

Solitary Bees of Ely Common

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Ely Common covers an area of 2 ha on the eastern edge of the city. It comprises a wildflower meadow and unimproved grassland lined by mature horse chestnut, elm, ash, dogwood, hawthorn, blackthorn and crabapple. A continuous succession of meadow flowers throughout spring and summer provides an important nectar and pollen resource for pollinators that includes bees, wasps and flies. Over the past four years 49 species of solitary bee have been recorded at Ely Common (list below right), including uncommon species such as *Andrena trimmerana*, *Nomada ferruginata*, *Stelis phaeoptera* and *Heriades truncorum*. In addition to cleptoparasites, bees at Ely Common are attacked by parasitic wasps of the genera *Sapyga* and *Gasteruption*.

In 2018 two bee hotels, made by Year 10 students of Ely College, were installed on the common (photos above). These hotels have attracted solitary bees of five species: the leafcutters *Megachile ligniseca*, *Megachile willughbiella* and *Megachile centuncularis*, the mason bee *Osmia leaiana* and the resin bee *Heriades truncorum* (see below). These hotels allow close study of interactions between bee hosts and their parasites.



The Large-headed Resin Bee *Heriades truncorum* moves into Ely!

The scarce bee *Heriades truncorum* (photos left) dominated occupancy of the bee hotels in 2021, with over 200 canes and bramble stems used by this species. Examination of a stem showed 16 provisioned cells + larvae (photo), implying that there are over 3000 cells in the two hotels. The Ely population is currently the most northerly of this species in the UK.

From June to September dozens of females can be seen loading pollen into their nests at the bee hotels. The females often carry blobs of resin with which they seal their cells. The final (external) seal is finished with tiny particles of grit and vegetation pressed into the resin plug to strengthen it. The resin is thought to repel nest parasites and may also contain a fungicide.

SOLITARY BEE SPECIES AT ELY COMMON 2017-2021

- Andrena bicolor*
- Andrena chrysoseles*
- Andrena cineraria*
- Andrena dorsata*
- Andrena flavipes*
- Andrena fulva*
- Andrena haemorrhhoa*
- Andrena minutula*
- Andrena nigroaenea*
- Andrena nitida*
- Andrena praecox*
- Andrena scotica*
- Andrena synadelpha*
- Andrena tibialis*
- Andrena trimmerana***
- Anthophora plumipes*
- Chelostoma florissomne*
- Coelioxys inermis*
- Colletes hederiae*
- Halictus tumulorum*
- Heriades truncorum***
- Lasioglossum albipes*
- Lasioglossum calceatum*
- Lasioglossum morio*
- Lasioglossum pauxillum*
- L. punctatissimum*
- Megachile centuncularis*
- Megachile ligniseca*
- Megachile willughbiella*
- Nomada fabriciana*
- Nomada ferruginata***
- Nomada flava*
- Nomada flavoguttata*
- Nomada goodeniana*
- Nomada lathburiana*
- Nomada marshamella*
- Nomada panzeri*
- Nomada ruficornis*
- Osmia bicolor*
- Osmia bicornis*
- Osmia caerulea*
- Osmia leaiana*
- Sphecodes ephippius*
- Sphecodes geoffrellus*
- Sphecodes monilicornis*
- Sphecodes puncticeps*
- Stelis phaeoptera***



Bee hosts and cleptoparasites at Ely

Andrena mining bees are hosts to cleptoparasitic bees of genus *Nomada*, of which 9 species have been recorded at Ely Common including the Nationally Scarce *Nomada ferruginata* which can be found there on crabapple blossom in mid-April. It parasitises *Andrena praecox*.

In 2019 a male and a female of the rare cleptoparasitic bee *Stelis phaeoptera*, whose host is the common mason bee *Osmia leaiana*, were seen at the hotels.

Patient observation of compacted public paths on Ely Common can be rewarded by the spectacle of small "blood-bees" (genus *Sphecodes*) inspecting nest burrows of their similarly small hosts of the genus *Lasioglossum* ("furrow bees").



A male *Megachile willughbiella* awaits a female at a bee hotel on Ely Common



A female *Coelioxys inermis* seeks out nests of her leafcutter host *Megachile centuncularis* at an Ely Common bee hotel

Leafcutter bees of the genus *Megachile* (photo left) are the hosts of cleptoparasitic sharp-tailed bees of the genus *Coelioxys* (photo right). At Ely Common, *Coelioxys inermis* has been observed inspecting and entering *Megachile* nests at the hotels. *Megachile willughbiella*, the males of which have impressive furry front tarsi (photo above left), is the most common leafcutter using the hotels, although small numbers of *M. centuncularis* and *M. ligniseca* use them each year.