

Kugelann's Green Clock Beetle

Poecilus kugelanni



Kugelann's Green Clock Beetle is an attractive, usually bi-coloured metallic beetle with green wing cases and a bronze head and thorax (although its colour can be variable). It is a medium sized species (12-14mm). Adults are active during the day and can be found running on bare ground among heather in warm heathlands, although they are well camouflaged, despite their bright coloration.

Within the genus *Poecilus*, four similar species occupy similar habitats in Britain. The key distinguishing features of Kugelann's Green Clock Beetle are the two dark brown segments at the base of the antennae, which are clear red-brown below, and distinct lines of punctures along the elytral striae (lines on the wing cases). Although the bright colouring can be distinctive, entirely black or brown individuals can be found and Copper Greenclock *Poecilus cupreus* can also have similar two-tone colouration.

Like most ground beetles, the larvae and adults are predatory and feed on a range of invertebrate prey. Adults have fully developed wings and are likely to disperse between nearby habitat patches by flight, although this has not been observed in Britain. It is not known how far they are able to travel between areas of suitable habitat.



Kugelann's Ground Beetle distribution across Britain.

The data used to create this map has been provided under license from the National Biodiversity Network (NBN)

Lifecycle

Adult beetles are active from March to October with a peak from mid-April to mid-June and again in September when freshly emerged adults are seen. Mating and egg-laying appears to occur during May, June and July. Larvae are sometimes seen crawling above ground during the day but are very difficult to distinguish from other species.

Adults have been found to live for two or more years, becoming inactive once they have bred before emerging again the following spring.

Little is known about where the beetles go during this inactive period.

Habitat

A heathland species, found especially on warm, south-facing slopes where there are areas of bare ground. Studies have found that they tend not to move far from areas of ideal habitat and are rarely found in areas of dense vegetation.

On sites where the beetle has been found, the characteristic habitat includes areas of short or sparse heather and grasses with many bare patches of soil. It has been found on sites which have sandy soils or thin compacted peat soils which are generally well drained.

As a heathland specialist it is associated with a range of other species which have similar habitat requirements such as the Heath Tiger Beetle *Cicindela sylvatica* and the Heath Shortspur *Anisodactylus nemorivagus*.

Distribution

Kugelann's Green Clock Beetle is currently found in areas of southern England that have retained areas of lowland heath. During the 20th Century, Kugelann's Green Clock Beetle was known from 25 sites in the UK; however, in the 21st Century it has only been recorded at 15 sites in Cornwall, Devon, Dorset, the New Forest and Norfolk. Relatively low numbers have been recorded from most sites. Historically there have also been records from Surrey, East and West Sussex, Middlesex and Nottinghamshire.

GB status and rarity

Nationally Rare, Endangered & Near Threatened (Red List pre 1994 & post 2001)

Protection under the law

This beetle is included as a species "of principal importance for the purpose of conserving biodiversity" under Section 41 (England) of the Natural Environment and Rural Communities Act 2006.

Survey method

Adults can be counted using both active or passive techniques. The active method entails hand searching areas of suitable habitat by looking under stones,

heather and in grass tussocks for adult beetles. Areas of open ground can also be visually searched for active adults. This is effective at sites where the species is locally abundant.

Baited pitfall traps using fermenting apple as an attractant can also be used very effectively to capture live specimens. Precautions must be taken to not trap non-target species groups and the traps should be checked at least once a week.

Reasons for decline

Like many heathland specialists, the principal reasons for decline can be attributed to the decline in the use and management of lowland heathland resulting in the loss of suitable bare ground habitat.

Habitat management

Heathland management for Kugelann's Green Clock Beetle should focus on the creation of suitable bare ground on south-facing slopes.

This can be achieved through traditional techniques including grazing by cattle to create surface disturbance controlled winter burning. Mechanical disturbance using machinery to create scrapes or cutting back vegetation can also be used where appropriate. The specific approach used should be appropriate to the site.

Where populations are known, management should focus on connecting areas of suitable habitat to facilitate the colonisation of new areas and the dispersal of individuals across the site.

Where populations are not known, the creation of additional bare ground habitat will benefit a wide range of heathland species and provide opportunities for future colonisation.

References

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