

Fluorescent fox faeces: passing a motion of concern

Paul F. Whitehead

Moor Leys, Little Comberton, Pershore, Worcestershire, WR10 3EH. Email: paul@thewhiteheads.eu

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Introduction

Mynydd Cilan, Llanengan, Caernarvonshire is an exposed headland on the southern coast of the Llŷn Peninsula with short grazed turf and patchy bracken on light friable soils. Open water and fen have developed immediately inland following historical peat cutting. The area is characterised by scattered farmsteads typical of this part of Wales.

Skirting the seaward fringe of Mynydd Cilan on 23 January 2016 my attention was drawn to three vivid blue droppings of Red Fox *Vulpes vulpes* L., 1758 at SH289239 52°47'N 4°32'W (01).



01. Vivid blue faeces of Red Fox, Mynydd Cilan, Llŷn Peninsula, Caernarvonshire, 23 January 2016.

Discussion

The overwhelming probability is that this fox had consumed blue-dyed rat poison, probably containing an anticoagulant, which had been digested and adsorbed onto the faecal matter. Two of the fox droppings were collected and air dried until they weighed about six grams.

They were then fragmented and the contents examined under a stereoscopic microscope with a respirator. The diet of this fox was perfectly normal and there was no evidence of indirect rat-poison intake from a rat; it is therefore presumed that the rat poison was ingested directly.

The two pellets contained the remains of one mammal, an immature Field Vole *Microtus agrestis* (L., 1761) and four species of beetle *viz.* a single carabid *Carabus problematicus* Herbst, 1786 (represented by a metafemur and tibia) and Pterostichinae genus *indet.* together with two fossorial geotrupids namely four *Typhaeus typhoeus* (L., 1758) and two *Geotrupes stercorarius* (L., 1758).

There have been numerous instances of larger mammals including pets being significantly affected by ingested rat poison which has been placed in situations accessible to them. The inferences from this in terms of potential impacts on the food-chain are clear.

Observations on the Coleoptera

While the content of the fox pellets is normal in the sense that where they cohabit foxes will actively seek out geotrupid and scarabaeid beetles (Whitehead, 2007), often to the exclusion of other food items (02).

In this instance the phenological implications of the diet of the fox warrant comment.



02. Fragmentary *Geotrupes spiniger* (Marsham, 1802) *in situ* in the stomach cavity of a dead Red Fox which probably died during October 2007. Overbury, Worcestershire, SO9638, 23 March 2008.

In the exceptionally warm British winter of 2015-2016 many invertebrates did not enter dormancy and in this instance that probably includes the *C. problematicus* consumed by the fox.

T. typhoeus which is abundant on the Llŷn Peninsula is a well-known hibernal insect (Fremlin & Darby, 2010) but *G. stercorarius* is not and it may be that this too has been favoured by the warm winter conditions.

During January 2016 several species of *Aphodius* were found to be active at Morfa Harlech VC46 SH5632 and larvae of *Aphodius* subgenus *Melinopterus* were noted at Mynydd Cilan on 23 January 2016.

Observations on geotrupids in the West Midland region

In terms of the West Midland region winter-active *Geotrupes* spp. are evidently rare and the Minotaur Beetle *T. typhoeus* is highly localised mostly on Triassic or aeolian sediments in the Bewdley-Stourport-Kidderminster area (e.g. McGee, 2003). In Britain *Geotrupes* spp. have been subject to marked widespread decline during the past 50 years. In December 1985 a *Geotrupes spiniger* (Marsham, 1802) was observed in flight at Bredon, Worcestershire (SO9236) on 16th in an ambient temperature of 12°C and a *Geotrupes stercorarius* was observed at Little Comberton, Worcestershire (SO9643) on the 7th of that month (Whitehead, pers. obs.).

A *T. typhoeus* in flight at Little Comberton, Worcestershire (SO9643) on 11 July 2005 in an ambient temperature of 28°C was most probably a dispersive stray; although this species may be overlooked it is absent on Bredon Hill. In Herefordshire where *T. typhoeus* is uncommon, I recorded it new to Moccas Park on 28 August 1993 when the remains of a female were extracted from the voided pellet of a Little Owl *Athene noctua* (Scopoli, 1769).

Conclusion

The colour of vivid blue Red Fox faeces on Llŷn Peninsula during January 2016 is explained by its consumption of dyed rat poison possibly in some quantity. Although the diet of the fox was otherwise normal its ability to gain access to rodenticides in wild open traditionally-farmed countryside strikes a universal note of concern.

References

- Fremlin, M. & Darby, M., 2010. Seasonal activity of *Typhaeus typhoeus* (Linnaeus) (Geotrupidae). *The Coleopterist* 19:155-164.
- McGee, K., 2003. Records of note 2003. *Worcestershire Record* 15:33-36.
- Whitehead, P.F., 2007. *Serica brunnea* (L.) (Col., Scarabaeidae) predominating in the diet of a Red Fox (*Vulpes vulpes* L.) at Clee Hill, Shropshire. *Entomologist's Monthly Magazine* 143:180.