

## Non-Marine Recorder's Report 2020

17 March 2021

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Thanks to our many indefatigable contributors the Society received a very large number of interesting new records despite a heavily disrupted year. Travel and meetings were subject to some level of restriction throughout almost the whole period since the last report in February 2020 (Rowson, 2020). Most fieldwork, including Society field meetings, had to be cancelled, and many recorders were unable to roam as widely as usual.

Some made up for this by searching locally, or more extensively during the less restricted periods in the summer; others by entering additional old records or research during the extra time spent at home. The nationwide correspondence between members via email, phone, Zoom and Facebook (through which Ian Smith has directed valuable records and even new members) has of course been vital. It also allowed us to deal with a few other issues.

Climatically, 2020 was another mild year and, according to the Met Office, once again warmer, wetter, and sunnier (especially in Spring) than the long-term average. There was a popular conception that wildlife benefited from lockdowns in the short-term (e.g. Watts, 2020; Arora *et al.*, 2020). Mollusc populations were probably relatively little influenced, though any effects of changes in habitat or water management caused by restrictions in 2020 may take some time to be noticed.

### New data received

At the time of writing (17 March 2021), just over 17,000 new records had been received and readied for import into the Recorder 6 database. Over 10,000 (60%) were received or entered directly, mainly from experienced contributors, and represented over 180 mollusc species from over 80 vice-counties.

The remaining 6,700 (40%) were accepted via iRecord with input dates between 1 January and 31 December 2020. These represented fewer, often commoner species (150) but more vice-counties (over 100), many coming from more 'casual' mollusc recorders.

In total over 150 new records were received from Northern Ireland, from Roy Anderson and via iRecord. Nearly 900 were received from the Republic of Ireland, mainly from Evelyn Moorkens including the Killarney National Park Survey (Moorkens & Killeen, 2021). Copies of other recent Irish datasets were exchanged with Roy and Evelyn, as per the Society's data sharing agreement. This brings the Recorder 6 database up to date for Ireland, and helped improve the maps in the freshwater snails guide (see below).

Perhaps the most extreme examples of recording under confinement were Matt Law's finds of *Paralaoma servilis* and *Zonitoides arboreus* (the latter a new VC record) from the balcony of a flat in Bristol (Topley, 2020) and indoor records such as John Fleming's of *Limacus flavus* from Stroud. Many recorded molluscs in their gardens via iRecord, like Jim Logan in Kirkudbrightshire (Logan, 2020). New member Jane Thomas submitted over 700 records, via iRecord, from regular visits to St. Nicks/St. Nicholas' Fields in central York, including a new VC record of *Ambigolimax nyctelius* (from which she studied the eggs, embryos, and – in March 2021 – hatchlings).

The lockdowns allowed some the opportunity to revisit older datasets. Chris du Feu generously took on the task of retrieving and then digitising over 1500 paper records made by the late Rev. Graham E. H. Long (see Chatfield, 2021). Graham, who died in September 2020, had contacted Chris while

unwell. The records come mainly from North and South Hampshire (VCs 11 and 12) and considerably exceed the 300 records of Graham's that were already held by the Society. They cover a period from the 1970s to the 2000s, including a few earlier records from other contributors. We all know that there are additional records like this locked up in paper formats and collections, so it is excellent to have members like Chris willing to tackle them. Not only that, but Chris submitted a further 3000 records of his own this year, mainly of slugs in Nottinghamshire (VC56) over the period 2000-2020.



**Desktop recording: Chris du Feu digitising records from the late Graham Long's notebooks.**

A further 1800 records came from a whopping effort by Adrian Sumner to extract data from dozens of sources in the 19<sup>th</sup> and 20<sup>th</sup>-century literature for south-east Scotland. Some of these are impossible to map, like a 16<sup>th</sup> century account of *Margaritifera* in the Lothians, but he has been able to give the majority grid references. They include several records not in the Scheme, including some of rarities such as *Truncatellina cylindrica*, *Helicigona lapicida* and *Dreissena polymorpha* as well as chance introductions like *Papillifera bidens* and *Helix pomatia*. Adrian even unearthed a record of *Ena montana* from Salisbury Crags, Midlothian (VC83) in a general natural history work. After discussion we decided not to map this record, which we suspect was probably misidentified, but have included the more plausible *P. bidens* and *H. pomatia* records. (An additional old Scottish record of *Assiminea grayana* is discussed below).

The true, current distribution of *Ena montana* is the focus of efforts in the south (Alexander, 2020). This year, 181 *E. montana* records were received from John Fleming from woodlands in East Gloucestershire (VC33), 48 from Tom Walker for woodlands in Oxfordshire (VC23); two more were received from Graham Long for North Hampshire (VC12) and one from Simon Taylor for North Essex (VC19). Of particular interest are John and Tom's efforts to note precise locations and associated tree species, and also to report formerly occupied sites where no live animals were found. The Society's database of course makes the crucial distinction between live records and "shell only" ones, although this is not yet shown on the NBN Atlas.

The Thames Ram's-horn *Gyraulus acronicus* is another species Tom searched widely for, this time in Berkshire (VC22). Dead, and old-looking shells were found at several sites, but no live specimens were found. Harry Powell and myself had the same experience looking for the species in Oxfordshire (VC23). A grand total of 8 records of *G. acronicus* were made this year, all of them of dead shells; though Tom found one shell looking considerably fresher than the others. I entered a further 72 old records from the literature, but we are concerned that no live record of this species has been verified since Ian Killeen's surveys in in 2003 and 2010, even at sites where it was common in the early 2000s. The introduced Signal Crayfish *Pacifastacus leniusculus* may be partly responsible. This native snail clearly needs urgent investigation and a thorough survey, ideally with the Society's involvement, to determine whether or not it still lives in Britain. This situation strikes me as an ideal application for eDNA techniques if they can be developed – though sadly I was unable to amplify DNA from some of Ian's specimens collected in 2003.

This species and others were studied as part of the "Brought to the Surface" project to produce a new guide to freshwater snails of Britain and Ireland (Rowson et al., in press). Harry Powell deserves particular thanks for his help on fieldwork (when permitted) and other aspects of the project throughout the first two lockdowns. Martin Willing was especially diligent in checking outlying records of rarer species, and in supplying a large amount of previously unpublished data from survey reports and other sources. All were added to the species maps for the books while some of the more detailed data formed the basis of his paper on *Mercuria* (Willing, 2020a) and *Semisalsa stagnorum* (Willing & Rowson, 2020). Martin, the other members of the team and I are very grateful to the many Society members who contributed to the Brought to the Surface project, especially during its latter stages during lockdown. The only other species that we failed to obtain alive was *Marstoniopsis insubrica*. This has not been reliably recorded alive by anyone since Roy Baker and Derek Howlett in 2008. We hope that publication of the book in early 2021 will stimulate searches for *G. acronicus*, *M. insubrica* and the other less commonly-recorded species. Such species can be rare locally, rather than nationally – Adrian Sumner's identification of *Radix auricularia* from a shell collected in Edinburgh in 2011 is one of very few recent records of it from Scotland.

I entered a further 1000 records from fieldwork and enquiries, the remaining records from the NMW for our project on slugs (2011-2014), and from the literature or reports sent by Martin. I also went through my old shell collection for records, a few made while a student in Fife in 2000 using my first snail guide, Tony Wardhaugh's "Shire Natural History" book (Wardhaugh, 1989). Tony is of course still a keen recorder, submitting over 250 records from North-east Yorkshire (VC62) and Durham (VC66) in 2020.

### Notable new records

In total 18 new VC records were noted in 2020. Five were from the Republic of Ireland, all for South Kerry (VCH1), as reported by Moorkens & Killeen (2021): ***Arion fasciatus***, ***Hygromia cinctella***, ***Physella acuta***, ***Acroloxus lacustris***, and ***Planorbis carinatus***. The first three are non-native, spreading species. The Society's dataset (e.g. as seen from the maps in Rowson et al., in press) suggests that ***A. lacustris*** and ***P. carinatus*** are increasingly recorded in parts of northern and western Britain, a trend that might also apply in Ireland.

A further 13 new VC records were noted from England, Wales, Scotland and Northern Ireland. Five of these concerned slugs or semi-slugs: ***Ambigolimax nyctelius***, St. Nicks, York, North-east Yorkshire (VC62), 23/9/2020, Jane Thomas (conf. Roy Anderson & Ben Rowson); ***Arion owenii***, Bishop's Park, Abergwili, Carmarthenshire (VC44), 14/10/2020, Ben Rowson & Tim Rayner; ***Selenochlamys ysbrda***, allotments, Delapre, Northampton, Northamptonshire (VC32), 8/11/2020, Lisa Rowley; and

***Daudebardia rufa***, banks of River Ogwen, near Bangor, Caernarvonshire (VC49), 30/12/2020, Thomas Hughes & Annie Northfield.

The finding of the spreading *A. nyctelius*, *A. owenii*, and *S. ysbryda* in new regions is notable, but not unexpected. A record-breaking 33 verified records of *S. ysbryda* have been received since January 2020, meaning there are now over 300 in total. Much more surprising was a second appearance of *D. rufa* in Wales (first posted by its finder on Facebook). *Daudebardia* has not been reported elsewhere in Britain since being discovered by Chris Owen in a conifer plantation near Caerphilly, Glamorgan (VC41) in 2015 (Owen et al., 2016). The Caerphilly population is clearly *D. rufa*, as later confirmed by a DNA-barcoded specimen matching a *D. rufa* sequence from Germany. The Bangor animals were found living among flood debris and oak, beech and sycamore litter on loamy soil in a river valley. The site is surrounded by ancient broadleaved woodland with the nearest conifer plantation is a few miles upriver. Thomas kindly sent a specimen whose shell was checked carefully against Museum specimens of *D. rufa* from Caerphilly and continental localities, and those of the very similar *D. brevipes* (the soft bodies of the two being almost indistinguishable). Finding it difficult to be certain I sent shell photos to Marco Neiber (Hamburg, Germany) and Louis Bronne and colleagues (Belgium) for their opinion. The replies were mixed! Some think it may be *D. brevipes*, others *D. rufa*; nor could we agree on the identification of older shells in the collection. It may be that these two semislugs are not always possible to distinguish from shells. Thus both British populations are considered *D. rufa* unless DNA evidence proves otherwise. This genus is so characteristic that, despite its small size, I doubt it has widely overlooked in Britain in the past and is probably an accidental introduction. It is curious that both known sites are in Wales, but being so far apart it is still possible they result from separate introductions.



***Daudebardia rufa* from near Bangor, Caernarvonshire (VC49). (Photo: Thomas Hughes).**

Perhaps due to wet autumn weather, 2020 also saw records of our longer-established earthworm hunters, *Testacella*. Records were sent in of all four species: *T. maugei* from East Gloucestershire

(VC33) by John Fleming; *T. haliotidea* from North Essex (VC19) by Maria Frenliffe (conf. Simon Taylor), and East Suffolk (VC25) by Robert Pritchett; and *T. scutulum* from South Hampshire (VC11) by Chris Gleed-Owen. Robert and Chris's specimens were both dissected and the latter seems to represent the rarer, true form of *T. scutulum* as described from Lambeth by G. B. Sowerby I. Meanwhile over on iRecord, a photo posted by Andy Marquis from Guernsey, Channel Is. (VC113) seems to show the *T. sp. "tenuipenis"* form. This form seems to be more frequently found than true *T. scutulum*, though there remain only a handful of recent records of each. The Museum has amassed an excellent collection of *Testacella* over the last 10 years but my efforts to amplify DNA barcodes from them are sadly rather hit-and-miss – compared to other pulmonates, a high proportion of specimens do not yield a PCR band or sequence. As scientists monotonously say, more research is needed.

Seven other new VC records concerned snails: ***Physella gyrina***, Tully Castle, Lough Erne, Co. Fermanagh (VCH33), 1/9/2020, Roy Anderson; ***Balea perversa*** (s.s.), walls of Tully Castle, Lough Erne, Co. Fermanagh (VCH33), 1/9/2020, Roy Anderson; ***Hygromia limbata*** (single empty shell), Starr Gate, South Shore, Blackpool, West Lancashire (VC60), 11/6/2020, Craig & Carl Ruscoe; ***Zonitoides arboreus***, pot plants on balcony, Hotwells, Bristol, West Gloucestershire (VC34), 12/5/2020, Matt Law; ***Zonitoides excavatus***, West Wood, Crichton Glen SSSI, Midlothian (VC83), 11/7/2020, Adrian Sumner; ***Oxyloma sarsii***, Hensol Castle, Glamorgan (VC41), 22/9/2020, Ben Rowson; ***Assiminea grayana***, Brora, East Sutherland (VC107), W. Baillie.

The *B. perversa* and *Z. excavatus* records are unusual in being new reports of native species in well-studied areas. The others are spreading species, *H. limbata* being an alien that has spread remarkably slowly compared to the now widespread *H. cinctella*. The Blackpool record requires further confirmation, being based on a single empty shell, but is at least an indication that the species could occur in VC60.

It is difficult to know whether to categorise *Oxyloma sarsii* at Hensol Castle as native or not. I have observed this population (by bike) repeatedly in recent years. The animals have a large, elongate shell and dark body and on dissection are very like *O. sarsii* collected in the Norfolk and Suffolk Broads. At Hensol the animals live very near the waterline, both above and below a sluiced dam that separates a large canalised millpond full of waterlilies from a very wet alder swamp. There has been some confusion about the true distribution of *O. sarsii* versus the widespread *O. elegans*, for which the Society's dataset was corrected last year (Rowson, 2020). A few records shown by NBN in Scotland and Wales were evidently entered by other organisations under the older, incorrect synonymy of the name *O. elegans*. The organisations have been contacted to try to resolve this. As far as is known the only other anatomically verified records of *O. sarsii* are from East Anglia, and since 2004, central and western Ireland (Long *et al.*, 2015). Two Hensol individuals were DNA barcoded, but there are as yet no public sequences of *O. sarsii* (or *O. elegans*) with which to compare them. If members have populations of suspect *O. sarsii* in other outlying areas I would be happy to dissect and potentially barcode them. As barcoding initiatives such as the Darwin Tree of Life project, Brought to the Surface, and others continue to characterise British molluscs, checking identities will become easier.



***Oxyloma sarsii* from Hensol Castle, Glamorgan (VC41).**

The known range of *Assiminea grayana* has been expanding markedly in recent decades and appears to be spreading. While curating the freshwater snails at the National Museum of Wales I came across a specimen of *A. grayana* in the J. T. Marshall collection (NMW.1953.183) purportedly from Brora, East Sutherland (VC 107). Sankurie Pye kindly checked the collection and database at the National Museums of Scotland, but found no equivalent material. There are no other records from Scotland's east coast, and indeed when *A. grayana* was found living at Caerlaverock, Dumfriesshire (VC72) in 2011 it was considered the first record for Scotland (Boyce & Hill, 2012). It has subsequently been recorded from several sites nearby.

The old Brora specimen is correctly identified and does not seem to contain an operculum, but nor is it badly worn. The label from the top of the pill box bears both the species and locality name in the same handwriting, which appears to be in a nineteenth-century style. On the bottom of the box "Byne ex Baillie" has been added by J. R. le B. Tomlin, who dealt with much of the Marshall collection before it came to the Museum in 1953. It is difficult to know how seriously to take the provenance of an old specimen like this. I asked Adrian Sumner of course, who directed me to his article on William Baillie, a schoolteacher active in conchology at Brora in the 1880s (Sumner, 2018). Baillie's publications from 1882 to 1889 mainly concern a series of deliberate attempts to "colonize" Brora with a total of 15 freshwater and terrestrial snail and slug species he felt were lacking from the district. Baillie also collected small species from fishing gear and fish stomachs, many of them identified by J. G. Jeffreys (Anon, 1893). According to Sumner (2018), at least four of Baillie's introduced species are still present in the area today, the others having failed to establish or survive. Adrian confirms that there is little supratidal estuary mud (the typical habitat for *A. grayana*) at Brora, which lies on a predominantly sandy and stony coast, making a natural occurrence of *Assiminea* there unlikely. It seems equally possible instead that *Assiminea* was instead another of Baillie's attempts at "colonization". Baillie (1884; 1887) obtained his live colonisers from as far afield as Llandudno (*Cochlicella acuta*) and Normandy (*Clausilia parvula*; probably actually *C. bidentata*). So

it would easily have been possible for him to source live *Assiminea*. The unsuitable habitat might explain why an introduction would have failed. We may never know the full truth of this, but the old record may be of interest if *A. grayana* is found in eastern Scotland in future.



*Assiminea grayana* with pill box labels from Brora (ex Baillie), in the National Museum of Wales.

Finally, two new VC records concerned introduced bivalves: *Corbicula fluminea*, River Ouse near Barcombe, East Sussex (VC14), Dave Bangs (conf. Martin Willing) and *Rangia cuneata*, Port Talbot Docks, Glamorgan (VC41), 29/11/2020, Ben & Rhian Rowson (conf. Martin Willing).

Neither of these is good news. The Asian Clam *C. fluminea* is an infamous invader of river systems and Sussex is a well-recorded county, so it was presumably absent until relatively recently. Since it was first detected in 1998, the species has spread to many VCs in southern Britain and in Ireland.

The Atlantic Rangia or Gulf Wedge Clam *Rangia cuneata* is part of a longer and stranger story. The condensed version is that I visited Port Talbot in an attempt to find out whether *Corbicula*, reported at the site in 2006 and 2011, was still living in the freshwater basins or not. It is suspected of having been killed off by a salt water ingress in 2005, before was first noticed at the site. Martin has full details of the story, which appears to be correct. In November 2020, large numbers of apparently long dead shells of *C. fluminea* were spotted among stones in the clear, shallow basin of the docks near the Wales Coastal Path. Remarkably, scattered among the *Corbicula* were five *Spisula*-like specimens (three paired valves and two others) in a similar state of preservation. Their identity as *R. cuneata* was confirmed by the finely serrated lateral teeth, by comparison with other specimens, and by Martin from a photograph. This is only the second British population of *Rangia*, a species first discovered in 2015 in South Lincolnshire (VC53) where it is thought to have been present since at least 2009 and possibly earlier (Willing, 2015; 2020b). The *Rangia* in Port Talbot appear, on the face of it, to have been killed off by the same 2005 salt influx that killed off the *Corbicula*. If so, the timing of their arrival bears comparison with those in Lincolnshire, and even with the first European record from the Netherlands in 2005 (Verween et al., 2006).



***Rangia cuneata* from Port Talbot Docks, Glamorgan (VC41).**

### Corrections and other issues

The welcome influx of data can make it a challenge to remain on top of longer-term goals for the Recording Scheme. Both are important so that we keep the data updated for members and other users of our data. Data queries answered this year included those from Buglife, the University of East Anglia, the London Natural History Society, and the Biological Records Centre. In each case the critical thing is the access to our data on the NBN.

Subfossil and non-fossil datasets are kept separate in the Recorder 6 database, but this was not indicated on NBN until this year when we more clearly partitioned the two for the first time. This should allow for better analysis and avoid misunderstandings concerning certain rare species in future. Our datasets on NBN have now all been renamed to include “Conchological Society of Great Britain & Ireland” so that the origin of our records is now clearer to all NBN users. I am grateful to Sophia Ratcliffe of the NBN Trust for her assistance with these issues.

There are always a few corrections to attend to. Earlier records of *Tandonia budapestensis* from Scilly were brought to my attention by Peter Topley, and were confirmed by David Holyoak from the unpublished records of Geraldine Holyoak. This species was in fact first noted on St. Mary’s by Stella Turk in 2001, and by June Chatfield in 2004 (Holyoak et al., 2005), but had not been submitted to the Society’s database; these records and others have now been added. I also corrected a number of early records of *Selenochlamys* that had been input with scrambled dates in 2010 (the earliest record of this species was in 2004, not 2000 as implied). Please keep me informed of any other mistakes noticed via the NBN, and of any important omissions.

The limits of the Non-marine Recording Scheme, both in theory and in practice, are affected by a perennial quandary. There are a handful each of aquatic molluscs tolerant of mild salinity and occasionally found with marine species (e.g. *Potamopyrgus antipodarum*, *Peringia ulvae*, *Rangia cuneata*), and of freshwater or terrestrial species found only in maritime places (e.g. *Onchidella celtica*, *Assiminea grayana*, *Leucophytia bidentata*). As well as determining what could be expected to live at a site, this affects which appear in checklists, atlases or identification guides, and also which appear in different datasets on iRecord (for verification purposes) and Recorder 6 (in which the Society’s two main datasets are held and sent to NBN). With the help of Chris Raper at the UK Species Inventory and Martin Harvey at iRecord, Ian Smith, Simon Taylor, Roy Anderson and I made some progress towards resolving this year by ensuring inappropriate habitat tags are removed from



various lists. Simon and I have planned that in future years, all records of the following taxa on the non-marine checklist be dealt with by the Marine Scheme: Assimineidae, Truncatellidae, Ellobiidae, Otinidae, Onchidiidae, and Hydrobiidae other than *Mercuria* (note that *Potamopyrgus* and *Semisalsa* are no longer classified in Hydrobiidae). This should not affect anyone submitting records, since Simon and I will pass them to one another as required. It will not be the end of the affair, but is a step in the right direction.

Checklists themselves require updating every few years. Our standard reference has been Roy Anderson's list, published in the *Journal of Conchology* (Anderson, 2005) and in a revised form online following various comments (Anderson, 2008). Roy has been working on an updated version ever since, and in September he approached me for comments and additions. After comments from Dietrich Kadolsky we published the list online on the Society's website, and in a revised form after further comments from Richard Preece, Fred Naggs and Tom White. This online publication can be cited as Anderson & Rowson (2020), and is accompanied on the website by an Excel version which indicates the changes since 2008. The 2020 list includes 20 additions, virtually all of which are non-native or hothouse species, and 27 changes of genus based on recent taxonomic revisions by others (which are not always in agreement with one another!). There are currently no plans to publish the list in a journal, which would not allow for future updates to be made as easily. These changes always take time to get used to, but as is as important as ever, help keep our recording up-to-date in an international context. At the time of writing, we have just heard of yet another freshwater taxon to add to the British list, showing how our lists have to continue to evolve.

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