Nomada sheppardana (Kirby, 1802) (Hym: Apidae) at the Shakenhurst Estate.

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The establishment of a breeding population of the cuckoo bee *Nomada sheppardana* (Kirby, 1802) in Wissett's Wood at the Shakenhurst Estate is reported. According to the species description on the BWARS website little is known of flower species visited by *N. sheppardana*, however, it can be confirmed that Barren Strawberry *Potentilla sterilis*, Wild Strawberry *Fragaria vesca*, Wood Speedwell *Veronica montana* and Germander Speedwell *Veronica chamaedrys* are all important nectar sources for *N. sheppardana* in a woodland environment. Cat's-ear *Hypochaeris radicata* and daisy *Bellis perennis* are listed as nectar sources in Falk & Lewington (2015).

One male was photographed visiting Barren Strawberry flowers on a steep bank of bare ground alongside a track in Wissett's Wood on 20.04.2020. Grid Ref: SO671728. Two images were emailed to Steven Falk later that evening who kindly confirmed my identification. This is my first record of this species and I was aware while attempting to photograph the bee in its natural habitat that it was likely to be N. sheppardana due to the extremely small size of the bee; this species is minute. Furthermore, the bee rarely visited the few available Barren Strawberry flowers to allow photographic opportunities; and being so small and dark it was very difficult to follow its flight patterns away from the flowers. However, after concentrated observation I realised that it actually has a similar flight pattern to all other Nomada species flying very close to the ground surface but somewhat erratically in a zig-zag fashion, and even sometimes seemingly accelerating and completely disappearing for no apparent reason! When the Nomada did eventually settle at a flower it was extremely difficult to approach for close photography without it flying away, furthermore, it was so small that the autofocus mechanism would not 'target' on the bee at times! The initial successful images took about an hour to eventually obtain, but I was reticent to capture the bee as I was aware that identification to species level of a locally rare and significant species was highly likely from a good image.

This area of Wissett's Wood has recently undergone management work to create a new vehicle access track to be used by gamekeepers and members of the Shakenhurst Shooting Syndicate. The new track runs along a steep slope above Shakenhurst Brook and several long sections of bare-earth banks have been created; with parts prone to subsidence (01). Vegetation was sparse on the bank where the *Nomada* was found during April 2020 but early colonising flowering species on the slightly acidic soils (in addition to those listed above) included Bramble *Rubus fruticosus* agg., Broom *Cytisus scoparius*, Wood Sage *Teucrium scorodonia*, Foxglove *Digitalis purpurea* Slender St John's-wort *Hypericum pulchrum* and Nipplewort *Lapsana communis*. Subsidence and land-slips are a feature of the steep valley sides in and alongside Wissett's Wood which may have historically supported a small population of *N. sheppardana*.

During a return visit the following day (21.04.2020) a male and a female were seen at Wild Strawberry flowers and good images of a male were obtained (02 & 03). Good images of a female were eventually obtained on 24.04.2020 (04 & 05), and another male was photographed on 04.05.2020 (06). Note how small the male is in this image when compared with a Germander Speedwell petal (06).



01. Part of the bank where *Nomada sheppardana* was found at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.



02. Nomada sheppardana (male) on Wild Strawberry at Wissett's Wood, Shakenhurst. 21.04.2020. K.McGee.



03. *Nomada sheppardana* (male) on Wild Strawberry at Wissett's Wood, Shakenhurst. 21.04.2020. K.McGee.



04. Nomada sheppardana (female) at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.



05. Nomada sheppardana (female) on Wild Strawberry at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.



06. Nomada sheppardana (male) on Germander Speedwell at Wissett's Wood, Shakenhurst. 04.05.2020. K.McGee.

Nomada sheppardana is Britain's smallest Nomada and its hosts are the equally small Lasioglossum bee species (Falk & Lewington, 2015). Much is yet to be discovered about the life history of N. sheppardana but Falk & Lewington (2015) suggest that likely hosts include Lasioglossum morio, L. parvulum, L. nitidiusculum and L. villosulum. Of all the Lasioglossum species I have collected from the site in Wissett's Wood the overwhelming majority have been L. morio (07). Female N. sheppardana were frequently observed inspecting small burrows in the bare ground at the top of the near vertical sections of the bank created by Lasioglossum species.



07. *Lasioglossum morio* (female) on Germander Speedwell at Wissett's Wood, Shakenhurst. 05.05.2020. K.McGee.

The last record of *N. sheppardana* at the bank was of two females seen visiting Wood Speedwell flowers on 14.05.2020.

Acknowledgements

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References

NBN Atlas Species search [on-line] http://www.nbnatlas.org/ [Accessed 18.06.2020]

Falk, S. & Lewington, R. (2015). Field Guide to the Bees of Great Britain and Ireland. British Wildlife Publishing, Bloomsbury.

Images

- 01. Part of the bank where *Nomada sheppardana* was found at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.
- 02. Nomada sheppardana (male) on Wild Strawberry at Wissett's Wood, Shakenhurst. 21.04.2020. K.McGee.
- 03. *Nomada sheppardana* (male) on Wild Strawberry at Wissett's Wood, Shakenhurst. 21.04.2020. K.McGee.
- 04. *Nomada sheppardana* (female) at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.
- 05. Nomada sheppardana (female) on Wild Strawberry at Wissett's Wood, Shakenhurst. 24.04.2020. K.McGee.
- 06. Nomada sheppardana (male) on Germander Speedwell at Wissett's Wood, Shakenhurst. 04.05.2020. K.McGee.
- 07. *Lasioglossum morio* (female) on Germander Speedwell at Wissett's Wood, Shakenhurst. 05.05.2020. K.McGee.