

## Rare Water beetles in the River Teme at the Fold at Bransford.

Will Watson

Two years ago Will Tooby the owner of the Fold had shown me his special place down by the river. This location is not normally accessible to the public or visitors to the Fold and there is a steep drop down to the river. But what I saw was perfect riffle - at least

perfect for riffle beetles and other aquatic invertebrates. In the 1970's and 80's the riffle at The Fox at Bransford just downstream of the road bridge was a favourite collection point for Garth Foster, Secretary of the Balfour-Browne Club and others. Many rarities were discovered there including *Hydraena pulchella* RDB 3, *Macronychus quadrituberculatus* RDB 3 and *Normandia nitens* RDB 2. However, this locality is no longer accessible due to the building of houses which now front the river there.



*The riffle on the Teme at the Fold with high water looking downstream: 1<sup>st</sup> June 2019*

When the Worcestershire Recorder's field meeting was arranged at the Fold at Bransford on 1<sup>st</sup> June 2019, only a mile upstream from the latter site I was determined to attend.

The site did not disappoint. I concentrated my efforts on the riffle itself and collected some 70 or so beetles. *Macronychus quadrituberculatus* was immediately apparent, it is one of the largest

riffle beetles in the UK and has very long legs and lives on submerged branches. They were there in large numbers; I estimated in excess of 40 individuals. I was familiar with this species because I had collected two individuals in the River Severn on another Worcestershire Recorder's field meeting at Clevelode in August 2015.



01. Riffle beetle *Macronychus quadrituberculatus* Family: Elmidae. Size: 3 mm. River Teme. Will Watson

I also dipped amongst the logs and branches trapped against overhanging trees which revealed two *Helophorus* species. However, I couldn't reach the far side of the river where there was overhanging riverine flora which would have provided a more sheltered habitat for other species of water beetle.

I sent the riffle beetles that I couldn't identify to Professor Garth Foster; 40 in total. One of these turned out to be the very rare *Normandia nitens*, recently re-named *Riolus nitens* (Müller) which is classed IUCN Endangered. The last record for Worcestershire was 29<sup>th</sup> August 1980 from the riffle below the bridge at Bransford. (*The Water Beetle Review*, Foster, G. N., 2000). In the 1970s and 80s there are very few *R. nitens* records in the UK. Holland's 1980 map included records for 1960 onwards for two hectads on the Rivers Wye and Teme and earlier records for from another five hectads. There is a flurry of recent records in the National Biodiversity Network (NBN, 2019) with 41 records listed. Sixteen of those records were supplied by the Balfour-Browne Club recording scheme and have been fully vetted by the Scheme organiser. These include the records are from the lower River Wye on the Welsh/English border from 2014 (NRW 2018). This recent

survey for *Riolus nitens* within the lower River Wye resulted in the beetle being confirmed in a 10-mile stretch of the of the river. "Harmer, found *R. nitens* in five out of 16 sample sites along the Monmouth section of the River Wye. The species being taken from submerged tree roots, overhanging branches with and without entangled debris and on submerged boulders, the common feature being the rapid speed of water flow" (Foster, 2019). It is very likely to require the same combination of features in the River Teme. These findings show that that *R. nitens* is still confined to the lower reaches of the River Wye in Wales and the River Teme in Worcestershire. The Teme has suffered in recent years from diffuse pollution from sewage and farming, and siltation (Natural England, 2014), therefore I suspect *R. nitens* now occurs in lower numbers. However, its current distribution, status and threat level in the River Teme needs to be determined by searching a far wider section of the river.

The species was known from Shropshire (Osborne 1972) in the Late Devonian; approximately 23 000 to 11 700 years before present from sub-fossil remains.



02. Riffle beetle *Riolus nitens* Family: *Elmidae*. Size: 2 mm. River Teme. Udo Schmidt.

Thorough biological monitoring for iconic rare beetles such *M. quadrituberculatus* and *R. nitens* should be carried out as standard protocol to establish their status and distribution. This will also fulfil the remit for the Site of Special Scientific Interest (SSSI) condition assessment of the river. Such information will enable a better understanding of how conservation measures to improve the biology and water quality of the river and its tributaries are progressing.

A taxon is Endangered when it is facing a very high risk of extinction in the wild in the near future, as defined by any of the following criteria.

Population reduction in the form of the following

1. An observed, estimate, inferred or suspected reduction of at least 50% over the last 10 years or three generations, whichever is longer based on any of the following:
  - (a) direct observation
  - (b) an index of abundance appropriate to the taxon
  - (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
  - (d) actual or potential levels of exploitation
  - (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.
2. A reduction of at least 50%, projected or suspected to be met within the ten years or three generations, whichever is the longer based on any of above.

|                                       |                 |            |                             |
|---------------------------------------|-----------------|------------|-----------------------------|
| <i>Elmis aenea</i> *                  | Least concern   | SO79535305 | The Fold Bransford (riffle) |
| <i>Esolus parallelepipedus</i> *      | Least concern   | SO79535305 | The Fold Bransford (riffle) |
| <i>Limnius volckmari</i> *            | Least concern   | SO79535305 | The Fold Bransford (riffle) |
| <i>Helophorus brevipalpis</i> *       | Least concern   | SO79535305 | The Fold Bransford (riffle) |
| <i>Oulimnius tuberculatus</i> *       | Least concern   | SO79535305 | The Fold Bransford (riffle) |
| <i>Riolus nitens</i> *                | Endangered      | SO79535305 | The Fold Bransford (riffle) |
| <i>Macronychus quadrituberculatus</i> | Near Threatened | SO79855308 | The Fold Bransford (logs)   |
| <i>Helophorus aequalis</i> *          | Least concern   | SO79855308 | The Fold Bransford (logs)   |

Water beetles in the River Teme: Will Watson 1<sup>st</sup> June 2019 determined by Garth Foster\*

### Acknowledgement

Many thanks to Udo Schmidt for giving us permission to use his photograph of *Riolus nitens* phot. His excellent photos can be seen in *Beetles of Britain and Ireland*, Volume 1: *Sphaeriusidae to Silphidae* by Andrew G. Duff. See also <https://www.flickr.com/photos/30703260@N08/>

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### Images

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