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**Article:**

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**Surveys for *Formicoxenus nitidulus* (Nylander) (Hymenoptera: Formicidae) in northern Scotland.** – The shining guest ant *Formicoxenus nitidulus* (Fig. 1) is a commensal found only in the nests of wood ants (*Formica rufa* group) (Robinson, Stockan & Iason, 2016). Although the ant lives in discrete colonies within wood ant mounds, it may obtain food from its hosts (Orledge, 2002). Globally, the species is IUCN red listed as Vulnerable (Social Insects Specialist Group, 1996) and it occurs on the biodiversity lists of all three countries of Britain (despite being unrecorded in Wales (Orledge, 2002)). It has a scattered distribution across England and Scotland but, in northern England and central Scotland, it is believed to occur in c.80% of wood ant nests (Murdo Macdonald, *pers. comm.*). In mainland Highland region, only ten nests containing *F. nitidulus* were known, from five hectads, up to 2012. All of these occur in Strathspey. The species is also known from Mudalach birchwood, in Skye (Macdonald, 2013). *Formica lugubris* Zetterstedt has been recorded as a host in Strathspey, whilst in Skye, the host is *Formica aquilonia* Yarrow.



Fig. 1. *Formicoxenus nitidulus* (just below entrance) on a *Formica lugubris* nest, Feshiebridge, Strathspey. Photo: Nick Littlewood.

One of the previously recorded Strathspey nests was in the forest of Feshiebridge (NH80). Thus, a systematic survey was carried out of 131 wood ant mounds in the adjacent National Forest Estate forests of Feshiebridge and Inshriach (NN89) between 16 September and 25 September 2016, and between the hours of 12.00 and 16.30. *Formicoxenus nitidulus* was observed on a total of eight mounds, all of *F. lugubris*. At the time of survey, two nest mounds were in full sun while six were partly shaded. Nest surface temperatures were 19°C or above. All of the nests on which *F. nitidulus* was recorded were within an area of 0.03 km<sup>2</sup> in Feshiebridge forest. This area is characterised by plantations of Scots Pine (*Pinus sylvestris*), though nests containing *F. nitidulus* were typically at the woodland edge with some along a wide ride kept clear under powerlines and others along a roadside. Between one and 22 (median 3) individuals of *F. nitidulus* were recorded on each occupied mound during a three-minute watch. These results provide further evidence that *F. nitidulus* is indeed rare in northern Scotland, though the reasons for this are not known. J.A. STOCKAN, The James Hutton Institute, Craigiebuckler, Aberdeen, AB15 8QH, E.J.H. ROBINSON, University of York, Heslington, York, YO10 5DD and N.A. LITTLEWOOD, East Quartains, Drumoak, Banchory, AB31 5ER.

#### ACKNOWLEDGEMENTS

Thanks to Forest Enterprise Scotland who funded the field surveys.

#### REFERENCES

- Orledge, G.M. 2002. *Formicoxenus nitidulus* (Nylander, 1846). In Edwards, R. and Telfer, M. (eds) Provisional atlas of aculeate Hymenoptera of Britain and Ireland. Part 4. Centre for Ecology and Hydrology, Cambridgeshire, UK. pp.26-27.
- Macdonald, M. 2013. *Highland Ants: Distribution, Ecology and Conservation*. Highland Biological Recording Group, Inverness.
- Robinson, E.J.H., Stockan, J.A. & Iason, G.R. 2016. Wood ants and their interaction with other organisms. In Stockan, J.A. & Robinson, E.J.H. (eds) *Wood Ant Ecology and Conservation*. Cambridge University Press, Cambridge, UK. pp. 177-206.
- Social Insects Specialist Group. 1996. *Formicoxenus nitidulus*. The IUCN Red List of Threatened Species 1996: e.T8656A12925385.  
<http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T8656A12925385.en>. Downloaded on 12 April 2017