Female *Andrena cineraria*

Andrena cineraria (Linnaeus, 1758)

Ashy Mining Bee / Grey Mining Bee

Beach Tholltach Liath

The Ashy Mining Bee (*Andrena cineraria*), affectionately dubbed the "Panda Bee" for its striking appearance, is a solitary bee species thriving across much of Ireland's landscape. Despite its obvious prevalence, this bee often escapes notice due to its unassuming behaviour and habitat preferences.

Distinctive Features:

- Females exhibit a captivating metallic navy blue sheen on their black abdomens under direct sunlight, a testament to the bee's subtle beauty. Also, the striking grey and black striped thorax is very noticeable identifying feature.
- Males are smaller with a less obvious grey-haired thorax and made almost comical by their fluffy grey moustaches, adding charm to their appearance.

Habitat and Nesting:

Nesting underground, these bees craft intricate tunnels 10-20cm deep, or within vertical earth banks. Each main tunnel hosts several egg chambers, where the female deposits a single egg alongside a nourishing pollen and nectar mix, known as bee bread.

A constant threat to the Ashy Mining Bee, cuckoo bees like *Nomada goodeniana*, (Gooden's Nomad Bee) attempt to hijack these nests to lay their eggs, showcasing the unending challenges solitary bees face.

Other kleptoparasites include *Meloe proscarabaeus* (Black Oil Beetle), which relies on solitary bees to complete its somewhat unique

Male *Andrena cineraria*

All photos: Brian Murray
Last Updated: March 2024

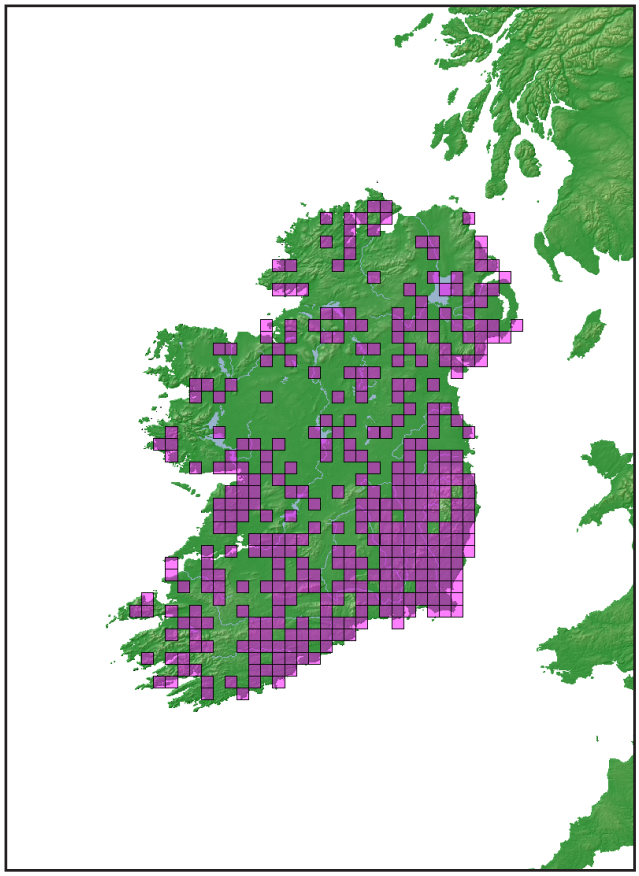
Andrena cineraria

Ashy Mining Bee / Grey Mining Bee
Beach Tholltach Liath

life-cycle. These Oil Beetles are present on the microWild estate and are commonly found, having emerged as adults, hiding under logs and stones only a metre or so from one of the *Andrena cineraria* nesting aggregations.

The microWild estate hosts at least three active Ashy Mining Bee aggregations in total and no doubt with more to be found, including a significant presence along the northern edge of the wildflower meadow. Here, they nest alongside other bee species like the Bilberry Mining Bee (*Andrena lapponica*) and the Orange-legged Furrow Bee (*Halictus rubicundus*), creating a vibrant pollinator community. In spring and summer, this nesting aggregation is a must-see hive of activity with bees and wasps of many different species coming and going throughout the sun-warmed days.

Male *Andrena cineraria*



Recorded confirmed distribution for *Andrena cineraria* in Ireland (Source: National Biodiversity Data Centre)

All photos: Brian Murray
Last Updated: March 2024

Female *Meloe proscarabaeus*

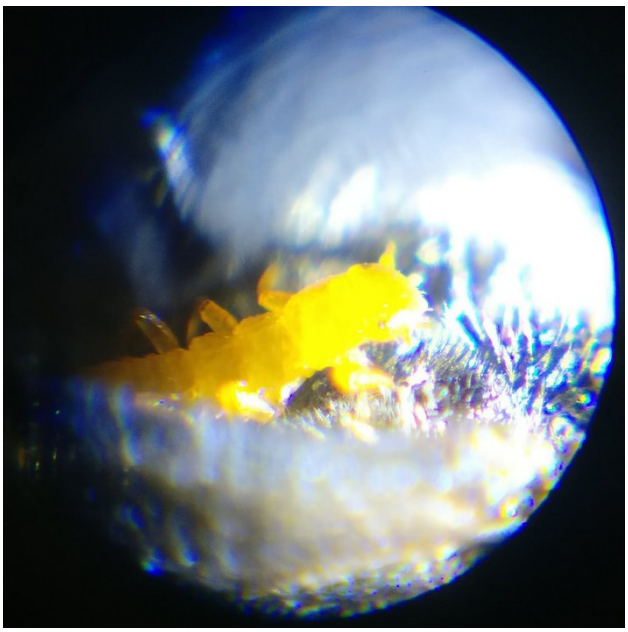
Meloe proscarabaeus Linnaeus, 1758

Black Oil Beetle
Ciaróg Olla Dhubh

The Black Oil Beetle (*Meloe proscarabaeus*) is a remarkable insect, which has only recently been extensively recorded in Ireland. Characterised, and easily recognisable by its large, bulbous, and shiny black body with bright blue iridescence, this species belongs to the Meloidae family, sometimes known as blister beetles. These beetles can secrete a blistering agent (cantharidin) which can cause irritation. Adults can reach up to 30mm in length, making them one of the larger beetle species in their habitat.

What sets the Black Oil Beetle apart from other beetles is its fascinating and complex life-cycle, particularly its parasitic relationship with solitary bees. After mating, the female beetle lays hundreds of eggs in tunnels in the soil, and once hatched, the larvae, known as triungulins, climb onto flowers to await visiting bees. These triungulins, which look very much like lice, attach themselves to solitary bees and are transported back to the bee's nest. Once inside the nest, the triungulins feed on the bee's eggs and the stored pollen and nectar, undergoing several developmental stages before emerging as adults the following year.

This species is of interest not only because of its unique reproductive strategy but also due to its conservation status. The Black Oil Beetle has seen a marked and recorded decline in numbers across parts of its range, attributed to habitat loss and the decline of wild bee populations. In the UK, efforts are being made to monitor and conserve this species, highlighting the importance of biodiversity and the interconnectedness of ecosystems.



The lice-like triungulin above was noted on a *Sphecodes ephippius* (Blood Bee)

Meloe proscarabaeus

Black Oil Beetle
Ciaróg Olla Dhubh

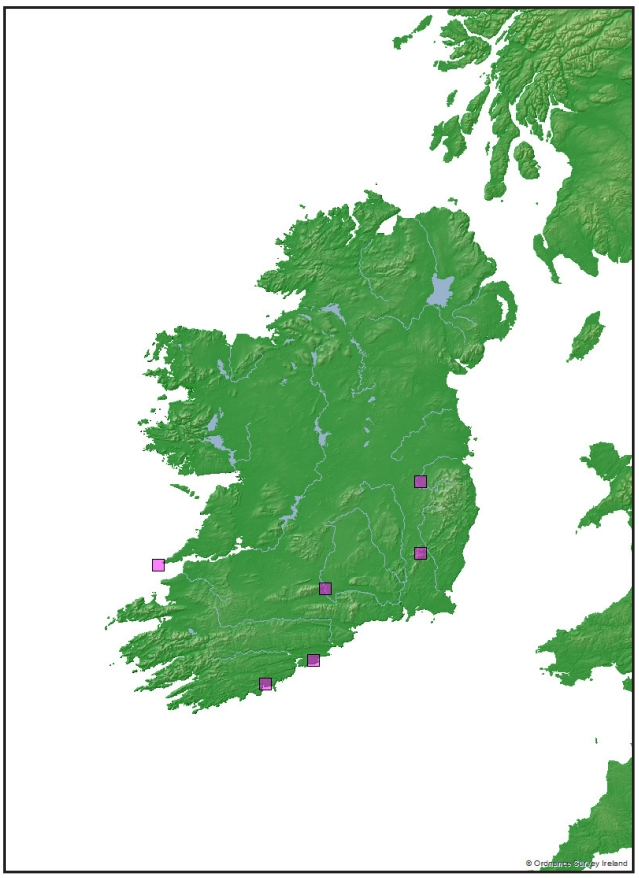
The Black Oil Beetle serves as a vivid example of the complex relationships within nature and the need for conservation efforts to protect such intriguing species.

As mentioned, this beetle is tightly bound with the solitary bees upon which it depends in order to complete its life cycle. On the microWild estate, they are normally present from early spring with the earliest current record being February 21st (in 2024).

They have been found very close to solitary bee nesting banks after emergence, hiding under rocks only a metre from the nesting banks. On the microWild estate, the bee nesting banks in question are inhabited mostly by the Ashy Mining Bee (*Andrena cineraria*). The female beetles can then be spotted in flower-rich grassland when she is about to lay her eggs, obviously with the intention of giving her young the best possible start in life.

Male *Meloe proscarabaeus*

Male *Meloe proscarabaeus*



Recorded confirmed distribution for *Meloe proscarabaeus* in Ireland 2014 - March 2024 (Source: National Biodiversity Data Centre)

All photos: Brian Murray
Last Updated: March 2024

Female *Priocnemus pertubator*

Priocnemis pertubator (Harris, 1780)

Bristly-legged Spider Hunting Wasp
Foiche Damháin Alla Chosghuaireach

Priocnemis pertubator is the largest of Ireland's Spider Hunting wasps and appears to be relatively common and widespread although records since the turn of the century show definite concentrations in the east and midlands.

It is also, generally, one of the early-risers in the year, and can usually be spotted in April, while most of its sister spider-hunting wasps will emerge a month or so later.

On warm, sunny days, you will see this voracious hunter sprinting along the ground or on earth banks seeking out its spider prey. Sometimes it will make short flying leaps. While doing this, it seems to be in a constant state of flux, with its antennae bouncing around and its wings undertaking small, erratic flaps, almost in the same way that a magpie or wagtail can't stand still without a flick of its tail. This gives the wasp a chaotic appearance, but rest assured it is good at finding its prey.

Once it locates a suitable spider, its long legs will keep the prey at a distance while the wasp stings it on the underside, effectively paralysing, but not killing it.

Priocnemus pertubator has been known to hunt Lycosidae (Wolf Spiders) in Ireland, and I can confirm that this is what I have observed in the microWild meadow.

Once the prey has been paralysed, the wasp will carry it to a suitable place to build a nest. The wasp then digs a tunnel into the earth, lays an egg on the spider and then places the spider

Male *Priocnemis pertubator* wasp

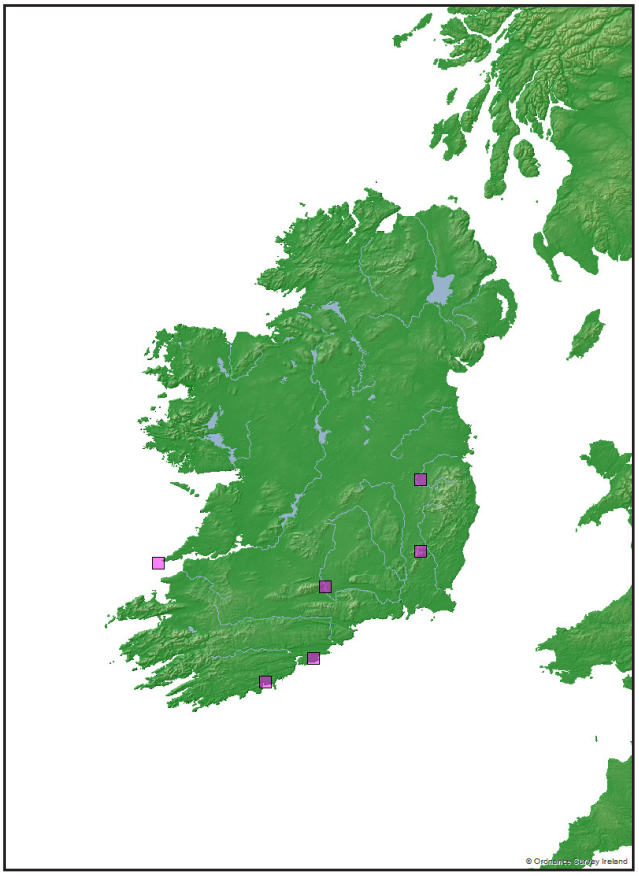
Priocnemis pertubator

Bristly-legged Spider Hunting Wasp
Foiche Damháin Alla Chosghuaireach

inside the tunnel before covering in the tunnel entrance.

Once the egg hatches, the larva will begin to consume the spider from the inside out. Somewhat gruesomely, at this point the spider may have recovered from its paralysis and spends time walking around its 'crypt', all the while being slowly eaten by the developing wasp larva.

At this stage, the larva is careful to consume only those organs and body parts of the spider which will not result in its death. Finally, just before emerging from the spider to pupate, the wasp larva will consume the book lungs of the spider which will deliver the fatal blow.



Recorded confirmed distribution for *Meloe pros-carabaeus* in Ireland 2014 - March 2024 (Source: National Biodiversity Data Centre)

Further Reading

O'Hanlon, A. And O'Connor, J.P. 2021 The spider-hunting wasps of Ireland (Hymenoptera: Pompilidae). A review of the species, their natural history and recorded distribution. Biology and Environment: Proceedings of the Royal Irish Academy 2021. DOI: 10.3318/BIOE.2021.06

A female *Priocnemis pertubator* with her freshly paralysed prey

All photos: Brian Murray
Last Updated: July 2024

Female *Andrena praecox*

Andrena praecox (Scopoli, 1763)

Small Sallow Mining Bee

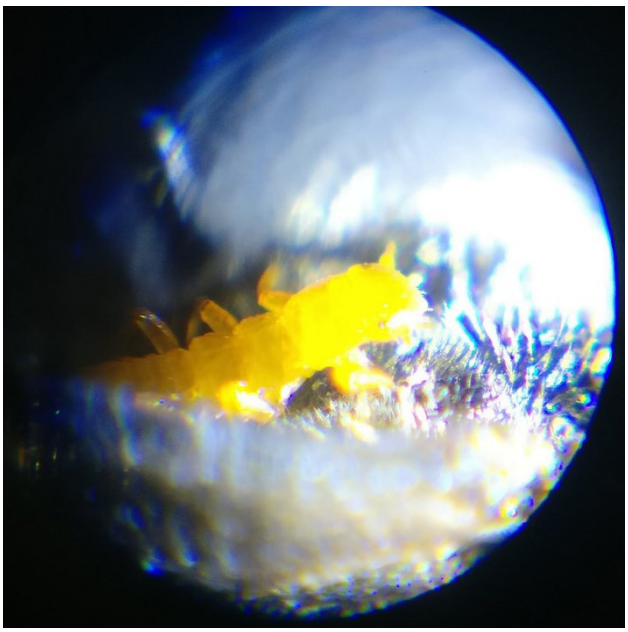
Beach Tholltach Beag na Sailchearnaí

Andrena praecox, commonly known as the Small Sallow Mining Bee, is a species of solitary bee that is part of the Andrenidae (Mining Bee) family. This species is particularly notable for its early emergence, usually in March, often being one of the first bee species to appear in spring, hence the name “praecox,” which means “early” or “premature” in Latin. *Andrena praecox* is predominantly found in central, northern and western Europe.

When I first got access to the estate in April of 2023, I drove to the first field available to me and hopped out of my car with my net. I had walked only about 20 metres and saw a few scattered dandelions in my path with some flying insect activity. When you’re doing this a while, you learn the jizz of certain bees and wasps. Their characteristic look and behaviour. Specimens that don’t exhibit this jizz often catch your brain’s attention quite quickly. And that is exactly what happened here. I saw a bee travelling from dandelion to dandelion and it looked different. A quick sweep of the net and I had recorded my first male *Andrena praecox*!

This bee is a ground-nesting bee, typically creating burrows in well-drained soils often in deciduous woodland. These nests are solitary, with each female bee constructing her own nest, unlike the communal nests seen in some other bee species. The nests usually consist of a main tunnel with several side cells where the bee lays her eggs.

The diet of larval *Andrena praecox* consists of pollen and nectar of willows (Salix spp.), which



The lice-like triungulin above was noted on a *Sphecodes ephippius* (Blood Bee)

Andrena praecox

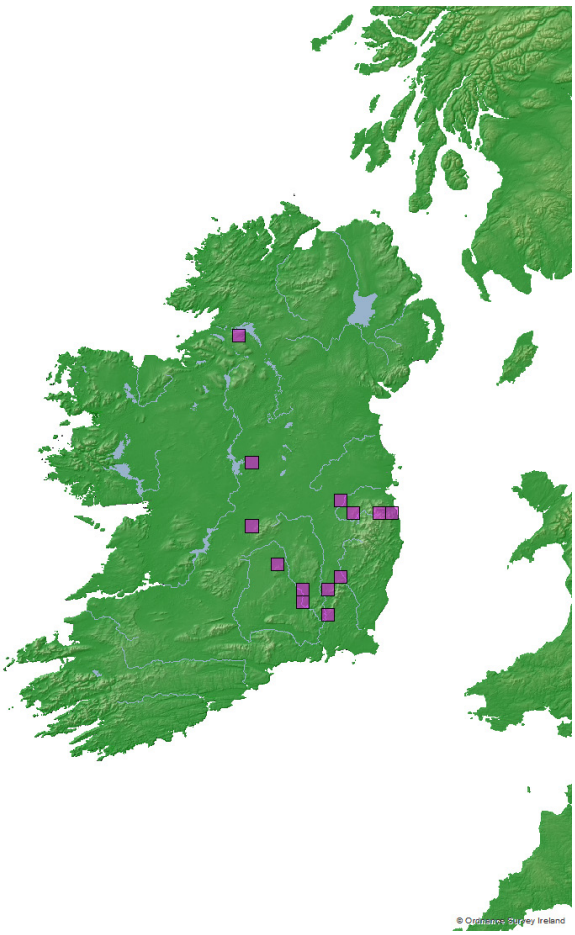
Small Sallow Mining Bee
Beach Tholltach Bheag na Sailchearnaí

bloom early in the spring. This preference for early-blooming plants is synchronised with the bee's early emergence, as the female bee needs to collect this for her young.

In terms of reproduction, after mating, the female bee digs a tunnel into the ground and prepares individual nest cells with a supply of pollen and nectar, on which she lays a single egg. The larva develops in this provisioned cell, eventually emerging as an adult bee the following spring.

Andrena praecox plays a significant role in the ecosystem as a pollinator, especially in early spring when few other pollinators are active.

Andrena praecox is considered scarce in Ireland with only about twenty records of its existence since the turn of the century. In the 2006 Regional Red List of Irish Bees by Fitzpatrick et al., this bee is listed as vulnerable. Its presence on the microWild estate provides hope and encouragement.



Recorded confirmed distribution for *Andrena praecox* in Ireland 2000 - May 2024 (Source: National Biodiversity Data Centre)

Male *Andrena praecox with characteristic mandible projection*

All photos: Brian Murray
Last Updated: May 2024