



Global Re-introduction Perspectives: 2013

Further case-studies from around the globe
Edited by Pritpal S. Soorae



IUCN/SSC Re-introduction Specialist Group (RSG)





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The translocation of the red barbed ant from the Isles of Scilly to Chobham Common National Nature Reserve, Surrey, UK

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Introduction

The red barbed ant (*Formica rufibarbis*) RDB1 UKBAP/SPI (S41) is possibly the rarest resident animal in mainland Britain (Pontin, 2005). Known from two lowland heath nest sites at Chobham Common in Surrey on the mainland, with a strong but much localized population extant at St. Martins, Isles of Scilly. Extensive restoration work was completed at the release site prior to the ants return. This *Heritage Lottery Fund* supported project enabled Chobham Common site management and collection of freshly mated *F. rufibarbis* queens from the St. Martins population for translocation to their National Nature Reserve Chobham Common release site in Surrey. The translocation plan necessitated an interim *ex situ* rearing element to enable the young queens to produce initial attendant workers to improve colony establishment chances. Although the project successfully realized it's technical remit components through to field release, greater than envisaged competitor ant pressure, especially *Lasius niger*, compromised the fledgling released *F. rufibarbis* colonies. This demonstrated a need for release larger colonies to enable release colonies to repel the competitor species. This requirement likely necessitates whole nest translocations. Genetic analysis conducted as part of the project confirmed the closest related European populations for future translocation initiatives.



Red barbed ant © Richard Alan

Goals

- Goal 1: Establish self-sustainable populations within historic range of Surrey.
- Goal 2: Realize a successful captive maintenance regime for temporarily maintaining *ex situ* ant colonies prior to release, along with health screening protocols.

- **Goal 3:** Conduct long-term monitoring of extant and introduced populations, including targeted surveys to identify new, previously undetected colonies.
- **Goal 4:** Continue research into autecology and genetics.

Success Indicators

- **Indicator 1:** Long-term establishment of introduced nests at target sites.
- **Indicator 2:** Introduced nests producing sexuals, which successfully mate and go on to produce new nests.
- **Indicator 3:** Successful healthy captive maintenance between initial colony collection and release into selected sites.
- **Indicator 4:** Publish survey and monitoring results as annual online reports.
- **Indicator 5:** Publication of research reports, academic dissertations and peer-reviewed papers.



Red barbed ant colony at ZSL

Project Summary

Feasibility: A fairly common species throughout Europe. Apparently declined to only two nests at a single heathland site, Chobham Common, on mainland Britain. In Britain there is a strong association with heathland habitat, though found to be more catholic in rest of range. Open, early successional habitat with dry, light soils and bare patches appears to be essential.

Implementation: Mated dealate queens harvested from Isles of Scilly over successive summers and taken to isolated quarantine facilities at Zoological Society of London (ZSL) London Zoo for health checks, maintenance and rearing of colonies for release. Rearing of this species had not been achieved in a zoo before, so protocols had to be developed from previous amateur rearing efforts. A full quarantine protocol was implemented to minimize disease and screen for pathogens pre-release. Early successional habitat creation implemented at Chobham Common to act as receptor sites for new colonies. Staggered release of small colonies over several summers.

Post-release monitoring: As far as limited annual field visits for monitoring of released colonies, extant nests and up until 2011 disease risk assessment checks with ZSL vets. Monitoring consists of visual searches for foraging workers at release sites and checking under nest tiles, recording all ant species present. After initial positive results there has been no target species activity recorded at



Releasing *ex situ* reared red barbed ant colonies near Surrey in 2008 © Paul Pearce-Kelly

release sites for over two years, suggesting the releases may have failed or that nests have moved out of the survey areas. Monitoring also incorporates mapping and surveillance of slave-maker ant (*Formica sanguinea*) nests to ensure that the 100m buffer zone around release sites and extant nests is not breached. Results suggest that although still a potential threat slave-makers pose a lower risk than the common black ant (*Lasius*

niger), which is abundant at the site and quick to colonise bare ground patches created for the target species. Slave-makers appear to be less abundant at Chobham Common than on other nearby heathland sites.

Major difficulties faced

- Rearing sufficiently large *F. rufibarbis* colonies from mated Queens in captivity over short time (i.e. single season) periods.
- Establishing nests in wild due to heavy completion from *Lasius niger* and, to a lesser degree, *F. sanguinea*.
- Post-release monitoring funding in the long-term (i.e. post HLF funding).

Major lessons learned

- Queen *F. rufibarbis* ants and young workers can be successfully kept in *ex situ* conditions. However, population growth was minimal due to the constraints of same season release schedules.
- *Formica sanguinea* was believed to be the biggest threat to fledgling released colonies - however, the common black ant (*Lasius niger*) proved to be the greatest threat. Because of the difficulties associated with rearing the larger *F. rufibarbis* colonies necessary to repel aggressive ant species it is felt that whole nest translocations are a better option for the future.

Success of project

Highly Successful	Successful	Partially Successful	Failure
		√	

Reason(s) for success/failure:

- Small colony size released.
- Unexpected competition/aggression from *Lasius niger*.

- Limited resources for post-release monitoring.

References

Pontin, J. (2005) The Ants of Surrey. Surrey Wildlife Atlas Project. Pirbright.

Gammans, N. (2008) Conserving the red-barbed ant (*Formica rufibarbis*) in the United Kingdom. Zoological Society of London, Surrey Wildlife Trust and Heritage Lottery Fund.



Overview of release site © Paul Pearce-Kelly

Gammans, N. (2012) Procedures for the reintroduction of *Formica rufibarbis* to the UK. Surrey Wildlife Trust and Zoological Society of London.