

Introduction to Ground Beetles (Carabidae)

There are almost 400 species of ground beetles in the UK. This guide is an introduction to 17 species found in this family. It is intended to be used in combination with the beetle anatomy guide and survey and recording guides.

This family has species in a wide variety of sizes ranging from 2 to 30 mm. There are 5 tarsal segments on each foot. These beetles generally have long antennae and long legs, and often, but not always elongated oval body shapes. Beetles in this family range in colour from black, through many metallic colours, to bright green.

Many of the species of beetles found in Scotland need careful examination with a microscope to identify them. This guide is designed to introduce some of the ground beetles you may find and give some key identification features for each.

Violet ground beetle (*Carabus violaceus*)

20-30mm

A large black beetle with metallic blue or purple edging, this beetle can often be confused with *Carabus problematicus*, however, it has smoother, more finely granulated elytra, whereas *C. problematicus* has elytra that are more rounded, more strongly sculptured and less convex. The Violet ground beetle pronotum is more convex.

Where to look -

Found in woodlands and moorlands. Occasionally seen on paths from April to September. Found everywhere in Scotland except the Western Isles, Mull and the Shetlands.



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Ridged violet ground beetle (*Carabus problematicus*)

20-28mm

This is a large black beetle with blue or violet tinted edges to the thorax and elytra.

Carabus problematicus can be easily confused with *Carabus violaceus*. However there are several features to tell them apart. The elytra are ribbed on *C. problematicus* whereas in *C. violaceus* the elytra are less rounded, less strongly sculptured and more convex. The pronotum is also more convex in *C. violaceus*. *C. problematicus* also has shinier elytra whereas *C. violaceus* is quite dull.

Where to look -

Found everywhere in Scotland in woodlands, grasslands and moorlands from May to August.



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Sausage ground beetle (*Carabus granulatus*)

16-23mm

This beautiful bronze or green coloured ground beetle has heavily sculptured elytra differentiating it from similar beetles, however without care it may be mistaken for *Carabus arvensis*.

Where to look -

This beetle is found in wetland sites mostly on the west coast of Scotland, although there are also populations around Fife, Nairn and Inverness. Can be found from April to June.



© Roger Key

Heath goldsmith (*Carabus nitens*)

13-18mm

This fantastically coloured beetle has three strong ridges on its metallic green elytra. The pronotum and sides of elytra are bronze, making this beetle distinctive from most others in this family.

Where to look -

Found in the Cairngorms, Fife and some parts of Aberdeenshire on wet heathlands and upland bogs.



© Ursula Smith

Bronze ground beetle (*Carabus nemoralis*)

20-26mm

The elytra on this beetle are often bronze, with a metallic green sheen and the edges of the pronotum are often purple or copper. When compared to some other ground beetles the elytra are relatively smooth with three rows of pits on each elytra.

Where to look -

Found in many habitats from fields to gardens throughout Scotland, apart from the Western Isles and eastern parts of Caithness and Sutherland. Can be found from September to December.



© Roger Key

Green tiger beetle (*Cicindela campestris*)

12-17 mm

This brightly coloured beetle is vibrant green with purplish iridescent hues on its thorax and head. The legs are purple and the elytra has cream spots. These beetles have large eyes, big jaws and move fast.

Where to look -

Found all over Scotland except the Borders, Aberdeenshire and Caithness. Frequently seen on sunny days from March to October in dry open habitats, heathland and some open woodland rides. Can be seen on footpaths.



© Claire Pumfrey

Snail hunter (*Cychrus caraboides*)

14-19 mm

The Snail hunter is a black beetle with a narrowed elongated thorax, head and mandibles to be able to predate snails by reaching into their shells. The thorax has a deep impression towards the back, before the join to the abdomen.

Where to look -

Found in woodlands anywhere in Scotland from June to September. Known to make a loud buzzing noise if handled.



© Roger Key

Rainbow greenclock (*Poecilus versicolor*)

10.5-12.5mm

Very variable in colour, can be confused with *Poecilus cupreus* however *P. versicolor* has a smooth, unpunctured pronotum.

Where to look -

Found from April to August in damp grasslands, mostly West Coast and South Scotland.



© Ben Hamers

Black clock beetle (*Pterostichus madidus*)

14-18mm

Antennae tips and the palps of this beetle are often paler than the rest of its black body. The legs are often red but not always.

Where to look -

Habitats include grasslands, gardens and woodlands from July to September. Found over most of Scotland except the far north east.



© Roger Key

Pterostichus niger

16-21mm

A medium sized all black beetle with a rounded pronotum with teeth on the rear, an elongated oval shape and striations down the elytra. *P. madidus* has a rounded pronotum but doesn't have the rear teeth.

Where to look -

Found in damp grasslands and woodlands from July to September throughout Scotland.



© Roger Labbet

Notiophilus biguttatus

5-6mm

A small beetle, with large eyes, there are many similar species in this genus. Five pitted vertical lines run down the middle of each wing case.

Where to look -

They can be seen crossing paths in gardens, particularly during an aphid infestation, as they are major predators of aphids. These beetles also enjoy woodland habitats. They found between April and October.



© Roger Key

Green socks peacock (*Elaphrus riparius*)

6.5-7.5mm

A green coloured beetle with pinkish circular pitting across the surface gives this beetle an almost checkerboard appearance.

Where to look -

Margins of fresh water on damp ground, found May to August. Present over most of Scotland barring the Highlands and Islands.



© Ursula Smith

Copper peacock (*Elaphrus cupreus*)

8-9.5mm

A copper coloured beetle similar to the Green socks peacock, with its circular pitting, big eyes and checkerboard appearance.

Where to look -

Found in wetlands from May – July everywhere in Scotland except parts of Aberdeenshire, Banffshire and Moray.



© Roger Key

Dromius quadrimaculatus

5-6mm

A very distinctive species with its black head, red thorax and four cream spots on its black elytra.

Where to look -

Found in woodlands from May to September in East Scotland and the Central Belt



© Roger Key

Badister bullatus

5-6mm

This beetle has a black head, bright orange-brown pronotum and orange-brown elytra with black markings. The scutellum is black.

Where to look -

Various habitats from April to August particularly around coastal regions in Scotland .



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Agonum marginatum

7-11mm

A medium sized coppery green beetle with cream edges to the ridged elytra.

Where to look -

Wetlands from May to August. Found on the West Coast and Central Belt of Scotland.



© Roger Key

Strawberry seed beetle (*Harpalus rufipes*)

11-16mm

This beetle is black with reddish legs and a long body with striated elytra and a smooth thorax.

Where to look -

Open dry sites from June to September. Found across Scotland apart from the far north.



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Ground beetle larvae

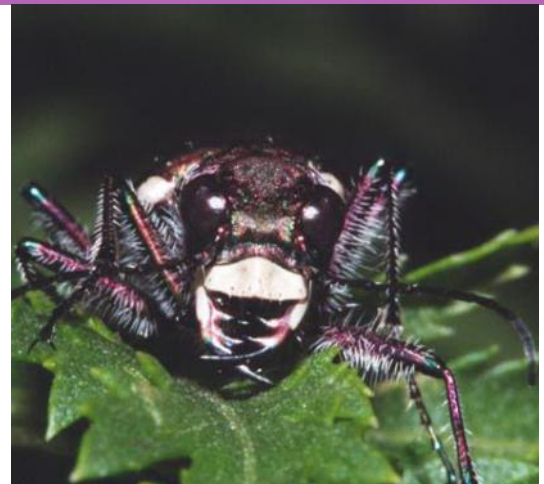
Ground beetle larvae tend to be segmented and elongated, tapering towards the tail end, with long segmented legs. These larvae are often predators and are active crawlers that hunt their prey. Usually, they have relatively flat heads and prominent forward-pointing jaws. It is not easy to identify the species from the larvae.



Ground beetle larvae © Roger Key

Ground beetle facts

- Most Ground beetle species are predatory or may also feed on vegetation and usually found at ground level, hence their common name.
- The bombardier beetles (*Brachinus* spp.) can create an explosive reaction to predators resulting in boiling liquid being sprayed from its behind.



Cicindela sp zandloopkever © Ben Hamers

Resources

- **Buglife** www.buglife.org.uk
- **Ground Beetle Recording Scheme** www.coleoptera.org.uk/carabidae/home
- **UK Carabid Beetles** www.ukbeetles.co.uk/carabidae
- **Mark Telfer Blog on Beetles** www.markgtelfer.co.uk/beetles/carabidae-ground-beetles/
- Royal Entomological Society - **Handbook Volume 4, Part 2: The Carabidae (Ground beetles)** Martin L. Luff (2007)
- A.G. Duff Publishing - **Beetles of Britain and Ireland Vol. 1**, by Andrew G. Duff (2016)
- Richmond Publishing - **Ground beetles, Naturalists Handbooks 8**, by TG Forsythe and S Allington (1987)



Necklace Ground Beetle © Matt Berry