▲ ***Oxyporus rufus***. Smooth and shiny and distinctly arched in the middle. Adults and larvae live in various woodland toadstools. Most common in summer and autumn.

▲ ***Paederus littoralis***. A flightless, predatory species with metallic blue elytra. Lives among debris on marshes, river banks, and other damp places. S & C.

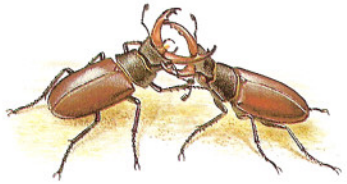
▲ ***Stenus bimaculatus***. Hairy, with black and yellow legs. Large bulging eyes are used for stalking springtails and other small prey. Lives around ponds and streams and in other damp places. Can skim over water surface by exuding an oily secretion from the rear end. Diurnal and sun-loving. One of many similar species.

▲ ***Bledius furcatus***. Prominent horns on head and thorax of male: smaller in female. Gregarious, like other members of this large genus. Burrows in damp soil and feeds on algae. May emerge to fly in groups in the evening. S & C.

▲ ***Philonthus marginatus***. Orange sides of thorax distinguish this species from other members of this large genus. It lives in dung and other decaying matter.

▲ ***Tachyporus hypnorum***. One of several strongly tapering species. Lives among mosses and vegetable debris, including compost heaps. Most common in winter and spring.

△s **Stag Beetle** *Lucanus cervus* Lucanidae. Named for the huge jaws (antlers) of the male, which are used to fight rival males in the breeding season. Female sometimes almost black. Antennae, as in all members of the family, are elbowed and have small flaps at the end, but the flaps cannot be brought together to form a club. Middle tibia has 3 small teeth. Size very variable. 5-8. Flies well, usually in the evening. Feeds on sap oozing from trees. Larva (p. 295) lives in decaying trees and posts, especially oak. S & C: becoming rare.



Stag beetles battling with their antlers. The stronger one wins,but neither is usually hurt.

▲ **Lesser Stag Beetle** *Dorcus parallelopipedus* resembles female stag beetle but middle tibia has only 1 tooth. Male never has antlers. 4-10, mainly in deciduous woods. Feeds on sap. Breeds in rotting stumps. S & C.

Platycerus caraboides. Rather flat, with a bluish iridescence in male and green in female. 4-9, flying mainly by day. Chews leaves and buds. Breeds in rotting wood. Widely distributed in deciduous woodland.

▲ ***Sinodendron cylindricum***. Distinctly cylindrical. Male has rhinoceros-like horn on head: female just a small knob. 5-8, feeding on oozing sap. Breeds in rotting stumps, especially beech.

▲ ***Trox scaber*** Trogidae. Roughly sculptured elytra and pronotum, with bristly scales on the elytral ridges. Antennal flaps can be brought together to form a small club. Feeds mainly on small carcases, especially when dry, and often scavenges in owls' nests. Rarely flies. 4-8. Widely distributed but rare in N.

△s ***Odontaeus armiger*** Geotrupidae. Strongly domed and very shiny. Male has slender, movable horn on head and smaller horn on thorax: female is hornless. As in the whole family, the antennal club is composed of movable flaps. 6-9, flying in the evening and also by day. Larva feeds on rabbit dung.

▲ **Dor Beetle** *Geotrupes stercorarius*. Superficially like some of the scarabs (p. 264), but easily distinguished because the jaws are clearly visible from above. Seven ridges on each elytron. Metallic green or blue below. Mainly on cow dung, digging shafts below it and burying the dung for breeding. Often flies in the evening. Also called the Lousy Watchman because it is commonly heavily infested with mites. 4-10. One of several similar species.

▲ **Minotaur Beetle** *Typhaeus typhoeus*. Very shiny, strongly-ribbed elytra. Male has 3 thoracic horns, but female has just 2 small points. Found mainly in sandy places, where it buries rabbit droppings and other dung on which adults and larvae feed. Flies in the evening.

ROVE BEETLES, STAGS and SCARABS

Oxyporus rufus ×2

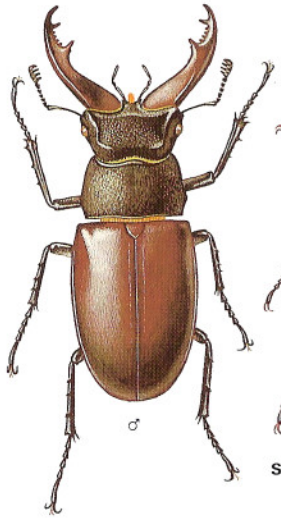
Paederus littoralis ×2

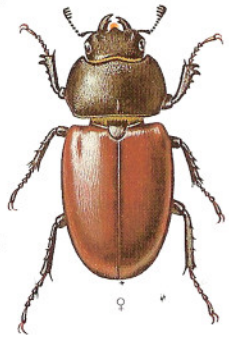
Stenus bimaculatus ×2

Bledius furcatus ×2

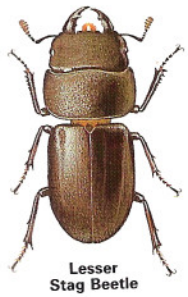
Philonthus marginatus ×2

Tachyporus hypnorum ×2





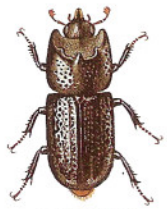
Stag Beetle



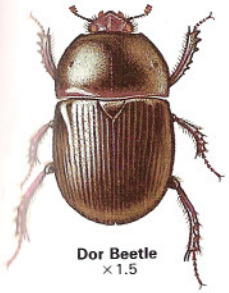
Lesser Stag Beetle

Odontaeus armiger ×3

Trox scaber ×2

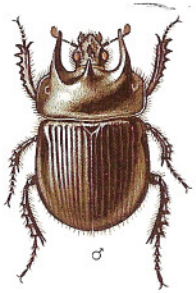


Sinodendron cylindricum ×1.5



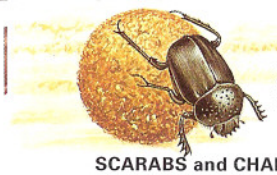
Dor Beetle ×1.5

Platycerus caraboides ×1.5



female head and thorax

Minotaur Beetle ×1.5



Scarabaeus pushing a ball of dung along with its hind legs

antenna of a chafer, showing characteristic fan-like flaps

SCARABS and CHAFERS Scarabaeidae. A very large family, with some 20,000 species in the world. The antennae are distinctly clubbed, the club consisting of several flaps that can be opened out to form a fan – especially noticeable in the chafers. The jaws are not visible from above. The elytra are normally truncated, markedly so in the chafers, leaving the tip of the abdomen exposed. Most species fly well. Many stridulate by rubbing the tips of the elytra against the abdomen. The scarabs are dung-feeders, while the chafers are vegetarians and often serious pests.

Scarabaeus semipunctatus. Numerous pits on pronotum: elytra almost smooth. Rolls balls of dung about with its hind legs, eventually burying them and eating them. Neighbouring beetles often wrestle over ownership of a ball. The rake-like front tibiae and the spiky head shield are used for raking up the dung and also for digging. Sandy shores around the Mediterranean. ***S. laticollis*** is similar but has ribbed elytra. S. ***S. sacer*** has smooth elytra and no pronotal pits: usually larger. S. There are several other species, differing slightly in the sculpturing of the pronotum and elytra.

▲ ***Copris lunaris***. Female has shorter horn on the head. Usually associated with cow dung, digging shafts under it and burying large quantities in which the eggs are laid. Seen mainly in spring and autumn.

▲ ***Aphodius fimetarius*** and ***A. rufipes*** are two very common members of a large genus of dung beetles, all rather cylindrical. They are often attracted to lights at night. They feed on all kinds of herbivore dung, but do not burrow beneath it or bury it. *A. rufipes* is one of the largest European members of the genus.

Pine Chafer *Polyphylla fullo*. Female is slightly larger, but without the enormous scent-detecting flaps of the male antennae. Stridulates loudly. 6-8 in and around pinewoods, especially on sandy soils. Adults chew pine needles. Larvae feed on roots of sedges and grasses. S & C.

▲ **Cockchafer** *Melolontha melolontha*. Also called May-bug. Inhabits gardens, woods, and hedgerows. 5-6, often swarming round trees in the evening and crashing into lighted windows. Chews leaves of various deciduous trees. Larva (p. 295) feeds on roots of a wide range of plants, often causing severe damage to crops.

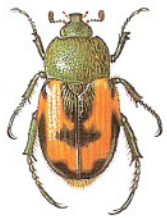
▲ **Summer Chafer** *Amphimallon solstitialis*. is like Cockchafer but pronotum is brown and much hairier. Only 3 segments to antennal club (4-7 in cockchafer). 6-7, swarming over rough grassland and round deciduous trees and shrubs day and night: mainly in dry places. Larvae feed on roots.

▲ **Garden Chafer** *Phyllopertha horticola*. Thorax sometimes almost black. Elytra often with green or blue iridescence. 6-7 in dry habitats, often swarming in sunshine. Adults feed on a wide range of woody and herbaceous plants and often damage fruit crops. Larvae feed on roots of cereals and other grasses.

Rhizotrogus aestivus resembles a Summer Chafer, but is less hairy, with long hairs only on thoracic margins. Usually a dark line in centre of pronotum. Grassy places. 4-6. Larvae feed on grass roots. S & C.

Rhinoceros Beetle *Oryctes nasicornis*. Up to 40mm long. Male has long, curved horn on head: female has just a small point. Flies on summer evenings. Breeds in rotting wood and leaves, and also in piles of sawdust at sawmills. Absent from far north.

Hoplia caerulea. Clothed with scales, which are brilliant blue in male and greyish brown in female. 6-8 in damp, grassy places, especially near streams. Larvae feed on roots. S & C (southern). ***H. argentea*** is greenish yellow, while several other species are reddish brown – like small summer chafers, but easily distinguished by their coatings of scales and also by the single large claw on the hind leg.

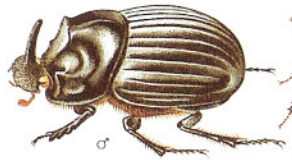


Anisoplia cyathigera × 1.5

Anisoplia cyathigera. Found mainly in low-lying grassy places, often causing damage to cereals. 5-6. Larvae feed on roots and on decaying vegetation. S & C (southern).

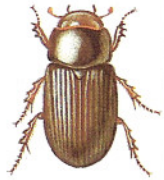
DUNG BEETLES and CHAFERS

Scarabaeus semipunctatus

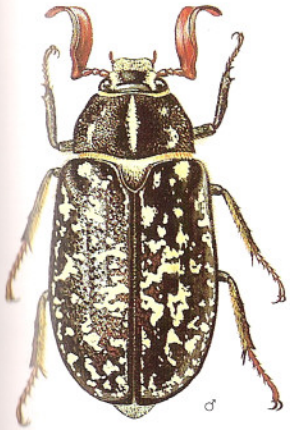


Copris lunaris ×1.5

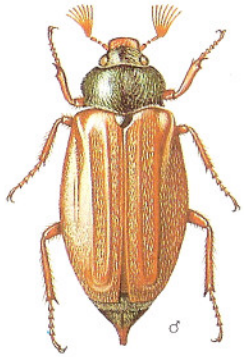
Aphodius fimetarius ×2



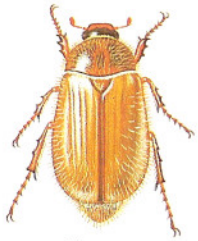
A. rufipes ×2



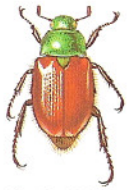
Pine Chafer ×1.5



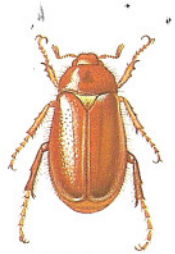
Cockchafer ×1.5



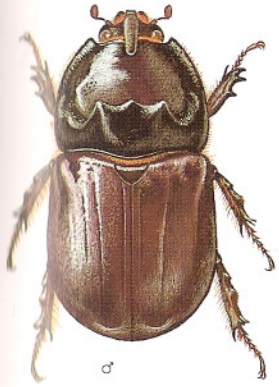
Summer Chafer ×1.5

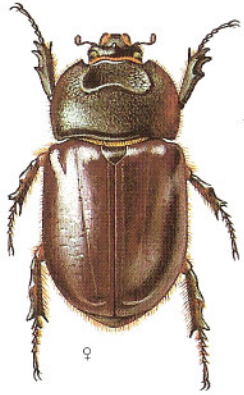


Garden Chafer ×1.5

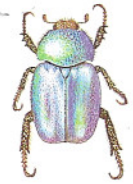


Rhizotrogus aestivus ×1.5





Rhinoceros Beetle



Hoplia caerulea ×1.5

▲ ***Gnorimus nobilis***. Superficially like Rose Chafer, but elytra distinctly wrinkled and clearly separated from pronotum. 6-8, especially common on umbellifer flowers and flying strongly in sunshine. Breeds in rotting wood. Absent from far north.

△ **Bee Beetle** *Trichius fasciatus*. Very hairy. Elytra range from pale yellow to deep orange: black bars very variable. A tooth-like projection on middle tibia. 5-7, usually seen on flowers, especially thyme and roses. Breeds in rotting timber. ***T. zonatus*** and ***T. abdominalis*** are very similar but lack the tooth-like projection on middle tibia.

Oxythyrea funesta. Usually a coppery iridescence: white spots very irregular. Abundant in flowers of many kinds, often destroying flower buds of vines and fruit trees. 4-7. Larvae eat roots. S & C (southern).

▲ **Rose Chafer** *Cetonia aurata*. Elytra clearly flattened, usually green but may be bronze or even bluish black: always with some white marks. Slightly sinuate near apex (lens!). Coppery red beneath, with a rounded club-like process between middle coxae. 5-10, mainly in sunny places: nibbles many kinds of flowers, including roses. Larvae live in rotting timber, especially old willows.

▲ ***C. cuprea*** is green with a golden or bronze sheen, distinguished from Rose Chafer by the narrowing of the elytra towards the rear and a lack of any sinuous curve near the apex. White spots variable. Coppery violet beneath, with a rather square process between middle coxae. 5-9, visiting various flowers, especially in woods, and nibbling ripe fruit. Enjoys sunshine. Larvae live in ant nests.

C. aeruginosa is larger, with very smooth and shiny elytra and no white spots. 5-8 on flowers and also feeding at sap oozing from trees. Larvae feed in old oak trunks and stumps. S & C.

▲ ***Serica brunnea***. Elytra dull yellowish brown and strongly ribbed. Like Summer Chafer (p. 264) but smaller and less hairy and with dark head. 6-8, mainly in sandy places. Often attracted to lights in evening. Larvae feed on roots.

▲s ***Omaloplia ruricola***. Similar to Garden Chafer (p. 264), but smaller and more rotund. 5-8, usually in warm and dry places. Flies day and night. Larvae feed on roots. C: on chalk soils in B.

BUPRESTID BEETLES Buprestidae. A family of some 15,000 rather metallic beetles living mainly in the tropics. Often bullet-shaped, with sharply pointed rear ends. They fly in the sunshine and are often seen on flowers. The larvae are flattened and tadpole-shaped, with a broad thorax, and live mainly under bark. The larvae are long-lived and are often carried far from home in timber. Only 12 species occur naturally in the British Isles.

Chalcophora mariana. Brown with a light bronze sheen. Pronotum and elytra with broad ridges and furrows. 5-10 in pinewoods.

Buprestis 8-guttata. Iridescent blue or green: pronotum with narrow yellow sides. Coniferous forests in summer. Larvae feed in young pines. Much of Europe, but rare.

B. rustica. Metallic green or blue, with a coppery or violet sheen. Summer, usually in pinewoods. The larvae live in rotting trunks and stumps.

Capnodis tenebrionis. Non-metallic, with grey pronotum and dull black elytra speckled with white. Summer, usually in sunny habitats and associated with blackthorn and other *Prunus* species. The larvae live in the older stems. S & C.

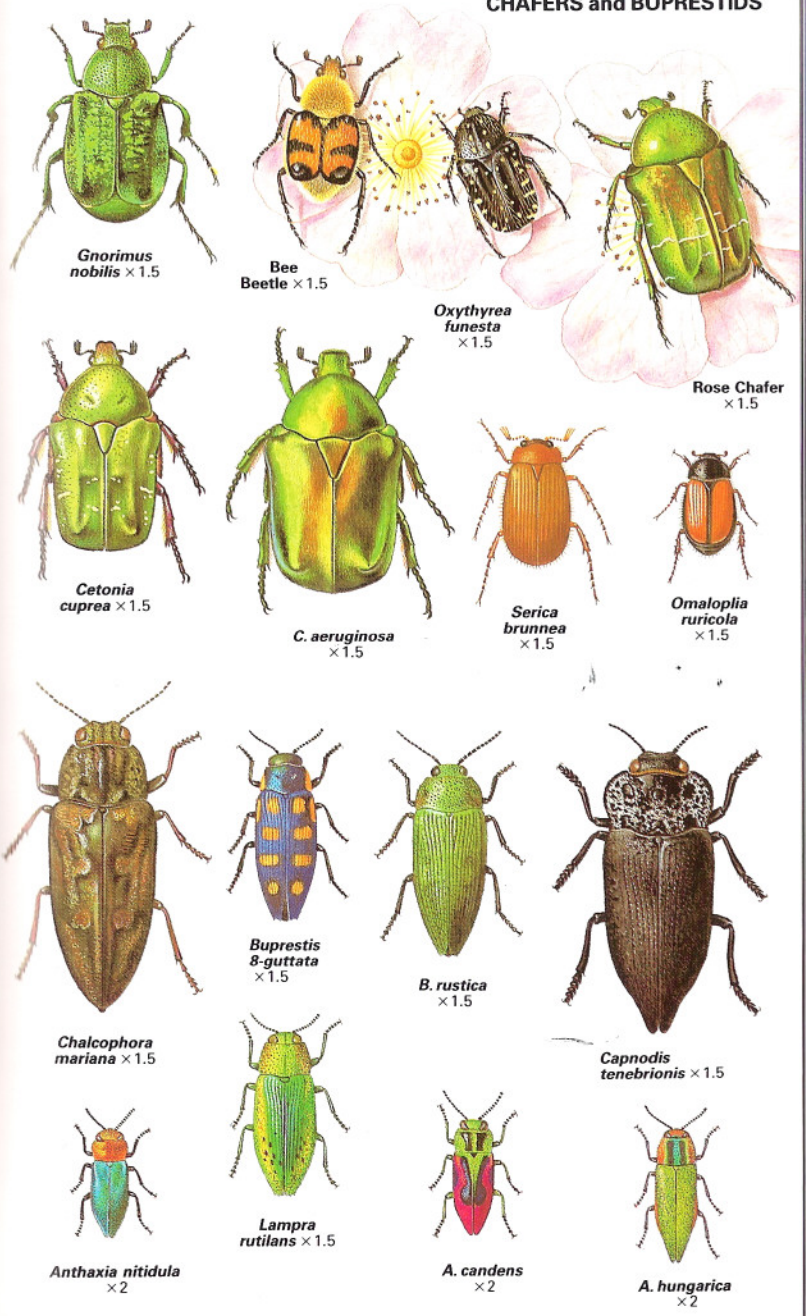
Lampra rutilans. Green, with a golden or bluish sheen. Elytra reddish on outer edges. 5-9, usually near old lime trees in which larvae feed.

△ ***Anthaxia nitidula***. Male is green all over. Female head and pronotum purple or reddish: elytra blue or green. 4-7 on a variety of flowers. Larvae live in stems of rose, hawthorn, and related shrubs. S & C.

A. candens is easily identified by its striking coloration. 4-7, often on cherry blossom. Larvae feed in cherry trunks and branches. S & C.

A. hungarica. Male generally entirely green above, often with purplish sheen: female elytra green or blue. Both sexes are bright metallic purple beneath. 4-7 on various flowers, especially in and around oakwoods. Larvae live in decaying oak timber. S.

CHAFERS and BUPRESTIDS



Phaenops cyanea. Entirely blue but often tinged with green. Pine forests in warm regions. 6-8. Larvae develop in pine trunks.

Ptosima 11-maculata. Black with blue iridescence. Pale marks orange or yellow and very variable. 5-6. Larvae feed in *Prunus* species and are pests of cherry. S & C.

▲ ***Agrilus pannonicus***. Dark green or blue with white spots. 5-7. Breeds in old oaks.

△ ***A. viridis*** is unmarked: often entirely green, sometimes entirely copper-coloured. 6-7 on sallows and other deciduous trees.

Isorhipis melasoides Eucnemidae. Like click beetles, but with some anatomical differences. 5-7. Adults and larvae (legless) in rotting beech and oak. S & C.

▲ ***Melasis buprestoides***. Matt black, sometimes tinged with red. Thorax widest at the front. Female antennae only lightly toothed. 5-7. Breeds in various deciduous trees. Larvae legless. S & C.

CLICK BEETLES Elateridae. A large family (over 7,000 species) of elongate beetles named for the ability to leap into the air and right themselves when laid on their backs. The action is accompanied by a loud click. The larvae are slender and short-legged, vegetarian or carnivorous, and live in rotting wood or the soil.

△n ***Ctenicera pectinicornis***. Green or coppery and very shiny. Female antennae only lightly toothed. 6-7 in grassy places. Larvae live in the soil. N & C. △n ***C. cuprea*** is sometimes entirely violet or copper-coloured. Female antennae only lightly toothed. Grassland. 5-7. N & C.

△ ***Ampedus cinnabarinus***. Lightly clothed with rust-coloured hairs. Woodland, mainly in spring. Breeds in decaying deciduous trees, where larvae eat other insect grubs.

△ ***A. sanguineus*** is similar but has black pubescence. 5-8, mainly on woodland flowers. Breeds in rotting timber, especially conifers. △ ***A. balteatus*** frequents umbellifers and other flowers. 5-6. Breeds in dead evergreen and deciduous trees.

▲ ***Agriotes lineatus***. Brown or yellowish with striped elytra. Much of the year, but seen mainly 5-7. Abundant on grassland and cultivated land. The larva (p. 295) is one of the infamous wireworms that cause much damage to crop roots.

▲ ***Athous haemorrhoidalis***. Clothed with grey or brown hair. Elytra strongly grooved. Abundant 5-8, especially in hedgerows and grassland. Larvae (wireworms) eat roots.

Selatosomus cruciatus. Black markings roughly in the form of a cross. 4-7, mainly in woodland and scrub. Larva lives in soil.

Cardiophorus gramineus. Deciduous woodland, especially on hawthorn flowers, 4-5. Larva, very long and thin, feeds on other insects under bark. S & C.

▲ ***Oedosthetus 4-pustulatus***. Rear yellow spots may be absent. River banks and other damp, grassy places, often under stones. 5-7. N & C.

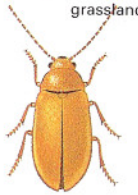
Cebrio gigas Cebrionidae. Female, with short elytra and no hindwings, remains in her larval gallery all her life. Male flies in evening. 8-11. Larvae eat roots. S.

△ ***Drilus flavescens*** Drilidae. Male is winged but rarely flies. 6-7 among low-growing vegetation: female rarely seen. Larvae feed on snails.

▲ ***Dascillus cervinus*** Dascillidae. Covered with hair – greyish in male, yellowish brown in female. 5-7. Rough grassland, usually on flowers. Larvae eat roots.

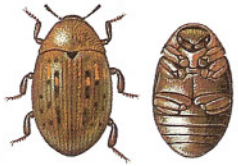
▲ ***Byrrhus pilula*** Byrrhidae. Very convex. Brown or reddish. Among moss and short turf, especially in sandy areas. All year, but hibernates: most common in spring.

▲ ***Microcara testacea*** Helodidae. Thin-skinned and rather soft. Abundant in damp grassland and hedgerows in summer. Larvae are aquatic.



Dascillus cervinus ×1.5

When disturbed, *Byrrhus* pulls in its legs and antennae and is easily mistaken for a seed



Byrrhus pilula ×2

Microcara testacea ×4

Phaenops cyanea ×1.5

Ptosima 11-maculata ×1.5

Agrilus pannonicus ×1.5

A. viridis ×1.5

Isorhipis melasoides ×1.5

♂ ***Melasis buprestoides*** ×1.5

Ctenicera pectinicornis ×1.5

C. cuprea ×1.5

Ampedus cinnabarinus ×1.5

A. sangineus ×1.5

A. balteatus ×1.5

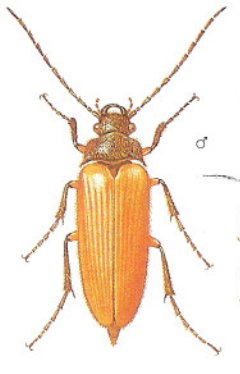
Agriotes lineatus ×1.5

Athous haemorrhoidalis ×1.5

Selatosomus cruciatus ×1.5

Cardiophorus gramineus ×1.5

Oedostethus 4-pustulatus ×4



♂ ♀ ***Cebrio gigas***

♂

♀

Drilus flavescens ×2

SOLDIER and SAILOR BEETLES Cantharidae. So-called for the bright colours of some species, reminiscent of old military uniforms. Elytra are soft. The beetles are predators, often hunting on flowers of grassland, hedgerow, and woodland margin. They fly well in the sunshine. The larvae resemble those of ground beetles (p. 295) and hunt mainly on the ground.

▲ ***Cantharis rustica***. Femora largely red. Abundant everywhere 5-8. ▲ ***C. fusca*** is similar but with black femora and the black spot near the front edge of the pronotum. ▲ ***C. livida*** has legs partly black and sometimes has black spot on pronotum. 4-8.

▲ ***Rhagonycha fulva*** is a very common species, often called the bloodsucker because of its colour, although it is harmless. Pronotum almost square and elytra always black-tipped. 5-8.

▲ ***Malthinus flaveolus***. Elytra are ridged and short, leaving tip of abdomen exposed. Abundant on shrubs and among grasses, mainly near woodland margins. All summer.

△s **Glow-worm** *Lampyris noctiluca* Lampyridae. Males fly at night in search of wingless, larva-like females that sit in grass and emit greenish light from under rear end of abdomen. 6-7 on grassland, including roadside verges. Larva feeds on snails. Absent from far north and becoming rare in many other places. ***Phausis splendidula***, common on continent, is a little smaller: female tawny brown with 3 spots of light.

Firefly *Luciola lusitanica*. Male flies after dark, emitting bright flashes about once every second from under rear end of abdomen. Female has smaller head and eyes and a very pointed abdomen. Although fully winged, she does not fly: she sits in vegetation and responds with flashes when she sees a male overhead. 5-7. Larva feeds on snails. S: not west of Rhône.

△s ***Phosphaenus hemipterus***. Wingless female rarely seen: she sits among turf or stones and attracts wandering male with greenish light after dusk. 5-7. Larva is like that of Glow-worm and feeds on snails.

Family Cleridae. A family of brightly coloured and rather hairy beetles. Most are predatory as adults and larvae. The latter are often brightly coloured and feed on other grubs under bark and in timber. Most of the 3,000 or so species are tropical..

Denops albofasciata. Woods and woodland margins, 5-6. Larva feeds on grubs of various bark beetles. S & C.

▲ ***Tillus elongatus***. Female has red thorax: male entirely black. On trunks of various deciduous trees, 6-7.

Opilo domesticus. In coniferous woodland and often in houses. 6-8. Breeds in dry softwoods, feeding on woodworm and other grubs. S & C. ▲ ***O. mollis*** is very similar.

▲ ***Thanasimus formicarius***. Elytral pattern varies, but always with 2 pale cross bars. On tree trunks in spring. Feeds on bark beetle grubs in various trees. May enter houses in logs.

Clerus mutillarius. Spring and summer on old trees and logs, especially oaks. Feeds on other beetle grubs. S & C.

Trichodes alvearius. Dark bands blue or black, the front one forming a shallow U: elytra red at apex. Very common on umbellifers and other flowers 5-7. Larvae feed on grubs of solitary bees. ***T. apiarius*** is similar but front band is straighter and elytra are dark at apex. Both species widely distributed in S & C.

△ ***Necrobia ruficollis***. Sometimes seen on flowers, but more often in tanneries and meat stores. Larvae eat skins and bones and dead insects. All year indoors: spring and summer out of doors. ▲ ***N. rufipes***, with all-blue thorax and elytra, is more common in B.

▲ **Cardinal Beetle** *Pyrochroa coccinea* Pyrochroidae. Rather flat and found on flowers and old tree trunks and stumps 5-7. Larva (p. 295) lives under bark and feeds on other insects. N & C. ▲ ***P. serraticornis*** is similar but head is scarlet.

Dictyoptera aurora ×2

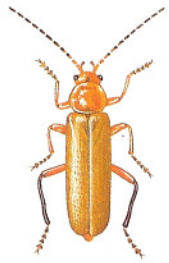
△n ***Schizotus pectinicornis*** resembles *P. coccinea* but has very feathery antennae and a black spot on pronotum. N & C.

Lygistopterus sanguineus Lycidae. Soft elytra, less flattened than cardinal beetles. Sun-loving and found on flowers, usually in woodland, 5-9. Larvae eat other grubs in rotting timber

△n ***Dictyoptera aurora*** resembles last species but pronotum is decorated with sunken pits. Elytra strongly ridged. Coniferous woods, 5-8. Larvae feed on other grubs under bark. N & C and mountains in S.

SOLDIERS, GLOW-WORMS and CARDINALS

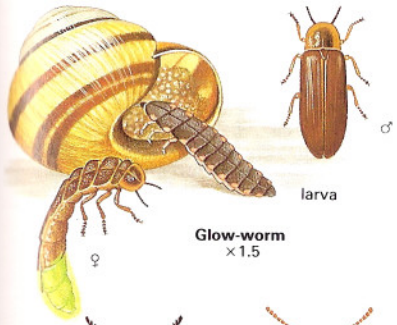
Cantharis rustica ×1.5



C. livida ×1.5

Rhagonycha fulva ×1.5

Malthinus flaveolus ×1.5



larva

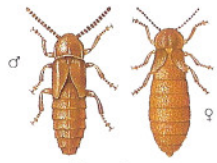
♂

♀

Glow-worm ×1.5

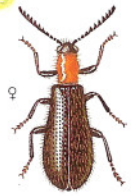
Firefly ×2

Denops albofasciata ×3



♂ ♀

Phosphaenus hemipterus ×2



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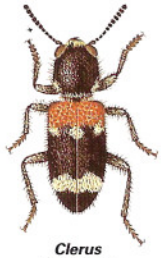
Tillus elongatus ×2

Opilo domesticus ×2

Thanasimus formicarius ×2



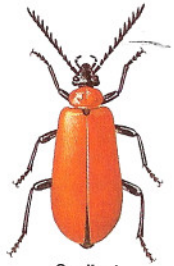
Clerus mutillarius ×1.5

Trichodes alvearius ×1.5

Necrobia ruficollis ×3

Schizotus pectinicornis

P. serraticornis



Cardinal Beetle ×1.5

Lygistopterus sanguineus ×2