

Diminutive merlins descend from the uplands to low and coastal areas



Giant puffball fungi pop up like bubblegum around pastures and woodland edges



TINY & WILD ROSS PIPER

A hidden world

The truth about insect declines? There's so much we don't know.

I'm biased, but insects are the most fascinating animals on the planet. They're fabulously diverse, and they also go back a long, long way, probably originating some 480 million years ago. To date, just over one million species of insect have been identified, with millions more awaiting description. And our knowledge of even those described species is woeful.

Filling in these blanks has never been more important. Insects exist in such numbers and live in such bewildering ways that they pull at every single thread of the terrestrial and freshwater domains, and represent a barometer of the health of the environment. Habitat loss, the intensification of agriculture – especially the large-scale use of pesticides – climate change, invasive species and electromagnetic radiation are simultaneously depriving them of habitat, poisoning them and creating a warmer world that puts beleaguered populations under even more

strain. As species are lost, links in the web of life are also lost – with unknown consequences.

We need to fill in these gaps in our knowledge. We also need to nurture the curiosity of children – encouraging an appreciation of life in all its forms. I've yet to meet a child who isn't interested in nature, so we should do whatever we can to show them the value and delight of observation and discovery. Insects are perfect in this respect: they're small, and they're everywhere. Watching a lion hunt on the African savannah may be out of reach for most, but equally compelling struggles between much stranger, albeit smaller beasts are taking place in even the smallest green spaces.



Dr Ross Piper is an entomologist, zoologist and explorer. His book *Animal Earth* is a cutting-edge introduction to animal diversity. Find out more at rosspiper.net



Malachius aeneus – almost nothing is known about this striking beetle.

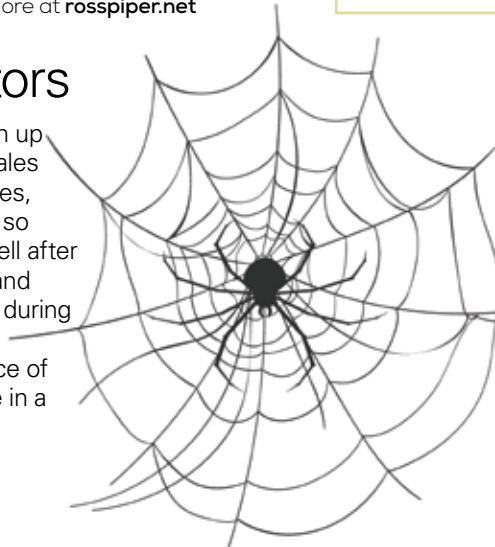
MYSTERIOUS MINIBEASTS

We know very little about the lives of most insect species. Here are five UK residents that deserve more study.

- *Hormopeza obliterata*: Adult flies are found around burning stumps and in bonfire smoke, where they prey on smoke flies (*Microsania* sp.) – the biology of which is also unknown.
- *Cratomus megacephalus*: The biology of this large-headed parasitoid wasp is a mystery – and the same goes for the majority of parasitoid wasp species.
- *Malachius aeneus*: The larval biology of this handsome beetle is unknown. It's probably predatory, and might make use of thatched roofs, though that can't be its natural habitat.
- *Osphya bipunctata*: I've only seen this beetle once, and its larval biology is as yet undetermined.
- *Telechrysis tripuncta*: The larval biology of this micro moth may be associated with dead wood in hedgerows.

Eight-legged visitors

Why do more spiders seem to turn up in our homes this month? Well, males are moving around looking for mates, while many females are pregnant, so appear larger. Populations also swell after the late-summer insect bonanza, and spiders often seek shelter indoors during wet spells. To remove one, place a cup over it and gently slide a piece of paper or card underneath. Release in a safe space outside, with foliage or crevices for shelter.



EVENTS RSPB HALLOWEEN

Enjoy a spooktacular time at our reserves this October. Embrace the wonders of autumn or follow one of our many Halloween trails to see what eerie and unearthly creatures lurk in the shadows. Head to rspb.org.uk/halloween to find out what's on near you.



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RSPB Pocket book of insect anatomy, £15.99