

The Fly Bug, *Reduvius personatus* (Linnaeus, 1758) and its 'Masked Hunter' nymph: description and status in Worcestershire

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The Fly Bug, *Reduvius personatus* (Linnaeus, 1758) (Hemiptera, Reduviidae), is a synanthropic bug of worldwide distribution that has now become quite scarce in Britain owing to modern housing that offers little in the way of nooks and crannies that the bug needs for shelter. It is found mainly in south and central England.

It is a remarkable insect, 16-18 mm long (01,02) and one of only three British species in the family Reduviidae (assassin bugs). It is related to the reduviid bugs that transmit Chagas disease in South America, a disease caused by a protozoan parasite rather like the trypanosomes that cause African sleeping sickness. But *R. personatus* does not transmit any parasitic disease, although it can inflict a painful bite with its piercing mouthparts if roughly handled. It flies well and is a voracious predator with a catholic taste of insects such as silver fish, flies, booklice, and other invertebrates; bed bugs are a favourite! It is also nocturnal and drawn to light, probably instinctively, but also with ulterior motives. I have observed them in my home stationed on a wall near a desk lamp waiting for light-attracted insects. I have also found dead fly bugs wrapped up in silk that have themselves become prey to spiders.



01. Adult *Reduvius personatus*. Rosemary Winnall.



02. Set specimen of an adult dating from 1949 showing wings. Martin Skirrow.

Camouflage strategy

The flightless nymphs of *R. personatus* are remarkable in that they have evolved an advanced and complex method of camouflage, an

ability also found in some other reduviid bugs. The nymph covers itself with granules of dust and detritus so that it looks like a scrap of dirt (03,04). This it does with combs formed on the tarsi of its hind legs which enable it to place particles of detritus on its back where there are specialised receptacles called trichomes. Short trichomes (anchor setae) retain small dust-sized particles and longer ones with adhesive matter retain larger bits of detritus, including the corpses of insects that the bugs have sucked dry. The nymphs re-apply their camouflage after moulting. There are some remarkable scanning electron microscope images of these structures in a paper describing research on this camouflage mechanism (Weirauch, 2006) which seems to be a rare phenomenon among insects. The purpose of the camouflage doubtless helps to protect the bugs from predators, but it is thought that the main strategy is to help them stalk their victims. This has earned them the evocative name Masked Hunter. Indeed the original Latin names chosen by Linnaeus and Fabricius points to this: *reduvia* — 'remainder' or 'fragment'; *personatus* — 'masked'.



03. Nymph of *Reduvius personatus* camouflaged with dust particles 14.7.2009. Martin Skirrow.

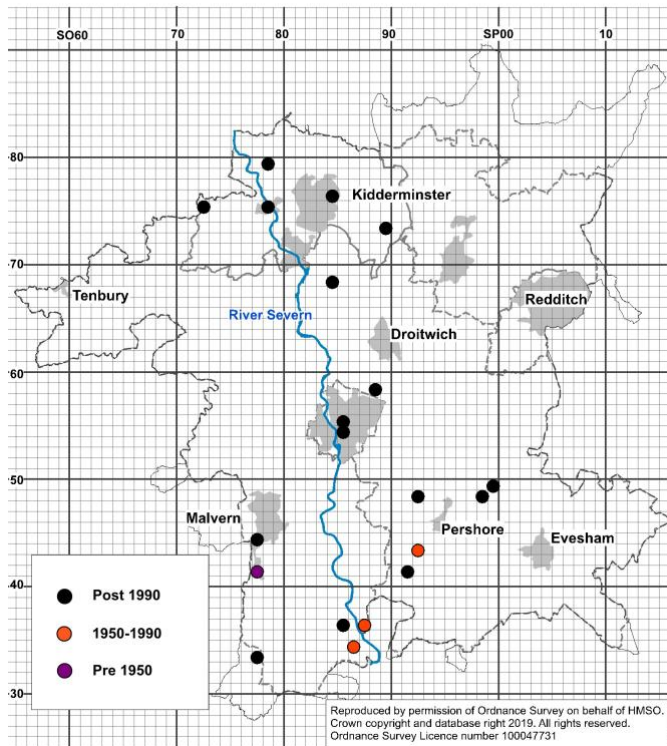


04. Nymph of *Reduvius personatus* camouflaged with dust particles, backlit. Rosemary Winnall.

Distribution in Worcestershire

In Worcestershire *R. personatus* has been recorded from 20 sites, including old timbered-framed buildings at Carpenter's Farm, near Berrow, where I live. The most recent records are of a nymph and an adult both found, most appropriately, in the Worcestershire Wildlife Trust offices at Lower Smite Farm in July 2019. The adult was found by Simon Wood in an office in a small building adjacent to the main farm house. The nymph by Jess Nott in an upstairs office in the main farmhouse. Apart from a single record in 1949, all other records date from after 1989. The 1949 record was a single adult that I collected in a rambling Victorian house in Upper Welland (02). The distribution of the 20 sites is shown in 05 prepared by Worcestershire Biological Records Centre. There is a moderate predominance in the south of the county; the records in the north around the Wyre Forest area probably reflect a high degree of recorder activity in that area. Brett Westwood saw a dust-covered nymph on the prowl in his house in Stourbridge. (Westwood 2011)

Reduvius personatus records held by WBRC as at 31/10/19



05. Sites in Worcestershire where *Reduvius personatus* has been recorded. Simon Wood.

Acknowledgements. I wish to thank Simon Wood for preparing the distribution map shown in 05, to Rosemary Winnall for providing the photographs shown in 01 and 04, and Harry Green for drawing my attention to the paper by Weirauch and for providing a copy of it.

References

Weirauch, C., 2006. Anatomy of disguise: camouflaging structures in nymphs of some Reduviidae (Heteroptera). *American Museum Novitates*: No.3542;1-18.
 Westwood, B. 2012. Masked Hunter on the hearth *Reduvius personatus*. *Worcestershire Record* 32:26

Images

- 01. Adult *Reduvius personatus*. Rosemary Winnall.
- 02. Set specimen of an adult dating from 1949 showing wings. Martin Skirrow.
- 03. Nymph of *Reduvius personatus* camouflaged with dust particles 14.7.2009. Martin Skirrow.
- 04. Nymph of *Reduvius personatus* camouflaged with dust particles, backlit. Rosemary Winnall.
- 05. Sites in Worcestershire where *Reduvius personatus* has been recorded. Simon Wood.