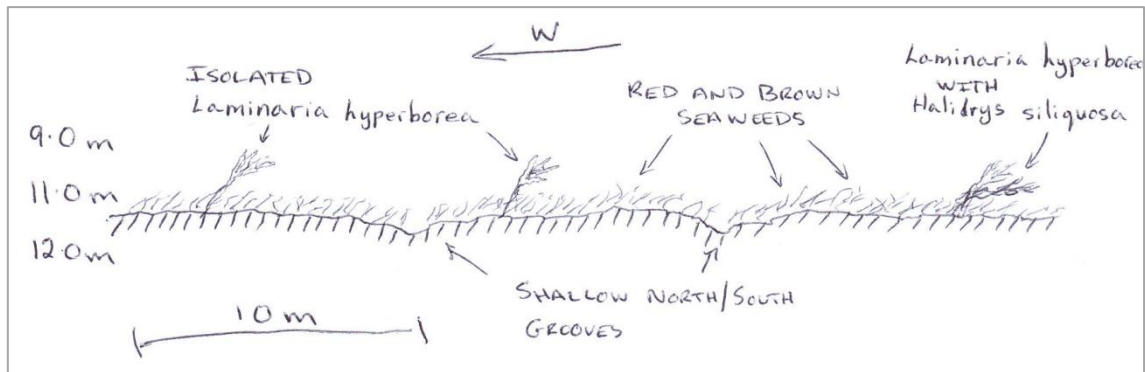
Left: Gastropod (*Melanella alba*) parasitic on Gravel Sea Cucumbers. Ballard_2
Right: Anemone Shrimp (*Periclimenes sagittifer*) in Snakelocks Anemone off Blacker's Hole
©Clive Le Cocq

The next day found us searching for an anchor scar left by one of the cruise ships several of which spent a great deal of time in Poole Bay during the 2020/21 Covid outage. This spot was a challenge for our skipper Tony Maidment to find on the day since the feature did not show on the sounder and there was a noticeable swell confusing subtle changes in the depth of the seabed. However the shot was right on the mark, only five meters or so from the scar. We followed the scar for a distance of over 20m where it showed as a wide sandy gully about 1m deep with tumbled chalk boulders and overturned Ross Worm clumps pushed up in a berm on either side (see below). We plan to follow the change in future years and the site is definitely a good candidate for some 3D photogrammetry. There is well developed Ross Worm reef adjacent to the scar.



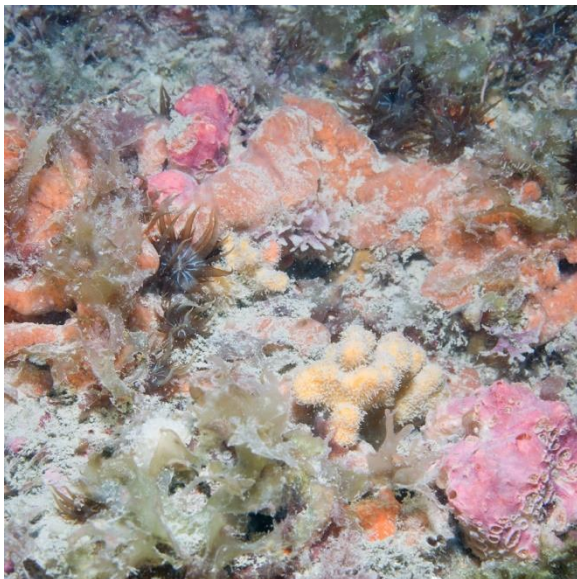
Sandy gully and berm of tumbled chalk cobbles and Ross Worm (*Sabellaria spinulosa*) mounds.
Anchor scar, Poole Bay. ©Lin Baldock

Our final dive was a challenge in a strong ebb tide off Blacker's Hole west of Swanage where we had failed to find the counter current which sometimes runs along the shore there. Flat bedrock with low ledges not more than 20cm high running north/south provided no let up from tide. The reef was smothered in dense growths of red and brown seaweeds leaving only the very low ledges open for colonisation by animals. This is graphically shown by Clive's sketch on his Seasearch form.



Sea bed profile south of Blacker's Hole. ©Clive Le Cocq

July found us out with Nick Bentall on Scimitar² exploring sites between Chapman's Pool to the east and Durdle Door off Bat's Head to the west. We continued to investigate the north edge of Lulworth Banks a large feature in Weymouth Bay where a series of low rock ledges with a diverse fauna of encrusting and branching sponges, Pink Seafans and a range of seaweeds. The second dive on Horseshoe Reef found waves of dead maerl gravel with about 5% live to the north of the reef. The gently sloping reef itself was covered with a sparse sward of the recently discovered green seaweed *Flabellia petiolata*.



Left: Colourful sponges and Trumpet Anemones (*Aiptasia couchii*) on Lulworth Banks.



Right: Small fans of the green seaweed *Flabellia petiolata* on Horseshoe Reef. ©Lin Baldock

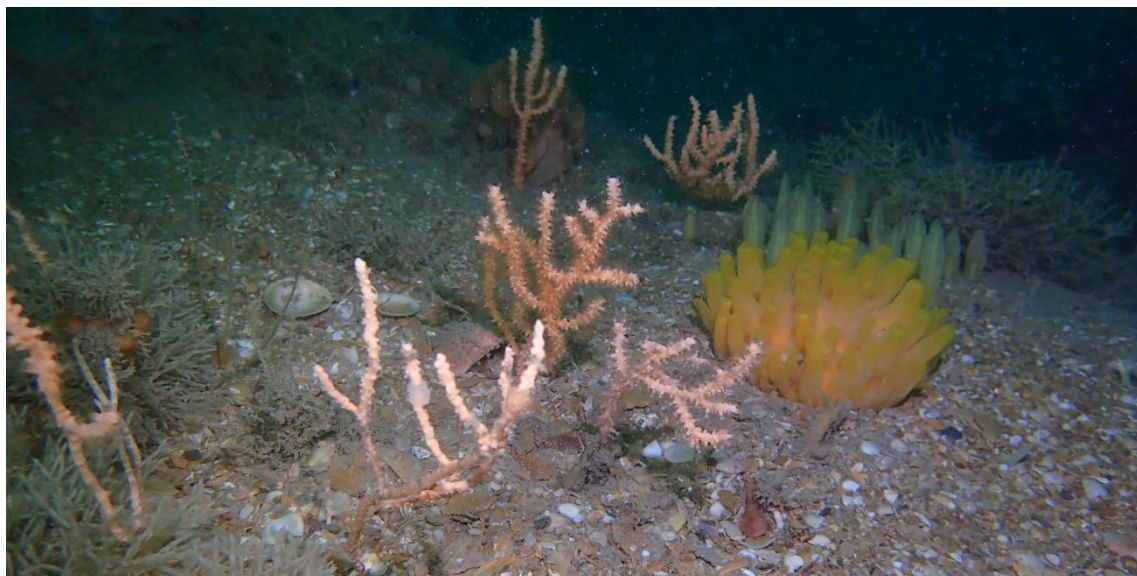
A scoured, flat bedrock reef south of Chapman's Pool was the target for the next day's first dive dominated by the orange sea squirt *Stolonica socialis*. Low limestone rock ledges provided a bit more diversity comprising sponges and hydroids. The second dive off Bat's Head had waves of shell and dead maerl gravel, again with Gravel Sea Cucumbers as well as large solitary sea squirts (probably *Molgula* spp), indicating an undisturbed sediment seabed. Also of interest was a pair of Guillet's Gobies (*Lebetus guilleti*) guarding a nest under a shell. This goby is found regularly on these dead maerl and shell rich coarse sand and gravel sediments in Dorset.

² <https://www.scimitardiving.co.uk/>



Left: A large group of the sea squirt *Stolonica socialis* on scoured bed rock, off Chapman's Pool.
Right: Large sea squirts (*Molgula* sp) with a burrowing bivalve (bright white) in dead maerl gravel.
 Bat's Head. ©Lin Baldock

Charlotte Bolton organised two days of diving out of Portland with Skin Deep³ in July. The first day the weather allowed us to make it around Portland Bill to the west completing two dives there: one in the Chesil Beach and Stennis Ledges MCZ, the second south of Blacknor Point. The first location was a well scoured, high energy site with low limestone ledges smothered in a dense, mixed bryozoan turf with scattered Chimney Sponges and *Polymastia* species (including the rarely recorded *Polymastia agglutinans*) together with patches of the orange sea squirt *Stolonica socialis* and frequent Pink Sea Fans. Several divers recorded Variable Blennies (now a regular sighting on Lyme Bay reefs) lurking deep in rock crevices. Particularly interesting were the waves of mobile shell gravel and coarse sand at the foot of the ledges where there were many large, solitary molgulid sea squirts indicative of clean mobile coarse sediment undisturbed by anything other than the tides and weather.



Pink Seafans and sponges Chesil Beach and Stennis Ledges MCZ. ©Charlotte Bolton

The second site off Blacknor Point had a variety of habitats including large waves of seasonally stable fine sand with cobbles and pebbles in the troughs with ephemeral red and brown seaweeds (many

³ <https://skindeepdiving.co.uk/>

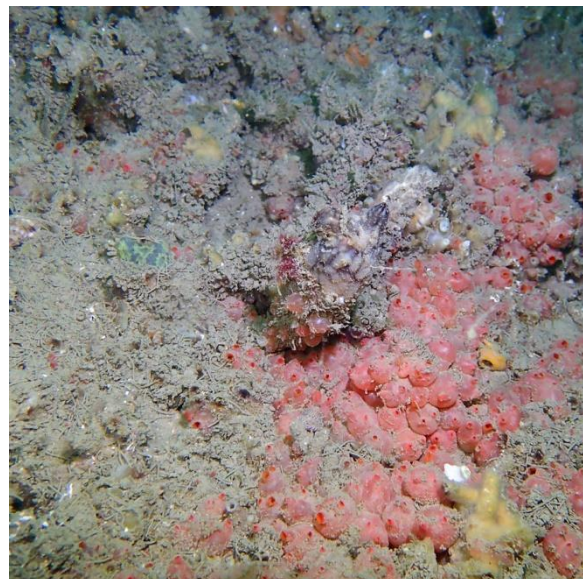
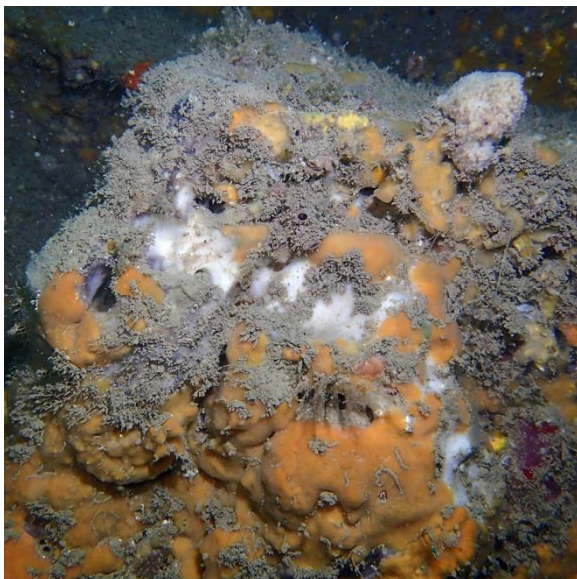
infrequently recorded) and large boulders with deep overhangs. In these we found the rare Weymouth Carpet Coral (*Hoplanguia durotrix*) along with the Southern Cup Coral (*Caryophyllia inornata*) and bunches of squid eggs. Together these habitats produced a long list of sponges (18 species) and seaweeds (21 species).



Skin Deep off Blacknor Point, on the west side of Portland Bill. ©Charlotte Bolton

The weather was against us on the second day and we only found shelter from the wind and southerly swell behind the northwest breakwater of Portland Harbour. Here we started on the soft, burrowed mud familiar to many of us, moving inshore up onto the huge limestone boulders of the breakwater itself. Despite the silty conditions we recorded a couple of rare green seaweeds: *Cladophora prolifera* and the relatively recently recorded *Flabellia petiolata* which was found forming its characteristic turf of fine green filaments on the steeply sloping faces of the breakwater boulders.

Charlotte Bolton arranged six days of diving towards the end of May visiting sites ranging from St Aldhelm's Ledge west to The Ledge on the east side of Portland Bill. One particularly interesting location was named Zak's Wreck which proved not to be a wreck at all but natural rocky reef some 15km due south of Worbarrow Tout. It is a high energy site with tidal streams of over 2.5knots on spring tides and is probably well scoured with patches of mobile sand and dead shell adjacent to the reef. The fauna on upward facing surfaces was dominated by crusts of the Ross Worm (*Sabellaria spinulosa*) with verticals and overhangs supporting a diverse fauna of sponges and sea squirts including examples of the sponge dominated community identified from Long Ledges in Lyme Bay. There were massive sponges such as Elephant Hide sponge (*Pachymatisma johnstoni*), Black Tar Sponge (*Dercitus bucklandi*) and Geodidae all heavily overgrown by other sponges. Sea squirts were represented by *Dendrodoa grossularia*, *Polycarpa scuba*, scattered small colonies of the Star Sea Squirt (*Botryllus schlosseri*), *Ascidia mentula* and turf forming species



Left: Massive and encrusting sponges. Right: *Dendrodoa* and *Sabellaria* crust. ©Charlotte Bolton

Seasearch has been collaborating with the Darwin Tree of Life Project⁴ (DToL), in particular with John Bishop based at the MBA. One day of diving out of Portland was organised by Charlotte Bolton again on Skin Deep, with the specific aim of collecting solitary sea squirts for gene sequencing. Good material was obtained because individual squirts could be collected on small pebbles avoiding damage to the specimens before return to the laboratory. An interesting find on this dive was the confirmed presence in some numbers of the large, solitary sea squirt *Polycarpa mamillaris*, which to date is not included on the British list. *In situ* photographs of specimens taken at the time of collection and then dissected have confirmed the identity and the appearance of this distinctive sea squirt in the field. The following description was provided by John Bishop.

“The eight pale stripes inside both the inhalant and exhalant siphons generally reach the rim of the siphon and individual stripes often vary in thickness, gradually or abruptly, along their length, and frequently flare out slightly at the rim. They may also curve along their length. Distinctively, they are arranged in four pairs; within each pair the stripes are mirror images of each other in terms of curvature and thickness. Sometimes the two stripes in a pair extend towards each other and come into contact.

The stripes are generally opaque whitish or cream and are isolated against a plain background. In most of the available specimens the background colour of the siphons (between the stripes) is yellow-brown, the walls often appearing somewhat translucent. Further into the siphon, the walls can be completely whitish where the gaps between stripes have closed. At least one example (#13, which was dissected to confirm identity) had red siphons with white stripes.”



Left: *Polycarpa mamillaris* #13 with red striped siphons. **Right:** uncontracted specimen of *P. mamillaris* showing widely spaced siphons with broad white stripes. ©Richard Yorke.

In the field this large, solitary sea squirt typically has widely flared short, stumpy siphons and the body is generally covered with short growths of algae, hydroids etc. and tends to look rather grubby. There are now a number of records for this species from Dorset ranging from reefs off Kimmeridge west to Lyme Bay with the first Dorset photograph in 2008 taken by Mike Markey. It was also recorded by Charlotte Bolton at a site known as Zak's Wreck in 2022.

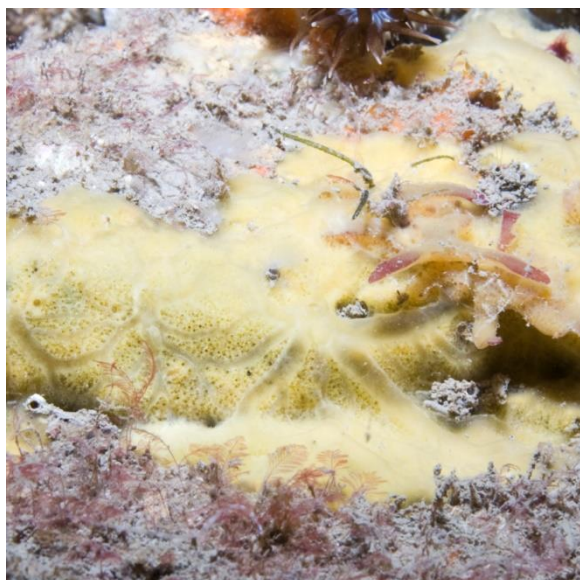
The Eyelash Worm (*Myxicola*) project has now been finalised and the outcome is that there are definitely two species: one with (*M. infundibulum*) and the other without dark tips to the crown of tentacles. The second species without dark tips has now been fully described by Teresa Darbyshire

⁴ <https://www.darwintreeoflife.org/>

(Amgueddfa Cymru⁵, National Museum Wales) and the results are to be published in the European Journal of Taxonomy (an open access journal). Dorset Seasearchers have provided records of both species to the project over a number of years.

I have finally got round to having the sponge samples identified which we collected from Long Ledges in Lyme Bay in September 2021 with funding from the Roger Bamber Research grant awarded by the Porcupine Marine Natural History Society. The identification was done by Jen Jones an expert on British sponges having worked in particular with the rich sponge fauna around Skomer Island in Pembrokeshire. Jen found some interesting species:

- *Trachytedania cf. ferrolensis* originally described from northern Spain with the first British record from Lundy in 2004 and subsequent reports from north Pembrokeshire, the Scilly Isles, Sark and ledges off Kimmeridge. Further study is needed to confirm whether or not it is the same species as the Spanish entity.
- Three *Haliclona* species which did not “fit” available descriptions. Jen’s comment was “*You have very strange Haliclonas down there!*”.
- An undescribed, but distinctive orange species of *Eurypon* sp which Jen has also found on surveys around Skomer. There are a number of Dorset records for this entity. There are known to be several undescribed species of this genus in the British sponge fauna.



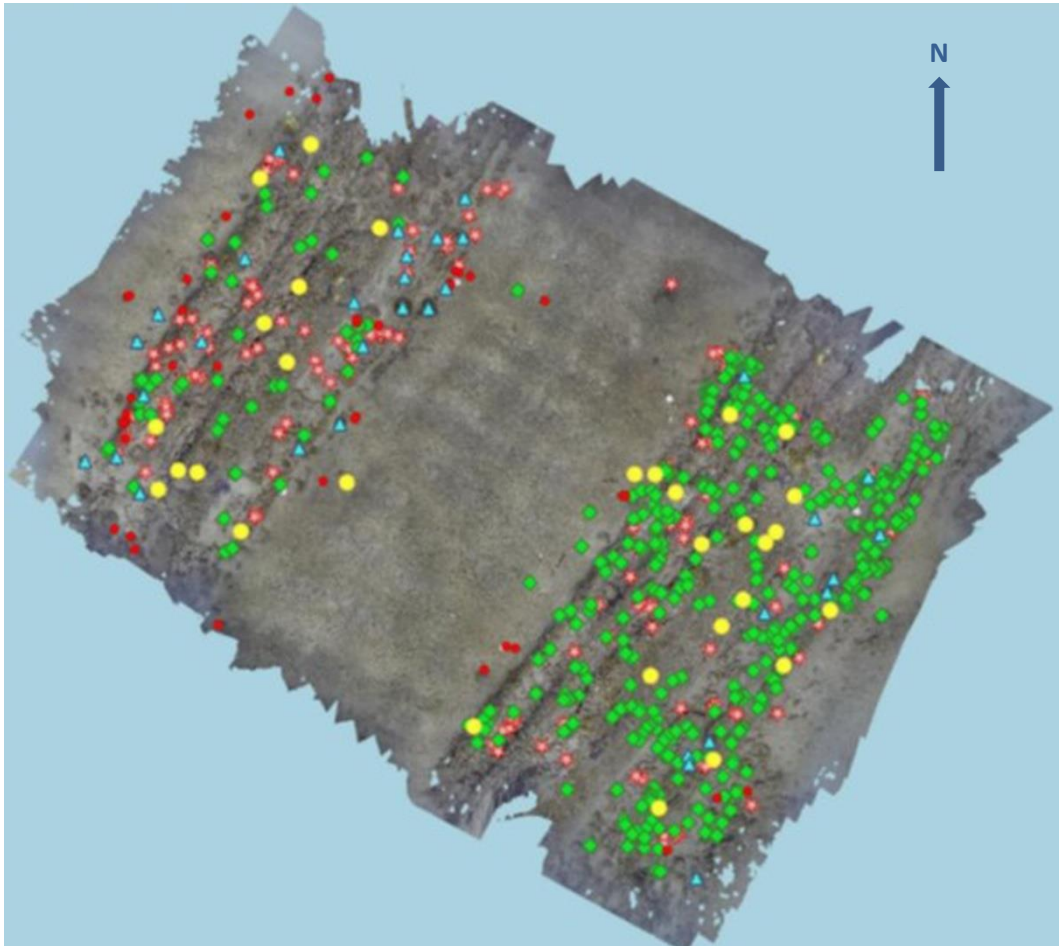
Left: *Trachytedania cf. ferrolensis*, yellowish-green, thin crust with well-defined channels. ©Lin Baldock

Right: *Eurypon* sp. Silt covered crust with short orange fistulae and large oscules. ©Mike Markey

Peter Tinsley (Dorset Wildlife Trust) has undertaken detailed analysis of the distribution of conspicuous fauna on the Long Ledges site for which Matt Doggett had obtained 3D imagery in 2021. Results clearly show differential distributions of some elements of the macro fauna which was reflected in the biotopes distinguished across the site. Seasearch forms completed by divers in 2021 identified these three habitats at the site:

- Circalittoral bedrock reef with a diverse faunal turf (southeast slope and base of northwest slope).
- Circalittoral bedrock reef with sponge cushions and crusts (northwest slope).
- Circalittoral sand with low sand waves (occurs across the centre of the image).

⁵ <https://museum.wales/>



A section of Long Ledges in Lyme Bay with fauna mapped onto 3D imagery.

Green diamonds: Trumpet Anemone (*Aiptasia couchii*), yellow circles: Boring Sponge (*Cliona celata*), blue triangles: Potato Crisp Bryozoan (*Pentapora foliacea*), red circles: sea squirt *Phallusia mammillata*. Pink stars: Pink Sea Fan (*Eunicella verrucosa*). 3D image ©Matt Doggett, image analysis ©Peter Tinsley

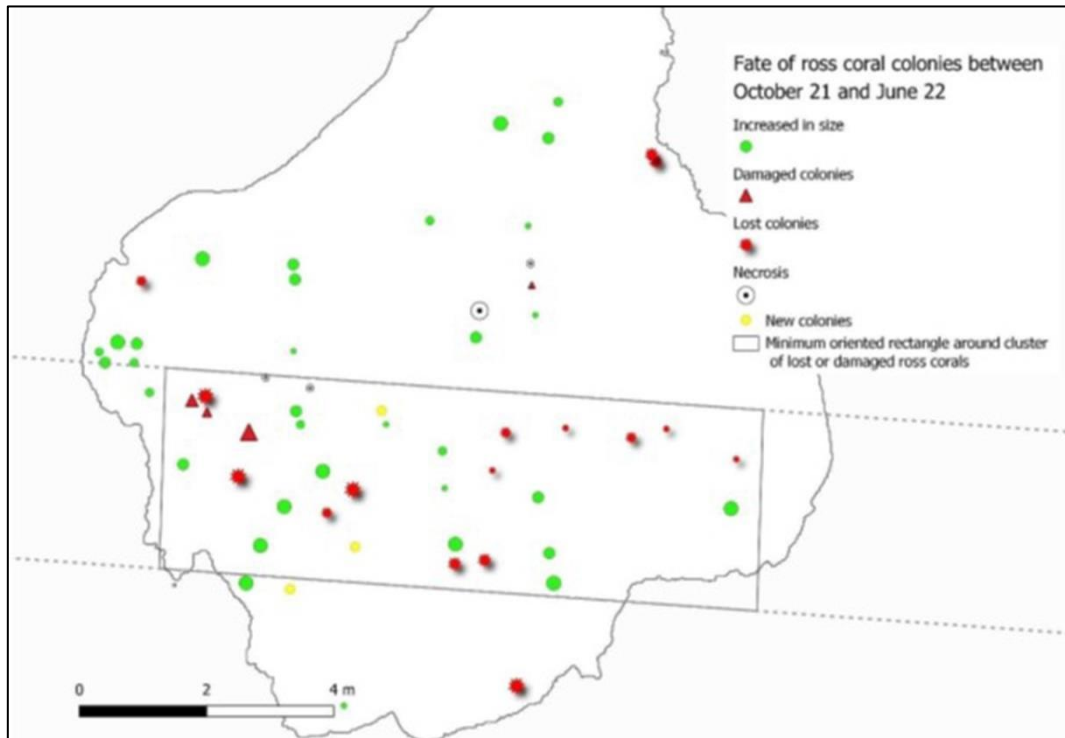
The unusual sponge habitat recorded at this site occurs on the ridges of the northwest section of reef.

Monitoring of colonies of the Potato Crisp Bryozoan continued on the Lulworth Banks with Matt Doggett collecting the 3D imagery and constructing the model and Peter Tinsley doing the detailed faunal analysis. The high resolution model obtained made it possible to assess both growth and loss of colonies, the image below shows lost and damaged colonies (red icons) and those which had increased in size. The concentration of damaged colonies across the centre of the site has been interpreted as possible damage caused by dragging potting gear across the reef.



3D reconstruction of the monitoring site on Lulworth Banks.

©Matt Doggett



Changes in colonies of the Potato Crisp Bryozoan on the Lulworth Banks between October 2021 and June 2022. ©Peter Tinsley.

Some interesting sightings

Several **Spiny Seahorses** (*Hippocampus guttulatus*) were reported from Portland Harbour: Craig Pinder with one early in the year in April and further sightings in August and September, while Steve Trehwella recorded one unusually late in the season in December.

Ken Burden (Bournemouth and Poole Sub Aqua Club) had some short video clips of a rather large Anglerfish (*Lophius piscatorius*) at 28m on the seabed near the wreck of the Venezuela in May. Its particularly large lure looked rather like a tangled piece of plastic carrier bag.

Juvenile **Variable Blenny** (*Parablennius pilicornis*) in hydroid/bryozoan turf on the wreck of the M2 submarine in Lyme Bay. The fish was only around 20mm long but its behaviour and habitat were interesting: it was moving around very actively in the turf which it was using for cover; there were no holes or gaps in the plating nearby and the fish simply went deeper into the turf if spooked. There are acres of this sort of habitat in Lyme Bay and Weymouth Bay!



Variable Blenny
(Parablennius pilicornis)
 A juvenile lurking deep in
 hydroid/bryozoan turf on the wreck
 of the M2. Lyme Bay.
 ©Mike Markey

Nudibranchs

Amphorina linensis. Recorded by Mike Markey in May on the Fleur Barge, Swanage Bay on the silty upward facing deck (it is known to feed on the hydroid *Obelia*). There are very few UK records with those available being scattered from Orkney to Portland Harbour (the latter in 2021 reported by Charlotte Bolton). This white form is particularly unusual in Britain being more common in the Netherlands.



Left: Pure white *Amphorina linensis* Fleur Barge, Swanage. ©Mike Markey
Right: *A. linensis*, Portland Marina 2021 with more usual orange marks on the body.
©Charlotte Bolton

Trapania lineata. Recorded by Mike Markey in September from Balaclava Bay, Portland. A very small nudibranch (less than 10mm long) found on the surface of Crater Sponge (*Hemimycale columella*) and known to feed on kamptozoans. This species is not particularly common currently with 21 records (as *T. pallida*) from Dorset on the NBN. The name was recently changed and the update published here⁶ where the paper can be freely downloaded.



Left: *Trapania lineata*. Balaclava Bay, Portland.
©Mike Markey



Right: *Trinchesia genovae*. Portland Harbour.
©Steve Trehwella

⁶ <https://onlinelibrary.wiley.com/doi/10.1111/zsc.12536>

Late in the season Steve Trehwella photographed the nudibranch *Trinchesia genovae* (previously known as *Cuthona genovae*) off Sandsfoot Castle in Portland Harbour. This is the first record of this species for England but it has long been known from unusual habitats in Ireland: since 1980 from Loch Hyne in Co. Cork, Salt Lake (Co. Galway) and in 1994 from Mulroy Bay, Co. Donegal on the northeast coast. It is otherwise widely distributed in the Mediterranean and northeast Atlantic but has only recently been reported from Brittany in 2017⁷.

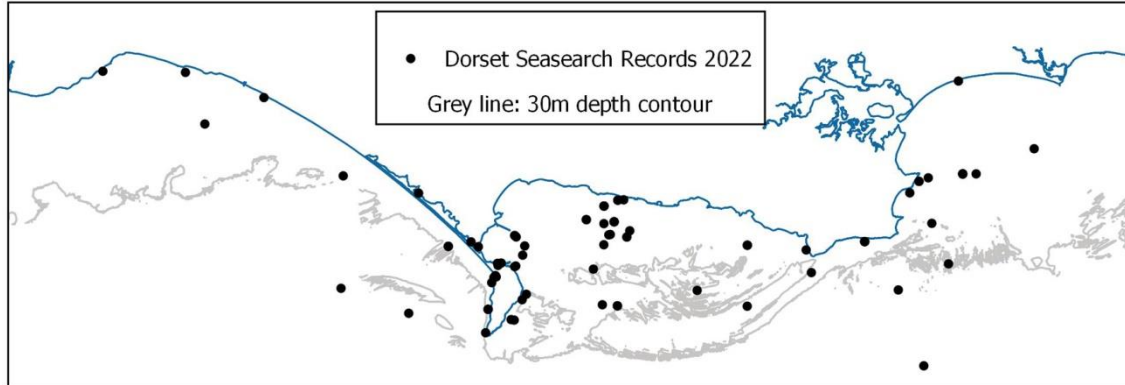
Duvaucelia manicata was recorded by Lin Baldock in Lyme Bay south of Blacknor Point as “photo by-catch”. This is the third Dorset report for this species with only a total of seven British records on the NBN.

Not many Crawfish (*Palinurus elaphas*) records came my way in 2022. Paul Duffy did report a large individual on the wreck of the Remindo about 20km southwest of Portland Bill in 45m depth and there were anecdotal reports from dive boat skippers from the wreck of the Black Hawk and other divers from the Landrail. These seem to be relatively large individuals, small juveniles have not been reported from Dorset waters in the last couple of years.

Some statistics

The dives detailed above and other Seasearch forms, both Observer and Surveyor, resulted in a total of about 75 forms for Dorset for 2022, further information on the data is not available at this stage since the results have not been entered to the new marine data portal overseen by the Joint Nature Conservation Committee. The map below shows the distribution of Dorset records for 2022.

Records from sites deeper than 30m (the depth limit for organised Seasearch diving) were very welcome with reports from the wrecks of the SS Merchant Royal (54m), HMS Warrior II (54m), HMS Sidon (34m) and the submarine UB-74 (35m) by Jacob Broughton-Venner as well as the SS Aparima (42m) from Holger Schuhmann.



Seasearch records for Dorset (2022) showing a good spread across the county with a scatter of sites deeper than 30m. Contains OS data © Crown copyright and database right (2021).

Acknowledgements

Thank you to the **skippers** who took us out to our dive locations: Nick Bentall (Scimitar), Tony Maidment (Viper), Edward Gollop (Skin Deep) and Ian Taylor (Skin Deeper).

I am grateful to the Dorset Wildlife Trust, Seasearch and the Marine Conservation Society for continuing to support Dorset Seasearch. Dorset Wildlife Trust provided some additional funding through SeaChangers⁸ grants awarded to Peter Tinsley: notably for the 3D reef modelling work through the Innovation Fund.

⁷ <https://archimer.ifremer.fr/doc/00512/62415/66686.pdf>

⁸ <https://www.sea-changers.org.uk/>