

***Andrena (Melandrena) nitida* (Müller, 1876) (Hym., Andrenidae) emerging during December 2016 at Little Comberton, Worcestershire with comments on the genus.**

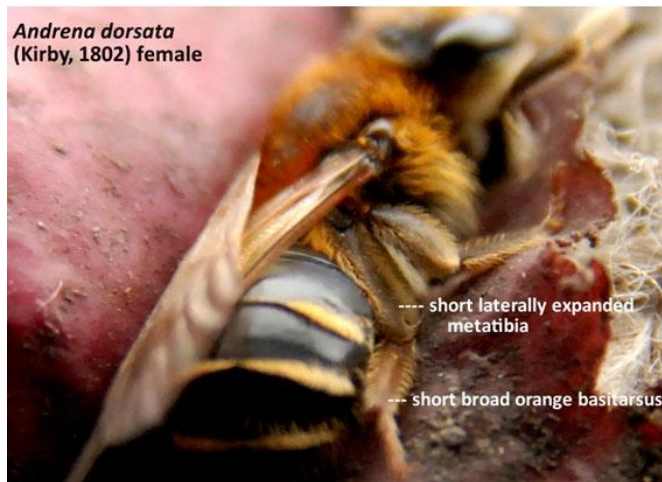
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Mining bees of the ground-nesting genus *Andrena* are frequently vernal, the adults marking the appearance of early spring. A number of these are polylectic taking advantage of a wide range of early spring flowers. There is good evidence to imply that some species, certainly in midland England, are habitually appearing earlier than in past decades. For example, a male *Andrena nitida* (Müller, 1876) that 'usually' flies from mid-March to late July (Falk, 2015) was active in a suburban Evesham garden (SP04) on 15th February 2016 (Whitehead, pers. obs.). Unsurprisingly, the timing of the appearance of bees varies widely on a whole-range basis; wide-ranging thermophilous species such as *Andrena agilissima* (Scopoli, 1770) (01) may appear by mid-May in the Channel Islands but by March in the Balearic Islands.



01. *Andrena agilissima* (Scopoli, 1770) sunning, Parc Natural de S'Albufera, Mallorca, Balearic Islands, 7 May 2011.

Not only are some species appearing earlier than in the past but evidence suggests that they may be extending their ranges by forming ephemeral 'pioneer' populations which are not sustained. *Andrena dorsata* (Kirby, 1802) (02), a rather localised expansive species in the English midlands, appeared in my Little Comberton garden on 31st March 2014 where I had been unaware of it previously and have been since.



02. Female *Andrena dorsata* (Kirby, 1802), Little Comberton, Worcestershire, 31 March 2014.

Despite this the appearance of a freshly emerged male *Andrena nitida* (02) in my Little Comberton garden (SO93) on 15th December 2016 seems extraordinary and invites numerous questions. Unlike the bumblebee *Bombus terrestris* (Linnaeus, 1758) which is now multivoltine over parts of its range (Whitehead, 2005), there is no hope that an *Andrena nitida* emerging in December could sustain itself at spring flowers which, apart from those of cultivated plants such as *Jasminum nudiflorum* Lindl. and *Mahonia*, are then absent. In this case the best explanation for its appearance is that it followed the coldest November weather since 2010 with local temperatures falling to -6°C and on the 30th frost persisting locally throughout the day. More unusually this was followed immediately by an episode of mild open weather with day temperatures locally often attaining 13°C and reaching 12°C on 14th December. For an adult *Andrena* awaiting thermal cues in its natal cell this would have been enough to trigger emergence; even so although the bee was entirely normal there was no evidence that it was willing to fly or capable of flight and its flight muscles would have been difficult to condition. In this case the factors that triggered emergence were climatic vacillation not climatic warming, although they may both be contingent.

A further example of how climate has impacted on a closely related bee is that provided by *Andrena cineraria* (Linnaeus, 1758) which is believed to fly, assuming bivoltinism, from March to August (Falk, 2015). A male flying at Winchcombe, Gloucestershire (SP02, 107 m O.D.) on 22nd September 2010 provides clear evidence of how the fortunes of this species have been transformed in recent decades as a result of climatic amelioration. Yet more remarkable was a live *A. cineraria* found buried 40 mm deep in bare soil at the same location on 10th October 2004 without any evidence of a natal cell despite a detailed search. This may be a unique record of a previously free-flying andrenid subsequently attempting to overwinter in the ground rather than in its natal cell. At this site I recorded adult *A. cineraria* in their natal cells 180 mm deep on 5th April 2007. I have discussed this matter with Steven Falk and neither he nor I are aware of parallels for such overwintering behaviour; were it to be demonstrated more widely this would explain further how this species has become so expansive (Baldock, 2008). Certainly Michener (2000) makes no reference to adult *Andrena* overwintering away from their nests.

References

Baldock, D.W., 2008. *Bees of Surrey*, pp. 1-303. Surrey Wildlife Trust.
 Falk, S., 2015. *Field guide to the bees of Great Britain and Ireland*, pp. 1-432. British Wildlife Publishing.
 Michener, C.D., 2000. *The bees of the world*, pp. i-xiv, 1-913. The John Hopkins University Press.
 Whitehead, P.F., 2005. Winter observations on *Bombus terrestris* (L.) (Hym., Apidae) in Worcestershire. *Entomologist's Monthly Magazine* 141:20.

Appendix

Further notes on *Andrena* bees recorded on 'wrong' dates in 2016 by Wendy Carter and Jean Young.

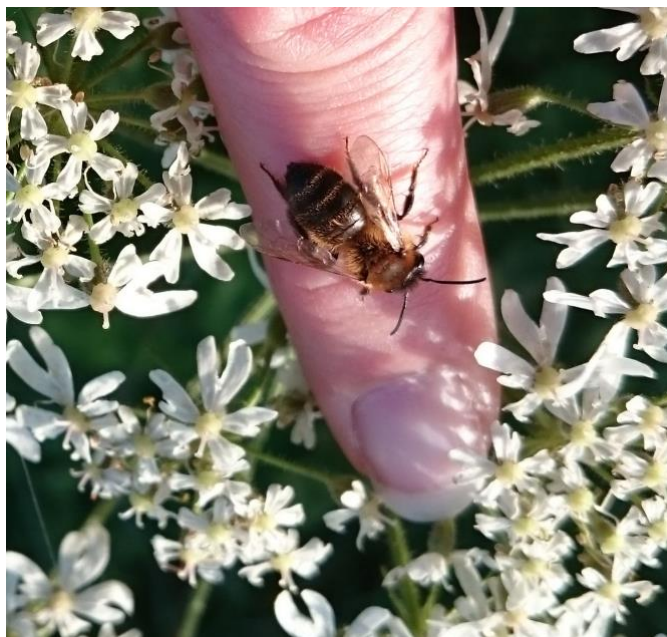
Andrena scotica

On 31st October 2016 I found a fresh looking bee on a road near Oddingley near Worcester, SO90402 59857. It climbed on to my finger (03, 04) but was quite sluggish although it eventually flew off but crash-landed amongst grass a short distance away. From photographs it appeared to be a female *Andrena scotica* (identification confirmed later by Geoff Trevis) which is bivoltine and normally can be on the wing until August.

Wendy Carter



03. *Andrena scotica*, female, Oddingley 31st October 2016. Wendy Carter.



04. *Andrena scotica*, female, Oddingley 31st October. Wendy Carter.

Andrena cineraria

On the 13th December 2016 at Besford Court, near Pershore, it was pleasantly warm but even so I was rather surprised to come across a rather comatose male Ashy Mining Bee *Andrena cineraria* on a leaf (05). I moved it into the sun and checked again an hour or so later. It had obviously warmed up and moved off. This bee is univoltine normally flying March to June with records in July and August possibly representing a partial second brood (Falk 2015).

Jean Young



05. *Andrena cineraria*, male, Besford 13th December 2016. Jean Young

Images

- 01. *Andrena agilissima*, Balearic Islands 7th May 2011. Paul Whitehead.
- 02. Female *Andrena dorsata*, Little Comberton, Worcestershire, 31 March 2014.. Paul Whitehead.
- 03. *Andrena scotica*, female, Oddingley 31st October 2016. Wendy Carter.
- 04. *Andrena scotica*, female, Oddingley 31st October. Wendy Carter.
- 05. *Andrena cineraria*, male, Besford 13th December 2016. Jean Young