

Cladocera News

The Newsletter of the Cladocera Interest Group

Editorial ... Adrian Chalkley & Hannah Robson

Welcome to the issue one. Since we sent out the first notices about setting up the group we have heard the same comments over and over again: Is there an up to date key? What is the current state of knowledge? Which species are rare and which are common? Why is it so difficult to find current information about Cladocera? We hope this newsletter may be a way to answer at least some of these questions, though the answers will depend on you, the members.

It has taken us quite a while to gather information and collate it into this newsletter. We have contacted a lot of people and many organisations and the purpose of this first newsletter is mostly to inform you about what we have found out, to suggest a way forward and to explain why now is actually a really good time to try to get something done and to push for more Cladocera studies in England. Of course, this too will depend on the members of the Cladocera Interest Group to spread the word. We will also need members to get into the field not only to record but to send both those records and their field observations in for newsletter number 2. However, much more about these things in the rest of this edition which also includes a list of members' details to aid communication within the group and a suggested update to the British Species List which we hope members will freely comment on.

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Contact Us ... Adrian Chalkley

Whilst setting up our website I took the opportunity to provide the following easily remembered email addresses for the group:

admin@cladocera.org.uk sends to both Hannah & Adrian

website@cladocera.org.uk to Adrian for website messages

adrian.chalkley@cladocera.org.uk for mail to Adrian

hannah.robson@cladocera.org.uk for mail to Hannah

Please send all records or articles for the second edition of the newsletter to the admin@cladocera.org.uk address.

Send photos, articles or documents for the website to the website@cladocera.org.uk address.

Closing date for the second issue of Cladocera News is 1st October 2011 Text contributions are preferred in Word format although other formats can usually be translated. Graphics should be in .jpg, .gif or .tiff format.

A Summary Of Responses To Date ... Hannah Robson & Adrian Chalkley

We have received 26 replies to our initial announcement on the BES-Ecol Aquatic list-server and subsequent postings in various other newsgroups. To date we have also been in communication with the FBA, CEH, NBN, BRC, NHM, Buglife and the Queckett Microscopical Club amongst others. A list of individual members appears later on in this document and

below is a summary of what we have learnt from these organisations.

Firstly it was clear from the response of the NBN, BRC and CEH that there are relatively few records of the cladocera on their system and very few are being sent in. Many of the existing ...

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.... records are very old and will need careful scrutiny against an up to date species list to deal with taxonomic changes and the possible previous use of synonyms. The BRC realises that the old RA31 record card is out of date but they very quickly put the existing card onto their website to download for the time being. http://www.brc.ac.uk/record_cards.asp They have asked if we will provide an updated species list so that they can then design and print a new card. An interim list is included at the end of the newsletter, please check it through and send in any comments and suggestions.

The FBA responded quickly and have included our announcement in the latest FBA News. This has already brought in some new members. The FBA say they have no members of staff currently working on water fleas but revealed that a new key is 'currently in preparation' though 'it will not be out soon'. We have asked to be put in contact with the potential author of the new key but are still waiting to find out who this is.

Miranda Lowe, Senior Curator of Crustacea at the NHM told us that "I'm currently trying to update this part of the crustacea collection prompted by the donation of a cladoceran collection from Europe and more internationally collected over 50 years

by Prof. Vladimir Korinek (Prague). I'm working with Prof. Korinek to create webpages with data etc. to his great donated collection." She added that the NHM crustacean data is now being cleaned for eventual migration to their collections management system. This should mean that the data could be easily searched for British species records in the collections should anyone want to refer to original specimens. This is all potentially good news for the future. She put us in touch with Dr Geoff Boxshall who has accepted a copy of our proposed species list to comment on.

Dr Helen Roy at the NBN and Bjorn Beckmann of the BRC and CEH both indicated in their responses that they would like to have records submitted by the Cladocera Interest Group and thought that setting up a recording scheme for Cladocera would be the best way forward, more on this later.

It seems then that with a potential revised FBA key, with the NBN and BRC keen for a recording scheme and with the NHM both reviving work on their collections and hosting an important European collection the time is certainly right to establish our group and try to revive water flea recording in the British Isles.

Available Keys And Other Identification Aids ... *Hannah Robson & Adrian Chalkley*

With no new FBA key available for some time, we have tried to establish what is available right now and if any readers spot something we have missed then please do let us know. Many members routinely work on water fleas and need no guidance from us, however for those who are just starting to get to grips with the group the following will be very helpful.

A Key to the British Species of Freshwater Cladocera, with Notes on their Ecology *D.J. Scourfield & J.P. Harding* Third edition, 1966 (reprinted 1994), 61pp. ISBN 978-0900386-01-5 Freshwater Biological Association ... £10

Still available: <http://www.fba.org.uk/scientific-publications> Although obviously very old it is still useable but it is worth referring to the species list & notes at the end of this newsletter to ensure the correct species names are used.

A key to the freshwater cladocerans of France and the neighbouring countries of western Europe, 'Crustacés cladocères' *Claude Amoros* Société Linnéenne de Lyon Tome 53 (1984) n°3-4 ... Free

This key is slightly more up to date, but again refer to the

species list. It is in French but the meaning of each couplet is very clear, the drawings are very good and best of all it is free to download as a pdf. There is a link to download it on the identification page of our website www.cladocera.org.uk

Some additional and up to date data on 71 of the British species are available from the NINA website (Norwegian Institute for Nature Research). This is in the form of posters on each species. Bjørn Walseng from NINA has kindly allowed us to provide these posters free to our members on the downloads page of our website, again as a pdf file.

Using the FBA key in conjunction with Amoros, the NINA posters and the updated species list should allow anyone new to water fleas to get to grips with the order. Hopefully the members details in this edition will allow new recorders to obtain confirmation if needed from more experienced members.

We hope that future newsletters will contain identification tips from members and the useful tip from John Bratton in this edition is just the sort of thing that we need.

The Cladocera Website ... *Adrian Chalkley*

Please visit our website at: www.cladocera.org.uk

Although small at present we hope this will serve to publicise the group and encourage new members to join. Each newsletter will be downloadable from the site and other downloads will also be freely available, including the new species list.

There are pages for members photos and for links to other water flea websites. There will soon be facilities for new members to join the group on line.

We would welcome your photos for the images section or perhaps you have documents which you think would be of use for other members to download. Suggestions of websites for the links page are also needed. If anybody has any hints and tips on sampling waterfleas, on identification or microscope techniques, especially on microphotography, then these would be a very useful addition.

If you wish to make a contribution for use on the site please send the content to website@cladocera.org.uk, preferably as a Word, pdf or image file.

A Cladocera Recording Scheme? ... Adrian Chalkley

The BRC and NBN would clearly like to see the establishment of a new recording scheme to be a by-product of this interest group. It might be more accurate to say the re-establishment of a scheme since a few people have already mentioned to us the original Water Flea Recording Scheme which apparently ran many years ago. Some have said this was run by John Hearne and others that Paul Harding started it. One correspondent remembers seeing a provisional atlas with a blue cover – but cannot remember where or when he saw it! Can anyone throw any light on this first scheme or the atlas? Bjorn Beckmann at the CEH has looked for details of the first scheme but as yet to no avail.

So one question remains, do we have enough members who will record water fleas and submit their records in order to run a successful new recording scheme? For the moment at least I am willing to collate records and communicate with the BRC on establishing a scheme but I would like to have an indication as to how many members are likely to be able to start to send in some records this coming season. If you think you will be able to contribute records perhaps you could send me an email and let me know.

If members will support a recording scheme I am also hoping that we can set it up on-line. The Dorset Dragonfly Group has set up such a scheme on a website written by Adrian Bicker. He has very kindly offered us use of his site. Once we finalise an updated species list for Britain he will get this put onto his

site, recorders will then be given a user name and password and will be able to enter their records straight onto the Cladocera database without needing to download software. It takes the same effort as typing records onto a spreadsheet. The real advantage of this method is that each recorder builds up a distribution map for each species in his or her area which can be printed out or copied at any time. All the on line records can be exported into a spreadsheet at any time by the scheme coordinator instead of having to transcribe all records for a second time from a variety of sources.

Certainly this method of setting up a recording scheme is one favoured by the BRC and NBN. However the records entered on line would not go straight to them and would be scrutinised before sending to the NBN. Also anyone who is unable to work on line could still use a more traditional spreadsheet or even the record cards with which many of us started recording with.

Establishing a big enough pool of recorders will take a little time and, for those who have not tackled very much identification, a smaller group of confident recorders may be needed who can be sent specimens for checking.

I would welcome members' comments on the idea of setting up an official recording scheme in this way and also hope for some volunteer identification referees to put their names forward before I get in touch with the BRC / CEH again in a month or so.

Guidelines For Submitting Records

Until such time as an on line recording facility might be setup (or for those who are not internet users) the following guidelines are suggested. (Additional comments are very welcome)

Preferred format: Spreadsheet (e.g. Excel): one record per row,

Essential columns:

1- species name 2- date (dd/mm/yyyy) 3- site name 4- grid ref(XY#####) 5- VC 6- recorder 7- determiner

Extra columns (used whenever possible):

8 - Abundance 9 - Eggs present 10 - Ehippia present 11 - Habitat 12 - Any other data

Alternative format: Word processor file (e.g. Word):

Columns as above with tabs separating columns rather than spaces or punctuation marks. Saved as .rtf or .txt file.

Should We Use 'Common Names' To Popularise The Water Flea? ... Adrian Chalkley

Most members will only be familiar with using the scientific names for water flea species, there seem to be no really common or vernacular names which are in general use within the community, indeed there are many ordinary mortals who have no clear idea what a water flea is at all. But should we invent some descriptive or common names in order to help underline the large variety of Cladocera and to intrigue or interest the general naturalist? The Coleopterists amongst you will be well aware of the multitude of these names which are aimed at doing this job for the beetles. Hence a Whirligig is no longer just a whirligig but could be a Common, Bronze, Shady, Hairy or an Artist Whirligig etc. Many of these are of course descriptive or give hints as to ecology or habitat.

Buglife have a poster promoting the Freshwater Crustacea which includes illustrations of some typical species and for each one they have coined 'common' or descriptive names. Hence we have:

<i>Alona quadrangularis</i>	The Scrambling water flea
<i>Bosmina longirostris</i>	The Long Nosed water flea
<i>Daphnia pulex</i>	The common water flea
<i>Eurycerus lamellatus</i>	The Giant Crawling water flea
<i>Graptoleberis testudinaria</i>	The Gliding water flea
<i>Leptodora kindti</i>	The Invisible water flea
<i>Peracantha truncata</i>	The Crawling water flea
<i>Scapholeberis mucronata</i>	The Meniscus water flea
<i>Simocephalus vetulus</i>	The Small-headed water flea

How many members find *Daphnia pulex* to be the most common species? Or is it just the best known? Does it matter that there will be more than one species to fit the 'Long Nosed' or 'Meniscus' descriptions.

Do you have an opinion on the use of invented common names in ecology? Perhaps having looked over the list you have some inventions of your own which you feel accurately describe cladocera species, if so please send them in.

Diving Ducks and Waterfleas ... Hannah Robson

A primary part of my work at the Wildfowl & Wetlands Trust is to sort and identify freshwater invertebrates from twenty-six Lochs across Northern Scotland, which are (or were) important breeding sites for the diving Duck the Common Scoter (*Melanitta nigra*). In attempting to identify the cause/s of the decline of breeding Common Scoter in the UK, one of our key areas of concern is possible changes in invertebrate food availability. As a result we are now in the third year of sampling invertebrates in our study Lochs, in 5 sampling rounds between April and August, from when the adult ducks first arrive to when the broods fledge.



from the nearest vehicle access point. The six remaining sites are in the West Highlands to the South West of Inverness. These, in contrast to the peaty pools and sandy shored lochs of the Flow Country, are large (some up to around 12km in length), mostly hydro Lochs, with water levels that can vary dramatically. We are using a variety of sampling techniques, which attempt to mimic the feeding activities of the Ducks. One of these techniques involves sweeping a pond net across the surface of the water, although

Twenty of our study Lochs are in the Flow Country, a vast expanse of beautiful peat bog, just less than 100 miles North of Inverness. Many of these Lochs and Lochans are very remote and seldom visited, except perhaps by very enthusiastic birders or anglers, some take a day to walk to

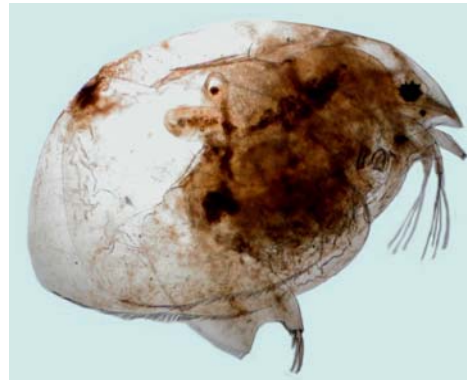
Common Scoters are diving ducks they have been shown to pick material from on or just under the waters surface. These samples in particular are yielding large numbers of waterfleas. Researchers I spoke to in Iceland (where Common Scoters breed in much greater numbers than in the UK) believe that Cladocera are a particularly important source of food for the young ducklings.

So what species of Cladocera am I finding?

Species	Abundance / Location in Scoter Study	NBN records
<i>Eurycercus lamellatus</i> (O. F. Müller, 1776)	Common – Found in both the Flow Country and West Highland Lochs	Limited records, North Wales and Yorkshire
<i>Leptodora kindtii</i> (Focke, 1844)	Frequent – Found only in the Flow country Lochs	Yorkshire, a site just south of Manchester, North Wales and a single site in Southern Wales
<i>Bythotrephes longimanus</i> Leydig, 1860	Frequent – Found predominantly in the Flow Country & from a single Loch in the west Highlands	North Wales
<i>Daphnia hyalina</i> Leydig, 1860	Abundant – Found in 15 out of 26 study Lochs in both the Flow Country and West Highlands	Records scattered throughout Wales, Cumbria and East Anglia
<i>Daphnia ambigua</i> Scourfield, 1946		No distribution map available
<i>Acantholeberis curvirostris</i> (O. F. Müller, 1776)	Occasional – In Flow Country Lochs only so far.	North and West Wales and a single record from Norfolk
<i>Latona setifera</i> (O. F. Müller, 1776)	Rare - 1 specimen from a Flow Country Loch.	Few records from Cumbria and North Wales



Acantholeberis curvirostris



Eurycercus lamellatus

How to Find *Chydorus ovalis* ... John Bratton

Take a largish specimen tube, a 30 ml Sterilin tube for example, hold it horizontally and press it into saturated *Sphagnum* moss so that it fills in a few seconds with the interstitial water. If you hold it up to the light and can see chydorids swimming around, they are very likely to be *Chydorus ovalis* Kurz. (Do check the setae on the antennule, as *C. sphaericus* can also be found in *Sphagnum*.)

This procedure has produced *C. ovalis* from lowland Anglesey (fen pools and small *Sphagnum*-choked pools in woodland) as well as *Sphagnum* lawns in the Snowdonia uplands. I claim no

credit for this method: it is described by Geoffrey Fryer (1984). But it deserves to be better known because it works so well.

Reference

Fryer, G. 1984. The ecology and distribution of *Chydorus ovalis* (Cladocera: Anomopoda) and its relevance to the recent history of the southern Pennines. *The Naturalist*, **109**: 97-102.

John Bratton

8 New Street, Menai Bridge, Anglesey, LL59 5HN

jhnbratton@yahoo.co.uk

List of Members

We have limited the contact details of members to the inclusion of email addresses, these will only be available on the website by downloading this newsletter – they will never be included as text on the site for Spam-Bots to harvest. If you

have any colleagues who you feel would be interested then please invite them to join. We have tried to include details as given in your emails but apologise for any inaccuracies, especially missing titles, which will be corrected next issue.

Member	email	Based in	Organisation
Adrian Chalkley	admin@cladocera.org.uk	Suffolk	Suffolk Naturalists' Society
Hannah Robson	admin@cladocera.org.uk	Gloucestershire / Scotland	Wildfowl & Wetland Trust
Prof Steve Ormerod	ormerod@cardiff.ac.uk	Cardiff	School of Biosciences Cardiff University
Prof Alan Hildrew	a.hildrew@qmul.ac.uk	London	Queen Mary University of London
Elvira de Eyto	elvira.deeyto@marine.ie	Newport County Mayo	Marine Institute, Ireland
Ken Irvine	kirvine@tcd.ie	Ireland	
Steve Brooks	S.Brooks@nhm.ac.uk	London	Natural History Museum London
Dr Carl Sayer	c.sayer@ucl.ac.uk	London	University College London
Dr Jenny Horne	j.horne@Apemtd.co.uk	Stockport	APEM Consultancy
Dr Catherine A. Duigan	c.duigan@ccw.gov.uk	Bangor	Countryside Commission of Wales
Gunn, Iain D.M.	idmg@ceh.ac.uk	Midlothian	The Centre for Ecology & Hydrology
Dr Geoff Hilton	geoff.hilton@wwt.org.uk	Slimbridge Gloucestershire	Wildfowl & Wetland Trust
Dr Baz Hughes	baz.hughes@wwt.org.uk	Slimbridge Gloucestershire	Wildfowl & Wetland Trust
Vicky Kindemba	vicky.kindemba@buglife.org.uk	Peterborough	Buglife
Malcolm Storey	Contact details on his website at: www.bioimages.org.uk	Southern England	
Phyl King	contact via admin@cladocera.org.uk	Herefordshire	
Marion Barlow	marionbarlow@btinternet.com		
Melanie Fletcher	MFletcher@fba.org.uk	Windermere	FBA
Miranda Lowe	m.lowe@nhm.ac.uk	London	NHM London
Geoff Boxshall	g.boxshall@nhm.ac.uk	London	NHM London
John Bratton	jhnbratton@yahoo.co.uk	Anglesey	
Craig MacAdam	Craig.MacAdam@Buglife.org.uk	Scotland	Buglife
Graham Matthews	graham@gpmatthews.nildram.co.uk	London	Queckett Microscopical Club
Robert Aquilina	robert.aquilina@btopenworld.com	Bournemouth	Aquilina-Environmental
Jim Green	jgreen711@btinternet.com		
Steve Thackeray	sjtr@ceh.ac.uk	Lancaster	Centre for Ecology and Hydrology
Leon Stone	lstone@anglianwater.co.uk	Cambridgeshire	Anglian Water
Dr Ian M Strachan	imstrachan55@gmail.com	Inverness	Scottish Natural Heritage, (though soon to retire)
Richard Chadd	richard.chadd@environment-agency.co.uk	Lincolnshire	Environment Agency

A Proposed Update To The British Species List

(An early version of the updated species list was originally appended to the newsletter at this point as a separate document so that it might be printed by itself if needed and removed from the newsletter once the final version was produced. The final species list has now been finished and is available to download from cladocera.org.uk, so the provisional list has been removed from this, the download version of this newsletter)

Photo Gallery



Alona quadrangularis (Müller, 1785)
Warnham Local Nature Reserve, Horsham

Photos donated by Graham Matthews
Hon. Secretary
The Quekett Microscopical Club

Simocephalus sp.
Warnham Local Nature Reserve, Horsham



Contributions for Cladocera News

Please send copy for the next edition by October 1st to the editors Hannah Robson and Adrian Chalkley at either of
admin@cladocera.org.uk hannah.robson@cladocera.org.uk adrian.chalkley@cladocera.org.uk