



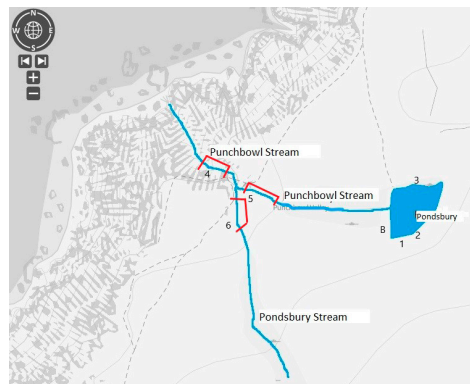
▲ Surveying Pondsbury.

LFS FIELD STUDIES COURSE 13-16 APRIL 2024 – FRESHWATER MODULE

During the LFS Field Studies Course, nine students undertook surveys of both flowing (Lotic) and standing (Lentic) waters of Lundy.

The survey stations were selected on the perimeter of Pondsbury (Figure 1 sites 1, 2 and 3) and a syndicate of three took turns at developing their techniques. An additional survey of 1m² mud from the bottom of the pond was also taken (Figure 1, site B). At the end of the session the catch was rinsed and then taken back to St Helen's Centre for identification to group and in some cases species.

A second session to survey three sites on the streams flowing from and by Pondsbury was also undertaken by the three syndicates of three students and after rinsing the catch also taken back to St Helen's Centre for identification (Figure 1 sites 4, 5 and 6).



▲ Figure 1: Survey sites around Pondsbury: 1,2,3 Pondsbury B - bottom sample; 4,5,6 Stream kick sampling.

Table 1

*all 'blood worms'

Scientific	Common	Stage	Lentic 14 April 2024		Lotic 15 April 2024		Pondsby Stream
			Pondsby		Punchbowl Stream		
			Water column	Benthos	Below confluence	Above confluence	
Platyhelminthes - Flatworms							
<i>Polycelis nigra</i>	a flatworm	adult			6	2	
Nematoda - Roundworms							
<i>Nematoda</i>	a nematode worm	adult			6	3	
<i>Tubificida</i>	a tubifex worm	adult		1			
Isopoda - Crustacea							
<i>Proasellus meridianus</i>	Water Hoglouse	adult	1		108	40	
Ephemeroptera - mayflies							
<i>Cloeon dipterum</i>	a mayfly	larva	2				
Odonata – Dragon and Damselflies							
<i>Ischnura elegans</i>	Blue-tailed Damselfly	nymph	6				
Hemiptera – True bugs							
<i>Notonecta glauca</i>	Backswimmer	adult	2				
<i>Corixidae</i> sp.	Water boatman	larva	7				
<i>Ilyocoris cimicoides</i>	Saucer Bug	adult	1				
Coleoptera - Beetles							
<i>Dytiscidae</i>	Diving beetle	adult	6			1	
	Diving beetle	larva			1	1	
<i>Haliplidae</i>	Crawling water beetle	adult	1			1	1
Trichoptera – Caddis flies							
<i>Limnephilus vittatus</i>	a cased caddis	larva	1				
	a caddis fly	pupa					1
Diptera – True flies							
<i>Chironomidae</i>	a non-biting midge	larva	2	5*	9	3	6
	a non-biting midge	pupa	1		6	1	
<i>Corynoneura</i> sp.	a non-biting midge	larva	1				
<i>Chaoborus crystallinus</i>	Phantom midge	larva		2			
Number of species			10	3	5	6	3

None of the surveys were the standard 3-minute (streams) or 5-minute (pond) surveys. The students were learning the techniques and identification skills. The Pondsburry samples, with the exception of the benthic samples were combined but the stream samples were kept separate.

Table 1 lists all species and the locations in which they were found. George and Stone (1978) gave a comprehensive survey of Pondsburry as did Clabburn (1993). With one exception, nothing different from their species list was found.

As was expected, Pondsburry showed the widest diversity of species reaching a score of 11 different species when both water column and benthic samples were combined. The Chironomidea found in the bottom silt of Pondsburry were all of the “bloodworm” variety red in colour due to haemoglobin which enables them to survive in anoxic conditions. Despite being open water species, *Chaoborus crystallinus* were only found in this bottom sample.



▲ Identifying specimens in St Helen's Centre.

Surprisingly, the combined streams of Punchbowl and Pondsburry below their confluence was the next highest rating falling one lower than the part of Punchbowl stream above the confluence. This may be due to the difficulties in surveying particularly in the steep sided valley above the Atlantic Ocean where a gale force wind was blowing directly in from the west. Long (1993) surveyed Pondsburry Stream which he labelled as 'W4' and found many more species than in this survey, as well as those that were found by the course.

Pondsburry stream had never previously been surveyed. It is frequently dry during the summer and held predominantly opportunistic Diptera larvae although the unidentified Caddis fly pupa was an interesting find.

The highlight of these introductory sessions was what was thought to be the addition to the Lundy fauna of an unreported true bug: *Ilyocoris cimicoides* the Saucer Bug. It was found on the southern edge of Pondsburry at site 1. On checking my records, I found that *I. cimicoides* had been seen but not reported until this date. It was first seen by the author on 8 July 2021 at Pondsburry, and again on 20 May 2023 by Miles Thompson on the track near Pondsburry. This was the third sighting in three years of adults and juveniles, confirming its successful colonisation of Pondsburry. *Corynoneura*, a distinctive non-biting Midge (determined by J. George), has been previously seen in Pondsburry but not reported so this is a first confirmatory record. At 3mm in length and in peat stained water the colour of tea, in detecting it the eyes of these new surveyors proved to be extremely sharp. Thank you Mark, Sandy, Tony, Kristin, Sue, Rob, Zdena, Richard and Carole Anne!

References

- Clabburn, PAT** (1993) *Freshwater biological survey of Lundy, 1993: further studies of the fauna of Pondsburry*. Lundy Field Society Annual Report 44:73-83
- George JJ and Stone BM** (1979) *The flora and fauna of Pondsburry*. Lundy Field Society Annual Report 30:20-31
- Long PS** (1993) *A study into the macroinvertebrate fauna and water quality of Lundy Island's lotic environment*. Lundy Field Society Annual Report Annual Report 44:59-72



▲ The Saucer Bug *Ilyocoris cimicoides*.