

***Ophiocordyceps gracilis* (Grev.) G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora**

Rosemary Winnall

On 3rd April 2017 I was gardening at home at Bliss Gate near Bewdley when I noticed growing out of the ground a few small yellow-orange club fungi looking like little lollipops on sticks. There were 12 in all (in an area 30cms x 30cms) and each measured about 3 cms above the moss (01). I recognised them as a species I'd seen a few years before but which I never expected to find in a garden flowerbed.



01. *Ophiocordyceps gracilis*, Biss Gate, 3 April 2017. R. Winnall.

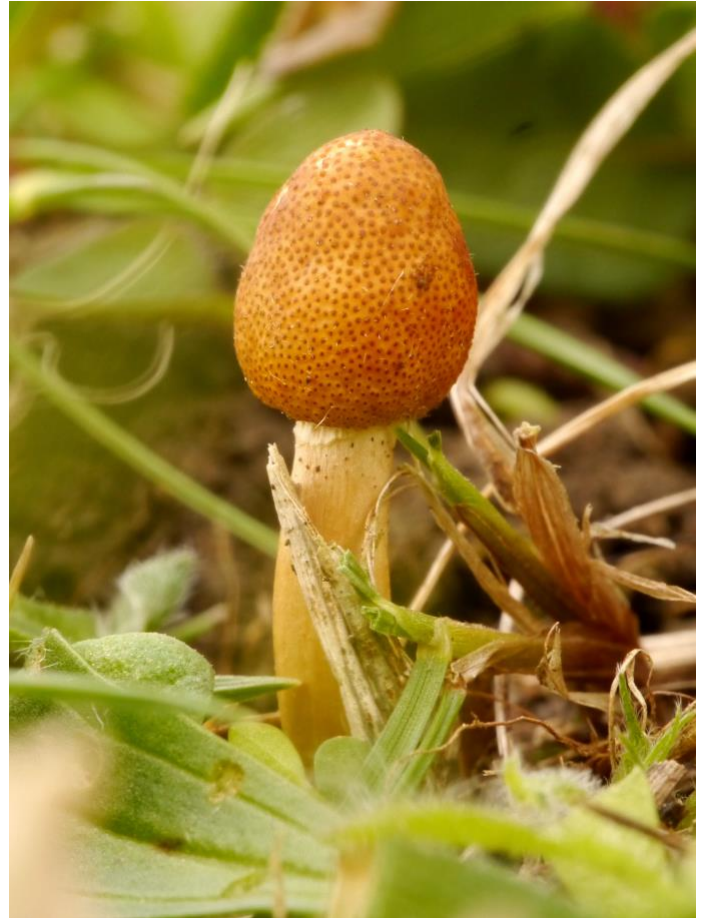
John Bingham first showed us these Ascomycete fungi (previously called *Cordyceps gracilis*) in May 2008 during a field meeting to Bell Coppice meadow on the Shropshire side of the Wyre Forest. The following day, now alerted to this species, I found three fruiting bodies in our meadow at Bliss Gate in Worcestershire.

The life cycle of this fungus is interesting as it is parasitic on caterpillars of swift moths in the Hepialidae family. These moths feed on the roots of various plants and most take two years to mature, living a mainly underground existence as larvae. The fungal spores germinate on the caterpillar, hyphae penetrate its skin, and then slowly grow through its circulatory system eventually killing the insect before it pupates in the soil. When conditions are right, the fungus then produces a single fruiting body (from where the spores will disperse) that grows out from the caterpillar and up above ground. When this aerial club is found one can very carefully dig down to expose the mummified caterpillar with the fungus growing out from it (02).



02. *Ophiocordyceps gracilis*, Biss Gate, 3 April 2017. R. Winnall

When I discovered my garden specimens I immediately alerted some local mycologists and moth recorders suggesting that they look out for this strange uncommon fungus that fruits in the spring. I was very impressed when Oliver Wadsworth emailed me the following day to say that he had found some on Worcestershire Wildlife Trust Reserve Windmill Hill (SP0706 4726) near Evesham! He recorded four fruiting bodies within 0.5m² of each other on a steep south-east-facing ridge of unimproved calcareous grassland that had been cattle grazed until recently (03 & 04). This is another good record for Worcestershire.



03. *Ophiocordyceps gracilis*, Windmill Hill, 4 April 2017. O. Wadsworth



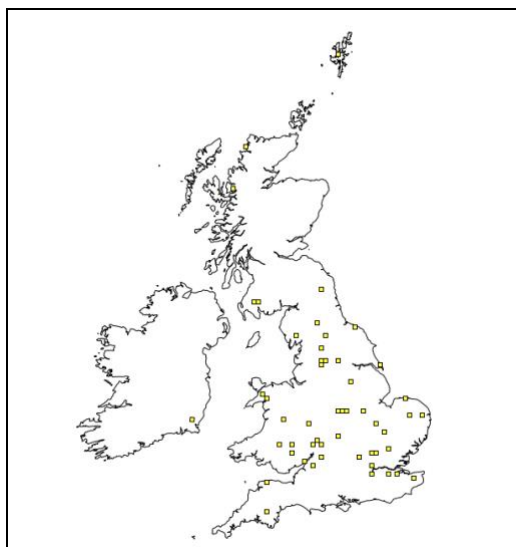
04. *Ophiocordyceps gracilis*, Windmill Hill, 4 April 2017. O. Wadsworth

The NBN Gateway has only 94 records for this species across Britain (06) so it is not often recorded, but might easily be overlooked. The autumn-fruiting Scarlet Caterpillarclub *Cordyceps militaris* is more often found: 1158 records on NBN (07). This is larger and more

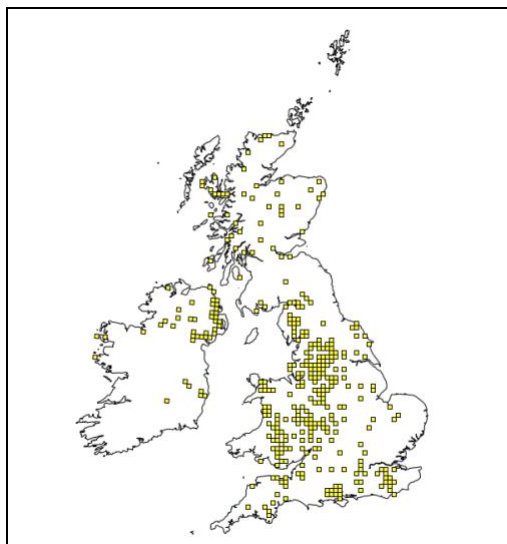
conspicuous, bright orange/red in colour, and parasitises a variety of different moth and butterfly larvae (05).



05. *Cordyceps militaris*, 4 November 2005 Abergavenny. R. Winnall



06. NBN Gateway national distribution map of *Ophiocordyceps gracilis*



07. NBN Gateway national distribution map of *Cordyceps militaris*

There are another six of these entomogenous fungi species recorded in Britain. They are rarely found and parasitise beetles, flies, wasps, spiders and underground *Elaphomyces* truffles. Over 100 species are known worldwide and names for these intriguing fungi include ‘plant worms’, ‘caterpillar fungi’ and ‘vegetable wasps’.

In China and Tibet a close relative *Ophiocordyceps sinensis* (previously *Cordyceps sinensis*) is highly regarded for its medicinal properties and has been used from ancient times as a tonic and for the treatment of many medical conditions. It made the headlines when successful Chinese athletes were found to be taking it to improve their performance, and research has indeed shown that it improves lactate energy metabolism which can provide greater physical performance. It is readily available on the internet if anyone wants to try it!

References

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3121254/>

Images

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