

# Conservation Officer – Annual Report 2017

version 5.4.2018

## CONSERVATION & RECORDING COMMITTEE (CRC).

In my last Officer Report (Mollusc World 45: 22 – 27) I described the remit and membership of the newly re-formed CRC. I also outlined the business undertaken by this committee at its first meeting, held in Cardiff in November 2016. In November 2017 the committee held its second all-day meeting in Cambridge on the day preceding the Society's regional meeting, both being hosted in the Cambridge University Museum of Zoology. As well as the ten founder members (Robert Cameron, Ian Killeen, Evelyn Moorkens, Adrian Norris, Bas Payne, Mary Seddon, Adrian Sumner, Simon Taylor, Peter Topley, Martin Willing), the committee welcomed three additions these being Keith Alexander, Julia Nunn and Ben Rowson, each bringing valuable additional skills and expertise. It is a measure of the commitment of Committee members that they all attended the 2017 meeting helping to advance many ideas and initiatives. A series of issues were discussed, and this report provides a summary and in places a discussion, of some of the key topics.

Image suggestion 1: CRC members in Cambridge

### 1. Marine Issues.

- a. **Presentation of marine records:** To provide a generalised picture of regional distribution the Conchological Society (CS) has used the Watsonian vice-county system to provide a broad picture of non-marine species occurrence within the 153 vice-counties in Britain and Ireland. This has proved useful in reporting new records and in showing species spread and decline in a rather general way and has for many years, provided the basis for the Non-marine recorder's report. Vice-counties were not, however, used in the two non-marine Atlases (Kerney 1976, 1999) which display distribution on the basis of 10km grid squares as dots. For many years the Society employed a superficially similar scheme by plotting the broad pattern of marine molluscan distribution by sea areas. Thus, the first sea area atlas (Seaward 1982) used 42 sea areas with the successor marine distribution publication (Seaward 1990) expanding its range to use 53 covering much of north-west Europe. After due discussion the committee decided that marine dot-mapping alone would continue and that there would not be any return to the use of the sea areas to display broad distribution patterns (this is essentially the formal re-confirmation of an earlier Marine Recorder decision). The CS will continue to accept marine records with either grid references (for shore locations) or lat./long. coordinates the latter being converted into dot locations by Recorder 6.

Image suggestion 2: A diagram using a selected species showing one of the sea areas in Seaward 1990 compared to an equivalent dot distribution

- b. **'Capturing our Coast' & other similar projects:** Several shore-based 'citizen science' projects have developed to encourage people to record intertidal marine organisms. These include 'Capturing our Coast' ( <https://www.capturingourcoast.co.uk/> ), 'Shore Thing' ( [http://www.mba.ac.uk/shore\\_thing/about.html](http://www.mba.ac.uk/shore_thing/about.html) ) and 'Shore Search' (a County Wildlife Trust's initiative run on a county-by-county basis by individual trusts with a shoreline see: <https://www.wildlifetrusts.org/events/2013/07/28/shore-search>). The CS has not taken any formal part in the development of any of these initiatives nor has it yet been asked for any help

or advice. Julia Nunn, Simon Taylor and Martin Willing will endeavour to find out more about these projects, which all involve the recording of a range of marine molluscan species. When we understand more about their operation then we may wish to consider becoming a partner organisation to the latter two one to offer help and advice (or both!). The HLF-funded 'Capturing our Coast' ends in August 2018 so it will now be too late for the Society to become involved. Although the CS appreciates the value of such schemes in encouraging people to take an active interest in the marine environment it is also aware that such projects can generate a considerable amount of useful but also questionable data. The main problem arises if such data finds its way, unchecked by reliable experts, onto important data bases such as NBN.

**Image suggestion 3: the 'front page' from one of these initiatives**

- c. **Digitisation of Marine Records:** Simon Taylor announced that about 165,000 recent marine records had been digitised and transferred to Recorder 6, but at least as many card records (mostly for pre-2000) remained to be processed. There was discussion as to how this should be achieved; by volunteer effort or a commercial route; a matter to be further considered by Council in 2018.
  
- d. **Marine Recording in Ireland:** Julia Nunn summarised marine recording activity in Ireland. In Northern Ireland it was reported that there was little amateur recording although records were being gathered through the sub-littoral diving-based 'Seasearch' project with results, together with those from 'Shore Thing', pass through a process of regional and then national validation before they are shared via the NBN Atlas. Additional records were generated by commercial and governmental work. Julia checks all marine records that come to the country's Centre for Environmental Data and Recording (CEDaR). Little is known about marine recording in the Republic of Ireland, most of which is assumed to be professionally gathered. Julia's personal records from around the Irish coast will all be copied to Marine Recorder and go as spreadsheets to CEDaR and a 'back-up' data set data provided to the Marine Recorder on the understanding that they are not yet transferred to NBN.

**Image suggestion 4: a dive image from Seasearch**

## **2. Non-marine Issues**

- a. **Transfer of Non-marine Recorder Duties:** Adrian Norris explained that he would like, after many years of hard work, to step down from the role of Hon. Non-marine Recorder. It was also announced that, with Adrian's support, Ben Rowson (National Museum of Wales [NMW]) had agreed to stand for the post. Subject to acceptance of this proposal by the CS Council and then the normal AGM voting procedures (April 2018) Ben would then take on the post. CS non-marine data, currently held by Adrian on his personal computer, would then be transferred to the NMW in Cardiff for safe storage on their mainframe systems. Continued re-licenced use of Recorder 6 is also planned. Adrian was unanimously and enthusiastically thanked by CRC for his tremendous hard work and dedication over a 10-year period. Assuming successful election, Ben will not be working alone. The non-marine recorder tasks are now increasingly wide-ranging and demanding. To make the post much more manageable and appealing it is planned to establish a non-marine recorder 'support team'. A dedicated group of experienced members have agreed to assist in a variety of ways depending upon their experience and expertise (e.g. record validation). In November 2017 support team volunteers included Keith Alexander, Robert

Cameron, Ron Carr, Chris du Feu, Ian Killeen, Evelyn Moorkens, Peter Topley, Adrian Sumner and Martin Willing. Adrian Norris will continue as a recorder for Yorkshire, act in a special advisory role and pursue his personal interest as an iRecord verifier.

**Image suggestion 5: view of the NMW**

- b. Trial verification Tool:** One of the 2016 CRC targets was the development of a simple verification tool to assist those CS members and others (e.g. recorders at Bioblitz events or submitting records to iRecord) to undertake simple ID checks (with consideration to habitat type, geographical location, photographic evidence, requirement for dissection, look-a-like species and the necessity for expert confirmation to see if a determination was realistic. In 2017 Martin Willing and Ian Killeen produced a draft verification tool covering freshwater gastropods. Following an initial review and feedback, the first tool will be placed on the Society website (when relaunched in early 2018) for comment. Further tools will be developed to cover other non-marine groups starting with freshwater bivalves and later land snails and slugs.
  
- c. Freshwater Gastropod Identification:** A proposal had been made to Council that the CS (working together with other partner organisations) might support the development of a freshwater gastropod ID leaflet (like the already produced land snail guide; Naggs *et al* 2014). Unlike the situation for land snails, freshwater bivalves and slugs, there is currently no freshwater gastropod ID guide available and so there is an urgent need to develop such a resource. It was felt that in the absence of a supporting book, a pull-out leaflet based solely upon images would not be able to deal with a number of important issues. These include the need for dissection as well as current taxonomic uncertainty regarding certain families such as the Lymnaeids and Planorbids; future updates, and changes in such areas might mean that a photo-guide would be rapidly outdated. The CRC also learnt that Ben Rowson had been approached by the FSC to produce a freshwater gastropod AIDGAP type guide. CRC felt that Council might wish to support such a proposal and that this might be a suitable first step to address the freshwater gastropod recording vacuum. The later need for an ID sheet might be re-considered following the book's production. At the time of the CRC meeting Ben was exploring the possibility that the NMW would seek HLF funding to support the initiative. CRC would take a recommendation to Council that the Society offers support for the production this proposed new guide.
  
- d. Non-marine in Ireland:** Evelyn Moorkens reported on procedures, key news and issues for the whole of Ireland. It is estimated that there are about 80,000 non-marine records in the Irish non-marine data base. Low numbers of records are submitted, which are dealt with by Roy Anderson and Evelyn Moorkens for Northern Ireland and the Republic respectively. All submitted records are placed into 'quarantine' until suitably verified at which stage those accepted go to the National Biodiversity Data Centre with copies going to the CS non-marine recorder for addition to the Society data base. Work on two conservation projects for protected species were noted these being the captive breeding of freshwater pearl mussel *Margaritifera margaritifera* and translocation of the Kerry slug *Geomalacus maculosus*.

**Image suggestion 6: Shots of *Margaritifera margaritifera* captive breeding**

### **3. National Biodiversity Network (NBN) Issues**

It was reported that NBN Gateway (a valuable resource used by many CS members) was being replaced by NBN Atlas. The new Atlas is based upon the Atlas of Living Australia infrastructure which

had substantial investment from the Australian Government. Discussions on the change from Gateway to Atlas are ongoing and when better understood it is hoped that an article will appear in Mollusc World describing and explaining the changes. Despite the positive value of NBN the CS understands some data / data sets contain questionable or obviously incorrect records (not sourced from the CS). Such 'problem records' are most obvious for rare and protected species where knowledge of true distribution is well known due to frequent surveys and monitoring. It was suggested that a pilot 'clean-up' be undertaken by members of the CRC to identify rogue and suspect records, which might then either be removed or more helpfully be 'flagged up' as either erroneous or suspect. Helpfully the NBN Atlas now has the functionality to display the verification status of records e.g. 'accepted-correct', 'unconfirmed-plausible', 'unconfirmed-unreviewed' etc. Following a suggestion made at the 2016 CRC meeting (but deferred due to the GATEWAY > ATLAS changes) Martin Willing, Ian Killeen and Evelyn Moorkens would investigate suspect records of a small pilot selection of suitable non-marine species (with well-known distribution) such as *Vertigo moulinsiana*, *V. geyeri*, *Anisus vorticulus*, *Pseudanodonta complanata* and *Valvata macrostoma*; MJW would also liaise with Paula Lightfoot to choose a similar number of well-studied marine candidate species for similar scrutiny by the Marine Recorder.

#### **4. Updating Red Lists**

Mary Seddon (Chair, IUCN SSC Mollusc Specialist Group) reported that the updated IUCN European Red List was nearing completion at either a regional or global level and that in total about 3,500 species had been assessed. It was reported that in early 2018 the UK and Irish records would be available to view and then reviewed using this new resource. This might allow the CS to then look at how to create partnerships with conservation agencies to plan and carry out conservation actions for the most threatened species (in addition to those on the EU Habitats Directive). It is hoped that a short article might be produced to describe these Red List outcomes in more detail in a future edition of Mollusc World.

#### **5. Recorder 6**

The Recorder 6 package is not only used by the CS for marine and non-marine recording but also by many individual members. It was therefore with some concern that the committee was reminded in of JNCC's withdrawal of support for the package. Apparently, this was first suggested in 2013 and is now confirmed with support ending in March 2018. Reassuringly it was reported that Michael Weideli believed that the package would continue to get support from another source. Further details will be reported when available.

#### **6. Conservation Projects**

The first two all-day meetings of the CRC had chiefly focussed on pressing issues relating to recording. It was now felt that the CS needed to try to develop some specific conservation projects possibly linked to work on individual species. As well as inviting individual members of CRC to suggest specific project ideas the possibility of working in partnership with other organisations such as Buglife was considered (a Buglife representative would be invited to attend the 2018 CRC meeting). Further conservation proposals included (1) the addition of molluscan conservation advice items onto the website, (2) providing summaries of molluscan conservation-related academic papers into Mollusc World and (3) a workshop to train members on the numerous and complex conservation regulations.

## 7. Social Media

Evelyn Moorkens suggested that the CS should set up a Facebook page and it was suggested that she take a proposal to Council.

## 8. iRECORD

Members were reminded that, although various individuals are happy to act as iRecord verifiers, the CS has no obligation or responsibility to provide services for this initiative. Before any iRecord derived records are accepted by the Society they need to undergo the same level of scrutiny as all other submitted records with verification undertaken by a CS 'approved' expert. Both Adrian Norris and Simon Taylor are happy to continue dealing with iRecord non-marine and marine records respectively.

## THE GULF WEDGE CLAM *RANGIA CUNEATA* – FURTHER DEVELOPMENTS

I introduced the CS's involvement with the invasive bivalve *Rangia cuneata* in my last report (MW 45: 24). I reported that tissue snips from 25 Lincolnshire specimens had been sent off to Russia (together with other European samples from Belgium, the Netherlands, Poland, Russia and three sites from the Gulf and eastern coasts of the USA). Samples were sequenced to allow analysis of mitochondrial cytochrome oxidase [COI] gene fragments. The results were returned in 2017. It is not appropriate to give a full summary of results here as most of the data is being incorporated into one or more papers for completion in 2018. It is, however, possible to give some general conclusions. Thus, it seems that:

- a) haplotype (similar COI gene fragments) similarities between all the European populations suggests that they came from a common source;
- b) that there is some overlap between the samples from the USA and Europe;
- c) the presence in Europe of haplotypes not yet located in the few American samples suggests that the location of the source or sources has yet to be identified.

A full presentation of *Rangia* biology and these results was given at the Euromal conference held in Kraków 10 – 14 September 2017.

*Rangia* has spread rapidly across northern Europe in little over 10 years with populations now discovered in nine countries stretching across a 2,000 km range extending from Lincolnshire in England to Estonia – all in all quite an achievement for a sub-tropical bivalve originating in the Gulf of Mexico!

One of the keys to fully understanding *Rangia* colonisation is to know when they arrived at sites (rather than simply when they were discovered). This might at least be partially achieved by being able to age shells. In autumn 2017 a sample of 5 fresh *Rangia* shells from Lincolnshire were sent to the School of Ocean Sciences at Bangor University where they were processed to see if shell sectioning to study 'growth lines' (sclerochronology) would be viable. Trial results were encouraging and showed a range of ages for the specimens. Late in 2017 Dr. Phil Hollyman from Bangor had formulated an MSc proposal which it is hoped will allow a *Rangia* aging study to be undertaken in 2018 using shell material from across Europe and with shells sourced by way of CS contacts with continental workers.

**Image suggestion 7: either *Rangia* distribution map or shot of sectioned shell**

## **eDNA DEVELOPMENT FOR *ANISUS VORTICULUS* SURVEY – PROGRESS**

My last officer report also described the launch of a project to develop a technique to survey for the rare *Anisus vorticulus* using eDNA (environmental-DNA: see web-link below). This earlier account explained the numerous advantages that would arise from the successful development of the technique (e.g. allowing the economical and rapid survey of the Pevensy Levels and Broads, vast areas not previously surveyed for the snail by slow, difficult and expensive traditional methods). 2017 continued with further laboratory work undertaken at Brighton University to develop functional gene markers and probes. In late April 2017 a Lower Tidal Arun Strategy (LTAS) meeting was held at RSPB Pulborough Brooks integrating the eDNA project with other work being undertaken on *A. vorticulus* in the Arun valley and elsewhere in Sussex. A series of presentations included an outline background ecology of the snail, the eDNA project and the HLF supported *A. vorticulus* 'Back from the Brink' (investigating ditch management strategies for the snail). All talks were linked to the LTAS which is designed to assess the impacts of sea level rise the environment of the tidal Arun valley and many of its threatened species such as *A. vorticulus*.

In 2018 it is planned to obtain *A. vorticulus* from elsewhere in Britain and Europe to study any genetic variability that might exist across the species' range. It is then hoped that the project might embark upon field-based trials to determine if the technique allows accurate detection of the snail. For a simplified account of the general use of eDNA to detect freshwater organisms please visit:

<https://www.gov.uk/government/publications/developing-dna-techniques-to-identify-freshwater-invertebrates-for-environmental-monitoring>

Image suggestion 8: members attending the eDNA / LTAS meeting

## **FIELD STUDIES COUNCIL (FSC) BIOLINKS PROJECT**

Early in 2017 the CS were contacted by the FSC to thank us for our input (late in 2016) into the BioLinks consultation. In July 2017 we also learnt that the initiative had successfully gained HLF backing. The BioLinks project, which starts in 2018, aims to deliver an extensive training project covering invertebrate species identification in two regions: South East England (London and Berkshire) and the West Midlands (Shropshire and Worcestershire). In a nutshell, the project will run for 5 years and deliver 300 invertebrate training courses, some of which will focus on non-marine molluscs. More information about the project can be found on their webpage: <http://www.field-studies-council.org/about/fsc-projects/current-projects/biolinks.aspx>

One of the CRC tasks in 2018 will be to study details of the project to see how we might assist in the development of strategy and overall course content. As course tutors will be paid the Society needs to carefully consider how it can become involved to ensure that courses are of high quality and act to promote the aims of the Society. Discussions with Keiron Brown, the FSC BioLinks Project Manager, indicate that he is keen to involve the CS so that the project raises awareness of the Society's major role in non-marine recording in Britain and Ireland. He wishes to take advice from us on what is and is not appropriate on any molluscan courses whilst fully appreciating our charitable status.

## **BRITISH WILDLIFE**

Two molluscan 'Wildlife Reports' were published during 2017 (*British Wildlife* **28:4** 291 – 293; **28:6**

445 – 447). As in previous years these were able to cover a range of molluscan news, issues and discussions, partly drawing upon and discussing the Society's non-marine and marine reports as well as a selection of reports and papers from *Mollusc World* and *The Journal of Conchology*. Additionally, in August 2017, about half of the extended report was devoted to publicising the availability of Conchological Society's research grants. The CS is keen to encourage more project applications from amateurs, 'citizen scientists' and local conservation groups based in Britain or Ireland. To give people a rough idea of the type of proposal that might be considered several marine and non-marine project examples were included. Disappointingly the publicity only resulted in one enquiry.

## ASSOCIATIONS WITH OTHER ORGANISATIONS

The Conchological Society has active associations with many other conservation organisations. The main ones are **Buglife, Invertebrate Link\*** (to which an annual report was sent in March 2017 consisting of an amalgamation of the two recorders' report together with that of the Conservation Officer), and the **Wildlife Trusts** (by way of membership of the Conservation Committee of the Sussex Wildlife Trust). In relation to the Trust's Biological Records Centre I have been able to include an annual report to **Adastra**, the annual review of wildlife recording in the county ([www.sxbrc.org.uk](http://www.sxbrc.org.uk)). For 2017 this summarised 20 years of surveys and monitoring work of *Anisus vorticulus* at Amberley Wild Brooks and Pulborough Brooks, the two sites that make up the Arun Valley SAC established to protect the snail. Additionally, the Conservation Officer is a member of the **Arun & Rother Rivers Trust** (ARRT); this provides numerous opportunities to become involved in river catchment discussions where molluscan assessments and conservation issues are of relevance.

\* Invertebrate Link: further information @ [www.royensoc.co.uk/InvLink/Index.html](http://www.royensoc.co.uk/InvLink/Index.html)

Image suggestion 9: front page of *Adastra* showing *Anisus vorticulus*

### References:

Kerney, M.P. 1976. Atlas of the Non-marine Mollusca of the British Isles. Conchological Society of Great Britain and Ireland / Natural Environment Research Council (Institute of Terrestrial Ecology).

Kerney, M.P. 1999. Atlas of the Land & Freshwater Molluscs of Britain and Ireland. Harley Books.

Naggs, F, Preece, R.C. Anderson, R. A. Peiris, Taylor, H. and White, T. An Illustrated guide to the land snails of the British Isles. Joint Conchological Society / Malacological Society Publication, SRP Ltd, Exeter.

Seaward, D.R. 1982. Sea Area Atlas of the Marine Molluscs of Britain and Ireland. Nature Conservancy Council. Shrewsbury.

Seaward, D.R. 1990. Distribution of the marine molluscs of north west Europe. Nature Conservancy Council. Shrewsbury.

M.J. Willing (March 2018)