SIMPLE GUIDES TO SOLITARY BEES IN IRELAND

PART 4

Guide to *Andrena* females
**Andrena (Mining bees)**

- 26 Irish species
- Very variable in form and occur from large species to very small
- Found in a variety of habitats
- The solitary bee most often spotted by most people

*Andrena angustior*  
*Andrena apicata*  
*Andrena barbilabris*  
*Andrena bicolor*  
*Andrena cineraria*  
*Andrena clarkella*  
*Andrena coitana*  
*Andrena denticulata*  
*Andrena fucata*  
*Andrena fulva*  
*Andrena fuscipes*  
*Andrena haemorrhhoa*  
*Andrena humilis*  
*Andrena lapponica*  
*Andrena marginata*  
*Andrena minutula*  
*Andrena nigroaenea*  
*Andrena pilipes*  
*Andrena praecox*  
*Andrena rosae*  
*Andrena semilaevis*  
*Andrena scotica*  
*Andrena subopaca*  
*Andrena tarsata*  
*Andrena trimmerana*  
*Andrena wilkella*

*Andrena stragulata* has recently been removed following DNA work
Special thanks to Josef Dvořák who has very kindly allowed his photographs of pinned specimens to be used in this guide.

Very simple key to the genera known from Ireland

3 cells in wing

Not Xylocopa or Sphecodes

This line arched

Very obvious hair bands on abdomen

Lasioglossum

Colletes

Halictus

Hair bands absent or not obvious

Andrena

Nomada

Wasp like – abdomen with yellow, black or red bands

Almost hairless

Cell on left similar to one on right

Cell on left larger than one on right

This line smooth or with gentle curve
IS IT A MALE OR A FEMALE?

1. Length of the antennae. Males have 13 segments, females have 12

2. Only females have a sting

You need to use different keys for males and females.

In general male solitary bees are more difficult to identify to species than females.
Recommended keys to *Andrena*
This is a guide to females within the Andrena genus. It is NOT intended as a scientific key but as a guide to help make the genus more accessible to beginners. It has not been fully tested. It contains only species commonly observed in Ireland. Where possible it tries to point out features that could be observed with a hand lens.
Reference specimens

Having reference specimens for comparison is important for accurate solitary bee identification. It is the intention of the National Biodiversity Data Centre to maintain a reference collection of Irish species which will be available for public use during office hours.
Three *Andrena* species have females that can be identified in the field

*Andrena cineraria*

- The females are black, and have two distinctive grey hair bands across the thorax (there are no other solitary bees like this known from Ireland)
- Large sized species (13-16mm)
- It is a spring species and is generally observed between March – June. The earliest it has been recorded in Ireland is 22\textsuperscript{nd} March (2011).
- Widespread. It is found in a range of habitats, but in Ireland it often relies on Willow as an early forage source
- It nests in the ground. The nest entrances will be surrounded by a volcano-like mound of excavated spoil. Nests are often in dense aggregations
Three *Andrena* species have females that can be identified in the field

*Andrena haemorrhhoa*

• The females are black, with a ginger thorax, orange hind legs, and distinctive red hairs at the tip of the abdomen (there are other *Andrena* species that look similar but none with a red tipped abdomen).

• Medium sized solitary species (11-13mm)

• It emerges in spring, and can be seen from March – August

• Common and widespread. It is found in a range of habitat types, including parks and gardens
Three *Andrena* species have females that can be identified in the field

*Andrena fulva*

- *A. fulva* was last recorded in Kilkenny in 1925, and was assumed extinct in Ireland until 2012.

- In 2012 it was recorded in two locations: Co. Kilkenny (close to it’s 1925 location) and Co. Wicklow.

- females are very distinctive with bright red hairs on the thorax and abdomen.

- Medium-large sized solitary species (12-14mm).

- It is a spring species (March – June).

- It nests in the ground. The nest entrances will be surrounded by a volcano-like mound of excavated spoil.
Three *Andrena* species have females that have an orange hind leg

*Andrena haemorrhhoa* also has an orange hind tibia (photo above)
Three *Andrena* species have females that have an orange hind leg

*Andrena tarsata*

- Medium sized (8-11mm)
- Mandible with 3 teeth
- Feeds specifically on *Potentilla*
- Summer flight period (June- August)

©Louise Hislop
Three *Andrena* species have females that have an orange hind leg

*Andrena clarkella*:
- Large (11-15mm)
- Tail hairs dark. Abdomen hairy
- Spring flight period (March-June)
- Feeds specifically on willow

*Andrena wilkella*:
- Large (10-12mm)
- Tail hairs golden. Abdomen bald
- May - August
- Found in a range of habitats

Three *Andrena* species have females that have an abdomen with red markings (all very rare)

**Andrena marginata**
- Tail red
- Summer flight
- Grassland species (associated with *Succisa, Knautia*)
- Very rare

**Andrena rosae**
- Tail black
- Summer flight period (July-September)
- Very rare (last recorded 1896)

**Andrena stragulata**
- Tail black
- Spring flight (March-April)
- Very rare (last recorded 1977)

*Andrena stragulata* is no longer recognised as a species following DNA work

Three *Andrena* species are very small (6-8mm)

*Andrena semilaevis*
*Andrena subopaca*
*Andrena minutula*

They all have a neck that is smooth and pale hairs on the dorsal surface of the hind tibia

Distinguishing between these three small species is difficult and requires the use of full scientific keys
The remaining 14 species are divided up according to the shape of their pronotum (referred to as neck here). It requires practise to see this feature.
NECK SQUARE

MID TO LATE SUMMER SPECIES (JULY-SEPT)

2 SPECIES

*Andrena fuscipes*
- Hind tibia can appear wedge shaped
- Face hair pale
- Abdomen with pale hair bands
- Hind tibia with dorsal hair fringe pale
- Found on heaths/bogs as feeds specifically on heathers
- 9-11mm

*Andrena denticulata*
- Hind tibia can appear wedge shaped
- Face hair pale
- Abdomen with pale hair bands
- Hind tibia with dorsal hair fringe dark
- Needs Yellow Asteraceae but found in a range of habitats
- 10-12mm

**NECK SQUARE**

**EARLY SPECIES (MAR-JULY)**

**4 SPECIES**

Face hairs dark

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**Andrena lapponica**

- 12-14mm
- Ginger hairs on thorax
- Abdomen black
- Hind tibia with dark hairs but femur with shock of white hairs (often difficult to see as covered in pollen)
- Found on heaths/bogs as feeds specifically on Bilberry (*Vaccinium myrtillus*)

**NECK SQUARE**

**EARLY SPECIES (MAR-JULY)**

**4 SPECIES**

**Face hairs pale**


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**Andrena fucata**
- Abdomen shiny, few hairs
- Early species – March-June
- 10-13mm

**Andrena apicata**
- Abdomen matt, with pale hairs
- Early species – March-May
- 9-15mm
- Associated with willow
- Very rare

**Andrena praecox**
- Abdomen matt, with pale hairs
- Early species – March-June
- 7-12mm
- Associated with willow

These two species are difficult to tell apart
**NECK SMOOTH**

**HIND TIBIA DORSAL**

**HAIR FRINGE DARK**

**2 SPECIES**

**Andrena carantonica (scotica)**
- Hind tibia with distinctive whitish upswept hairs on outer side
- Common
- Long flight period (March-August)
- Range of habitats

© BWARS

**Andrena trimmerana**
- Hind tibia with distinctive orange-brown upswept hairs on outer side
- Rare
- March-August

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HIND TIBIA DORSAL HAIR
FRINGE DIRTY GREY (HARD TO TELL IF DARK OR PALE)

2 SPECIES

Andrena barbilabris
✓ Thorax & face with ginger or yellowish hairs.
✓ Larger species (9-12mm)
✓ Hind tibia with whitish hairs on lower (ventral) surface
✓ Seems to be associated with sandy areas in Ireland
✓ Face with two blonde strips of hair running lengthways
✓ March-August

Andrena coitana
✓ Thorax & face with sparse whitish hairs
✓ Smaller species (7-10mm)
✓ Hind tibia with whitish hairs on lower (ventral) surface
✓ Range of habitats
✓ Largely black
✓ June - August

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NECK SMOOTH

HIND TIBIA DORSAL HAIR
FRINGE GINGER OR DIRTY YELLOW

4 SPECIES

Tail hairs golden yellow

Andrena humilis
✓ June-July
✓ 10-12mm
✓ Very rare
✓ Feeds specifically on Asteraceae, strong association with yellow flowers

Andrena nigroaenea
- Large (12-15mm)
- Hind tibia hairs ginger
- April-August
- Range of habitats

Andrena bicolor
- Medium (9-11mm)
- Hind tibia hairs ginger
- March-September
- Common. Range of habitats
- Hairs on hind tibia can look like orange ‘leg warmers’

Tail hairs dark, dark hairs on face
Andrena angustior

- Hind tibia hairs dirty yellow-ginger
- 10-12mm
- May-June
- Not common

Tail hairs dark, pale hairs on face

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ANDRENA MALES

*Andrena* males are much more difficult to identify to species than females. Most identification features can only be observed using a stereomicroscope.

Unlike females, there aren’t species that can be identified in the field.
The males of three *Andrena* species are very small (5-8mm)

*Andrena semilaevis*
*Andrena subopaca*
*Andrena minutula*
The males of four *Andrena* species have a yellow or cream coloured clypeus

*Andrena marginata*  
*Andrena tarsata*  
*Andrena coitana*  
*Andrena humilis*