Lesser Mottled Grasshopper
Stenobothrus stigmaticus
Lheimmeyder-Faiyr Breck Beg

Biodiversity Action Plan | Cummey Yannoo Beiyn-Feie

Background

This species is found at Langness at its only known site within the British Isles. Much of the area was farmed until the late 1980s. Agricultural stock were then removed and the farmed area became very rank and unsuitable for this species. Areas of short turf on thin soil and patches of rabbit grazing provided refuges. The reintroduction of cattle grazing has benefitted the species around the lighthouse, and scrub control and sheep grazing at the south end of the golf course. Sensitive management of the golf course has maintained the species in key areas. Extension of such management into rank areas on sandy soils could benefit the species by connecting the small refuge areas.

Photo: Female Stenobothrus stigmaticus, Langness, with toothed ovipositor visible. Richard Selman.

Description

Stenobothrus females are separated from other recorded Manx grasshoppers by the presence of a characteristic tooth on the ovipositor. The *S. stigmaticus* males are smaller than the females and have thickened (not clubbed) antennae. Wings do not reach the tip of the abdomen. Length 10-15mm. Call is characteristic of the species but is only heard within a few metres, when adults are present, in calm, warm weather – a series of chirps up to 4 seconds in length. The colouration varies but the green form predominates at Langness. See Ragge 1965 for colour forms.

Identification references: Benton 2012 (with CD of calls), Ragge 1965. There is an irecord grasshoppers app. A new guide book by Sutton & Beckmann is due for publication in January 2026.

Isle of Man and British Isles Distribution

The only known site within the British Isles is within the Langness, Sandwick and Derbyhaven Area of Special Scientific Interest.

Habitat

The species inhabits heathland, dry grassland and sand dunes, i.e. semi-natural habitats which have not been subjected to agricultural improvement through re-seeding or the addition of artificial fertilizers (see Selman and Cherrill 2018 for further details and references). Occupied sites are warm and dry, with nutrient poor, free-draining soils supporting short open vegetation (van Wingerden and Dimmers 1993, Detzel 1998). On the Isle of Man the population occurs at greatest densities in areas of short grass-dominated turf (less than 15 cm tall) in grassland, heath, and well-drained maritime grassland on rocky cliff tops.

'The grasshopper requires a short, open grassland and pockets of such vegetation occur naturally because of rabbit-grazing and thin, nutrient poor, free-draining soils around rocky outcrops. These small areas have proved to be critical to the species persistence and provide a nucleus from which spread can occur' (Selman and Cherrill 2018).

Ecology and management

Feeds on fine grasses (local feeding records would be useful). Naturally short grass and grazed turf provide habitat. Unmanaged grassland becomes rank grassland and scrub outside of sites where the soil and weather prevents such growth, and neither of these provides suitable habitat, being too cool for egg development at ground level. Grazing (or if grazing not possible, then annual topping in the winter) can help to provide more extensive habitat and to join up isolated sites.

Breeding

Has an annual life cycle. Eggs laid on the surface of soil at the base of grass tufts, with nymphs from May, and adults from July until die-off around October. Overwinter in the egg stage.

Legal protection

Listed on Schedule 5 of the Wildlife Act 1990, so a licence may be required for reckless or deliberate damage, or disturbance in their places of shelter or protection. The known sites are protected as ASSI, so the landowner must notify DEFA of regulated operations considered likely to damage the interest of the site, and allow for a discussion and provision of consent, if applicable, following the statutory process.

Threats

Not threatened with extinction currently, but restricted distribution makes it susceptible to change. It's restriction to small patches on the known site results from a combination of natural habitat and a lack of grazing pressure and scrub management, with areas becoming rank and overgrown, excluding this species.

Previously threatened by a golf course proposal, further development threat reduced by recent transfer of a section of land to Manx BirdLife. Not zoned for development at the time of writing, except replacement of the hotel and a Planning application for a bird hide south of the saltmarsh, neither of which threatens this species.

Changes in management could have a strong effect, both positive and negative.

Mechanised cutting kills grasshoppers when present (May-October), but if absolutely necessary at that time then it is best done a) in small areas, b) on a rotational basis, and c) in areas where grasshoppers of this species are unlikely to occur due to rank vegetation (but see legal restrictions). Cutting can, however, be effective in bringing rank areas back into a condition where grazing can be effective. It is best undertaken during the overwintering egg stage. At other times it should be restricted to the

minimum necessary, where this species occurs, by infrequent topping. Regular mowing will exterminate them (note golf fairways and greens are excluded from many of the ASSI restrictions).

Loss of rabbits, in areas where there are no large grazing mammals or other sensitive vegetation control. Rabbits have maintained habitat in otherwise rank areas.

Reason for BAP

Improved management and maintenance of the population in the long term.

Aims

- Monitor the population and track the effects of management changes.
- Incentivise the good management and maintenance of the population.
- Encourage management that creates habitat allowing the expansion of the small areas currently inhabited, to connect colonies.

Linked BAPS

Sand dune BAP.

Potential BAPs related to lowland heathland, rocky coast or coastal grassland, chough.

Delivery Options	Active	Challenges
○ Grazing agreement	Yes	Some areas not covered – engage other landowners. Imbalance of grazing in some areas (needs better use of fencing if retaining fences). There is a risk to stock where there are untrained dogs off leads.
○ Research effects of golf course management options	Some adjustments made previously	Clarity of management expectations for each area. Balance between over and under management.
○ Scrub control (European gorse) – cut/pull/burn.	In limited area	Rocks make mechanised work difficult. Smoke risk to airfield.
○ Monitoring of populations.	As resource allows	Available time in appropriate weather and season.
○ Research metapopulation genetics to explore connections with populations on the Continent, which may explain its occurrence on the Isle of Man.	No, but a genetic project is seeking material from all UK grasshopper species	Licensing and specimen material.

Review		
○ Review and update of this document	By 2030	

Delivery Plan

Action	Lead
Survey known areas, prioritising areas under management or potentially affected, to monitor effects and changes, as resources allow.	DEFA
Maintain management incentives to remediate overgrown habitat and to maintain appropriate habitats.	DEFA
Extend area under good management to connect up colonies (consider gorse control to prevent monoculture forming and maintain open grassland areas).	DEFA
Resolve issues of grazing imbalance where necessary.	DEFA
Study the effects of golf course management towards guidance to aid good management for this species on the course.	DEFA
Give consideration to the provision of genetic material for academic study.	DEFA
Send records to update Recorder.	DEFA
Ensure that others have the skills to identify this species and advise on it.	DEFA

References

Benton, T (2012). Grasshoppers and crickets. New Naturalist No. 120. Harper Collins, London.

Detzel P (1998) Die Heuschreken Baden-Wurttembergs. Verlag Eugen Ulmer, Stuttgart.

Ragge, DR (1965). Grasshoppers, crickets and cockroaches of the British Isles. Frederick Warne, London.

Selman, R.G. and Cherrill, A. 2018. The lesser mottled grasshopper *Stenobothrus stigmaticus* (Rambur): lessons from habitat management at its only site in the British Isles. *Journal of Orthoptera Research* 27(1), pp.83-89.

Sutton & Beckmann (due 2026). Field Guide to the Grasshoppers of Great Britain and Ireland. Bloomsbury Wildlife Guides. Bloomsbury Publishing.

van Wingerden WKRE, Dimmers WJ (1993) Effects of rabbit and cattle grazing on grasshoppers (Orthoptera: Acrididae) of river dunes. Proceedings of the Section Experimental and Applied Entomology of the Netherlands Entomological Society 4: 127–136.