

Copris elphenor

Length: 20 - 25 mm.

Distribution:

Copris elphenor is native to southern and east Africa. In Australia it is established near Biloela, QLD (figure 2 a), but is suitable for much of eastern Qld and possibly northern parts of NSW.



Identifying features:

A large shiny black beetle. The males have a large tapered horn on the head (figure 2b) and the females have a small, blunt horn on the head (figure 2c). The front of the pronotum has a distinctive indentation with several protuberances.

The species could be confused with *Copris hispanus*, however, *C. hispanus* does not have protuberances on the pronotum and female *C. hispanus* has a pointed horn, in contrast to the blunt horn of female *C. elphenor*. It is unlikely that the two species will occupy the same geographic area.

Additional information:

Copris elphenor has a single generation per year. Males and females co-operate in constructing a nesting chamber at about 30 cm below the dung pad. Females make 1 – 4 brood balls in each chamber, each containing a single egg. It is a brood-caring species with the female remaining in the nest while the larvae are developing. It breeds in spring and summer.



Figure 2b - Male *Copris elphenor*, side view



Figure 2c - Female *Copris elphenor*, side view

Sisyphus spinipes (Grey dung-ball roller)

Length: 9 - 11 mm.

Distribution:

Sisyphus spinipes is distributed from South Africa to Kenya. In Australia it is found in QLD and north-east NSW (figure 23a).



Identifying features:

A brown to dark brown/grey beetle with very long thin legs. The entire body is covered with short hairs. The male has a short spur at the base of the hind leg and an angled edge on the hind femur (figure 23b). Both sexes have a small, sharp spur on the middle tibia which tends to point proximally (figures 23c).

The species can be confused with *Sisyphus spinipes* but in general *S. rubrus* is smaller and a lighter colour. The spurs of male *S. rubrus* are longer and paler than those of *S. spinipes* and the edge of the hind femur is also a good character for identification of males. The small spur on the middle leg can be a useful feature to identify females, although it is difficult to see without magnification. The tibial spur on *S. rubrus* is more distinct than on *S. spinipes* and it points straight out at right angles to the tibia, rather than pointing slightly toward the femur/tibia joint.

Additional information:

This species is a ball roller. A dung ball is rolled away from the dung pad and attached to vegetation near ground level, fence posts etc.. One egg is then laid in the ball. Development from egg to adult is 6 to 11 weeks. The beetles are active from spring to autumn but activity has been observed on warm days in early winter.



Figure 23b - dorsal view of male *S. spinipes* showing large spur on hind femur



Figure 23c - ventral view of male *S. rubrus* showing the spur on the middle tibia

Euoniticellus intermedius (Northern sandy dung beetle)

Length: 7 - 9 mm.



Distribution:

Euoniticellus intermedius is native to Africa, south of the Sahara. It is widespread in Australia, being absent only from the southern regions (figure 6a).

Identifying features:

Body colour is yellow brown in colour with a diamond pattern on the pronotum (figures 6b and c). Body shape is elongated. Females have a single ridge between the eyes and males have a distinct blunt horn in the middle of the head.

Additional information:

The main activity period is from spring to autumn, but beetles can become active on warm winter days. Flight occurs during the day. Nests are constructed up to 15cm below the dung pad and comprise several brood masses each containing one egg. Egg to adult development takes 4 to 6 weeks in summer, but is much longer in winter.



Figure 6b - Male *E. intermedius*, dorsal view



Figure 6c - Male *E. intermedius*, side view

Liatongus militaris

Length: 8 - 10 mm.

Distribution:

Liatongus militaris is native to southern and east Africa. In Australia it occurs in QLD, NT and the northeast corner of NSW (figure 9a).



Identifying features:

The overall colour of this species is brown to dark brown with broken black stripes on the wing covers (figures 9b and c). Pale yellow "shoulder" pads are located on the sides of the pronotum (figure 9b). The legs have a dark, oval patch on each femur, on the upper and lower surfaces.

Additional information:

Beetles are active from spring to autumn. They fly during the day. Nests are constructed up to 15cm beneath the dung pad and comprise several dung masses each containing a single egg.



Figure 9b - *L. militaris*, side view



Figure 9c - *L. militaris* dorsal view

Onitis alexis (Bronze dung beetle)

Length: 13 - 20 mm.

Distribution:

Onitis alexis is widely distributed through Africa, south of the Sahara, and in southern Europe. It has established in most of Australia, except Tasmania.



Identifying features:

Beetles are two-tone in colour with the pronotum having a green, red or coppery sheen and the wing covers being light brown/gold. The ventral surface and legs are black and may have a dark green sheen.

The male has a single curved 'rosethorn' spur on the hind leg. The female has a distinct tubercle, or 'bump', at the back of the head. In both sexes the clypeal ridge is nearer to the frontal ridge than to the front of the head.

The species is similar to *O. aygulus*. However *O. aygulus* is larger than *O. alexis*, and *O. aygulus* males have an uneven double spur on the hind leg. The clypeal ridge in *O. aygulus* is nearer to the front of the head than to the frontal ridge.

Additional information:

Onitis alexis is active from spring to autumn. Flight occurs at dusk and dawn. Nests comprise several dung "sausages", each containing 1 to 4 eggs. Nests are constructed up to 25 cm beneath the dung pad. Development from egg to adult takes between 2 and 10 months. The species may over-winter as either adults or larvae.



Onitis alexis - female

Onitis viridulus (Emerald dung beetle)

Length: 18 - 23 mm.

Distribution:

The native range of *Onitis viridulus* is Africa, from Ethiopia to northern South Africa. In Australia it is established in Qld, NT, northeast WA and northeast NSW.



Identifying features:

Uniformly dark brown to black, often with a coppery or green sheen over the body. Males have an uneven, double spur on the hind leg, a feature which distinguishes it from male, *O. vanderkelleni*.

On the female head of *O. viridulus* the clypeal ridge is about equidistant between the frontal ridge and the front of the head. This feature can be used to distinguish *O. viridulus* females from *O. vanderkelleni* females. The clypeal ridge in *O. vanderkelleni* is closer to the frontal ridge than to the front of the head. Furthermore, *O. vanderkelleni* females have a distinct tubercle, or "bump", near the back of the head, whereas *O. viridulus* females have a small indistinct tubercle.

It is extremely difficult to separate *O. pecuarius* and *O. viridulus* without a microscope. In general, *O. viridulus* tends to have a green sheen, whereas *O. pecuarius* has no sheen or a brown/pink sheen. For field identification, distribution is a good guide except in the area of overlap (northeast NSW and southeast QLD). Specimens from this region should be referred to an expert to confirm their identification.

Additional information:

Beetles fly at dusk and dawn and are active from spring to autumn. Nests are constructed approximately 10 cm under the dung pad, and comprise several brood masses each containing a single egg. In the warmer months development from egg to adult takes 1 ½ to 2 months. Adults may take 6 to 9 days to commence burial after entering a dung pad.



Onitis viridulus

Onthophagus gazella (Gazella dung beetle)

Length: 10 - 13 mm.

Distribution:

Onthophagus gazella occurs through much of Africa, south of the Sahara. It is widespread in northern Australia, and is found as far south as the Victorian border.



Identifying features:

Onthophagus gazella is two-toned in colour, with the pronotum dark brown and the wings a lighter brown. The legs are golden brown with distinctive dark oval patches on the underside of each femur. Large males have a pair of straight horns at the back of the head.

The beetle is a rounded shape when viewed from above. Females of this species may be confused with *Onthophagus nigriventris*, however, *O. nigriventris* is a narrower beetle with a totally black ventral surface, lacking the leg markings of *O. gazella*.

Additional information:

Nests are constructed 20-25cm below the dung pad, and comprise several brood masses each containing a single egg. Beetles are active from spring to autumn. Flight is at dusk and dawn. Development from egg to adult takes 3 to 5 weeks.



Onthophagus gazella

Onthophagus nigriventris

Length: 10 - 12 mm.

Distribution:

Onthophagus nigriventris is native to the tropical highlands of Africa and is widespread in Kenya. In Australia it has established in coastal NSW, southeast QLD and highland tropical QLD (figure 18a).



Identifying features:

The wing covers are tan to light brown and the pronotum is dark green to black with a greenish tinge (figure 18b). Large males have a single large horn that protrudes forward from the pronotum which may be almost as long as the body (figure 18b). Small males and females lack this horn but still have a slight protuberance at the front of the pronotum. The ventral surface of both sexes is black (figure 18c).

The female of this species can be confused with *O. gazella* females. The black ventral surface of *O. nigriventris* distinguishes it from *O. gazella* (see figure 17c) and *O. nigriventris* is narrower than *O. gazella*.

Additional information:

The activity period is between spring and autumn with flight occurring during the day. Nests comprise several brood masses, each containing a single egg. Development from egg to adult takes 4 to 7 weeks in summer.

The species occurs in dry tropical highlands to montane in East Africa.



Figure 18b - *O. nigriventris* male, side view



Figure 18c - *O. nigriventris*, ventral view

Onthophagus sagittarius

Length: 10 - 13 mm.

Distribution:

Onthophagus sagittarius is native to south-east Asia. In Australia it is restricted to coastal Qld, NT and far north-eastern NSW.



Identifying features:

This beetle is a uniform bronze/brown in colour with a slightly speckled appearance. The male has two small horns at the front of the head and the female has a single horn at the back of the head and a forward pointing projection on the pronotum. The horns on the head distinguish this species from all other introduced species found in Australia. Very small specimens can be difficult to identify.

Additional information:

Flight occurs at dusk and dawn.



Onthophagus sagittarius

Sisyphus rubrus (Brown dung-ball roller)

Length: 6 - 8 mm.

Distribution:

Sisyphus rubrus is native to southern Africa. In Australia it occurs in QLD and north-east NSW (figure 22a).



Identifying features:

Sisyphus rubrus is light brown to brown with long, thin legs (figure 22b). The male has a long pale spur at the base of the hind leg and a rounded edge on the hind femur (figure 22b). Both sexes have a distinct spur on the middle tibia which projects at right angles from the leg.

The species can be confused with *Sisyphus spinipes* but in general *S. rubrus* is smaller and a lighter colour. The spurs of male *S. rubrus* are longer and paler than those of *S. spinipes* and the edge of the hind femur is also a good character for identification of males. The small spur on the middle leg can be a useful feature to identify females, although it is difficult to see without magnification. The tibial spur on *S. rubrus* is more distinct than on *S. spinipes* and it points straight out at right angles to the tibia, rather than pointing slightly toward the femur/tibia joint.

Additional information:

Sisyphus rubrus rolls its brood ball away from the dung pad and buries it a few centimetres in the soil. One egg is laid in the brood ball after it has been buried. *S. rubrus* is a day flier and is often found in large numbers in single dung pads.



Figure 22b - Male. *S. rubrus* showing rear spur