

Tormentil mining bee (*Andrena tarsata*)

Tormentil nomad bee (*Nomada roberjeotiana*)



Tormentil mining bee (*Andrena tarsata*) © Liam Olds



Tormentil nomad bee (*Nomada roberjeotiana*) © Steven Falk

The Tormentil mining bee (*Andrena tarsata*) is a small, black solitary bee which gets its common name because of its dependency on Tormentil (*Potentilla erecta*), the main pollen source at most of its British sites. It is Nationally Scarce and has declined so much that it is listed under Section 7 of Environment (Wales) Act 2016 as a Species of Principal Importance in Wales.

The Tormentil nomad bee (*Nomada roberjeotiana*) is a nest parasite of the Tormentil mining bee, distinguished by a black and orange thorax with cream patches on the flanks. It is listed as Nationally Rare (RDB3). Both bees rely on Tormentil as a pollen source so high densities of this plant are crucial to their survival.

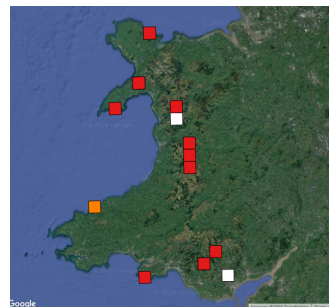
Life cycle

Both species fly between June and August. Female Tormentil mining bees dig a nest burrow in south-facing bare or sparsely-vegetated ground, usually in a low bank. They collect Tormentil pollen to stock the nest for their larvae. Though Tormentil mining bees may form nesting aggregations, each nest is independent. Tormentil nomad bees lay their eggs in Tormentil mining bee nests where the larvae hatch and eat the host's food stores. The adults also mainly feed on Tormentil.

Distribution map

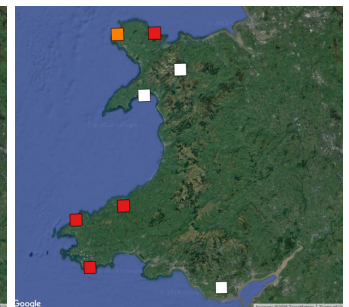
In Wales, the Tormentil mining bee has a widespread but patchy distribution with localised populations found on

the coasts of Anglesey, Llŷn Peninsula and Gower, and inland populations in the South Wales valleys, Cambrian Mountains and Snowdonia National Park. The Tormentil nomad bee was formerly more widespread in Wales but is now seemingly restricted to single sites in Anglesey (Y Bonc, near Marian-glas) and Ceredigion (Banc-y-mwldan, Cardigan), and two sites in Pembrokeshire (Castlemartin Range and Strumble Head).



Tormentil mining bee (*Andrena tarsata*)

Tormentil mining bee records:
white = 1800 to 1949,
orange = 1950 to 1989,
red = 1990 to 2017.



Tormentil nomad bee (*Nomada roberjeotiana*)

Tormentil nomad bee records:
white = 1800 to 1949,
orange = 1950 to 1989,
red = 1990 to 2017.

(The most recent (top most) dates overlay the earlier dates (lower ones). The information used here was sourced through the NBN Atlas and Local Environmental Records Centres Wales from the following sources: Bees, Wasps and Ants Recording Society (BWARS), Biodiversity Information Service for Powys and Brecon Beacons National Park (BIS), Natural Resources Wales (NRW), North Wales Environmental Information Service (Cofnod), and South East Wales Biodiversity Records Centre. NBN Atlas occurrence download at <http://nbnatlas.org>. Accessed 01 March 2018.)

Habitat

In Wales, these bees are typically found in Tormentil-rich habitats such as heathland, moorland, acid grasslands, the rides and clearings of both broadleaf and coniferous woodland, and heathery brownfield sites such as revegetated coal tips. They can also be found in lowland wood-pasture and parkland, mires, and purple moor-grass and rush pasture. Preferred nest sites are sunlit, south-facing bare earth banks. Other bare or sparsely vegetated areas such as paths and tracks may also be used. The Tormentil mining bee needs dense stands of Tormentil flowers within 250m of nest sites.

Reasons for decline

The Tormentil mining bee has likely declined due to the loss and degradation of Tormentil-rich habitats through agricultural intensification, commercial forestry, and inappropriate habitat management such as the overgrazing or undergrazing of habitats by livestock. Forestry operations can also cause local extinctions by churning up rides. It is associated with Tormentil flowers, but also has other undetermined requirements being apparently absent from suitable areas where the plant is abundant. The Tormentil nomad bee has likely declined as a result of the decline of its host, perhaps especially the loss of strong host colonies and host metapopulations.

Habitat management

- Maximise the abundance of flowering Tormentil between June and August by avoiding heavy grazing or cutting from March to September.
- In Tormentil-rich acid grassland, avoid applying fertilisers or pesticides and remove arisings that result from any cutting.
- Known or potential nesting areas should be kept free of encroaching vegetation such as coarse grasses or scrub.
- On heathland, keep a varied Heather structure so that Tormentil can grow in grassy clearings and maintain Tormentil-rich verges and firebreaks along tracks.
- In woodlands, promote Tormentil growth along broad ride margins and cleared plots.
- Manage acid grassland road verges, firebreaks and formal areas as 'bee lawns'. Cut as recommended above but down to 2 inches to create short lawns rich in Tormentil.
- Encourage and maintain the formation of Tormentil-rich heathland and acid grassland in disused quarries and other brownfield sites such as colliery spoil tips.



Tormentil mining bee habitat at Clydach Vale Country Park, Rhondda Cynon Taf © Liam Olds

Further information

This sheet can be accessed on the web at www.buglife.org.uk

These bees are included in Buglife Cymru's Wales Threatened Bees report which can be downloaded from www.buglife.org.uk/wales-threatened-bee-report

Bees, Wasps and Ants Recording Society www.bwars.com. Species account for *Andrena tarsata* and *Nomada roberjeotiana*.

Falk, S. J. (1991) A review of the scarce and threatened bees, wasps and ants of Great Britain. Research and Survey in Nature Conservation No. 35. Peterborough: Nature Conservancy Council.