

Ilyocryptus acutifrons rediscovered after 60 years

Ilyocryptus acutifrons Sars 1862, a rare cladoceran crustacean, has been recorded in Over Water for the first time since 1955. The FBA made the interesting discovery during a sampling project in this northern Lake District tarn. An article on this discovery as well as methods employed in the survey were included in the last *FBA News*. In addition, the last Cladocera Interest Group Newsletter have included this article from page 20, with added identification tips. The article entitled as '*Ilyocryptus acutifrons* rediscovered after 60 years' is available here: http://www.boxvalley.co.uk/nature/cladocera/files/Clad_news_08.pdf

New Chrysophyte dataset

A number of years ago the FBA hosted a phytoplankton workshop (pre-cursor of UKPEG) which concentrated on Chrysophyte identification – Liisa Lepisto from Finland came and led on Identification. Following discussions at the workshop it was felt that an image database of Chrysophytes with basic taxonomic information would be very useful. Visit the FBA data archive to view the 42 images. <http://www.environmentdata.org/clist/eachrysotaxa/none/none>

Visits to FBA

Members of the Science team and the Data and Information team contributed to the University of Cumbria undergraduate fieldtrip with tours and talks on the use of invertebrates for biotic assessment, the Pearl Mussel Ark and the library and collections. The FBA are looking forward to working more closely with the University of Cumbria in the future. The FBA hosted a 4-day field trip of Queen Mary University of London (QMUL) Master students at Windermere for their Lake Ecology module fieldtrip.

2017 FBA Training Course programme

The 2017 FBA Training Course programme is now published. FBA Members will have received a copy with their Winter edition of *FBA News*, or have a look at our Facebook page or www.fba.org.uk. There are a wide range of courses on offer, and if there is anything not listed that you would like to see, please get in touch and let us know (events@fba.org.uk). Why not treat the naturalist in your life to a course, as an alternative Christmas present? Book early to avoid disappointment and get an early bird discount, and don't forget, FBA Members get a generous discount too! <http://www.fba.org.uk/courses>

Online FBA Herbarium is complete!

Over the summer, our volunteer Carmela González Lamas, to listed, repaired and photographed the FBA herbarium. Between September to the second week of December, Carmela tirelessly uploaded all 731 images of the herbarium vascular plants on AEDA, the FBA's digital archive. Each image is accompanied by metadata, including species name, date and place of collection, name of collector, and reference number. The herbarium images can be viewed at http://www.environmentdata.org/archive/fbaia:herb_collection

Another volunteer, Kathryn Champness, is currently listing a box of bryophytes which belonged to John Lund and mostly collected at Wray Castle in the 1930s and 1940s. Once the list of the FBA herbarium is complete, it will be sent to the Botanical Society of the British Isles (BSBI). The FBA is extremely grateful to the volunteers who give their time freely to improve the knowledge and access of the FBA collections.

More archives catalogued

Honorary Research Fellow Malcolm Elliott generously gave the original drawings of a number of FBA keys to the FBA collections, as well as PhD theses and books. All have been catalogued and integrated to the library and archives.

Riverfly Partnership Conference

Bill Brierley gave a presentation on the 'Power of freshwater communities' including highlighting John Davy-Bowker's extended scheme as part of Riverfly Plus. The conference was well attended and there were lots of fresh ideas about





how to take Riverfly monitoring to the next level, invigorating subsequent discussions amongst participants. To view the presentations and posters please click on this link. <http://www.riverflies.org/4th-national-riverfly-partnership-conference-presentations-and-posters-available-online>

Bill Brierley also announced the exciting news that FBA are to become the Riverfly Partnership host from April 2017. <http://www.riverflies.org>

Notices

New student member benefit

We now send out fortnightly emails to our student members listing a range of upcoming opportunities from around the world including PhDs, postdocs, jobs, volunteer and internships; networking and presenting opportunities and more! Membership starts from as little as £20.00 for 12 months for students, which includes this benefit and many more! You can join our freshwater community online at <http://membership.fba.org.uk/join-online>

North East and Yorkshire Freshwater Group – INNS meeting

The Group's second annual meeting focused on the topic of invasive non-native species. The 15 December event had a very successful turnout, with approximately 80 attendees including researchers, academics, non-departmental bodies and ecological consultants. Dr Melanie Fletcher from the FBA discussed some work that is being done on *Crassula*, introduced to a mesotrophic tarn in Cumbria in 2010 previously designated as a SSSI due to the macrophytes present within it. The native species *Elatine hexandra* was greatly reduced in areas where *Crassula* had spread. Melanie also invited an open discussion for ways of dealing with *Crassula* within a SSSI without compromising its designation. For a full report of the meeting, see the forthcoming Spring edition of *FBA News*.

Inland Waters, Issue 6.4, now online and open access

This special issue of *Inland Waters* brings together a series of papers generated from the Global Lake Ecology Network. The foundations of GLEON have facilitated network structure, research areas, and the threads that tie the network together. GLEON is underpinned by sophisticated analytical tools and a network of high-frequency in situ observatories that exploit advanced sensors and associated technologies. <https://www.fba.org.uk/journals/index.php/IW/issue/view/130>

Freshwater articles

Seasonal wetlands face uncertain future

A paper published this month in *Global Change Biology* details the threats faced by seasonal wetlands around the world. Many people do not realise how widespread these habitats are, for example half the total river length in the US is made up of sections that have temporary flow. Despite their ephemeral nature such seasonal wetlands are important areas of biodiversity, and contain some unique species adapted for the changing environment. However, poor land management is increasingly putting them under threat.

<http://www.bbc.co.uk/news/science-environment-38091006>

Surprise! Life thrives under ice-covered lakes

Research published this month in *Ecology Letters* details the critical role of plankton in maintaining lake ecosystem health through winter periods. About half of the world's lake freeze over during winter months, but comparatively little is known about what goes on under the ice during these periods.

<http://www.livescience.com/57011-life-blooms-in-ice-covered-lakes.html>

Seventy car-size stingrays die mysteriously

Around 70 giant freshwater stingrays have been found dead in Thailand's Mae Klong River over the last few weeks alarming conservation scientists. As yet the cause of death of the fish, which is listed as endangered on the IUCN's Red list, is a mystery. However, Thai officials have detected some changes in water chemistry pointing to a possible pollution incident.

<http://news.nationalgeographic.com/2016/11/70-giant-stingrays-die-mae-klong-river-thailand/>

A vertical photograph of a waterfall cascading down a rocky, moss-covered cliff. The water is white and frothy as it falls, surrounded by dense green foliage and moss. The background is a dark, forested hillside.

Ancient methane derived carbon in stoneflies

A study published this month in *Nature Communications* details how stoneflies can survive in gravel aquifers underlying floodplains. The researchers found that up to two thirds of the carbon in stonefly biomass came from methane deposited thousands of years ago. The findings advance our understanding of the base energy sources in freshwater ecosystems and underline the importance of river floodplains for maintaining healthy aquatic systems.

<https://www.sciencedaily.com/releases/2016/11/161110155946.htm>

'Flasher' frog found hidden in Australian swamp

A rare species of frog that startles predators by flashing them with a bright orange groin has been discovered in swampland just north of Sydney. Not much bigger than a human fingertip, Mahony's Toadlet was discovered by accident several years ago but the find has only just been made public in the journal *Zootaxa*.

<http://www.bbc.co.uk/news/world-australia-37868024>

Climate change could outpace lake protection

Research published this month in *Environmental Research Letters* details how current modelling approaches used to determine land management policies around Lake Champlain may not be estimating the impact of climate change properly. As a result, regulations established to prevent algal blooms and protect water quality may be inadequate as the region gets hotter and wetter.

<https://www.sciencedaily.com/releases/2016/11/161118130237.htm>

Researchers' quest to identify freshwater fish parasites in Japan

A research project started for fun has resulted in the discovery of a new species to science and two species never recorded in Japan before. The species are all parasite that infect an invasive freshwater fish found on the sub-tropical island of Okinawa, Japan. Scientists are now working to understand the role that these parasites have in the natural system and what this can tell us about ecosystem health. <https://www.sciencedaily.com/releases/2016/11/161125084217.htm>

How land use change affects water quality, aquatic life

Twenty years of land use and water quality data are being used by researchers in South Dakota to understand the impact of land use change on aquatic systems. Over this period 1.4 million acres of grassland have been converted to cropland in the region. It is hoped that the insights from the project will help land managers design strategies that are beneficial to water quality.

<https://www.sciencedaily.com/releases/2016/11/161107160600.htm>

And Finally: The clever way females fend off males with big genitals

Male mosquito fish with bigger genitals are usually better at coercing females to breed. However, researchers have found that females not interested in being coerced have developed larger brains to fight back.

<http://www.livescience.com/56977-female-fish-avoid-pushy-males.html>

Please share this bulletin with freshwater friends and colleagues!