

***Hedychrum nobile* (Scopoli, 1763) (Hymenoptera: Chrysididae) confirmed in Worcestershire.**

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A breeding population of *Hedychrum nobile* (Scopoli, 1763) has been confirmed at the Devil's Spittleful Nature Reserve near Bewdley, Worcestershire. Grid Ref: SO 80488 74856.



01. *Hedychrum nobile* female at the Devil's Spittleful. 30.06.2018. K.McGee.

Regular readers may recall an article I wrote for the Autumn 2018 *Worcestershire Record* in which I described the chance find of an unfamiliar 'jewel wasp' at the Devil's Spittleful on 30.06.2018 (McGee, 2018). Some of the text used in that article is repeated below.

During hot sunny weather on 30.vi.2018 at the Devil's Spittleful SSSI reserve I became aware of a small brightly coloured wasp moving erratically close to the ground along the edge of a sandy track. I immediately recognised it as being one of the 'cuckoo' jewel wasps in the family Chrysididae. Furthermore, my first thought was that I'd stumbled upon a specimen of *Chrysis viridula* L. due to the overall size and extensive patches of metallic crimson-red colouration on the thorax and abdomen. *C. viridula* is a scarce species in Worcestershire so I was immediately excited. After a frustrating amount of time, and numerous failed attempts, the wasp eventually remained stationary for a sufficient amount of time for me to take a few decent photographs. I didn't collect the specimen; a big mistake!

Closer examination of the images at home revealed that I had actually photographed a *Hedychrum* species. Unfortunately, I learned that there are now two *Hedychrum* species resident in the UK, and both require detailed microscopic examination to determine the species. Both are cleptoparasites of large 'digger wasps' (Sphecidae) in the genus *Cerceris*. *Hedychrum niemelai* Linsenmaier is a cleptoparasite of *Cerceris quinquefasciata* (Rossi) and *C. ruficornis* (F.). Neither of these two species occurs anywhere in the midlands and never have; both are scarce digger wasps found only in southern and eastern England. Consequently, there are no records of the red-listed *H. niemelai* away from those sites. The species of *Cerceris* digger wasp occurring abundantly at the Devil's Spittleful (and at many other sandy sites throughout England and Wales) is *Cerceris arenaria* (L.). Indeed, the *Hedychrum* wasp I photographed was actively inspecting freshly excavated burrows created by females of *C. arenaria* in the sandy track.

The species description and notes on the BWARS website for *H. niemelai* explains how this species should now be checked as the very similar *H. nobile* is now resident in the UK. Helpfully, a link is provided to a recent paper describing the two species (Baldock &

Hawkins, 2016). It transpires that *H. niemelai* is a long-term resident of Britain, but *H. nobile* is a recent arrival from the continent. The sole host of *H. nobile* is *C. arenaria*, much the most widespread species within the genus. The paper also describes the physical differences separating the two species; and this was where I learned of my mistake in deciding not collecting the specimen found in 2018. All differences, mainly the genitalia of each sex, require microscopic examination.

On 13.07.2019 during a visit to the Devil's Spittleful three specimens of a *Hedychrum* species were observed close to the same location where I had photographed the individual in 2018. All were in active and rapid flight close to the ground along a sandy path in the vicinity of fresh burrows created by several *C. arenaria*. Approach for photography became increasingly impossible as the jewel wasps were very active and 'camera-shy' in the warm sultry conditions. However, I did manage to collect one specimen for later microscopic examination. I had collected a male and it keyed out readily as *H. nobile* using the keys provided in the recent paper describing *H. nobile* and *H. niemelai* (Baldock & Hawkins, 2016). The mid-tibia of male *H. nobile* has a barely discernible narrow pit towards the apex, whereas male *H. niemelai* has a considerably larger elongated oval pit at the apex which is more obvious (Baldock & Hawkins, 2016). This pit was very difficult to see on my specimen.

I contacted David Baldock, one of the co-authors of the paper describing the two species, to ask if he would be prepared to examine my specimen; I also emailed the images I took during 2018. He replied that he was happy that the images were certainly those of female *H. nobile* and that the specimen I collected was also certainly *H. nobile* based on the fact that the host digger wasps of *H. niemelai*, *C. quinquefasciata* and *C. ruficornis* do not, and have never occurred away from small scattered populations along the south coast and in East Anglia (NBN Atlas, 2019). Furthermore, *H. nobile* is known to have extended in its geographic range during recent years (Baldock, *pers.com*).

It has since transpired that Michael Southall has discovered *H. nobile* on his farm at Norchard on 15.07.2019, and it has also been found by Jean Young at former sand and gravel pits near Grimley during a Worcestershire Recorders field trip on 03.08.2019. Both records were confirmed from photographs by David Baldock.



02. *Hedychrum nobile* female at the Devil's Spittleful. 30.06.2018. K.McGee

**Acknowledgements**

With grateful thanks to David Baldock, who kindly confirmed the identification of my images as female *Hedychrum nobile*.

**References**

Baldock, D. W. & Hawkins, R. D. (2016). *Hedychrum nobile* (Scopoli): A jewel wasp new to Britain and distinct from *H. niemelai* Linsenmaier (Hymenoptera: Chrysididae). *British Journal of Entomology & Natural History*. 29:2016.

BWARS *Species search* [on-line] <http://www.bwars.com/> [Accessed 13.8.2019]

NBN Atlas *Species search* [on-line] <http://www.nbnatlas.org/> [Accessed 13.8.2019]

**Images**

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