

The year was again a relatively quiet one for the marine recording scheme, primarily due to the impact of the ongoing Covid pandemic. Activity was not as restricted as it had been in 2020 however and the Society was able to run its annual marine week, in Pembrokeshire, while surveyors were also more able to travel locally and nationally in order to pursue their interests.

Early in the year, as the country emerged from lockdown, there was an influx of records of strandings of the squid *Todarodes sagittatus* (Lamarck, 1798) focussed on the north-east of the country from North Yorkshire to Orkney (**Fig. 1**). *T. sagittatus* is a large and impressive animal, deep red in colour (unless dead for some time) and with short tapering fins on the hind third of its mantle. Anecdotal and documentary sources (Stephen, 1937) suggest there have been sudden peaks in stranding occurs over the same area in the past, again in late winter/early spring, but separated by several years. Sundet (1985) notes the species' main spawning period is in the winter, while the work of Borges (1995) suggests an early winter migration north, particularly of sexually mature individuals (Borges, 1995). These strandings could therefore be a relic of post-mating mortality, although they could equally simply reflect the impact of certain weather patterns.



**Fig. 1.** *Todarodes sagittatus* stranded on Deerness beach, Orkney.  
Photos: Leslie Burgher.

Range extensions, including species found in British or Irish waters for the first time, are always among the highlights of any recording year. The fish egg-eating nudibranch *Calma gobicophaga* Calado & Urgorri, 2002 was first recorded in Britain in 2013. The discovery was made in Cornwall (Fenwick, 2014) and the species has been only rarely recorded since. It was therefore some surprise when specimens were photographed by Alistair Shuttleworth and Neil Roberts under a stone at low tide on the Isle of Skye. The images (e.g. **Fig. 2**) were closely scrutinised and have withstood verification. To date there are no known intermediate records between Cornwall and northwest Scotland despite there being plenty of available habitat, some of it regularly and thoroughly surveyed.



**Fig. 2.** *Calma gobioophaga* from under a stone at low water, Elgol, Isle of Skye.  
Photo: Alistair Shuttleworth.

Another possible range extension is of potential concern. The muricid *Rapana venosa* (Valenciennes, 1846) is native to the north-west Pacific but since the middle of the 20<sup>th</sup> century has proved highly accomplished colonist with established populations in the Mediterranean and the eastern coasts of North and South America. There have been occasional records from the Spanish coast (Bañón et al., 2008) and a population is known from the North Sea (Kerckhof et al., 2006) but has been considered to be limited to areas of deeper water there. The dispersal vector is thought to be shipping (amongst hull fouling and as larvae in ballast water) although studies have also noted young specimens attached to Loggerhead Turtles. *R. venosa* is a very effective predator, particularly of bivalve molluscs, and has been shown to have significant detrimental impact on mussel populations in areas it has colonised. It can also outcompete native whelk species, becoming so successful that in some colonised areas a *R. venosa* fishery has proved viable. The reported discovery of a dead shell of *R. venosa* on the shore at Kilchoan on the Ardnamurchan peninsula in western Scotland is therefore notable. The species is marketed as seafood so the specimen could simply be a discarded shell, but they are not widely available in the UK. Anybody surveying in or even just visiting western Scotland should be vigilant of this species (**Fig. 3**).

An intriguing find was reported in 2021 although it was actually made in December 2020, when Luke Hines of Ocean Ecology Ltd was processing some benthic samples taken earlier that year from the middle of the eastern English Channel. Luke noticed the turritellids seemed unusual and that the habitat suggested by the nature of the samples was different to that in which one would expect to find the familiar *Turritellinella tricarinata* (Brocchi, 1814) (formerly *Turritella communis* Risso, 1826). Upon investigation these unfamiliar specimens, many of which were live-collected, were determined as *Turritella turbona* Monterosato, 1877 (**Fig. 4**). Although recorded from Britain as a Pleistocene fossil, *T. turbona* has not previously been found alive any closer than the Atlantic coast of Iberia. It is possible it could previously have been confused with *T. tricarinata* but unlikely that the species would have been undetected by Victorian dredgers or by Norman Holme in his extensive dredging surveys of the Channel from the 1950s to the 1970s. It would therefore seem safe to conclude that it has arrived in the Channel at least within the last 40 years, if not much more recently, and hence can be added to the list of marine species known to have extended their range northwards over recent years, reflecting conditions more conducive to their survival and suggesting a likely consequence of climate change.



**Fig. 3.** Shell of *Rapana venosa* found on the shore at Kilchoan on the Ardnamurchan peninsula.  
Photo: Katy Armstrong.

Other new species added to the marine mollusc fauna of Britain and Ireland were, as has been a continuing trend in recent years, primarily discovered by molecular studies. Further to last year's report of the work of Sørensen et al. (2020), further investigation of the nudibranch genus *Polycera* has resulted in the description of yet another species, *P. kernowensis* Korshunova et al., 2021, recognised as distinct from *P. faeroensis* Lemche, 1929. The paper also concluded that on the basis of external and radular morphology as well as DNA evidence the recently described *P. norvegica* Sørensen et al., 2020 should be considered synonymous with the older taxon *P. capitata* (Alder & Hancock, 1854). All these species, along with *P. quadrilineata* (Müller, 1776), are known from British and Irish waters and can be distinguished by close examination of external morphology, for which readers are referred to the actual publication (Korshunova et al., 2021). It does, of course, mean that records of the previously cryptic species, unless supported by evidence which facilitates redetermination, have to now be considered as "agg.", although with nudibranchs being great favourites of underwater photographers, the distribution maps of all the newly defined taxa will quickly become populated.

**Fig. 4.** *Turritella turbona* (foreground) compared with *Turritellinella tricarinata* (formerly *Turritella communis*, background).  
Photo: Luke Hines.



A similar situation has also impacted upon previous records of *Jorunna tomentosa* (Cuvier, 1804). Neuhaus et al. (2021) notes past observations had come to the familiar conclusion (particularly where nudibranchs are concerned) that *J. tomentosa* displayed considerable morphological variation, although some authors had tentatively suggested recognisable morphotypes which might point to the existence of a previously undescribed taxon. Detailed molecular and morphological study was therefore conducted on a large number of specimens from across a wide geographical range, the outcome being the description of a distinct new species - *Jorunna artsdatabankia* Neuhaus et al., 2021 - alongside the suggestion that *J. tomentosa* is represented by two lineages (named “A” and “B” by the authors) thought to possibly demonstrate a case of incipient speciation. Although the specimens used in the molecular side of the study which formed the new species clade were all from Norwegian sites, the demonstrated ability to recognise the species in the field and from photographs (it is characterised by a uniformly coloured white to yellow dorsum with irregular small brown spots, though for full details readers are referred to the original paper) means it has been recognised from numerous sites in the seas around northern Britain and Ireland, indeed one of the designated paratype specimens is from the northern North Sea off Shetland. The new species is named in honour of a Norwegian government body which supports the study of local biodiversity.

**Fig. 5.** Ventral view of  
*Tornus subcarinatus*.  
Specimen from Anglesey.  
Photo: Alan Rowat.



Aside from the activity of a core of workers the majority of data is now received principally via online sources. The “Groups” side of Facebook is very active and as well as having its own presence ([facebook.com/groups/british.marine.mollusca/](https://facebook.com/groups/british.marine.mollusca/)) the marine recording scheme works and interacts with numerous others. By this means it is possible to assist with determinations and glean useful, accurate data for the Society’s marine dataset, some of which may otherwise simply go unrecorded (such as the *Rapana venosa* record above). Many more generalist marine workers are also happy to share their molluscan observations, such as Allan Rowat and Ann Wake in Anglesey, who have contributed several notable records and whose online photographic and video posts help to broaden the documented knowledge base of some species. For example, during 2021 they posted some very useful images of live specimens of *Tornus subcarinatus* (Montagu, 1803) (**Fig. 5**) and *Dikoleps nitens* (Philippi, 1844).

iRecord has become a very significant online portal through which the Society is able to verify reported observations and the add them to its dataset. Each year several thousand records are imported into the dataset. Huge thanks are due to Ian Smith who devotes significant efforts to not only simply verifying records (i.e. confirming that all details - primarily the species identification and spatial reference - are correct) but also providing detailed feedback to field workers to help build their identification skills (N.B. Ian has been publishing more of his excellent species accounts which are

made openly available online through at <https://www.researchgate.net/profile/Ian-Smith-40/research>). A recent development has been the inclusion of records reported via a similar online facility - iNaturalist - on the same verification facility as iRecord. This is still very much at the bedding-in stage: while it has the potential to add a significant number of records to the marine dataset, many are of the commoner species often encountered while beachcombing the strandline (rather more so than on iRecord) and often just of worn shells. That said, some expert workers are adopting iNaturalist; for example, Bernard Picton posted a photographic record of the rarely encountered solenogaster *Rhopalomenia aglaopheniae* (Kowalevsky & Marion, 1887) (Fig. 6).



**Fig. 6.** A “classic” view of the solenogaster *Rhopalomenia aglaopheniae*.  
Photo: Bernard Picton.

The aforementioned core workers continue to survey and submit records. David McKay has been prolific as always and has contributed records of some rarely encountered deep-water species such as *Anatoma aspera* and the velutinid *Calyptoconcha pellucida* (A. E. Verrill, 1880). Adrian Brokenshire provided extensive lists compiled from analysis of West Country beach grit samples. Also in the south-west, Bas Payne continues to survey and to progress his work on various groups, notably cockles and patellid limpets. On the latter subject, many will have seen the excellent article in British Wildlife magazine by long-time specialist Stephen Hawkins and co-workers (Hawkins et al., 2021) which provides much background and source information on the biology of the three larger intertidal species in Britain and Ireland - *Patella vulgata* L., 1758; *P. ulyssiponensis* Gmelin, 1791; and *P. depressa* Pennant, 1777 – and hints at the future publication of a book on limpets. The Society actively monitors the distribution limits of the latter two species, present and historic.

The Society’s 2021 field activities included a week in Pembrokeshire (Taylor, 2022) which through systematic surveying of caves in shoreline cliffs generated numerous new records for *Paludinella globularis* (Hanley in Thorpe, 1844) and *Otina ovata* (T. Brown, 1827). Liaison that week with the Marine Biological Association also enabled participation in the Darwin Tree of Life project through provision of specimens of numerous targeted species for DNA sequencing. Fieldwork in West Solent and the Pagham area (Willing, 2022) produced further records of the extreme eastern distribution of *Phorcus lineatus* (da Costa, 1778) while my own field studies expanded the known live range of the rock-boring bivalve *Barnea parva* (Pennant, 1777) from Kent into the southern North Sea at Harwich, Essex.

Mention must again be made of the continued efforts of volunteer data digitisers Brian Goodwin, Andrew Wright and Val Marshall who have again converted huge amounts of paper-based data into digital format which can then be imported into the Society's Recorder 6 database and then shared openly via NBN Atlas. Their efforts, for which they are again sincerely thanked, have significantly decreased the pile of hard-copy record cards and assorted other documents, many of which formed the basis of the various atlases produced by Dennis Seaward in the 1980s and 1990s but, in the modern era of digital rather than census area mapping, have lost their relevance until accurately digitised and plotted. With the help of this small group of volunteers digitising historic data, as well as the ongoing recording activity submitting new data to the Society, its marine dataset has grown by over 53% since 2013 and at the time of writing contains 201,754 taxon observations.

If any members hold paper-based records which could be usefully added to the Society's dataset then they are encouraged to contact the Marine Recorder to arrange transfer, either of the originals or scans (originals can subsequently be transferred to the Society's archive to be retained in perpetuity). It was very welcome to recently receive a large bundle of records from Christine Street, resulting from her numerous travels in the Scottish islands during which she always explored the shore and collected shell grit samples for later analysis. All those so far provided have been digitised and we look forward to receiving many more in due course.

(((Brokenshire Natica tailpiece)))

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