Ignita

The newsletter of the Ephemeroptera Recording Scheme No. 1 January 2009

Welcome to the first issue of Ignita – the newsletter of the Ephemeroptera Recording Scheme. 2008 was a busy year for the recording scheme with the launch of our adult mayfly survey. A total of 562 specimens were submitted for identification, with submissions from as far afield as Assynt in the north west of Scotland to Devon in the south of England.

29 species have been recorded, with the most common species being *Serratella ignita* (122 records), followed by *Baetis rhodani* (85 records) (see table 1).

1	*Serratella ignita*	122
2	*Baetis rhodani*	85
3	*Rhithrogena semicolorata*	39
4	*Baetis scambus*	36
5	*Leptophlebia marginata*	21

Table 1: Top 5 species recorded

The survey started in March with a fine hatch of *Rhithrogena germanica* from the River Deveron in the north-east of Scotland.

The March brown (*Rhithrogena germanica*)

Specimens were subsequently collected throughout the year, with a peak of 154 specimens submitted in July. The number of specimens tailed off in the autumn, which is expected, however it is really important that you continue to look for mayflies throughout the year. The main aim of this survey is to find out whether flight periods of mayflies are changing so we really need specimens whenever they are hatching from the water – a great excuse for a walk along the river!

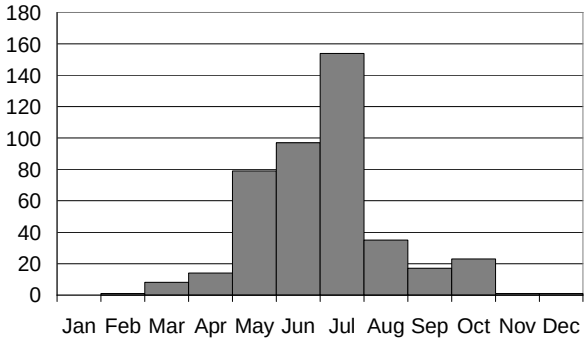


Figure 1: Spread of records through the year

We did have one record submitted in December, which proved to be the last record of the year. Alan Ayre recorded a hatch of *Baetis rhodani* while fishing for Grayling on the River Earn in Perthshire on the 31st December 2008.

Just for a bit of fun our top 5 collectors for 2008 were:

David Pryce	256
Alan Ayre	95
Stuart Crofts	47
Patrick Lloyd	27
Heather Young	21

Do you think you can do better in 2009?

ADULT SURVEY 2009

The 2009 survey of adult Ephemeroptera is now underway with specimens of *Baetis rhodani* already from the River Taff (Colin Chapman) and the River Monnow (Nick Whatton). Both records where made on the 3rd January.

Please continue to send in your specimens. If you would like a batch of tubes let me know and I'll send them on to you. Also, remember that as long as the specimens where collected on the same day, in the same location they can all go into the same tube.

UKBAP Update

Back in 2005 the Ephemeroptera Recording Scheme was asked to make recommendations for mayfly species that might qualify as priority species on the UK Biodiversity Action Plan (UKBAP). The recording scheme submitted 10 species and after much deliberation the new list was published in July 2008. Unfortunately *Heptagenia longicauda* was dropped from the list due to the likelihood of it being extinct in the UK. Two new Ephemeroptera species were added to the list though:

The **Southern iron blue (*Baetis* (*Nigrobaetis*) *niger*)** has suffered a dramatic decline in numbers recently. The Millennium Chalk Streams Fly Trends Study carried out in 2000 reported that in the chalkstreams of southern England the Southern iron blue had suffered a 66% decline in the abundance of adult flies since the 1970s.

The Southern iron blue is a small species with two tails and small oval hindwings. The dun (or sub-imago) has a dark brown body and dull blue-grey wings, whereas the spinner (or imago) has a dark claret brown coloured body in the female and a translucent white body with a dark patch at the tails in the male. In both the male and female the spinner's wings are transparent.

The nymphs or larvae are streamlined, darting nymphs which have a black band across the centre of their tail. They typically crawl amongst weed in riffle areas of rivers and streams or swim in short, darting bursts amongst the substrate. They feed by scraping algae from submerged stones and other structures, or gathering or collecting tiny pieces of organic matter from the bed.

There are typically two generations a year – a slow growing winter generation and a much faster growing summer generation. This results in a fairly long flight period with adults being present between April and October. Recent work on the River Test in Hampshire has found that the fast-growing summer generation is considerably reduced, if not absent.

Southern iron blue (*Baetis* (*Nigrobaetis*) *niger*)

Emergence of the adults is thought to occur at the surface of the water during daylight hours. Males of the Southern iron blue can be found swarming throughout the day and often swarming continues until dusk. Once mated, the female fly either pulls herself under the water surface to lay her eggs directly on a partially submerged stone, or in some cases she will fly to the river and release her eggs in several batches by dipping the end of her body onto the water surface.

Did you know that with an adult life of just five minutes, females of the American burrowing mayfly *Dolania americana* have the shortest adult life of any insect!

The **Yellow mayfly (*Potamanthus luteus*)** is Britain's rarest mayfly. It was once known from the Thames, Usk and Welsh Wye. The yellow mayfly is no longer found in the River Thames and River Usk, and has recently suffered a population crash on the River Wye.

The Yellow mayfly is a large species with three tails and large hindwings. The male dun (or sub-imago) has a dull yellowish-orange body with a distinctive broad yellowish brown stripe along the back of the body. The body is marked with a pair of pale lines and dots on the upper surface of each segment and a single dark dot on the side of each segment. The wings are dull yellow and the cross-veins are a dark reddish colour, particularly at the wing tip. The spinner (or imago) is similar to the dun however the wings are brighter yellow.

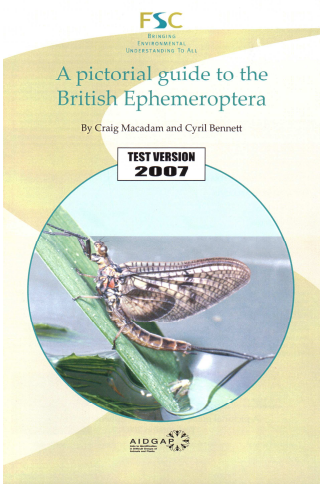
The Yellow mayfly (*Potamanthus luteus*)

The nymphs or larvae are streamlined and have seven pairs of thick, feathery gills that are held at the sides of the body. They typically live in silt trapped amongst stones on the bed of the river and are often found in side channels and pools. They are poor swimmers and they feed by gathering fine particles from the bed. There is one generation a year which overwinters as nymphs and emerges at dusk between May and October. The adults usually emerge from the surface of the water, however the nymphs may also climb up stones or plant stems to emerge partially or entirely out of the water.

NEW KEY NEARING COMPLETION!

The new pictorial key to British Ephemeroptera to be published by the Field Studies Council is nearing completion. Over the summer of 2008 Cyril Bennett was busy hunting down some of the more elusive species to produce images for the key.

The finished key will include simple to use tabular keys, together with detailed factsheets for each species. Cyril's amazing images will accompany many of the species descriptions.



Final changes are being made to the text of the next few months and it is hoped that the key will be available in March or April 2009. Copies will be available directly from the Field Studies Council (www.field-studies-council.org) or from specialist booksellers such as the Natural History Book Service (www.nhbs.co.uk).

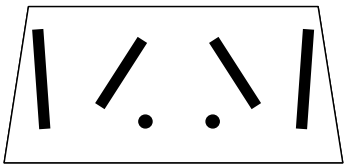
TRAINING COURSES

<u>Identifying freshwater invertebrate (with a specialist mayfly and stonefly day)</u>
Tue 31st March to Wed 1st April 2009
Freshwater Biological Association
University of Glasgow field station
(SCENE) at Loch Lomond
Info: www.fba.org.uk

<u>Identifying stonefly and mayfly nymphs</u>
Fri 15th May to Mon 18th May 2009
Field Studies Council
Preston Montford, Shropshre
Info: www.field-studies-council.org

Ecdyonurus larvae – tips for ID

The identification of *Ecdyonurus* larvae can be difficult even for the experienced. The FBA larval key relies on the shape of the head and pronotum and while with practice (and enough specimens) you can begin to separate out species using these features it is rather subjective. There are however some other features that can be used on **fully mature** larvae. Of course *Ecdyonurus insignis* can be quickly separated by the pattern of dark lines on the pale underside of the body.



Ecdyonurus insignis - markings on the underside of the body

It should be noted that the absence of a tuft of filaments on the last gill of *Ecyonurus insignis* is not always reliable as occasionally there can be a small tuft alongside the plate-like gill.

To separate the other *Ecdyonurus* species we must first look at the markings on their tarsi (feet).

Tarsi with 1 dark band

Ecdyonurus venosus

Tarsi with 2 dark bands

Ecdyonurus dispar or *Ecdyonurus torrentis*

Ecdyonurus dispar and *E. torrentis* can then be separated by the markings on the underside of the body.

Inverse pattern of dots and lines

Ecdyonurus torrentis

Dark line at front of body segment

Ecdyonurus dispar

Upland summer mayfly (*Ameletus inopinatus*)

Have you got a Natural Talent?

Supported by the Heritage Lottery Fund, BTCV Scotland has developed a Natural Talent apprenticeship focusing on Riverflies. The apprenticeship will be based with the River Clyde Foundation in Glasgow and will cover the ecology, distribution and conservation of Riverflies. There will be a number of secondments to other organisations such as the Scottish Environment Protection Agency, Freshwater Biological Association, World Museum Liverpool and the University of Glasgow Zoology Museum.

You don't need any formal qualifications to apply: all that is needed is a commitment to the apprenticeship as well as loads of enthusiasm and motivation.

For more information visit www.btcv.org.uk or contact John McFarlane on 01786 479697

For more information about the Ephemeroptera Recording Scheme or to submit records please contact:

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