

## Sandy riverflies



**Sandy rivers are a surprisingly rich but neglected habitat. At first glance the banks and islands of bare stones and sand that skirt river edges appear to be devoid of life, however, closer inspection reveals them to be rich in rare flies and beetles.**

**The shoals of sand and bare stone at the edge of rivers are referred to as Exposed Riverine Sediment – or ‘ERS’. This unusual habitat has been recently shown to support unique and diverse communities of rare beetles, but this is not the only reason these areas are important; they support three endangered and declining flies listed on the UK Biodiversity Action Plan.**

One of the Biodiversity Action Plan (BAP) flies is a **‘stiletto’ fly** (Therevidae): the ‘Southern silver stiletto-fly’ (*Cliorismia rustica*). This is a moderately large, furry fly, and is easily recognised by the silvery males that glitter as they dance in the sunlight. Stiletto larvae are long, thin, white and worm-like. They are ferocious predators with a glossy hard skin that lets them slither through dry sand as they chase their insect prey. The second fly species the project is studying is a rare crane fly *Rhabdomastix laeta* whose larvae live in the shallow water at the edge of sandy streams and rivers.

In 2005 Buglife secured funding from Natural England, The Environment Agency, Scottish Environmental Protection Agency (SEPA) and the John Spedan Lewis Trust Fund, to investigate the fly fauna of this poorly understood habitat. Since then further funding from the Environment Agency and the Countryside Council for Wales has meant that Buglife has been able to continue increasing knowledge about the ERS habitat and associated invertebrate species through further surveys.

### **Good news!**

Another stiletto fly that was previously on the BAP list, is the ‘Northern silver stiletto-fly’ (*Spiriverpa lunulata*). Due to more detailed surveys and information gathered on its numbers and locations in the UK this species has now been removed from the BAP list.

### **Project Aims**

- To increase knowledge about Exposed Riverine Sediment and associated invertebrate species;
- To increase awareness of Exposed Riverine Sediment and associated invertebrate species; and
- To increase conservation of Exposed Riverine Sediment and associated invertebrate species.

## Progress

- Initial surveys showing ERS to be rich in fly species with 850 species recorded, **87 of which were nationally rare or scarce species**, with six species that are new to Britain.
- Two year survey (2005 – 2006) of 18 rivers in England, Wales and Scotland revealing expanded ranges for stiletto-flies including the first record for Scotland and the discovery of three new fly species to Britain.
- Survey of the river shoals – ERS – in Cheshire finding a number of new records for the Southern silver stiletto fly, indicating that Cheshire is a strong hold for the fly and the county is an important area for future conservation of this species.
- Development of a method of recording the characters of river shores to assess their ability to support important ERS invertebrates.
- Initial report assessing gravel extraction on ERS invertebrate communities in the North West

## Conclusions

The survey work and associated publications from this project are increasing knowledge and understanding of ERS and associated sandy riverflies.

## Plans

These surveys provide a starting point for future research into ERS habitats. The continuing work of Buglife and others on this habitat is revealing a whole new field of study and highlighting pressing conservation issues.

## Key Publications and Project Reports

Drake, C.M (2007) *Rhaphium suave* (Loew) (Diptera, Dolichopodidae) new to Britain. *Dipterists Digest* 2007 14, 1-4

Drake, C.M (2007) *Hilara tenella* (Fallén, 1816) (Diptera, Empididae) new to Britain and the Channel Island. *Dipterists Digest* 2007 14, 5-7

Drake, C.M (2007) *Hilara aartseni* Chvála, 1997 (Diptera, Empididae) new to Britain. *Dipterists Digest* 2007 14, 8-11

Drake, C.M., Godfrey, A, Hewitt, S.M. & Parker, J (2007) *Fly Assemblages of Sandy Exposed Riverine Sediment: Final Report – April 2007*. Buglife.

Hewitt, S. M., Parker, J & Kindemba, V (2010) *ERS invertebrate habitat survey of the rivers Afon Ystwyth and Afon Rheidol in Ceredigion – March 2010*. Buglife.



This project has been funded by Natural England, The Environment Agency, Scottish Environmental Protection Agency (SEPA), the John Spedan Lewis Trust Fund and the Countryside Council for Wales.

Buglife – The Invertebrate Conservation Trust  
First Floor, 90 Bridge Street, Peterborough, PE1 1DY

Telephone: 01733201210      Email: [info@buglife.org.uk](mailto:info@buglife.org.uk)

[www.buglife.org.uk](http://www.buglife.org.uk)

Registered in England at First Floor, 90 Bridge Street,  
Peterborough, PE1 1DY.  
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Acknowledgements: Sheet prepared by Suzannah Dangerfield.