Recording Caddis

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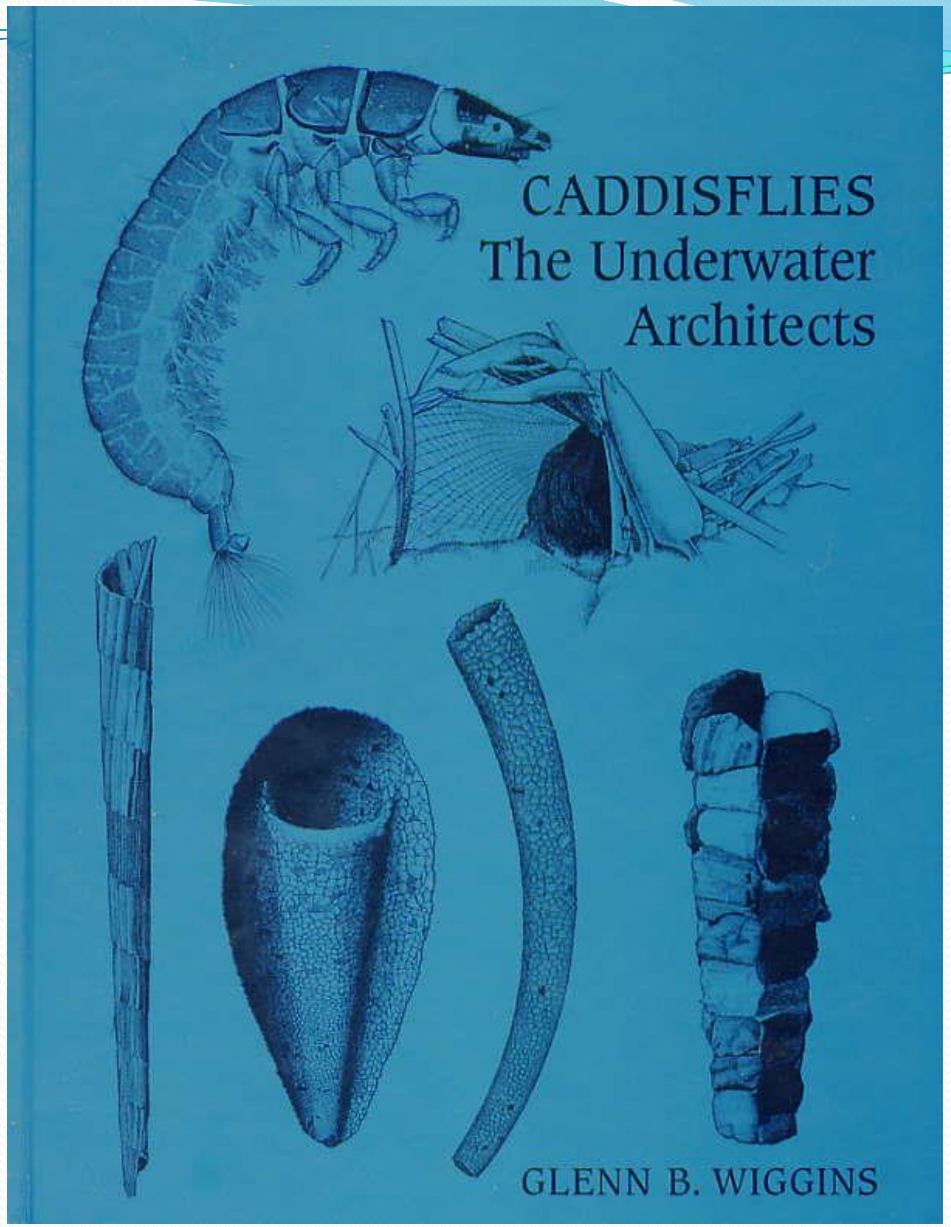
Caddis Recording Scheme & Freshwater Biological Association

How might I persuade you to:- start [or keep on] recording caddis

1. Are they an inherently interesting group?
2. Are they easy to find and collect?
3. Are there a manageable number of species?
4. Are they very difficult to identify?
5. How useful will my records be?
6. Are there local experts to help me?

1. Are they an interesting group?

- Larvae most diverse of all aquatic insect larvae (except for the vastly larger Diptera)
- Use of silk is the key


CADDISFLIES
The Underwater
Architects
GLENN B. WIGGINS

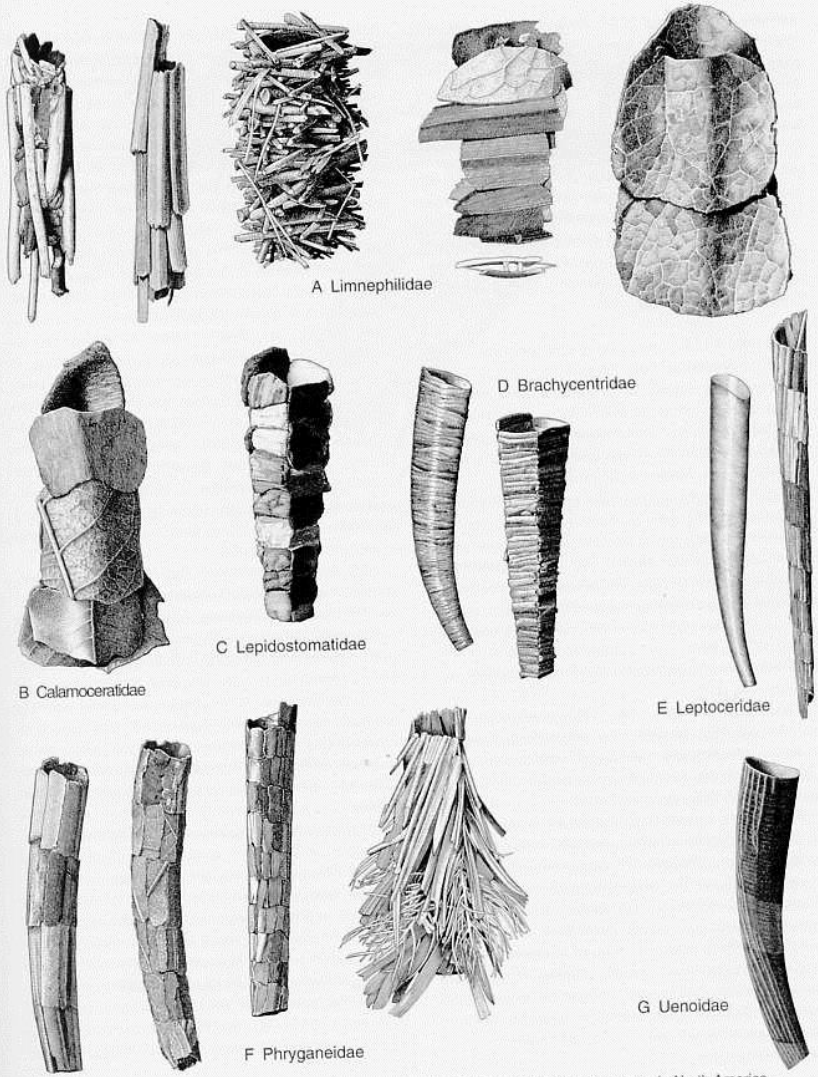


Figure 3. Portable cases constructed mainly of plant materials or of silk alone by caddis larvae in North America.

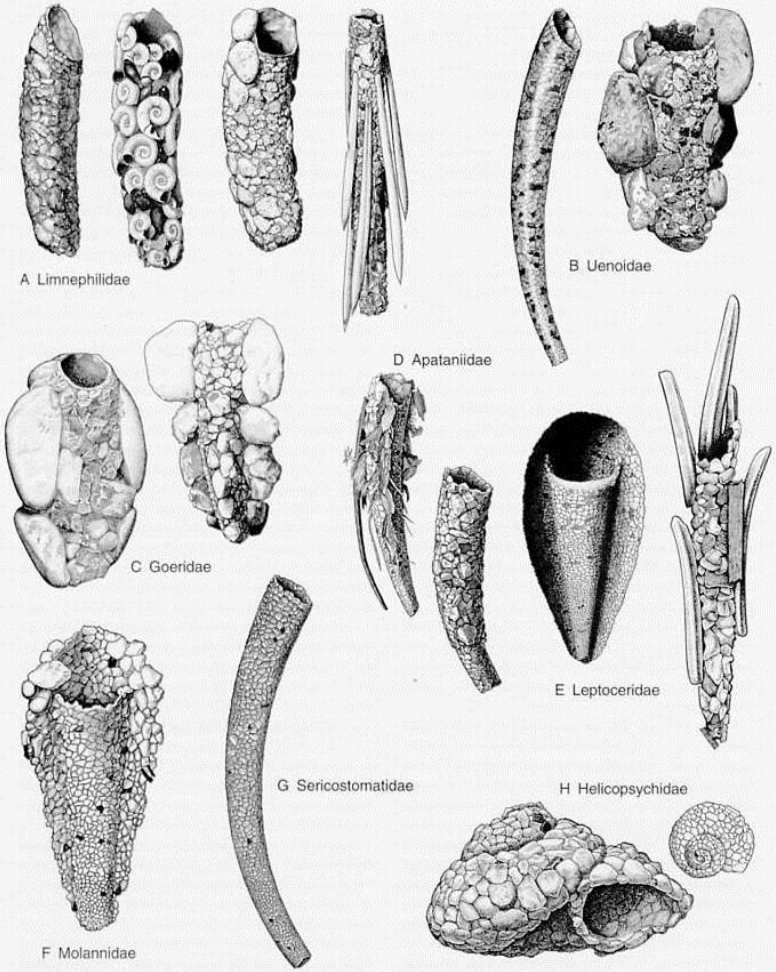
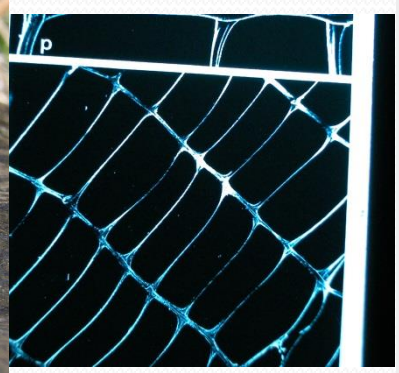
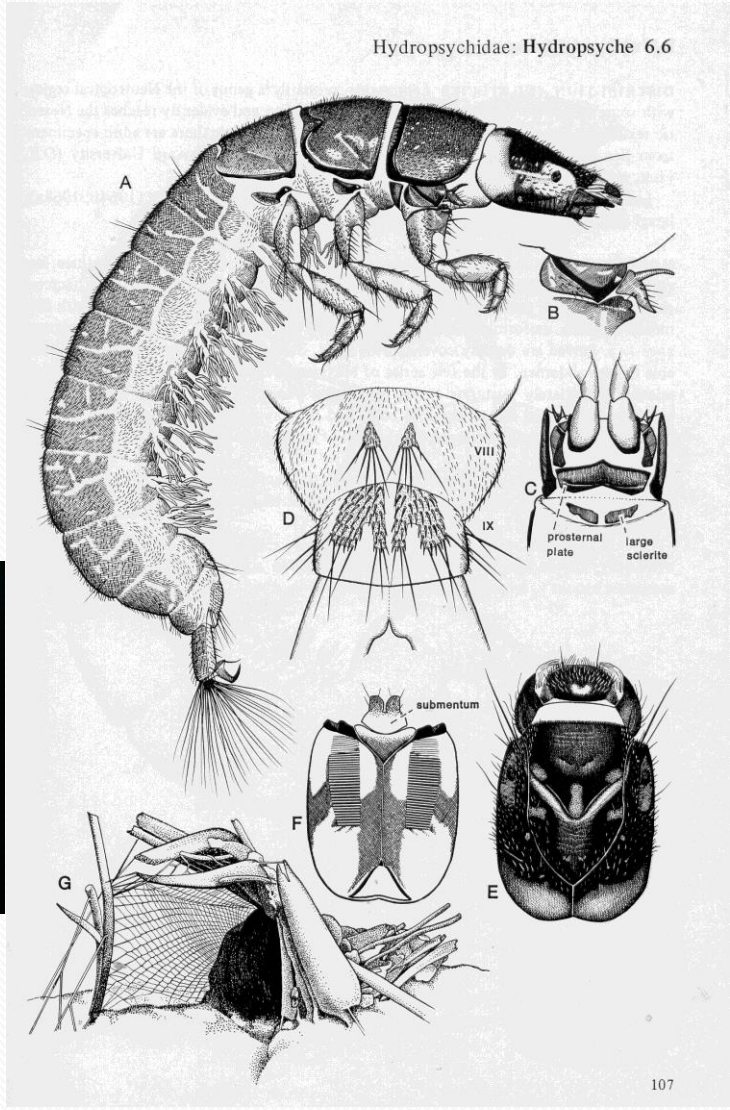


Figure 2. Portable cases constructed mainly of rock fragments by caddis larvae in North America.

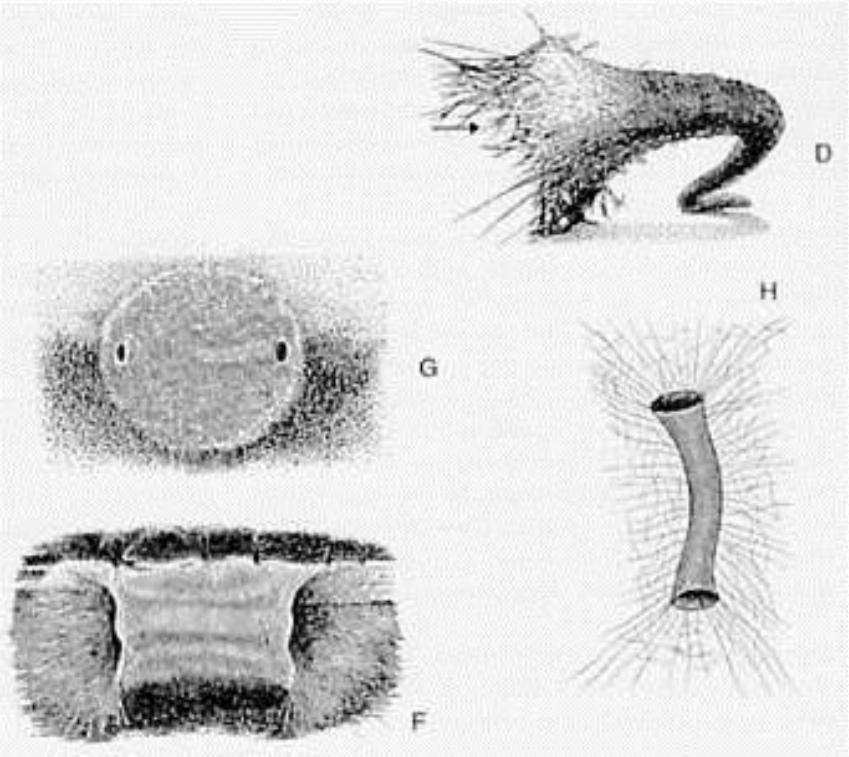
Hydropsychidae

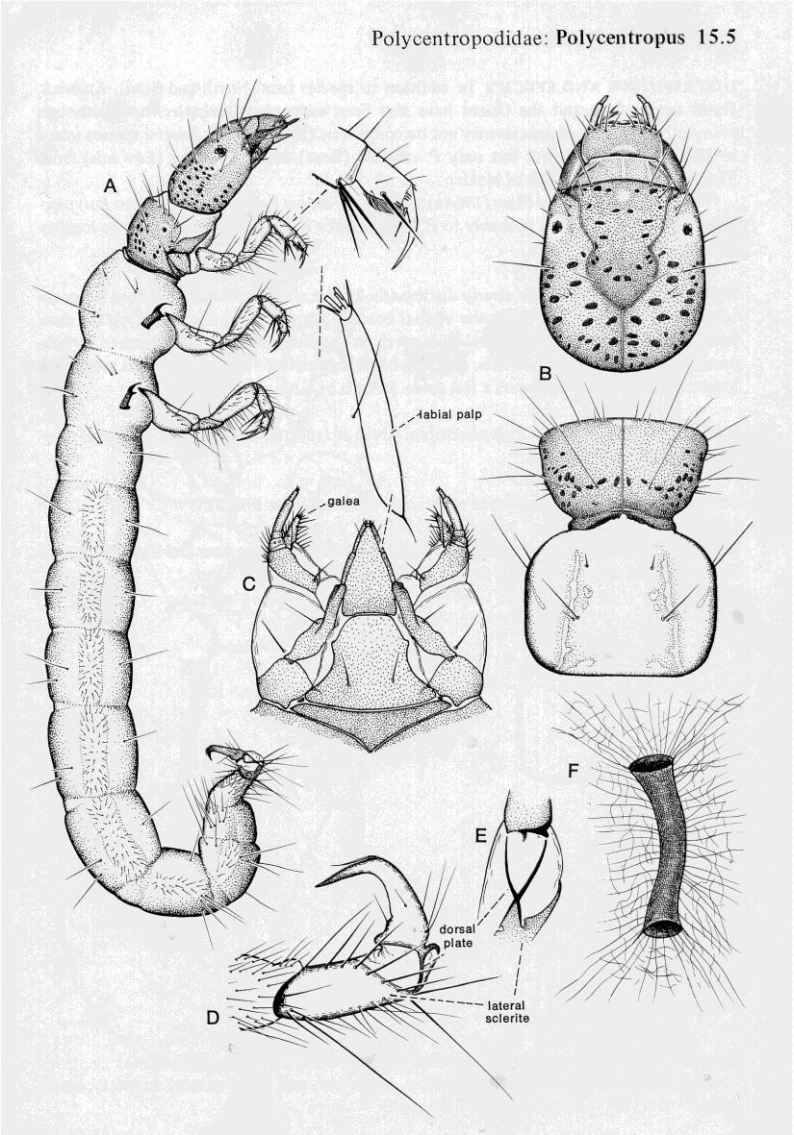
- Coarse nets to catch large current carried particles





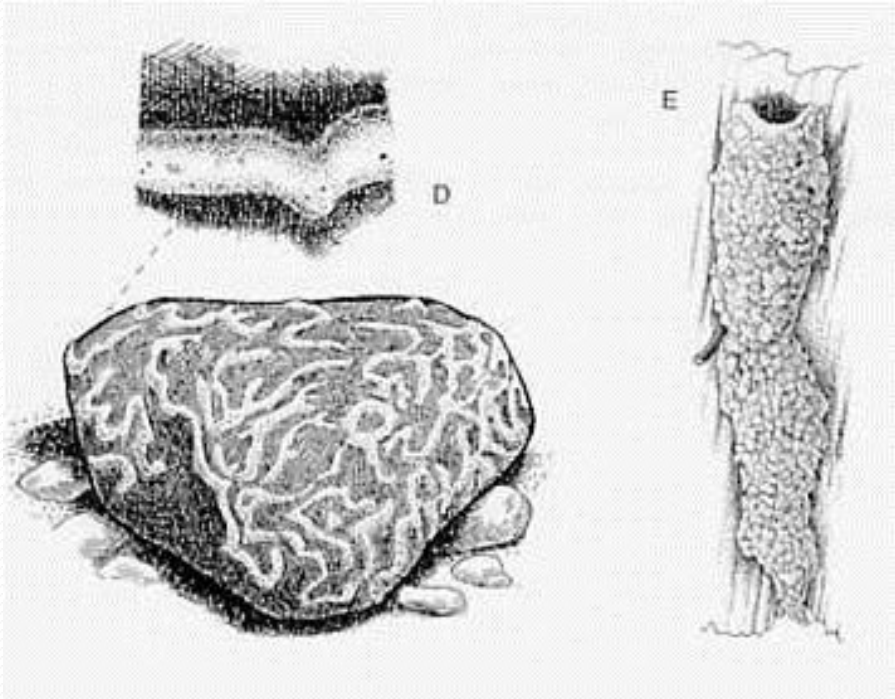
Polycentropodidae
Snare makers



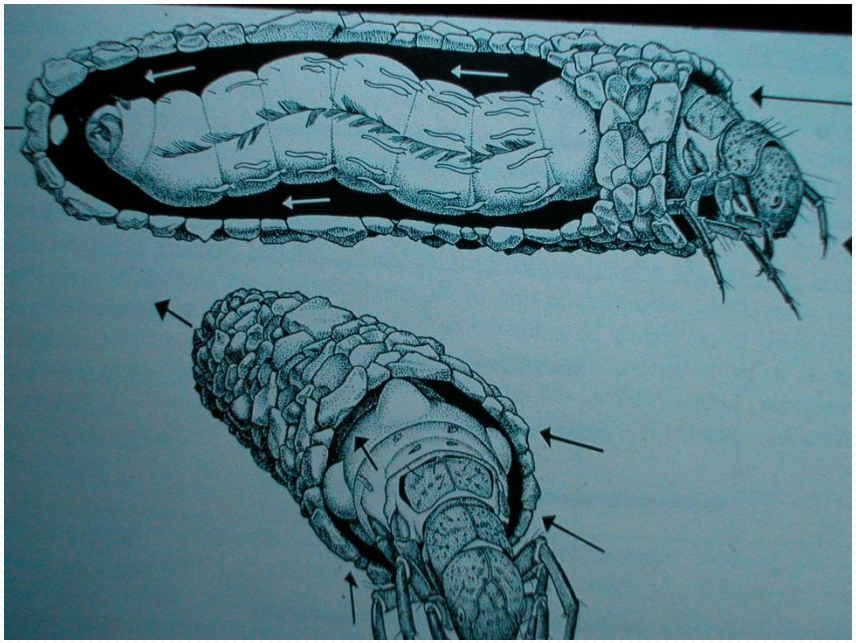


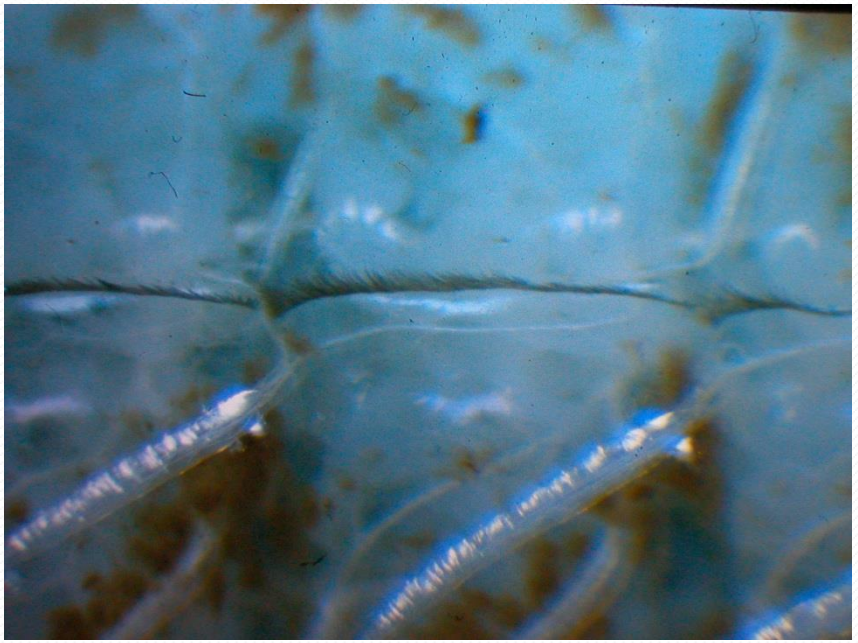
Psychomyiidae

- Gallery makers



Case physically protects but evolved to promote respiration





Adults alas a little less interesting

- Moth-like
- Wings covered in hairs not scales
- Mainly nocturnal

Nocturnal means they are more difficult to observe

Limnephilus lunatus where the label can be read through the transparent wings

The attractive foxy colour in this one is in the hairs – note where they have been rubbed off

Caddis and Lepidoptera are sister groups

- Arose from the Amphiesmenoptera
- Co-evolution with plants means there are 100,000 world Lepidoptera
- Staying as a generalist feeder means there are 10,000 world Trichoptera

2. Are they easy to find and collect?

- Yes!!

Kick and swirl netting in slower water

Sorting netted debris emptied into a bowl of water

Looking on stones

Searching among plant debris

Searching for larvae with a viewing tube

- Beating trays are not good because the caddis jump off and scuttle or fly away

Beat into a sweep net, but these are too shallow so caddis can fly away or walk out too easily

Note:- sweep-netting can be dangerous

Make sure you wear a protective suit

Day-fliers are a challenge to catch

- Long-horn Leptoceridae especially difficult to approach

Pooters are a way of collecting caddis from the nets, but caddis make a very bad smell of Phenol that must be slightly harmful

Moth traps collect lots of adult caddis

Most caddis fly around dusk so you can give up and go home about 1.5 hours after sunset, if using a portable trap

- Trap sweepings especially good for micro-caddis

- As was the case with the Eaton Bray Rothamsted Trap

Malaise Traps very good too

3. Are there a manageable number of species?

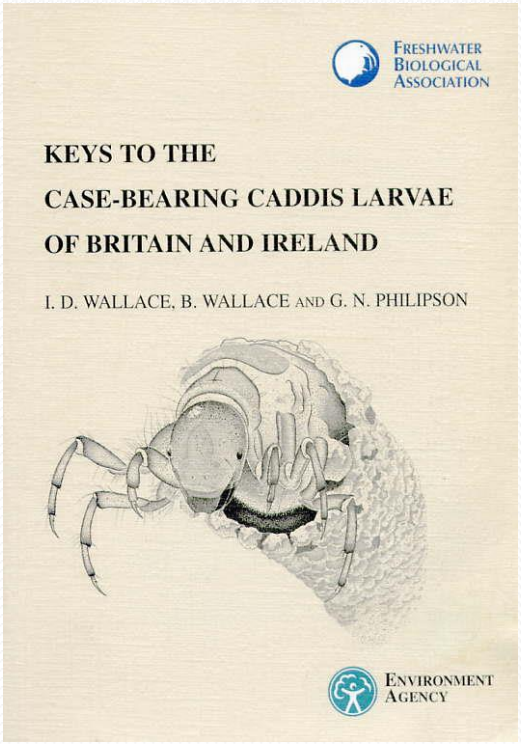
- Yes 200 UK species

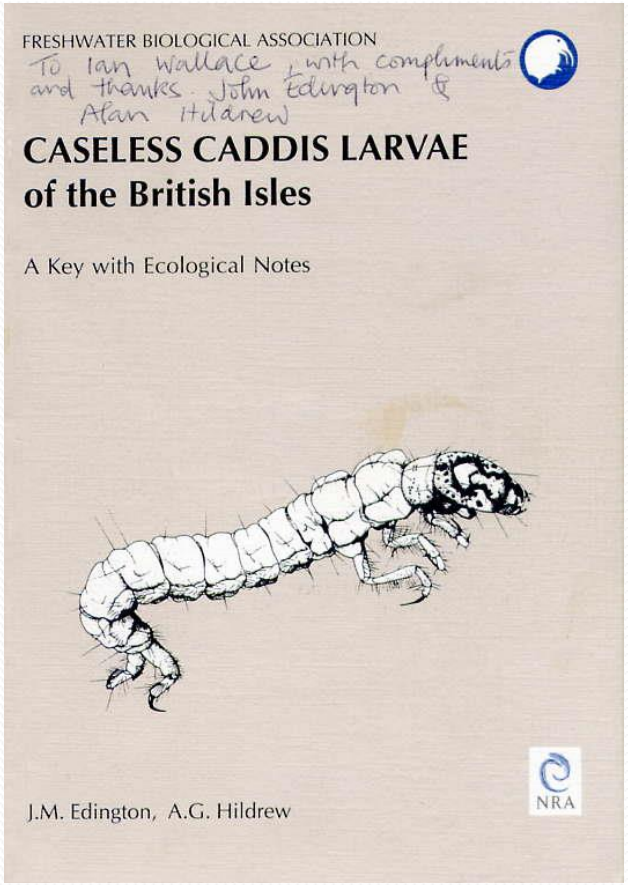
4. Are they very difficult to identify?

- well…

Larval keys

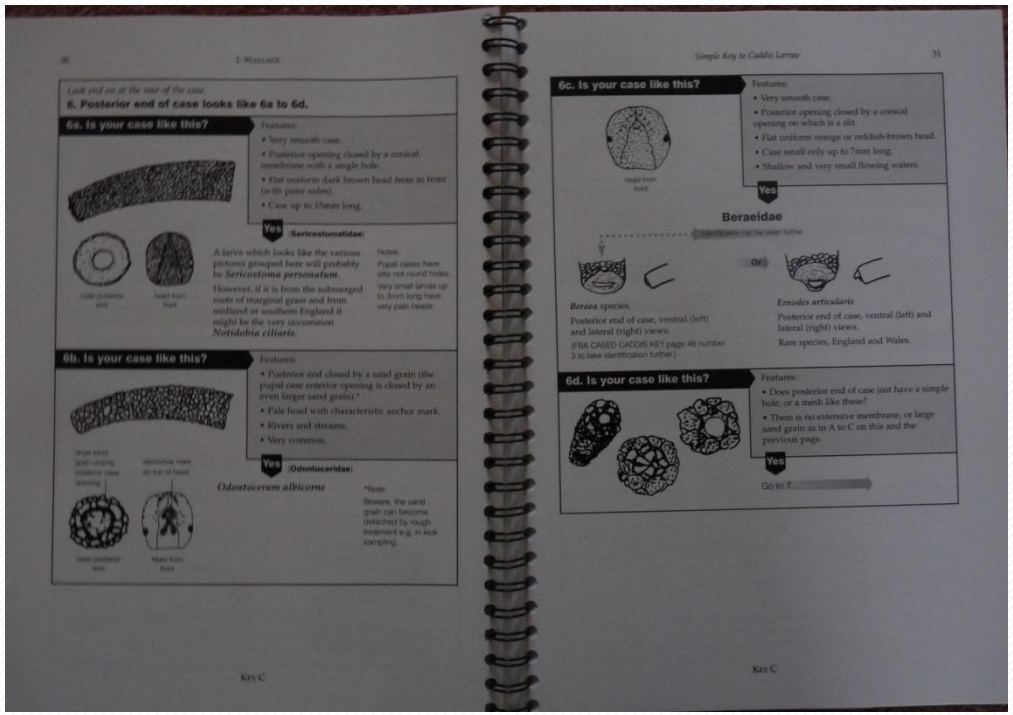
- Need microscope and dead larvae

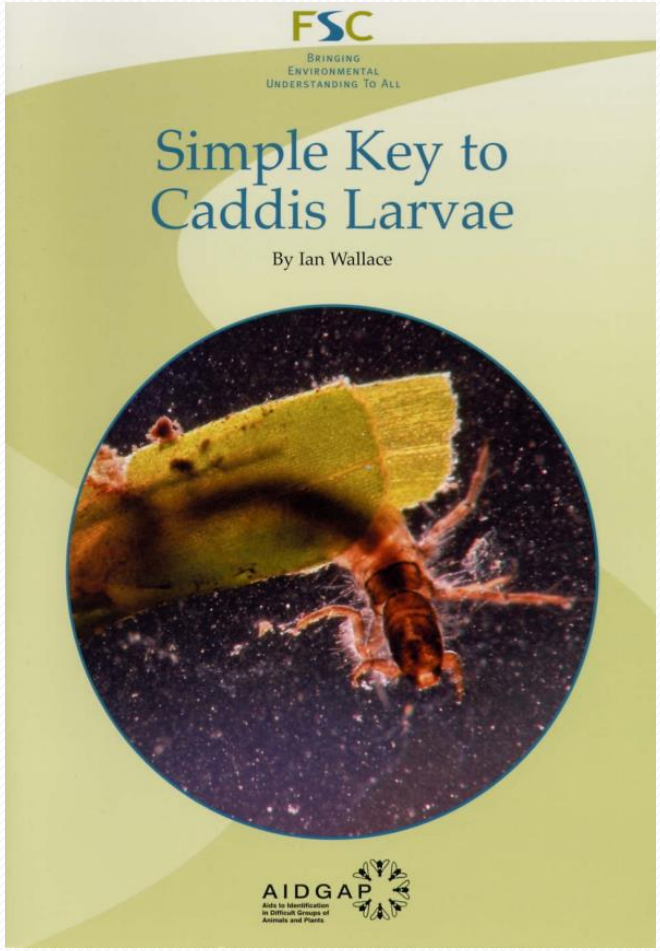




Simpler key to SOME larvae

- Needs a hand lens and can be done with live larvae






Cased larvae ONLY
can be held for a short
time to allow hand-lens
examination

‘Caseless Caddis’ Number 4

Larvae of some species are the angler’s Dark spotted Sedge

Snare makers of flowing and still water

- Family Polycentropodidae

body often pinkish tinged

No gills

only first thoracic segment with a hard plate, that is patterned

big patterned head (pattern varies)

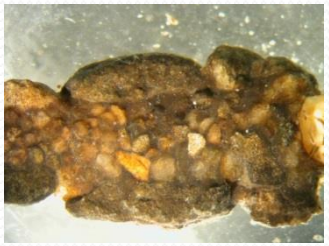
CASED CADDIS (*=frequently encountered)

Apataniidae

Beraeidae

* Brachycentridae

* Glossosomatidae



* Goeridae

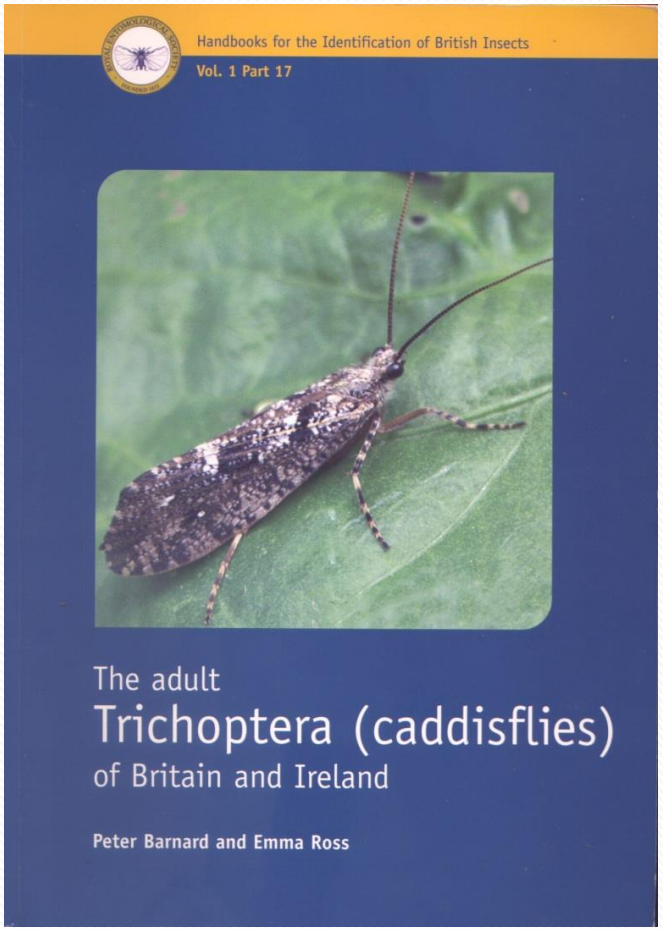
Hydroptilidae

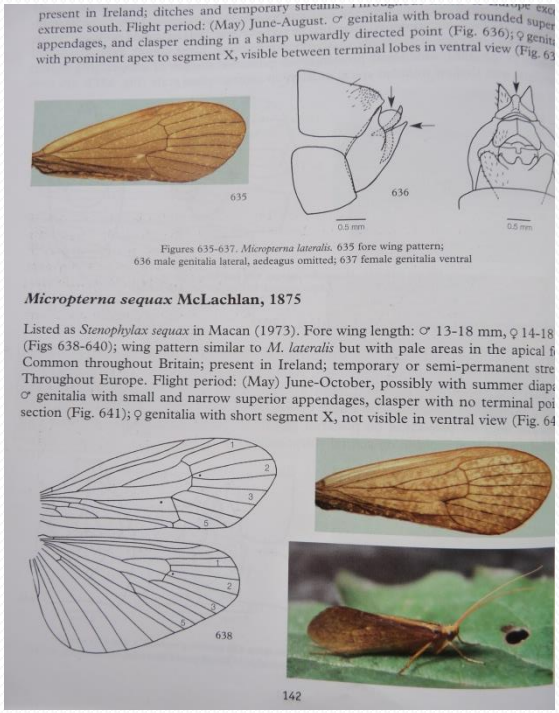
Increasingly I am sent images not specimens as record vouchers

Light bounce is a problem for people sending me images of underwater larvae to identify

…

Adult keys





present in Ireland; ditches and temporary streams. [illegible] extreme south. Flight period: (May) June-August. ♂ genitalia with broad rounded super appendages, and clasper ending in a sharp upwardly directed point (Fig. 636); ♀ genit with prominent apex to segment X, visible between terminal lobes in ventral view (Fig. 63

635 636 0.5 mm 0.5 mm

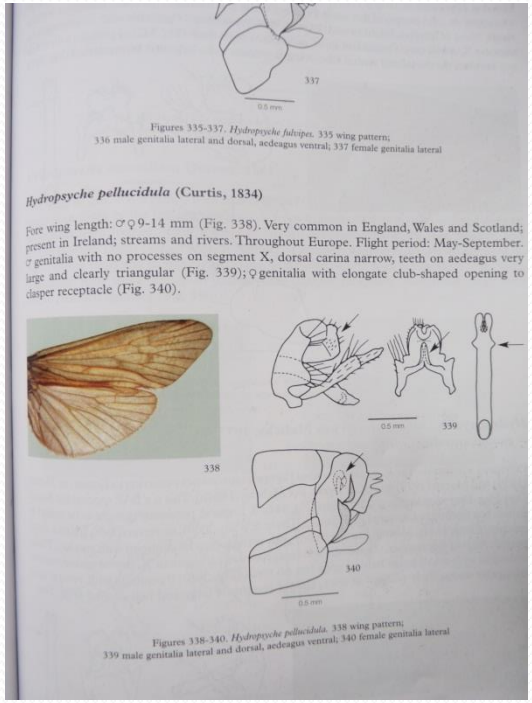
Figures 635-637. *Micropterna lateralis*. 635 fore wing pattern;
636 male genitalia lateral, aedeagus omitted; 637 female genitalia ventral

***Micropterna sequax* McLachlan, 1875**

Listed as *Stenophylax sequax* in Macan (1973). Fore wing length: ♂ 13-18 mm, ♀ 14-18 (Figs 638-640); wing pattern similar to *M. lateralis* but with pale areas in the apical fi Common throughout Britain; present in Ireland; temporary or semi-permanent stre Throughout Europe. Flight period: (May) June-October, possibly with summer diap ♂ genitalia with small and narrow superior appendages, clasper with no terminal poi section (Fig. 641); ♀ genitalia with short segment X, not visible in ventral view (Fig. 64

638

142



337 0.5 mm

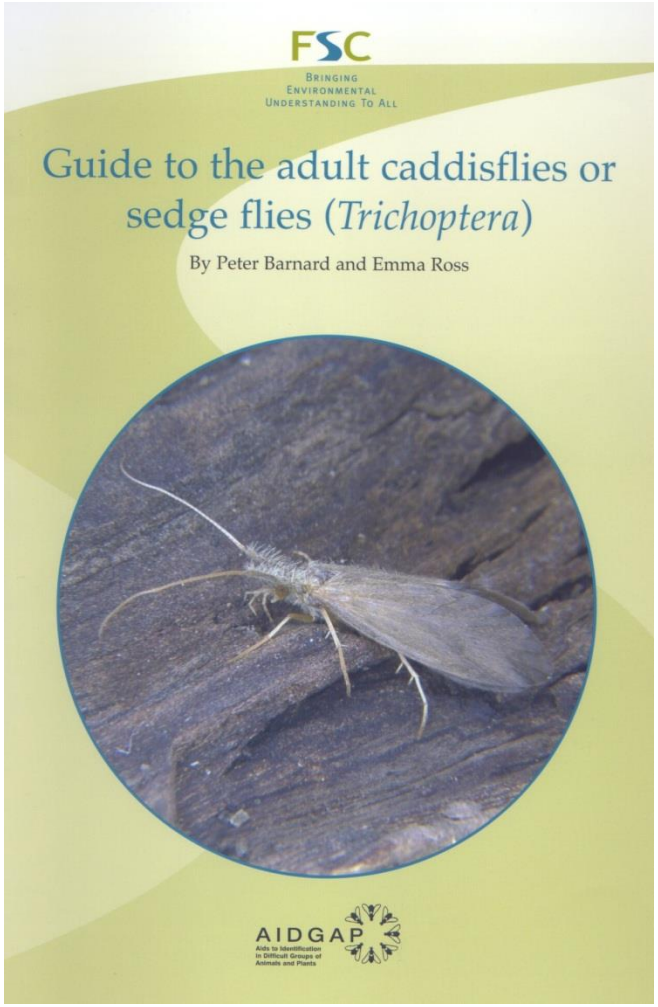
Figures 335-337. *Hydropsyche fulvipes*. 335 wing pattern;
336 male genitalia lateral and dorsal, aedeagus ventral; 337 female genitalia lateral

***Hydropsyche pellucidula* (Curtis, 1834)**

Fore wing length: ♂♀ 9-14 mm (Fig. 338). Very common in England, Wales and Scotland; present in Ireland; streams and rivers. Throughout Europe. Flight period: May-September. ♂ genitalia with no processes on segment X, dorsal carina narrow, teeth on aedeagus very large and clearly triangular (Fig. 339); ♀ genitalia with elongate club-shaped opening to clasper receptacle (Fig. 340).

338 0.5 mm 339 340 0.5 mm

Figures 338-340. *Hydropsyche pellucidula*. 338 wing pattern;
339 male genitalia lateral and dorsal, aedeagus ventral; 340 female genitalia lateral



Guide to the *adult caddisflies* or *sedge flies (Trichoptera)*

Family descriptions

The following family descriptions are arranged in alphabetical order and not in any systematic sequence. The abbreviations used are:

W usual length of fore wing	H usual habitat
F main flight period	C other characters

Note that the size range given for wing length is indicative only; both larger and smaller individuals will be found occasionally. Similarly, the flight period is an approximation of the usual times to see the adults on the wing; in the north of Britain emergence times, and hence flight times, may be some weeks later than in the south.

Family Beraeidae (3 genera, 4 species)
W 4-6 mm H cool streams and springs, also marshes and fens F May-Aug C ocelli absent, spur formula 224. All species are small and black, with no common names.


Photo: Emma Ross

Beraea maurus, a typical member of the family; W 4-6 mm.

Family Brachycentridae (1 genus, 1 species)
W 7-10 mm H running water F Mar-May C ocelli absent, spur formula 233, male maxillary palp with only 3 segments.


Photo: Stuart M. Crofts

Brachycentrus subnubilus, the grannom, one of the earliest caddisflies in the year, with broad and strongly marked wings; W 8-10 mm. Also known as the greentail, the female carries a mass of green eggs in a kind of pouch at the end of her abdomen before laying them under the water.

Family Ecnomidae (1 genus, 1 species)
W 5-6 mm H slow rivers, large ponds F July-Aug C ocelli absent, spur formula 344. The single small and inconspicuous species has no common name.

Family Glossosomatidae (2 genera, 6 species)
W 4-10 mm H running water F May-Oct C ocelli present, spur formula 244. Known as tiny (or micro) grey sedges by fishermen.


Photo: Stuart M. Crofts

Agapetus fuscipes, W 4-6 mm, a very common species with grey wings covered with golden hairs.


Photo: Emma Ross

The three species of *Glossosoma* look very similar to each other; W 6-10 mm.

Family Goeridae (2 genera, 3 species)
W 6-12 mm H running waters, often spring-fed F May-Aug C ocelli absent, spur formula 244, male maxillary palp with three segments and highly modified.

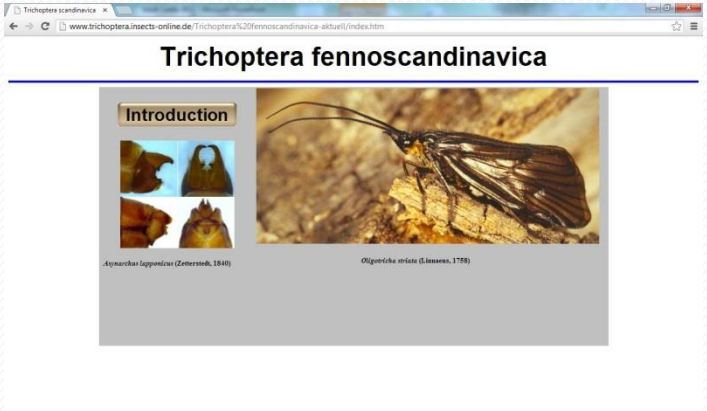

Photo: Emma Ross

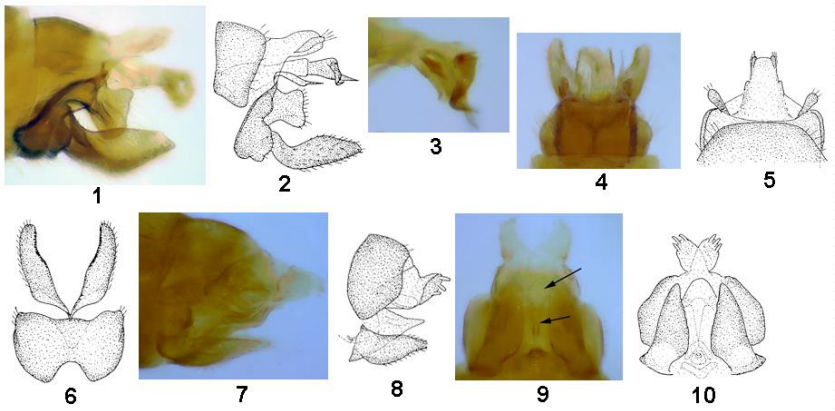
Goera pilosa, the medium sedge; W 9-12 mm.

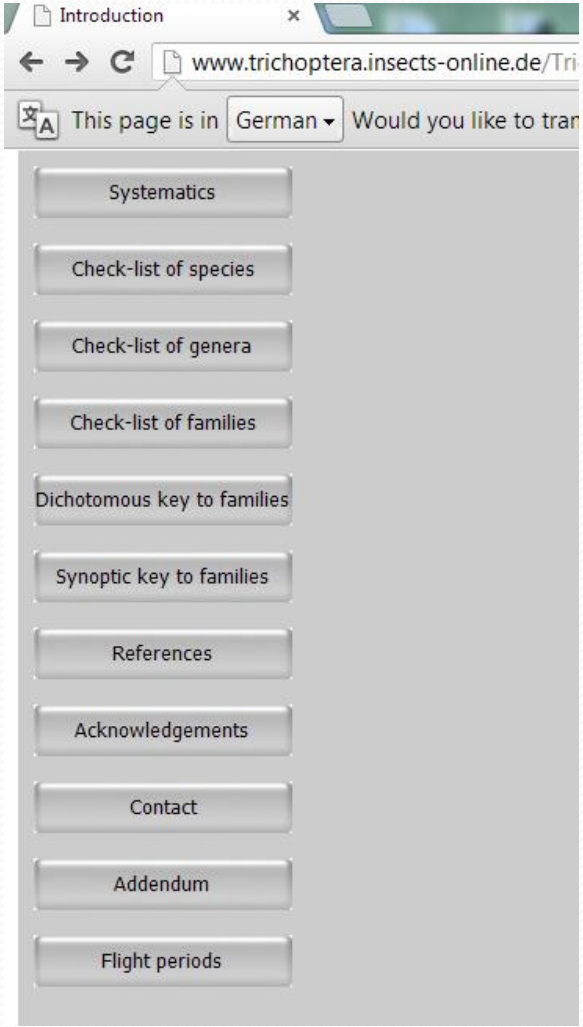

Photo: Emma Ross

The two species of *Silo* look very similar and are known as black sedges; W 6-10 mm.

http://www.trichoptera.insects-online.de/







Use on bigger caddis ONLY

Hold wings gently between thumb and fore-finger and caddis will arch its abdomen around revealing genitalia for hand-lens examination

Increasingly people expect to see guides that have photographs and preferably of live animals

Unmistakeably *Grammotaulius nigropunctatus*

and to have guides on-line as well as printed

..but then there are these!

- Stenophylax permistus or Micropterna sequax or even M. lateralis
- Hopefully, as happens in Lepidoptera a subtle character will be found

Poorish photos submitted as vouchers by recorders are often still ok

Sericostoma personatum (male)

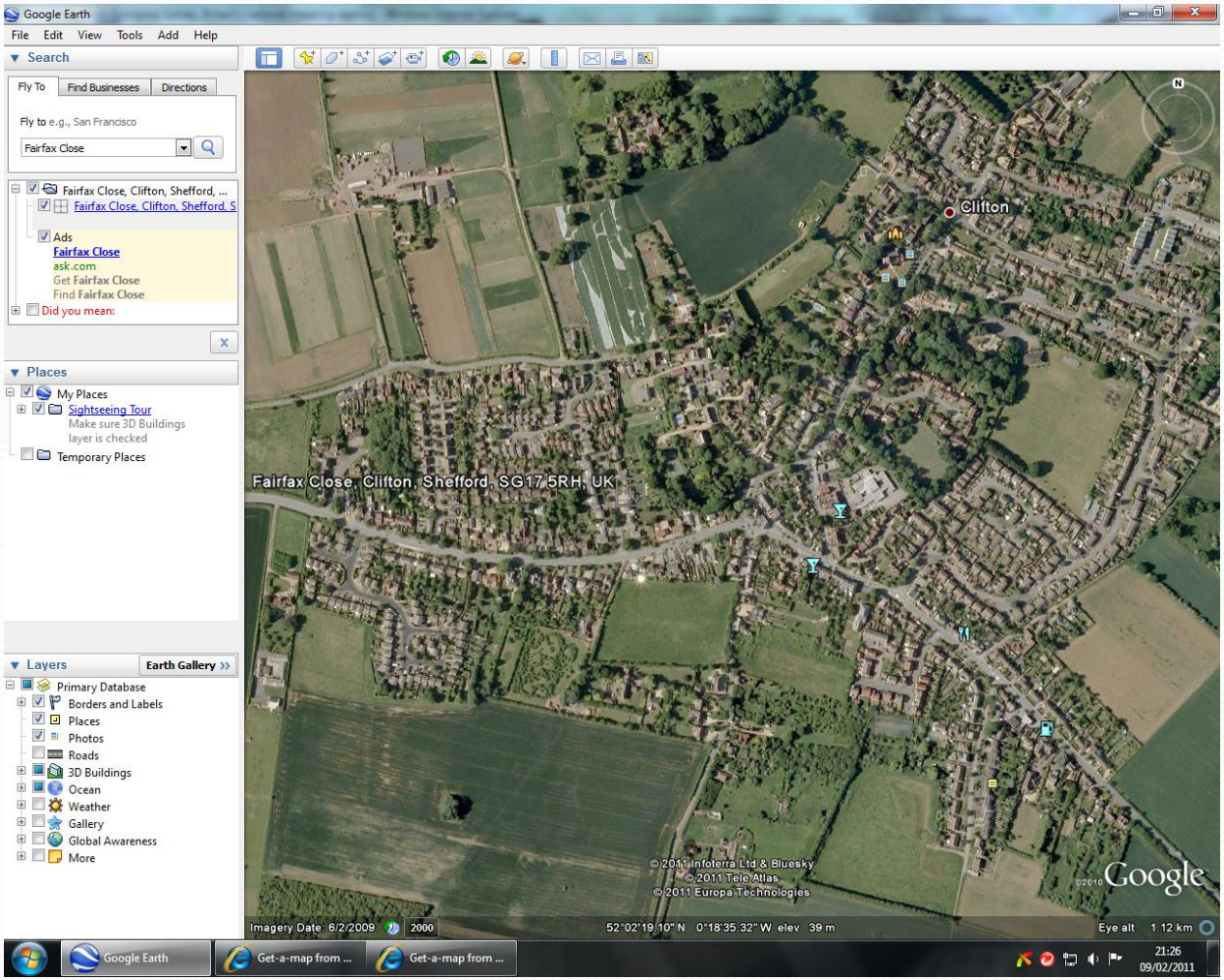
Agrypnia obsoleta

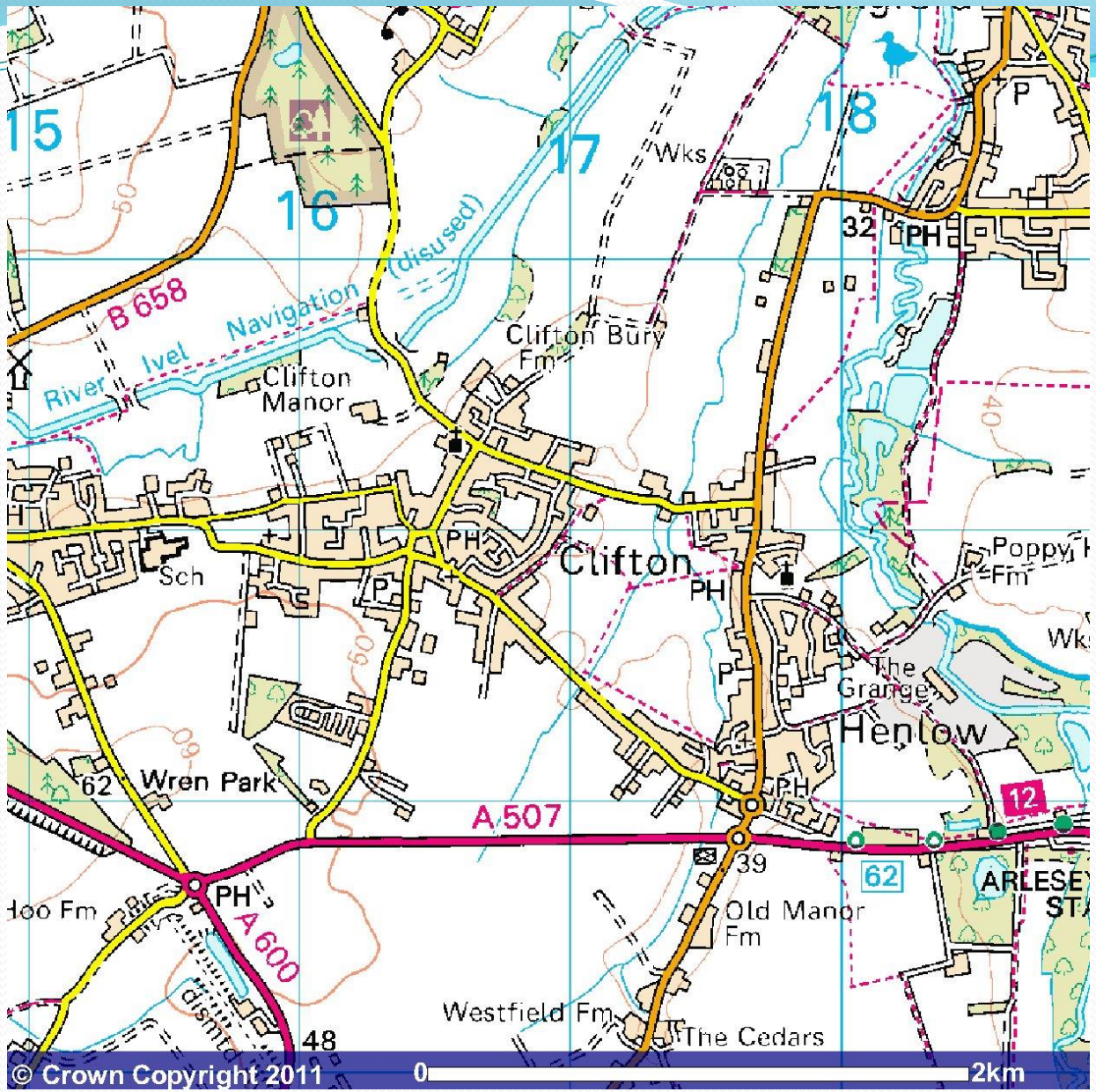
Please try and photograph them from side on, and beware flash!

5. How useful will my records be?

- All records are useful

The caddis from Alan Outen's light-trap at Clifton, Bedfordshire - a case study

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River Ivel Navigation
(disused)
Clifton Bury Fm
Clifton Manor
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Clifton
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Poppy Fm
Wks
The Grange
Henlow
62
Wren Park
A 507
PH
12
39
62
ARLESEY ST
Old Manor Fm
PH
A 600
Westfield Fm
The Cedars
48
© Crown Copyright 2011
0
2km

Status of the species

- 28 species up to end of 2013
- 27 regarded as common across UK
- 1 regarded as local in UK

New to village list

- 28 species collected
- 28 species new to village

New 10km records (in 2010)

- 21 species collected
- 11 new 10 km records

- (now 28 species so additions still coming fairly easily)

New to Vice County

- 28 species collected
- 2 new vice county records

Chaetopteryx villosa

- Generally common species
- Easy to miss as it flies late in the year
- Larva quite difficult to identify

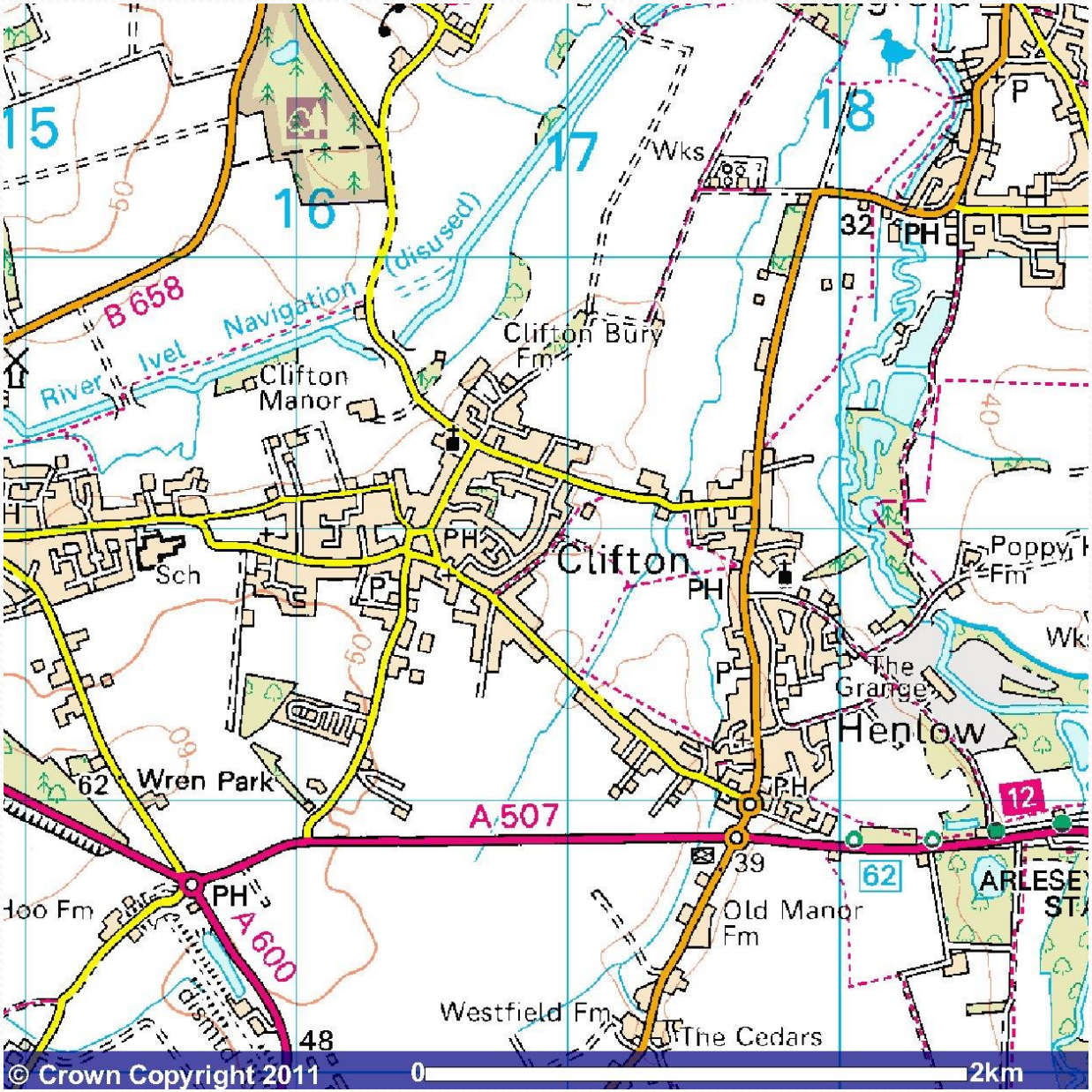
- but…perhaps it is actually quite rare in Bedfordshire

Ecnomus tenellus

- Local species
- Hides away in the daytime
- Flies 2 hours after dusk
- Larva in deep water
- May be increasing
- Most records from light-traps

Can breeding site be identified?

- 11 flowing water species
- 13 still water species
- (4 either)
- Clifton has plenty of both nearby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(disused)
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The Grange
Henlow
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Wren Park
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ARLESEY
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A 600
Old Manor Fm
Westfield Fm
The Cedars
48
© Crown Copyright 2011
0
2km

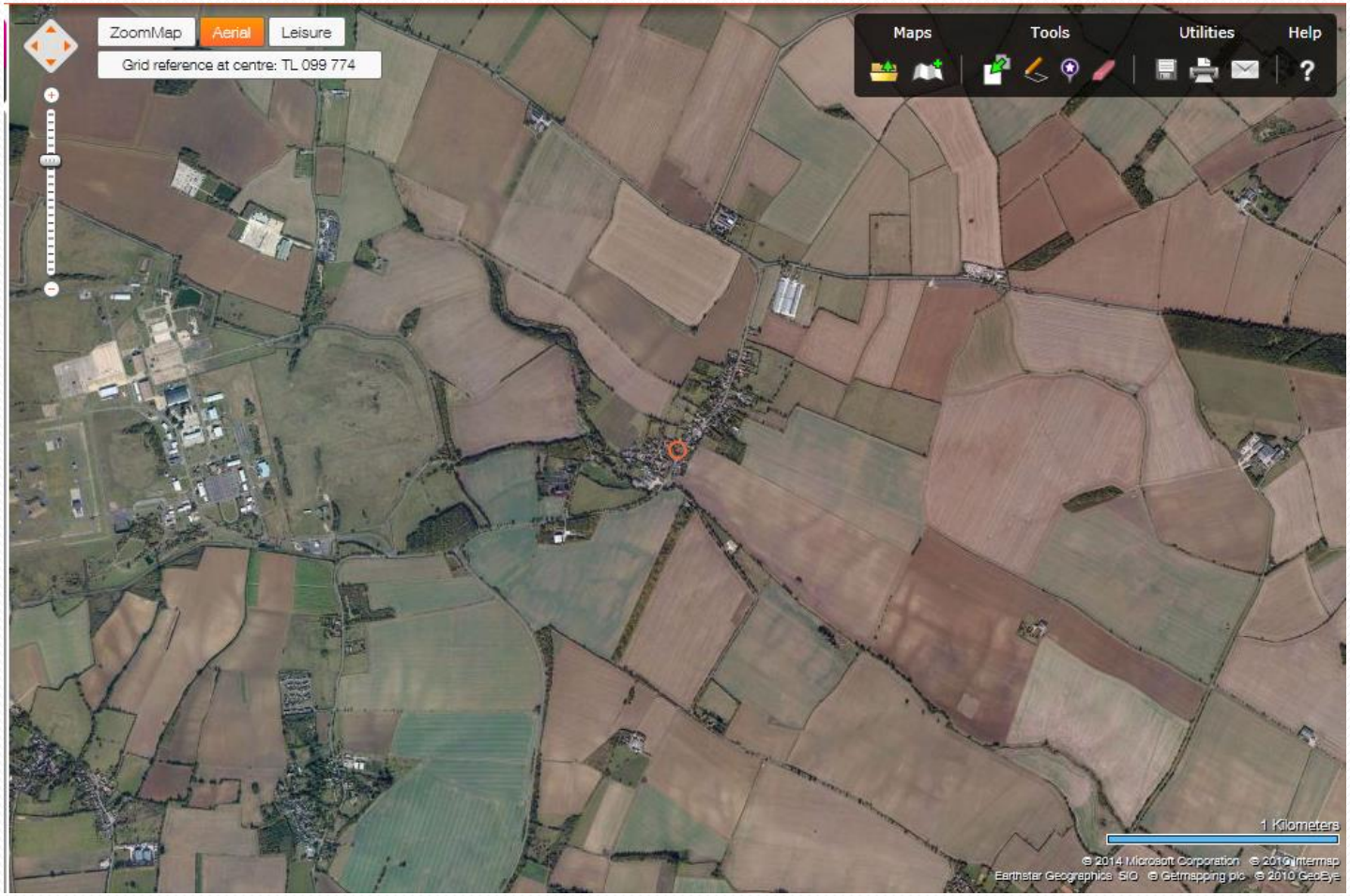
Can distance be a guide?

- Most caddis short-lived
- Many caddis emerge in large numbers, may swarm and can be carried by wind
- Caddis breeding in water-bodies that dry over summer pass summer as adults and can disperse very widely

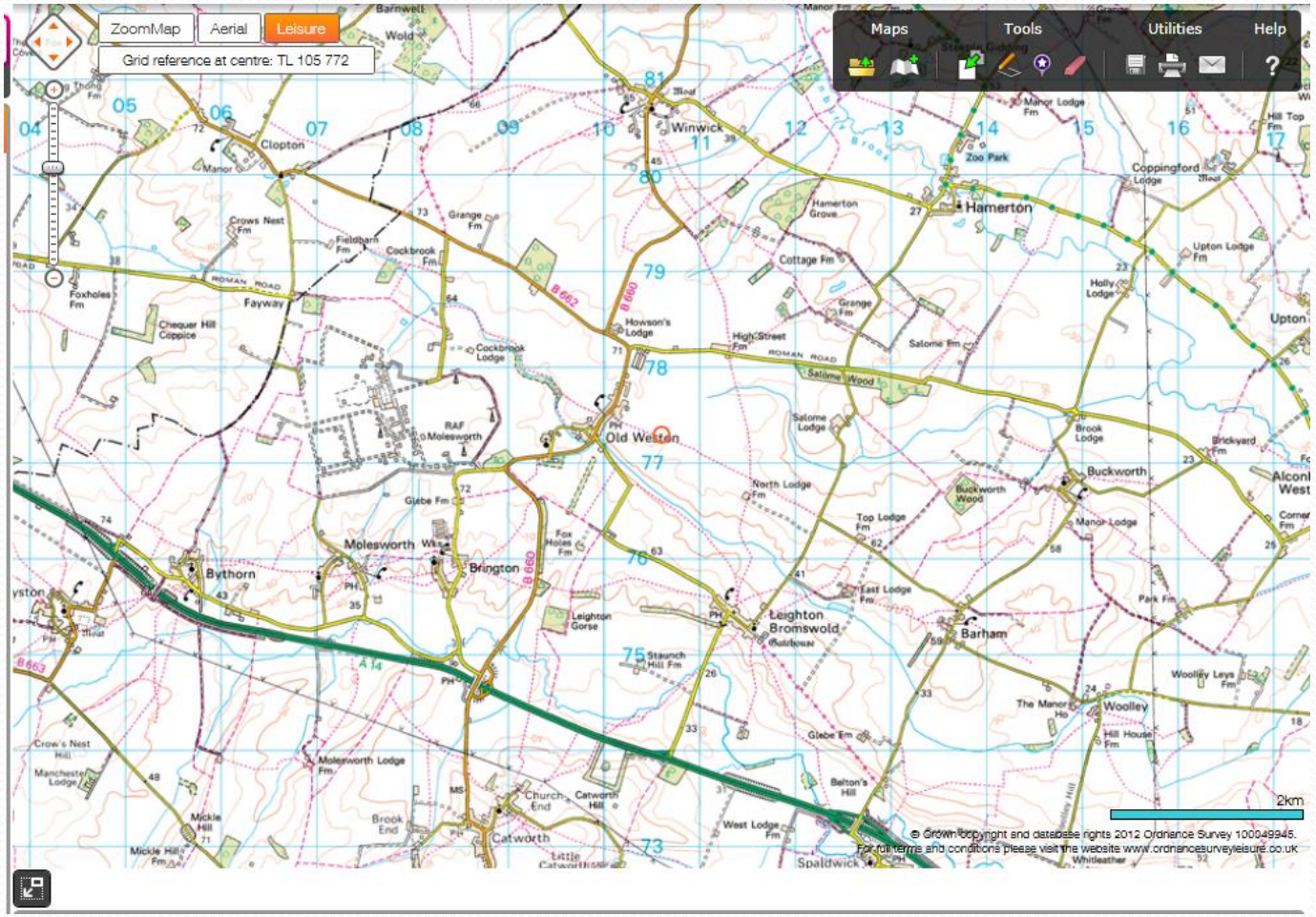
So we cannot localise the breeding sites of the light-trapped Clifton caddis

- No different from light-trapped moths

Another relatively unpromising location



Old Weston, Huntingdonshire



Miles from a decent water-body

- The Nene and its associated lakes are about 10km away
- The Ouse about 15 km away
- Grafham Water about 10 km away
- Small streams and ponds on the doorstep

- I had limited expectations when Kevin Royls asked me if I was interested in looking at samples of caddis from his light trap

Treating batches of dry caddis

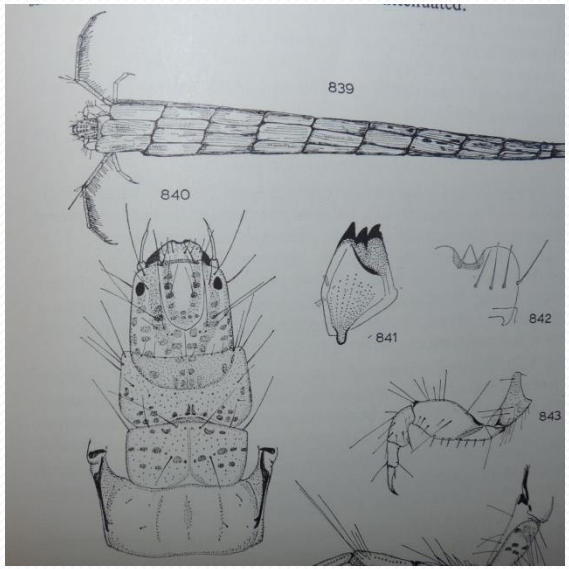
- Put all into 10% Potassium hydroxide solution overnight
- Not subtle – small ones over ‘cooked’ large ones under ‘cooked’

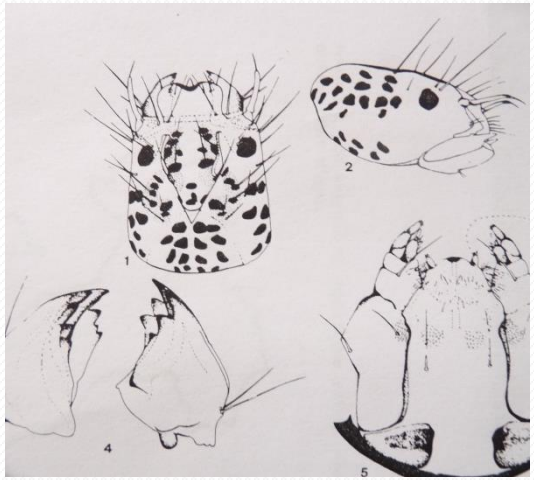
Triaenodes ochreellus new to Britain

- (photos by Kevin Royle of the second specimen taken in 2013)

New arrival or over-looked species?

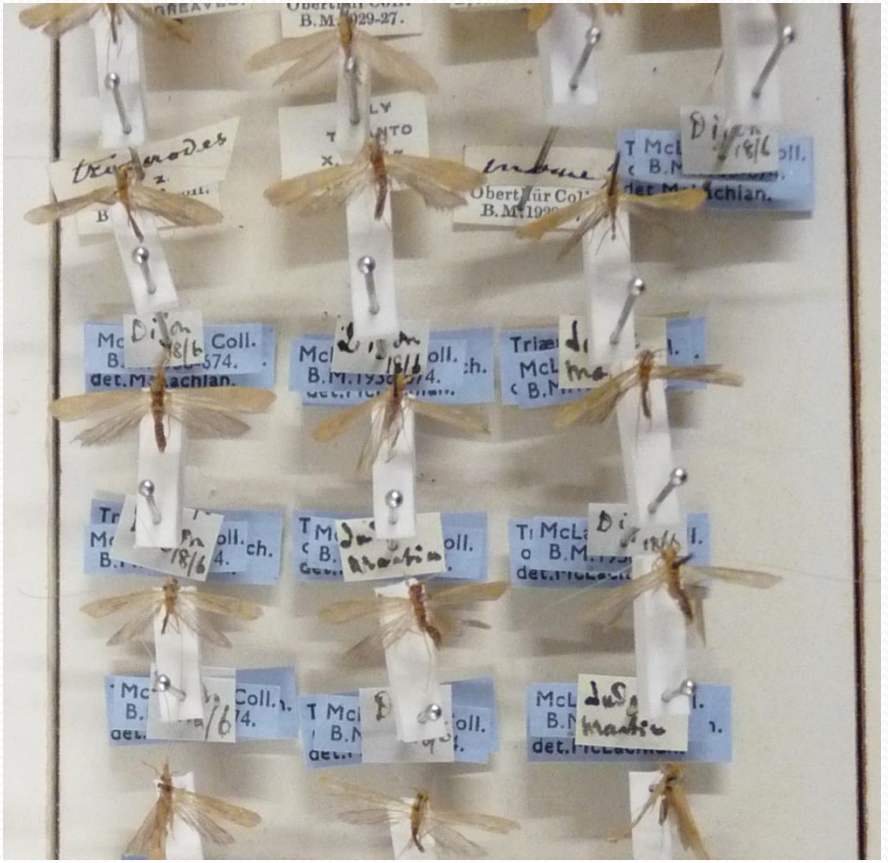
- Common in Spain and Portugal and occasional in the old Yugoslavia
- Larva like a relative that is so easy to identify it never needs looking at critically





At least the adult is distinctive!

if only!



So is it worthwhile recording adult caddis?

- We do have a good idea of habitat requirements of caddis
- If surveying a wildlife site light trap caught caddis will give you a SUGGESTION of where it is worth looking for the caddis larvae and prove breeding

Conservation value

- Distribution maps help put records into a context
- Local rarities identified

Larvae are very difficult to find in some habitats and light traps best way of recording species

- Extensive bogs and fens
- Reed-swamps
- Deep lakes
- Deep rivers

Too much habitat in the middle. Too many caddis case look-alike stem bits!

Prioritising when to collect caddis adults from light traps

- **1.** Where a list is desired for a wildlife site and that site has difficult to sample habitats such as fens and swamps and deep water - **conservation value, distribution maps, site interpretation**
- **2.** Generally at wildlife sites - **conservation value, distribution maps, site interpretation**
- **3.** Building a list for a locality - **distribution maps, site interpretation**
- **4.** Casual records – **distribution maps**

Ideas for Bedfordshire

- Streams
- Springs
- Rivers
- Fens

- Larvae

6. Are there experts to help?

Stuart Crofts
Adult Caddisfly
Recording Scheme

- Alan Outen, Bedfordshire
- Kevin Royles, Huntingdonshire *et al*
- Ray Morris, Leicestershire

Verification | iRecord

www.brc.ac.uk/irecord/verification

Apps | National Governors ... | www.lanuv.nrw.de/... | North Wales Wildlife... | The Power and the ... | Llyn Cwm Llwch - ... | www.naturallycurly.... | Yr Hen Fynachlog | Other bookmarks

Logged in as *CaddisScheme* >>My Account Logout

Home | Record | Explore | Summarise | Verify | Download | Forum | How do I ...?

Verification

New report | Filter: Select filter... | Apply | Reset | Create a filter | Verify grid | Verify ticklist

	ID	Source	Species	Common Name	Site name	Grid Ref	Date	Recorder	Images	Auto che
...	1556337	iRecord | general data	Potamophylax cingulatus		Ridgewood Stream	TQ 46691 19678	04/11/2014	St.Pierre, John		
...	1556336	iRecord | general data	Polycentropus flavomaculatus		Ridgewood Stream	TQ 46691 19678	04/11/2014	St.Pierre, John		
...	1556095	iRecord | NE NNRs	Hagenella clathrata	Window Winged Sedge	Chartley Moss NNR	SK023281	08/07/2014	Brown, Mel		
...	1556093	iRecord | NE NNRs	Hagenella clathrata	Window Winged Sedge	Chartley Moss NNR	SK023281	01/07/2014	Brown, Mel		
...	1556090	iRecord | NE NNRs	Hagenella clathrata	Window Winged Sedge	Chartley Moss NNR	SK023281	27/06/2013	Brown, Mel		
...	~~1556084~~	~~iRecord | NE NNRs~~	~~Hagenella clathrata~~	~~Window Winged Sedge~~	~~Chartley Moss NNR~~	~~SK023281~~	~~18/06/2013~~	~~Brown, Mel~~		

You can:

- Select the records to include in the list of records to verify using the drop-down box above the grid.
- Fine tune the list of records by entering search criteria into the boxes at the top of each grid column.
- Click on a record in the grid on the left to view the details.
- When viewing the record details, verify, reject, query or email the record details for confirmation.
- When viewing the record details, view and add comments on the record.
- Use the ... button to the left of each record to view bulk-verification options for similar records.
- Use the map tool buttons to draw lines, polygons or points then reload the report using the **Filter** button above the grid.
- Use the **Buffer (m)** input box to buffer your lines, polygons or points to search against.
- Use the **Query Map** tool to click on points on the map and view them in the grid. You can also drag boxes to select multiple records.

Finally considering the theme of today

- Do caddis qualify to be regarded as an under-recorded group?

Record acquisition growing

BRC Biological Records Centre

riverfly recording schemes

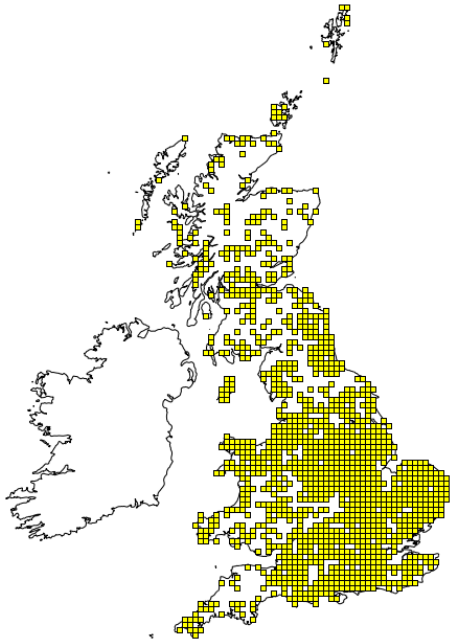
World Museum

fba Freshwater Biological Association

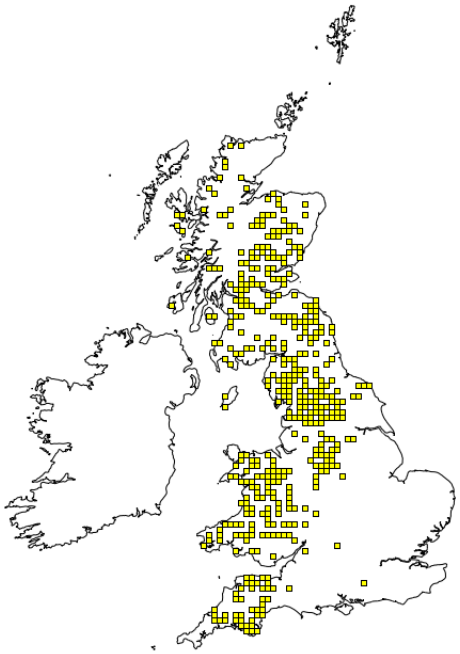
UK Caddis Recording Scheme's 250,000th entry

Cases of *Crunoecia irrorata*

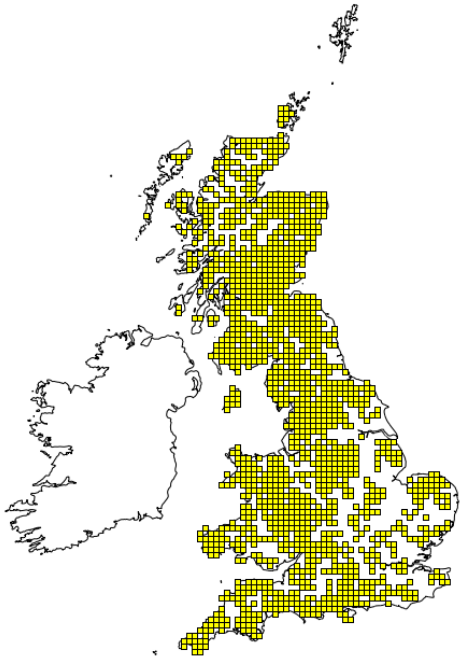
Recorded by Dr. Brenda Wallace from a streamlet near Llanarmon-yn-Ial, Denbighshire, SJ181577 on 14th April 2013



Limnephilus lunatus



Glossosoma boltoni



Sericostoma personatum

Some maps now look quite respectable

(NBN 'all data' maps 3.5.2014)

You can't tell where the scheme organiser lives

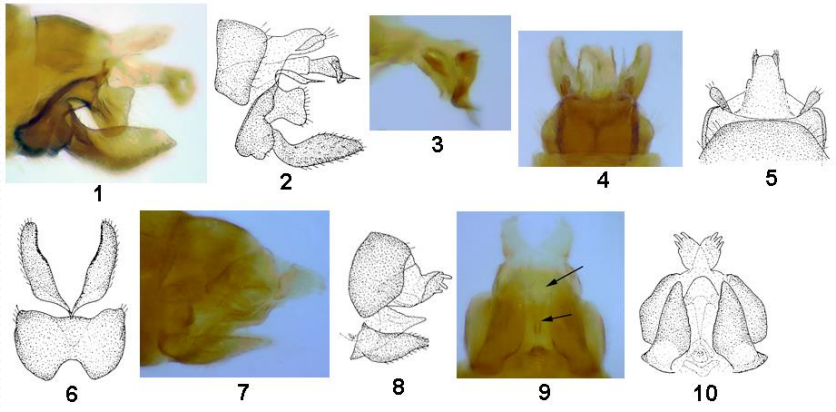
Moth trappers collecting lots of adult caddis
Which they want to identify


www.bnhs.org.uk
£10

So do caddis qualify to be regarded as an under-recorded group?

- Making voucher collections of specimens is difficult because they need to be preserved in alcohol solution

- Many adults need treating with Potassium hydroxide to make the genitalia visible



Still no popular [and Web-based too] guide to live adults

I am confident if this conference is repeated in 3 years time you will not ask me to contribute

- But hopefully for the right reasons!

Thanks to:-

- All the recorders whose enthusiasm continues to inspire me
- All the recorders who keep the records flowing in – and who I hope will continue to do so

not forgetting the “Wallace family”

Temporary water-body Limnephilid hunting in Northumberland

A pause from square-bashing near Alston

Looking for instar 2 *Hydropsyche*, Wirral

An early instar *Tinodes* hunt, Bangor

Thank you for listening … and Happy hunting!