

**A rare micro-caddisfly *Hydroptila lotensis*, new to Worcestershire**

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Nineteen micro-caddis specimens identified as *Hydroptila lotensis* were collected from light-trap catches over a period of six weeks in the summer of 2018 at Carpenter's Farm, Berrow, in southwest Worcestershire (SO777339; VC37).



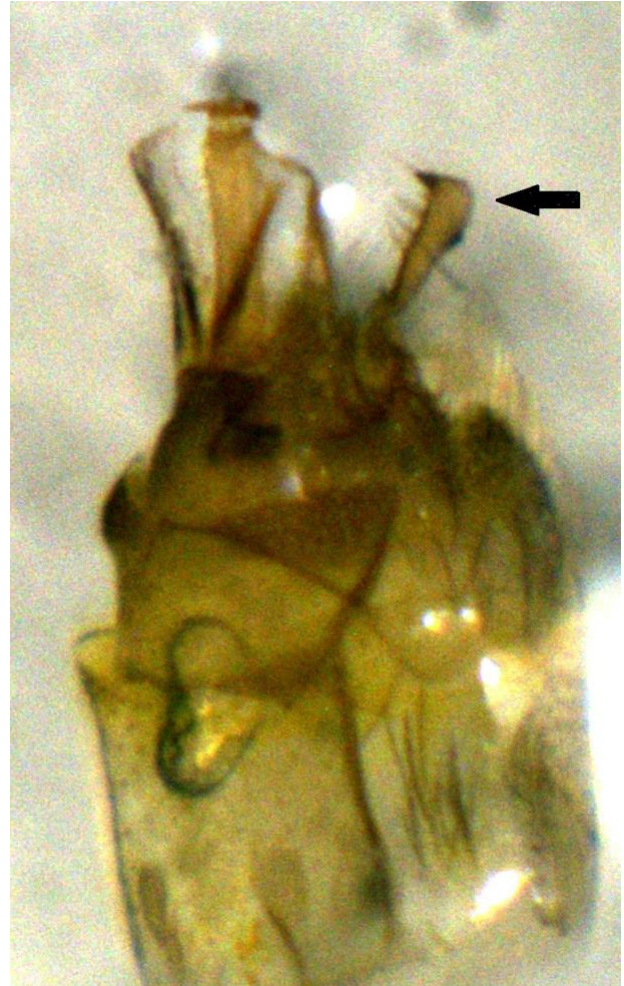
01. Female micro-caddis *Hydroptila lotensis* light-trapped 21 August 2018. Length 3 mm.



02. Female micro-caddis *Hydroptila lotensis* light-trapped 21 August 2018. Set specimen.

The story starts with the finding of 12 micro-caddis in a light trap set on the night of 21st August 2018 (01, 02). They were all found to belong to the genus *Hydroptila* (family Hydroptilidae), which contains 14 British species. These can be distinguished only by the microscopic examination of genitalia, preferably male. Only two of the 12 were male and dissection of these, surprisingly, showed them to be the rare riverine species *H. lotensis*, in which the male claspers end in a distinctive upturned spine (03) and tergite X is almost parallel sided and with a slot in its distal margin (04). The 10 females all had genitalia consistent with *H. lotensis*. Then five females found in a light trap set on 2nd September and two other females that had been preserved from a trap set on the 21st July were also identified as *H. lotensis*. The differences between the female genitalia of *H. lotensis* and those of the common species *H. sparsa* are slight, but sufficient to make a reasonably firm identification. The crucial feature is the shape of the internal ventral sclerite which has a more tapering stem than that in *H. sparsa* (05).

The light trap in each case was a Robinson design fitted with a 150 watt MV bulb and run all night. On each occasion the night was warm (14-16°C), overcast and calm. Running through the farm, 20 metres from where the trap was set on each occasion, is Wynd Brook running from the Malvern Hills and dissipating in low meadows which eventually drain into the Severn. It is only 1-2 metres wide but never runs dry. The possibility that this brook was a site for breeding is discussed below.



03. Male genitalia of *Hydroptila lotensis* light-trapped 21 August 2018 showing clasper with upturned spine arrowed. Lactic acid preparation.



04. Male genitalia of *Hydroptila lotensis* light-trapped 21 August 2018. Tergite X almost parallel sided and with a slot in its distal margin arrowed. Lactic acid preparation.



05. Female genitalia of *Hydroptila lotensis* light-trapped 21 July 2018 showing internal ventral sclerite with tapering stem arrowed. Lactic acid preparation.

The first British record of *H. lotensis* was 12th August 1959 from Hampton Bishop on the River Wye near Hereford determined by D. E. Kimmins (Kimmins, 1961). Lack of earlier records is probably attributable to this being one of the micro-caddis which are grossly under recorded and this particular species could well have been passed over as *H. sparsa*, assuming it had ever been encountered by a caddis collector. The next record was in June 1972 by one of us (I.D.W.). He had obviously noted, and out of interest collected, a number of *Hydroptila* pupae from the River Wye at Symonds during his PhD studies that were on Leptocerid larvae. Some emerged as adults. The samples languished amongst 'to be identified' samples for some 30 years before being identified!

In 1983 and 1984, B.E. Miles and J.E. Cooter took several adults in and near Hereford. The general impression that this was a River Wye species changed when David Pryce malaise-trapped two males at Preston Mountford on the River Severn above Shrewsbury. On the continent it is a species of rivers (Malicky 2014) and that seemed to be the case in this country too. However, between 2004 and 2007 P.G. Bradley light-trapped about 50 adults at Upper Maund, Bodenham in Herefordshire. There are small streams nearby, but the largest sizeable river is the Lugg, a tributary of the Wye, and that is about 3 km away.

The present records from Carpenter's Farm, the first for Worcestershire (VC37), raise the question of local breeding in

nearby Wynd Brook. The nearest river to the capture site is the Leadon situated about 6 km away and the nearest point on the Severn is 9 km away. The Wye is at least 16 km distant. So is it actually a large river species? If it is, the adults from Upper Maund and Carpenter's Farm must have been part of immense swarms away from their rivers, most of whom would perish before ever reaching a new site. At both sites adults have been taken on more than one occasion, which suggests that this dispersal happens frequently, or that the species is especially unlucky in being often swept away from its rivers when swarming. The latter does indeed happen for other species. In Britain, *H. lotensis* may end up being restricted to two river systems, the Severn and Wye, though the evidence may be pointing to it not being a species restricted to rivers. The question is likely to take some time to answer. The larvae cannot be distinguished from those of other *Hydroptila* species so it is not possible to just take a sample and see if they are of that species; they need rearing to adult, which is tricky and time-consuming if specimens are initially collected as larvae, but comparatively easy if collected as sealed up pupal cases. A local search of Wynd Brook is needed and this we hope to explore next season.

Finally, light trappers could provide valuable information by taking specimens of micro-caddis (easy with a pooter) and placing them in 70% alcohol for referral to one of us. We would be delighted to receive them!

#### References

- Kimmins, D.E. 1961. A species of *Hydroptila* (Trichoptera) new to Britain. *Entomologist's Gazette* **12**:32-35.  
 Malicky, H. 2014. Lebensraume von Kocherfliegen (Trichoptera). *Denisia* **34**:1-280

#### Images

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