

Freshwater Biological Association

Course Programme 2014



Identification courses from the specialists

Join the specialists and discover freshwater plants and animals. Participate on our training days and learn to identify and understand freshwater life.

The FBA offers a range of courses specially developed for enthusiasts and professionals.

Tutored by some of the top experts in their fields, these courses aim to equip you with the skills and confidence to sample and identify freshwater organisms, and provide you with key field and laboratory experience.

All scientific equipment is provided and participants will use FBA specialist identification keys and guides as well as other relevant literature.

FBA members receive discounts on course fees. Membership starts from as little as £26.00 for a student or £41.00 for an individual. Why not take the opportunity to receive all membership benefits and be eligible for the discounted rate on FBA courses, events and services?

A concessionary rate applies to freshwater recorders and employees of environmental NGOs. Please see website for details.

The FBA has over 75 years of experience in research and education so you can be assured of the best possible level of teaching and quality of information. Except where stated, these courses will take place at one of the FBA's sites with full access to scientific equipment and fieldwork locations.

For further information or to book a course please contact events@fba.org.uk



Course participants identifying invertebrates



FBA laboratory at Windermere, Cumbria



FBA facilities in Cumbria & Dorset

*For membership information and general enquiries please contact:
The Freshwater Biological Association, The Ferry Landing, Far Sawrey, Ambleside, Cumbria.
LA22 0LP, UK.*

Phone: +44 (0)1539 442468; Email: info@fba.org.uk; Web: www.fba.org.uk

The Freshwater Biological Association is a Registered Charity (no 214440) and a Company Limited by Guarantee (no 263162, England) formed in 1929 to promote the study of freshwater biology.

Programme for 2014

Identifying freshwater invertebrates

Date: Tuesday 25 - Wednesday 26 March
Tutor: John Davy-Bowker
Cost: £220; early bird rate £205; FBA member £195
Location: FBA Windermere, Cumbria

This two day course will involve the collection and identification of aquatic invertebrates from both running and stillwater habitats, and will feature sampling methods, bankside sorting and lab-based identification. John Davy-Bowker is the Acting Director of the FBA and a knowledgeable freshwater biologist with considerable research and teaching experience.

*Please note: for those participants undertaking the Manchester Metropolitan University UCert or MSc in Biological Recording, this course counts as half of a ten credit unit towards your qualification.

Identifying larval dragonflies and damselflies

Date: Tuesday 13 - Wednesday 14 May
Tutor: Steve Cham
Cost: £220; early bird rate £205; FBA member £195
Location: FBA Windermere, Cumbria

This two day course focuses on the larval stages and exuviae (skins) of British Odonata. It will include sampling methods, field and laboratory identification, and an overview of dragonfly ecology and life histories. Steve Cham is the organiser of the Dragonfly Recording Network and author of the 'Field guide to the larvae

and exuviae of British dragonflies. Volume 1: Dragonflies' and the recently published 'Field guide to the larvae and exuviae of British dragonflies. Volume 2: Damselflies'.

Identifying macroalgae

Date: Thursday 15 - Friday 16 May
Tutors: Martyn Kelly & Allan Pentecost
Cost: £275; early bird rate £260; FBA member £250
Location: FBA Windermere, Cumbria

A two day course on how to recognise the larger freshwater algae. Field and laboratory-based exercises will introduce participants to the biology and identification of those freshwater algae most likely to be encountered during LEAFPACS and other freshwater surveys. An introduction to the use of macroalgae for rapid assessment will also be included. Martyn Kelly is a freelance consultant, specialising in the use of algae for environmental monitoring. Allan Pentecost, of the FBA, has studied algae for 40 years and has published many research papers and a book on algal ecology and taxonomy.

Entomology for anglers

The entomology for anglers courses are split into three levels, which are designed as a progressive programme, so that participants can build up their knowledge over the different stages. This year we are offering Levels 1, 2 and for the first time, Level 3; a masterclass will be offered in the future.



Entomology for anglers Level 1

Date: Saturday 17 May
Tutors: Stuart Crofts & Andrew Dixon
Cost: £65
Location: FBA Windermere, Cumbria

The purpose of this course is to increase fly-fishers' understanding of entomology, which could make a big difference to their catch. Understanding the life cycle of the flies that are being imitated helps better decisions to be made on what a fish is feeding on, when and where that type of food will be available, and how best to represent that food form. The course will describe certain aspects of the natural fly which can be incorporated into imitations, explain why some flies are more significant than others and why some important flies are often neglected by anglers. It will also involve a field visit to a river site to collect some of the species the fly-fisher encounters. This will be followed by practical advice on how to identify them under the microscope. Anglers Stuart Crofts and Andrew Dixon, have both fished for England at national and international level and have studied entomology for many years.

Entomology for anglers Level 2

Date: Saturday 31 May
Tutors: Stuart Crofts & Andrew Dixon
Cost: £65
Location: FBA Windermere, Cumbria

The Level 2 course progresses a little deeper into the habits of the insects, and explains why anglers only need a small selection of artificials to cover all stages of the invertebrates found. Participants will learn why some patterns work better than others, and be shown how to identify to at least genus-level, the insects anglers need to know about. The course will also show how to get a feel of what species may become available on the day of fishing. The course will be based on a

similar format to Level 1 with Powerpoint presentations, a visit to the stream and a lab session with use of microscopes. The Level 2 course is open to those who have previously attended Level 1.

*For information on Level 3 please see page 6.

Identifying aquatic beetles

Date: Monday 2 - Tuesday 3 June
Tutor: Garth Foster
Cost: £220; early bird rate £205; FBA member £195
Location: FBA Windermere, Cumbria

This two day course will concentrate on the collection and identification of water beetles. The aim of the course is to increase confidence in beetle identification and will include: beetle morphology as used for identification, field survey techniques, the use of identification keys, microscope work, and some aspects of conservation. There will also be the opportunity to try out the Royal Entomological Society British water beetles handbook. Garth Foster is the coordinator for the Aquatic Coleoptera Recording Scheme for Britain and Ireland and has done nothing else for 47 years!

*Please note: for those participants undertaking the Manchester Metropolitan University UCert or MSc in Biological Recording, this course counts as half of a ten credit unit towards your qualification.

Identifying caddis

Date: Wednesday 4 - Thursday 5 June
Tutor: Ian Wallace
Cost: £220; early bird rate £205; FBA member £195
Location: FBA Windermere, Cumbria

Caddis (Trichoptera) are a fascinating and varied group of insects that are used in water quality assessment. Participants will be shown various methods of collecting larvae and at the end of the course they should be able to identify any caddis larva to family and also identify a range of species. Caddis adults are also significant

in fly fishing and for those students who so wish, there will be training in collecting and identifying that life stage. The course is aimed at biologists and naturalists who want to develop their knowledge of this group of insects. Ian Wallace is the national coordinator for the Trichoptera Recording Scheme, author of many guides to caddis including the FBA key to case-bearing caddis, and an Honorary Research Fellow of the FBA.

*Please note: for those participants undertaking the Manchester Metropolitan University UCert or MSc in Biological Recording, this course counts as half of a ten credit unit towards your qualification.

Identifying chironomid larvae

Date: Tuesday 15 - Wednesday 16 July

Tutor: Steve Brooks

Cost: £220; early bird rate £205; FBA member £195

Location: FBA Windermere, Cumbria

There are about 600 species of chironomid midges in Britain. They can be found in all types of freshwater ecosystems, where they are often the most abundant insects. They are also sensitive indicators of environmental change and respond to a wide range of environmental perturbations including eutrophication, acidification, heavy metal pollution and climate change. Chironomid larval head capsules are also well preserved in lake sediments and can also be used to make quantitative reconstructions of palaeoenvironmental change. The larval stage, however, has an unjustified reputation of being difficult to identify. For this reason, in routine biodiversity assessments and environmental impact assessments, identification of chironomid larvae is often not taken beyond family level. As a result, information on an important element of freshwater biodiversity and a key component of ecosystem functioning is lost. This course will comprise a short lecture on chironomid biology, ecology, morphology and

taxonomy followed by a tutored practical on preparation of chironomid samples for microscopical examination and guidance on identification of the larval stage of British and European species using reference slides and identification guides. Course participants will also be encouraged to bring their own chironomid samples and slides for the identification of difficult taxa. Steve Brooks has research interests in freshwater insect ecology and taxonomy and environmental change. His research at the Natural History Museum, London, is currently focussed on Chironomidae where he has pioneered their use as palaeoecological indicators.

The Chironomid Pupal Exuvial Technique (CPET)

Date: Thursday 17 - Friday 18 July

Tutor: Les Ruse

Cost: £220; early bird rate £205; FBA member £195

Location: FBA Windermere, Cumbria

Midges make monitoring manageable! Collecting and identifying chironomid midge pupal exuviae (skins) is easy and rewarding. Chironomid taxa composition and relative abundance are sensitive to physical and chemical change in waterbodies. The collection of floating chironomid pupal exuviae at the leeward shore of standing water bodies, or behind obstructions within flowing water, provides a simple and safe means of obtaining abundant macroinvertebrate data. Using the FBA guide to chironomid pupae assists amateur naturalists, anglers and



professionals to produce inventories of their local waterbodies and in monitoring sites easily. CPET provides a unique method of obtaining representative macroinvertebrate samples, it is particularly suitable for large waterbodies and is independent of the sampler because of its passive derivation. The two-day course will provide training on: sampling chironomid pupal exuviae from waterbodies, laboratory techniques and sample preparation, the morphology of chironomid pupae, identification of chironomid pupae to the level of the Wilson & Ruse FBA Guide and data analyses to assess water quality and Water Framework Directive ecological classification. Les Ruse has been a biologist in the Water Industry for 35 years and is now an Aquatic Ecologist for APEM Limited and a Research Fellow at Roehampton University. He researched the microdistribution and ecology of chironomid larvae in river substrata while under the tutelage of Ronald Wilson at Bristol University.

NEW Entomology for anglers Level 3

Date: Saturday 20 OR Saturday 27 September (TBC)
Tutors: Stuart Crofts & Andrew Dixon
Cost: £65
Location: FBA Windermere, Cumbria

This course continues to build on the knowledge gained from Levels 1 & 2 and is open to those who have previously attended Levels 1 & 2. During the day we continue

to look in greater depth at the actual invertebrate food of the fish and how to progress with identification skills as well as giving more information on putting this into practice on the river bank while you are fishing.

River Invertebrate Prediction And Classification System (RIVPACS)/ River Invertebrate Classification Tool (RICT) bioassessment training

Date: Wednesday 1 - Thursday 2 October
Tutor: John Davy-Bowker
Cost: £350; early bird rate £335; FBA member £325
Location: FBA River Laboratory, Dorset

During this two-day course delegates can expect to gain a thorough theoretical and practical knowledge of the latest version of the RIVPACS/RICT bioassessment tool. Delegates will be able to produce biological assessments to similar standards as used by the regulatory authorities for Water Framework Directive compliance monitoring. The course will provide an introductory background to bioassessment, biotic indices, RIVPACS models and RICT, standardised RIVPACS kick/sweep sampling, collection of time variant environmental predictor variables, principles of standardised laboratory sample processing and enumeration to required taxonomic level(s)*, collection of time invariant environmental predictor



variables, manual calculation of observed biotic index values (examples of major indices currently in use in the UK), introduction to the latest web based RICT software and RIVPACS IV models, preparation of data input files, running RICT in classify, predict and compare modes, interpretation of RICT outputs, quality classes and diagnosis of stress. The course will include a demonstration of use of the RICT software. If you would like to the chance to practice using the software yourself, please bring a laptop. John Davy-Bowker is the Acting Director of the FBA and a knowledgeable freshwater biologist with considerable research and teaching experience, and part of the team continuing to develop the RIVPACS/RICT bioassessment tool.

* Please note: this course does not cover invertebrate identification. Some prior knowledge of river invertebrate sampling and the principles of invertebrate identification would be beneficial.

Freshwater fish: assessment of condition and ageing

Date: Tuesday 14 October
Tutor: Roger Sweeting
Cost: £125; early bird rate £110; FBA member £100
Location: FBA Windermere, Cumbria

This course is aimed at fisheries managers, fishermen and naturalists who want to know more about the fish that they see, catch or handle. Without recourse to dissection or detailed microscopy it is quite staggering how much we can piece together about a fish's well-being and condition, its age and growth, life history and sexual development. This course aims to provide an insight into the ways of observing fish for these purposes. Roger Sweeting has spent many years studying fish health and helping to develop an understanding of how to improve fisheries for Thames Water, the National Rivers Authority (NRA), the Environment Agency and the FBA.

Fish health, parasites and disease

Date: Wednesday 15 October
Tutor: Roger Sweeting
Cost: £125; early bird rate £110; FBA member £100
Location: FBA Windermere, Cumbria

This is an introductory course for people wanting to understand more about the parasites and diseases of freshwater fish. It will include general principles of parasitology, fish physiology and some practical dissection and microscope work. Roger Sweeting has spent many years studying fish health and has a particular interest in fish parasitology.

Invertebrate identification for biotic assessment (including examination)

Date: Tuesday 21 - Thursday 23 October
Tutors: Mike Dobson & Simon Pawley
Cost: £600; early bird rate £585; FBA member £575
Location: FBA Windermere, Cumbria

This three day course covers the identification of the freshwater macroinvertebrate families used for biotic assessment (BMWP, RICT, WHPT etc.). It is aimed at professionals with experience of identification, who wish to consolidate their knowledge. At the end of the course, participants will be examined on their identification skills and, if the required standard is attained, a certificate of achievement in family-level invertebrate identification will be awarded. This course is part of a series of FBA accredited invertebrate identification courses; future courses will allow participants to demonstrate their skills in taking individual groups of invertebrates to species level. Mike Dobson is the former Director of the FBA and now a Principal Consultant for APEM Limited, with extensive experience of teaching invertebrate identification at all levels. Simon Pawley is on the FBA staff and has taught on a range of FBA invertebrate identification courses. Mike and Simon are authors of the

FBA publication SP67 Guide to British Freshwater Macroinvertebrates for Biotic Assessment, a copy of which is included in the course fee for each participant.



Now that the refurbishment work has been completed at the Scottish Centre for Ecology and the Natural Environment (SCENE), we look forward to returning and running courses in the state of the art facilities, in future years.



Bespoke tuition

We can also offer bespoke tuition for some of the courses listed, where dates and venues can be flexible. A range of other training is available (including that listed below), please contact us to discuss details.

Subterranean fauna We are offering tuition in sampling and identification of subterranean (stygobitic) malacostracan crustaceans, covering sampling techniques, morphology and identification of this group of obligatory inhabitants of hypogean habitats which includes boreholes, caves, wells, deep groundwater and the hyporheic.

If you are interested in any of the listed courses, have any ideas for courses that you would like to see included in future programmes or would be interested in tutoring, please contact events@fba.org.uk

While every effort will be made to operate the courses as advertised, it may be necessary to alter or cancel courses due to unforeseen circumstances. Please see booking form for complete terms and conditions. Please note that courses will only run subject to sufficient participant uptake.

Early bird rates apply to fees paid at least eight weeks before the start of the course. Please note that only one discount can be applied at any one time.

Guide to Freshwater Invertebrates

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Price £33.00 plus postage*

25% discount for FBA members:

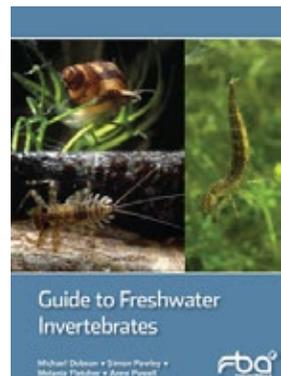
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UK: see website for further details)

Tel: +44 (0) 15394 42468

Email: info@fba.org.uk



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