

NEW SITES FOR TRACHELIPUS RATHKEI IN ENGLAND

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INTRODUCTION

The mapped distribution of Trachelipus rathkei, centered as it is on Northamptonshire and Huntingdonshire with a southern extension through to the Home Counties into Kent has, in the past, been difficult to explain (Harding & Sutton 1985). In this paper, new sites are described from which Trachelipus rathkei has been collected since the publication of the distribution map in Hopkin (1987). In addition to my own recent records, the map (Fig. 1) includes all records for Trachelipus rathkei submitted to the Isopod Survey Scheme up to April 1988.

NEW SITES

In these descriptions, various species of invertebrates other than Trachelipus rathkei are listed. They are used to provide "ecological hallmarks" for the habitat of the isopod in the same way as vegetation is used. The lists are not exhaustive. The invertebrate fauna from the Bredon's Hardwick site is important and extensive. The fauna from the Broadway site includes a number of localised taxa.

Bishop's Cleeve (16.5.86; 32/993267; Alt. 42m)

Trachelipus rathkei occurs under stones and in deep fissures on a 15 metre northeast-facing bank of unvegetated tipped clay and rubble resting on heavy wet pasture with Juncus. The slope provides a mosaic of habitats and the fauna includes species of open ground (Calathus fuscipes (Goeze), Harpalus affinis (Sk.), Xantholinus glabratus (Grav.) - all beetles), wetter conditions (Stenolophus mixtus (Hbst.), Stenus fulvicornis (Ste.) and very large numbers of smooth newts (Triturus vulgaris (L.)). The beetle Leistus spinibarbis (Fab.) is also present together with the molluscs Milax budapestensis (Hazay) and Boettgerilla pallens (Simroth) which benefit from human activity. Isopods associated with Trachelipus rathkei were Platyarthrus hoffmannseggi with the ant Lasius niger, Oniscus asellus and Armadillidium vulgare.

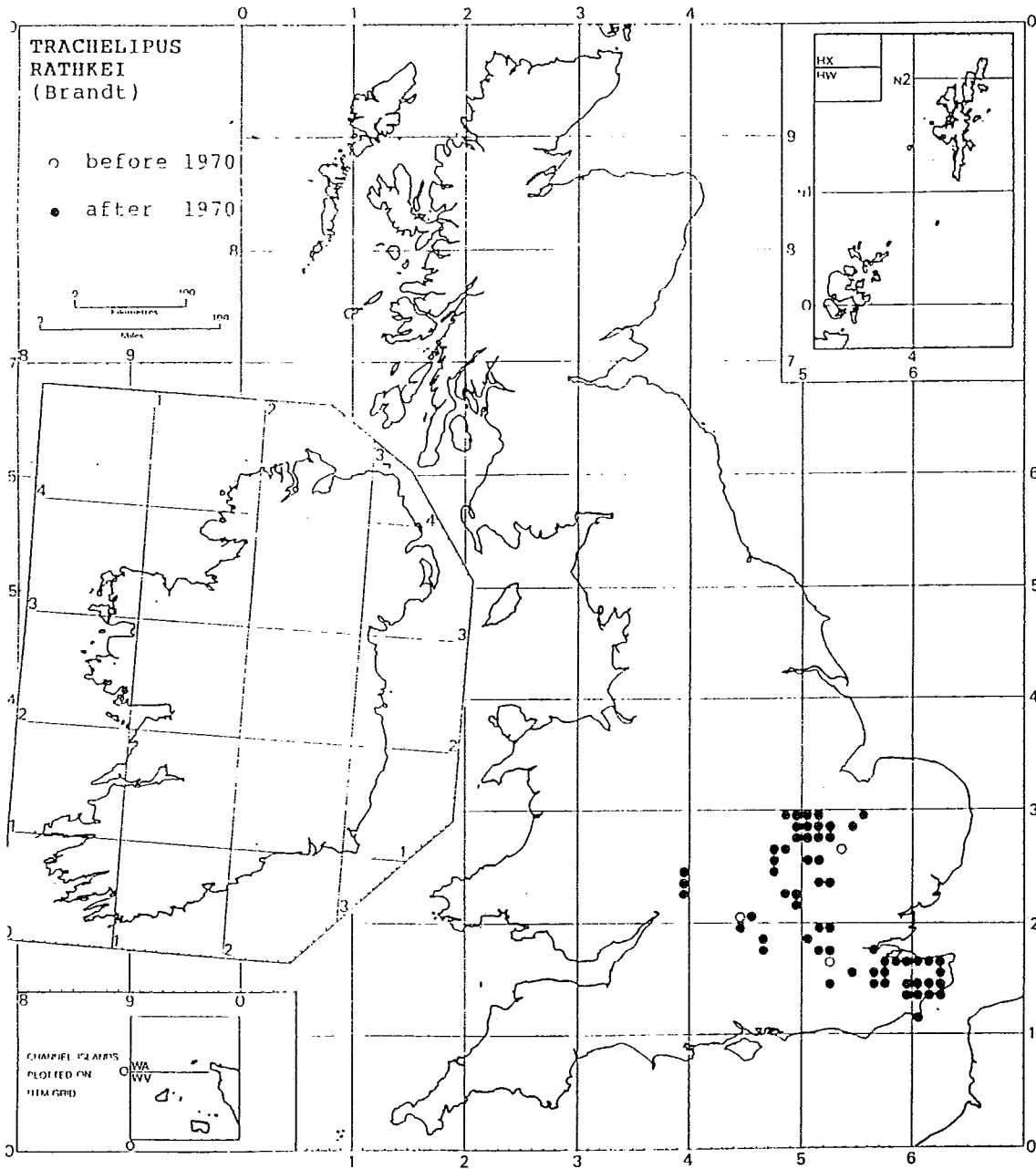


Fig. 1 : Trachelipus rathkei. Recorded occurrence in Britain in 10 km squares up to April 1988.

Stanway (25.5.87; 42/060328; Alt. 106 m)

Trachelipus rathkei occurs under bark debris beneath mature standard oaks (Quercus robur) on heavy pasture. The somewhat limited invertebrate fauna is essentially eurytopic but includes the opilionid Nelima gothica (Simon). Isopods present were Philoscia muscorum, Porcellio scaber, Androniscus dentiger and Trichoniscus pusillus.

Bredon's Hardwick (15.3.87; 32/903355; Alt. 10 m)

Trachelipus rathkei occurs on heavy flood plain pasture subject to annual inundation, grazed by sheep and Bewick's Swans. It was located amongst drifted timber. Characteristic associated hygrophilous beetles included Agonum albipes (Fab.), Agonum obscurum (Hbst.), Badister unipustulatus (Bonelli), Metabletus obscuroguttatus (Dufts.), Stenus bimaculatus (Gyll.), Stenus canaliculatus (Gyll.) and Stenus guttulata (Müller). Also present were the millipede Enantiulus armatus (Ribaut), the opilionid Rilaena triangularis (Hbst.), and a jet-black form nigrum of the slug Deroceras reticulatum (Müller) known locally from other wet sites. Associated isopods were Oniscus asellus (including a rare bright orange form) and Trichoniscus pusillus.

Birlingham (26.3.87; 32/942419; Alt. 11 m)

Trachelipus rathkei occurs rarely at flood level drift on heavy wet short-grazed pasture. It is associated with a characteristic assemblage of beetles Bembidion dentellum (Th.), Bembidion guttulata (Fab.), Bembidion harpaloides (Serville), Agonum albipes, Agonum obscurum, Pterostichus macer (Msh.), Pterostichus strenuus (Panzer), Pterostichus nigrita (Payk.), Stenus bimaculatus, Stenus latifrons (Er.), Stenus providus (Er.) and the heteropteran Scolopostehthus thomsoni (Reuter). The isopods Oniscus asellus, Trichoniscus pusillus were also present. On the river-side bluff, a distinct form of Oniscus asellus also occurs which is very similar to Trachelipus rathkei both in dorsal pattern and shape.

A further site for Trachelipus rathkei has also been found at Birlingham at 32/945423 (12.7.87) on Lower Lias clay exposed by the side of Berwick Brook and recent recording (to April 1988) has shown the species to be generally distributed from Tewkesbury to Great Comberton on the topographical flood plain. The distinct form of Oniscus asellus bearing a strong resemblance to Trachelipus rathkei, has also been found on the clay shore of a man-made lake at Pinvin (32/947485; 6.8.87).

Broadway (1.6.87; 42/087379; Alt. 74 m)

Trachelipus rathkei occurs on wet or seasonally-inundated rough rabbit-grazed grassland otherwise with tall herbs. The collembolan Isotomurus palustris (Müller) occurs frequently, and

molluscs include the amphibious Lymnaea truncatula (Müller) with Cochlicopa lubrica (Müller) and Vitrea crystallina (Müller). Beetles include the wet-loving Bembidion assimile (Gyll.), Bembidion biguttatum (Fab.), Philonthus quisquiliarius (Gyll.), Agonum obscurum, Badister unipustulatus, Agonum fuliginosum (Panzer), Ochthebius minimus (Fab.) and Cercyon marinus (Th.) with Atheta graminicola (Grav.) and Atheta aquatica (Th.). The heteropteran Scolopostethus thomsoni occurs with a ground-hopper Tetrix subulata (L.). Associated isopods were Platyarthrus hoffmannseggi with the ant Myrmica rubra, Philoscia muscorum, Oniscus asellus, Porcellio scaber, Androniscus dentiger, Trichoniscus pusillus, and Armadillidium vulgare in drier microhabitats.

Beckford (1.8.87; 32/977361; Alt. 40 m)

At this site, Trachelipus rathkei was found amongst humanly transported material on exposed impervious clay sediment deposited during the last glacial period.

DISCUSSION

It is clear that at these new sites, Trachelipus rathkei is acting as a hygrophile. The number of sites is small and it is virtually certain that the species is present more widely in the southwest Midlands. At the Broadway site it is, however, a new colonist and there is an indication that the species is spreading locally. It is clear that, in these cases, and regardless of altitude, the species is tied closely to the geological formation of Jurassic Lower Lias Clay, and it may well be a true calciphile. Such an interpretation clearly rationalises its known distribution which, broadly following the Jurassic scarp, makes south-western and north-eastern range extensions predictable.

ACKNOWLEDGEMENTS

I am grateful to Mr. T. Eccles and Professor J.A. Owen for helpful advice with regard to Atheta spp. and to Dr. P.D. Hillyard for authenticating Nelima gothica.

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