Woodland litter invertebrate assemblage

Associated species with Factsheets: blue ground beetle

Description: Leaf litter and vegetation tussocks in the woodland ground layer support a rich and varied invertebrate assemblage. The assemblage as defined here also includes species inhabiting the upper soil horizons. One of the most diverse elements of the invertebrate fauna is that associated with the fruiting bodies and hyphae of woodland fungi. Only the invertebrate fauna of drier woodland soils is considered here, those species characteristic of very moist substrates are dealt with in the factsheet covering the invertebrate fauna of springs, seepages and permanently wet ground. Unlike the fauna of wood-edges and canopies, the most important litter invertebrate assemblages appear to favour shaded sites, where the low light levels prevent the establishment of dense vegetation in the field and ground layers.

© Blue Ground Beetle, Steven Falk

Areas and status: This is a habitat feature found wherever there are stands of woodland. However, higher quality litter habitats that support populations of scarce invertebrates are most often found in undisturbed ancient beech woodland, where ground and field layer vegetation is suppressed by the deep shade. Neglected coppice woods may also have an important litter invertebrate assemblage. A sparse field and ground layer is also required by many woodland mushrooms and toadstools, and these are also very diverse in closed-canopy beech woodland, though other wooded habitats where moderate grazing is controlling vegetation growth may also have rich assemblages of fungi in the ground layer.

© Ground beetle (plus larvae of), Mark Gurney

Woodland type: **All.**

Invertebrate interest:

- Deep beech litter in ancient woodland sites in southern England (eg. Cotswolds, Chilterns and North Downs) has an important money spider assemblage, including species with a high conservation status such as *Centromerus albidus*, *C. cavernarum* and *C. Serratus*
- Larvae of important ground beetles such as the Blue Ground Beetle and *Calosoma inquisitor* hunt in the litter and upper soil layers
- Funnel-cap toadstools host many scarce rove beetles such as *Oxyporus rufus*
- Cap fungi also have a very diverse fly fauna, including many scarce species of fungus gnats
- Stands of old sweet chestnut and hazel coppice in southern England have populations of the Boring Millipede and the money spider *Walckenaeria mitrata*
- Truffles in southern beech woods support a number of very rare Leiodid beetles and *Ceritaxa* rove beetles
- Litter in ancient calcareous woodlands has an important terrestrial snail fauna including the, Brown Snail, Cheese Snail, Hollowed Glass Snail, Mountain Bulin and Rolph's Door Snail

© Boring Millipede, Mark Gurney

Potential habitat management issues associated with decline:

- Minimise disturbance of deep litter areas during woodland management
- Excessive disturbance of the ground by cattle and other agricultural stock
- Planting of conifers in sites with important litter invertebrates
- Opening up of the canopy in sites where there are important shade-loving species associated with this habitat feature
- Climate change may be detrimental to northern and/or Atlantic-distributed species
- Habitat fragmentation and loss of connectivity leading to isolation of surviving populations

Potential habitat management solutions	
Prescription	*Comment*
Limited intervention	In general, the invertebrate fauna of woodland litter requires shaded conditions and limited management intervention (other than the removal of any invasive non-native species such as rhododendron) will usually be most appropriate. Limited intervention may be particularly suitable in ancient native beech woodland.
Thinning/Selective felling: light	This is likely to be the most appropriate form of management where a shade-loving litter invertebrate assemblage is present, but regeneration of the tree and shrub layer is also required. Minimise ground disturbance during works.
Woodland edge	Maintain graded margins with site-native trees and shrubs on both external wood-edges using similar management techniques to those outlined for 2-zone glades and rides.
Rotational coppice (<12yr rotation) and Rotational coppice (>12 yr rotation	Where appropriate to the invertebrate interest, create small coppice coupes on longer rotations (>12 yrs). In general, it would appear that longer coppice rotations are more beneficial to litter invertebrate communities. Minimise ground disturbance during works.
Plantations	In plantations, manage ground litter as for other woodland habitats.
Grazing	Where livestock are causing excessive disturbance to important litter habitats, reduce stock density, control deer numbers or erect stock-proof/deer-proof exclosures.
Grazing	Light grazing of woodland (eg. upland oak woods), may be desirable in order to control coarse vegetation, and encourage a high diversity of cap fungi growing in the litter layer.