

Beetles - Coleoptera

of **Belair National Park** and Adelaide Hills



Marianne Broug

www.mariannebrougphotography.com

Coleoptera is the largest order of insects, with over 350,000 species worldwide. Nearly one third of all described animal species in the world are Beetles! They are found in almost every habitat on Earth. In the region of the Adelaide Hills including Belair National Park, I have found them in water, breaking down carcasses, in trees, in galls, in the ground, on flowers, on leaves, in rotting wood: I have found them everywhere!

The word **Coleoptera** comes from the Greek ‘koleos’ meaning ‘sheath’ and ‘pteron’ meaning ‘wing’. This describes one of the key characteristic of beetles: their forewings or elytra are hardened and serve as protective sheaths for their delicate membranous flight wings and also abdomen. This adaptation, along with their generally tough exoskeleton, is one of the key evolutionary traits that have contributed to their success and diversity.

Beyond the elytra, another key characteristic of Beetles, is their chewing mouthparts. These distinguish them from True Bugs (Hemiptera) which have sucking mouthparts (a proboscis). Another characteristic that differentiates them from True Bugs is the fact that they undergo a complete metamorphosis with four distinct stages. (See following page for details). True Bugs go through an incomplete metamorphosis, with a number of nymphal stages or instars prior to adulthood.

It is worth noting that the larval stages of Beetles can vary greatly in appearance and habitat between species. I have often come across the misconception that a Beetle larva is actually some sort of grub-like ‘pest’ that needs to be eradicated. A number of times now I have spoken with people who are horrified to realise they have been mistakenly killing Ladybird larvae or even Christmas Beetle larvae. Where possible I have included the larvae in this publication.

Another interesting fact about Beetles is the enormous variation in their size. I have found Beetles that are mere dots like the **Sap-feeding Beetle** (arrowed left below), and also very large Beetles like ***Cacodacnus planicollis*** (arrowed right below). I have tried to show both here roughly relative to each other with regard to size.



Acknowledgements

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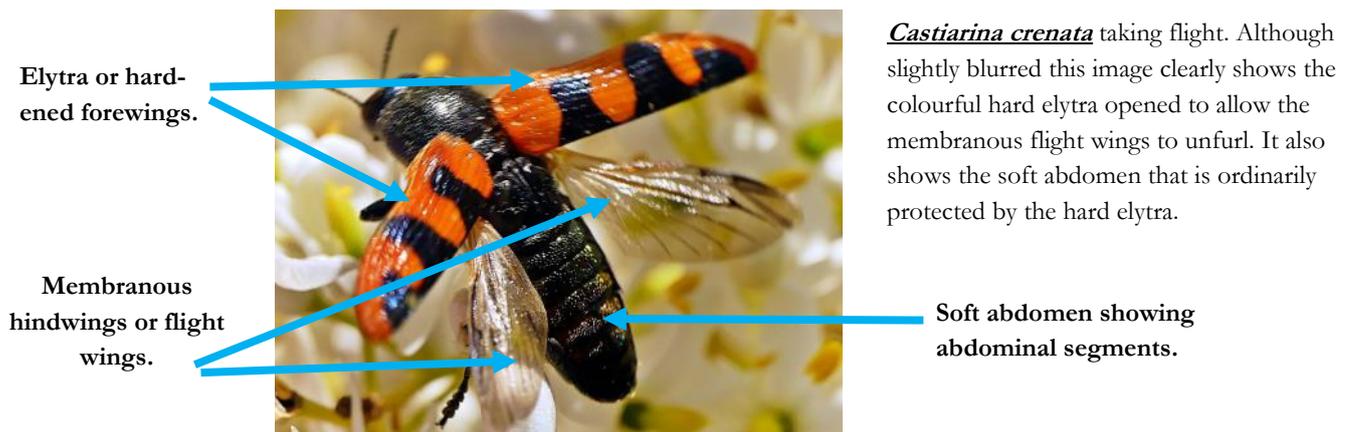
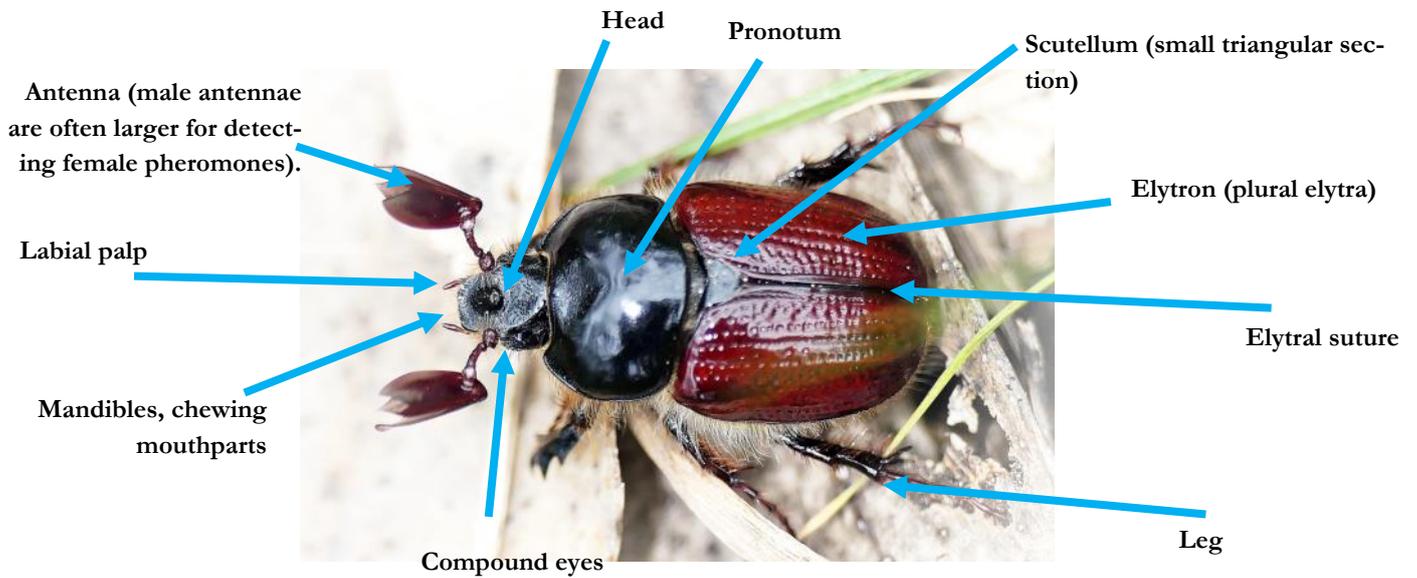
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Front cover image: ***Castiarina media***, a Jewel Beetle, family Buprestidae, seen on ***Bursaria spinosa***.

Anatomy



Life stages

Complete Metamorphosis

All four photos below are of different life stages of the Large Spotted Ladybird, *Harmonia conformis*. These four distinct stages are applicable to all Beetles and are an example of Complete Metamorphosis i.e. each stage is dramatically different from the previous one. This in contrast to the Incomplete Metamorphosis of insects like bugs, which go through a gradual change with a number of nymphal stages.



Eggs

Larva

Pupa

Adult

Predaceous Diving Beetles - Dytiscidae

The name **Dytiscidae** comes from the Greek word 'dytikos' which means 'able to dive'. These beetles live in most freshwater habitats around the world. Their smooth oval bodies and paddle-like legs are ideal for swimming. They store air under their elytra allowing them to breathe underwater.



Left and left below: The most common **Dytiscidae** I see is the **Cosmopolitan Diving Beetle, *Rhantus suturalis***.

I have, however, seen many smaller beetles underwater that have been too quick to photograph. In the photo directly to the left is also a shiny golden beetle (perhaps a **Water Scavenger Beetle, Hydrophilidae**) that can be seen below and in front of the larger **Rhantus**.

I have also seen **Rhantus** out of the water (left below). They are attracted to light and may leave the water for many reasons: to mate, disperse, hunt further afield etc.



Larvae



Above and below: Two Dytiscidae larvae. The one above is likely ***Rhantus sp.*** and the one below **Hydroporinae** (subfamily).



Orange Sutured Diving Beetle, *Allodessus bistrigatus*

A very small 4-5mm beetle. Very quick and difficult to photograph. In a seasonal dam.



Below: Subfamily **Hydroporinae**.



Rove Beetles - Staphylinidae

Staphylinidae comes from the Greek word ‘staphyle’ which means ‘bunch of grapes’ and refers to the shape of the abdomen which is elongated and segmented, and is quite different to the abdomen of other beetles. **Rove Beetles** are predators of other insects and also scavengers of dead animals and other organic matter.

NOTE: Originally when I originally put together this chapter, the **Carrion Beetle**, *Ptomaphila lacrymosa* (bottom of page) was placed in the family Silphidae for which I had a separate heading. However a paper in 2024 concluded that Silphidae actually evolved from within the Rove Beetle family (Staphylinidae), justifying their classification as the subfamily **Silphinae** within Staphylinidae. The name **Silphinae** comes from the Ancient Greek ‘silphe’ meaning cockroach. These beetles play a profoundly important role in the ecosystem by aiding in the decomposition of dead animals.



Left and right: Two photos of *Creophilus lanio* seen on a Kangaroo carcass. The Beetle was so quick it was almost impossible to take photos. Of note are the number of **Mesostig Mites** (Infraorder Gamasina) it is carrying.



Two photos of a very tiny **Rove Beetle** the size of ant that I found on the outside of the house. I couldn't work out what it was until it unfurled its wings. **Spiny-legged Rove Beetle, *Anotylus* sp.**



Carrion Beetle, *Ptomaphila lacrymosa*.

Left is the adult and below is the larva. At one stage I had the fascinating opportunity to watch a large kangaroo carcass slowly being decomposed. Among the countless critters that came and went were these beetles. They play a profoundly important role in the ecosystem.



Stag Beetles - Lucanidae

The common name **Stag Beetles**, refers to the large mandibles of the males of this family, which look like the antlers of a stag. Many **Stag Beetles** are known for their considerable size and strikingly beautiful appearance.



All photos are of an exquisite **Golden Stag Beetle**, *Lamprima aurata* female found on the ground in Belair NP. This is the only Stag Beetle I have seen. The colours of this species are extremely variable but always vibrant and metallic.



Scarab Beetles - Scarabaeidae

Scarabaeidae is a family that includes some of the most well-known beetles, such as Christmas Beetles, Rhinoceros Beetles, Chafers and Dung Beetles. They are distinguished from other beetles by their antennal shape (often clubbed or lamellate), their robust compact body shape and their C-shaped larval form.

Christmas Beetles is the common name of the genus *Anoplognathus* because they usually appear around Christmas time. There are only three species of *Anoplognathus* found in the Adelaide area: *montanus*, *velutinus* and *namarus*. I have observed the first two.



Above left: **Duck Billed Beetle, *Anoplognathus montanus***, I have seen a few times.
 Above right: **Hairy Spotted Beetle, *Anoplognathus velutinus***, I have seen once.

Larva



Typical C-shape of many beetle larvae, including Scarabs. It is often difficult to identify these definitively to species.
 Unfortunately many beautiful beetles are inadvertently killed by humans as 'pests' at this stage of their life cycle.



Left: **Washing Beetle, *Phyllotocus rufipennis*** is one of the Nectar Scarabs seen here feeding on the nectar of *Leptospermum continentale*.



Fiddler Beetle, *Eupoecila australasiae* found on *Bursaria spinosa*. Common name comes from the 'violin' shape on the body. Originally from the Eastern States and more and more common in SA.

Right: ***Heteronyx* sp.** is one of the June Beetles named for the fact that in the Northern Hemisphere they emerge around June!



Comparison

Corynophyllus modestus.

Corynophyllus adults synchronise their emergence from the soil in mid-spring, with active but short-lived males seeking out more sedentary females presumably by detecting their pheromones. The short period of activity means that the males aren't usually noticed.

However, over a number of seasons I have learnt their habits and can usually see a few flying around. The females, however, stay concealed and are rarely noticed. The only female I have seen is a dead one (far right).

Although dead it is still apparently a 'good find' because it is so rare to see one.

Comparison of male (right) and female (left). Note the enlarged antennae of the male, used for detecting pheromones of the female.



Right: *Liparetrus* sp. a small beetle. This genus has a characteristic 'big bum'!



Sericesthis nigrolineata



Argentinian Scarab,
Cyclocephala signaticollis.
An introduced species more common in recent years.



African Black Beetle,
Heteronychus arator.
Introduced. A very common small beetle seen in backyards.



Left: Southern Dung Beetle, *Onthophagus australis*. I saw a number of these beetles literally RUNNING to get to some fresh Kangaroo dung. They quickly buried themselves beneath the dung.



Left and right: *Dasygnathus trituberculatus*. This is a **Rhinoceros Beetle**, subfamily **Dynastinae**. Note its rhino-like horn and the shoveling structure below it. Males use this horn for fighting.



Ground Beetles - Carabidae

The **Carabidae** family are terrestrial beetles that are primarily predaceous. They are usually shining black or metallic in color, have long antennae and five-jointed tarsi.



Left: *Secatophus australis* is the only beetle in the genus *Secatophus*. This specimen was found while I was weeding in the bush and disturbed some ground cover. Note the reddish tinge on the edge of the thorax.

Below: A small Beetle in the subfamily **Lebiinae**. Unlike other **Ground Beetles** they are found on vegetation or under bark, rather than on the ground. They are fast-running predators.



Right: *Demetriida* sp.



Click Beetles - Elateridae

The name **Elateridae** comes from the Greek word 'elater' meaning 'driver' or 'one who drives'. **Click Beetles** have a spring-loaded mechanism between their thorax and abdomen that stores potential energy which can suddenly be released when they are overturned or threatened. It propels them into the air and 'drives' them back onto their feet or helps them escape a would-be predator. This mechanism has a very audible click which at times has startled me! **Click Beetles** are diverse in appearance and habitat, with larvae often found in soil or decaying wood. I've frequently seen adults in vegetation-rich areas like bracken or blackberries.



Above and right: I have seen brown Click Beetles like these many times . I often see them on foliage in more densely vegetated and cooler gullies. I frequently see them on Austral Bracken. Right: *Dicteniophorus* sp.

Interesting info - Diapause



Left: One day I spotted what I thought was the shell of a small **Click Beetle** in the bush. I picked it up and out of interest took some photos.

But I then realised it wasn't dead! It was in a state of diapause or winter hibernation! I was awed by the way its legs fit perfectly into its shell in order to keep it completely protected. So beautiful. I put it back where I found it.



Anilicus xanthomus. This is the only non-brown **Click Beetle** I have seen. Of note is the fact that it is a Lycid-mimic (see Lycidae on the next page).

Net-winged Beetles - Lycidae

The name **Lycidae** comes from the Greek 'lykos' meaning 'wolf'. In ancient times the wolf was considered harmful or noxious, and because these beetles contain toxins that make them unpalatable or even poisonous to potential predators, they were likened to wolves. Their common name of **Net-winged Beetles** comes from the characteristic lace-like pattern on their wings.

Lycidae are often brightly colored, with red, orange, yellow, or black hues, which serve as a warning to predators about their toxicity.



Left two photos: **Three-ribbed Lycid Beetle, *Trichalus semicostatus***. Note that the elytra (hard wings) have three complete ribs compared to the four of ***Porrostoma rufipenni*** (left bottom). Note also the elytra lifted to allow the soft wings to open for flight.

Interesting info - Lycid mimicry

Lycid mimicry is a very common visual warning system in the insect world. Many insects including moths, flies, wasps and other beetles, mimic the colours of **Lycid Beetles**. Some of these are also toxic but many gain some protection by fraud. Below from right is a Lycid Beetle, a Longhorn Beetle, a Jewel Beetle and a Click Beetle. Each is described under its own family.



Lycid Beetle from the sub-family **Calochrominae**. It lacks the ridge on the pronotum that ***Porrostoma*** (below left) has. Larva (above) and adult (below).



Above: **Red-winged Lycid Beetle, *Porrostoma rufipenni*** showing adult (left) and larvae (right). Note that the Elytra (hard wings) have four complete ribs in comparison to the three ribs of ***Trichalus semicostatus*** above. In the photo of the larvae, a later instar takes up most of the photo and a very early instar can be seen on the upper right.

Jewel Beetles - Buprestidae

The name **Buprestidae** originates from the Greek word 'buprestis' meaning 'beetle'. They are commonly known as **Jewel Beetles** as they have strikingly iridescent colors and often exhibit metallic hues such as greens, blues and purples.

There are approx 480 known species of *Castiarina* in Australia and the life cycle of only a handful are known. Larvae use the trunks, roots and stems of living plants and as such can be an invisible victim of burning practices particularly when too frequent.



Castiarina media



Castiarina adelaidae



Castiarina rufipennis



Castiarina crenata



Castiarina xanthopilosa



Castiarina decemmaculata



Castiarina parallela



Castiarina colorata



Castiarina bicolor

Left are the nine species of **Castiarina Jewel Beetles** I have seen. They were mostly seen on *Leptospermum* / *Gaudium* although also on *Bursaria*, *Ixodia* and an introduced *Kunzea*.

Please also refer to the photo of a *Castiarina crenata* with wings open in the introductory section on Beetle anatomy. Also refer to the large front cover image.



Above: A comparison of three different individuals of *Castiarina bicolor*. All *Castiarina* have variation between individuals of a species. All markings are unique

Below left and right: *Melobasis propinqua*. Originally on *Pultenaea largiflorens* but flew to a grass when I disturbed it.





Agrilus hypoleucus. A small-sized species I have only ever found on *Acacia pycnantha*. Apparently they are exclusive to Acacias. Quite common.,



Above:

Ethonion reichei.

A very brief sighting and poor photos of a relatively rare Jewel

Comparison

Four species of *Diphucrania* (below).

Diphucrania duodecimmaculata in the large photo on the left is active on *Xanthorrhoea semiplana* in autumn. Note its greenish-blue iridescence. The tiny inset photo with the yellowish face is likely a male. The three species on the right, are *Diphucrania modesta* (top), *Diphucrania nubeculosa* (middle) and *Diphucrania parva* (bottom). All are very small and found on *Acacia pycnantha*.



Lady Beetles - Coccinellidae

The name **Coccinellidae** comes from the Latin word 'coccineus' meaning 'scarlet' or 'red' and refers to the colours often seen on **Lady Beetles**. Also commonly known as **Ladybugs** or **Ladybirds**, this family of small beetles are usually brightly coloured, with rounded bodies and distinct spots or markings. Both the adults and the larvae are voracious hunters of insects such as aphids, scale and mites, and as such are welcomed as valuable natural predators in gardens and agricultural settings.

I have attempted to show the larvae as much as possible in the photos below, as they are often mistaken as 'pests'.

Large Spotted Ladybird *Harmonia conformis*



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Above: **Large Spotted Ladybird, *Harmonia conformis***. This is a posterette I made up which is part of a series of nine that is freely available off my website. It has been widely used from kindergartens to the University of the Third Age. It shows the full life cycle of this beetle and brings particular attention to the changes in the larva as it grows. All other Coccinellidae (and indeed Beetles) have a similar life cycle.



Transverse Ladybird Beetle,
Coccinella transversalis



Striped Ladybird,
Micraspis frenata



Fungus-eating Ladybird,
Elleis galbula



Mealybug Destroyer,
Cryptolaemus montrouzieri



Orange-spotted Ladybird,
Orcus australasiae. Uncommon.



Telsimia sp.
Larva.
NB: Different from Mealybug Destroyer larva (above) with no white tufts on the dorsal surface.



Tasmanian Ladybird, *Cleobora mellyi*.
Native to Tasmania and the southern states.



Spotted Amber Ladybird Beetle,
Hippodamia variegata. Introduced.



Comparison - two orange spots!

Three different species of Coccinellidae each of which has two orange spots and is very small. They are arranged in size from approx. 3.5mm on the left to 1.5mm on the right.



Yellow-shouldered Ladybird,
Apolinus lividigaster



Minute Two-spotted Ladybird,
Diomus notescens



Citrus Whitefly Ladybird,
Serangium maculigerum

Comparison - tiny and dark brown

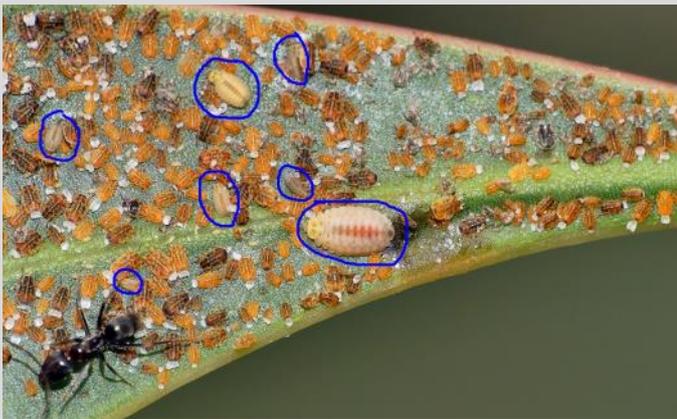


Over time I have seen many tiny dark brown/black Coccinellidae. They are approx. 1.5-3mm and difficult to identify. The beetle on the right may be *Rhyzobius sp.* and the ones on the left, unknown. The adult of the *Telsimia sp.* larva on the previous page is also small and dark and similar to these.



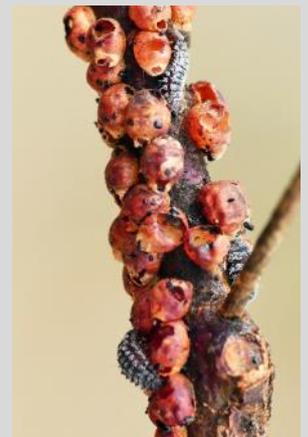
Interesting info - encounters with Coccinellidae larvae

Some Coccinellidae larvae are quite well-known but others are not. At times I have photographed small cryptic creatures which I was unable to identify for many years, but turned out to be Coccinellidae larvae. Below are two such examples.



Above and left: These small circled creatures are Ladybeetle larvae from the genus *Diomus* (see above for a genus adult) that are preying on the nymphs of *Acizzia sp.* Psyllids which are feeding on *Acacia pycnantha* leaves. For years I and others believed these to be the larvae of Australian Parasite Moths.

Above and right: These are tiny cryptic creatures I saw a few times before being able to identify them as the scale-eating larvae of *Rhyzobius sp.* (see above for genus adult). Here they are feeding on Gum Tree Scale, *Acanthococcus sp.* (prev. *Eriococcus*). A good example of how killing Scale would also kill Ladybeetles.



Checkered or Clerid Beetles - Cleridae

The name **Cleridae** comes from the Greek word 'kleros' meaning 'chance' and perhaps refers to the diversity of appearance and ecological roles within this family. The common name comes from the distinctive patches or bands that resemble a checkerboard or checker pattern. **Cleridae** are characterised by bright colours with distinctive patterns, ranging from metallic hues to bold contrasts.

Cleridae species are widely distributed across various habitats worldwide.

Comparison

Two species from one genus, *Eleale*. Left is *Eleale pulchra* and right is *Eleale simplex*. These are small beetles I see fairly frequently on a variety of flowering plants. The common name for both is **Clerid Beetle!**



Above: *Lemidia* sp. A very small and quick-moving beetle seen on a reed near water



Above: **Redlegged Ham Beetle**, *Necrobia rufipes* on a Kangaroo carcass. It is a predatory **Clerid** that can infest stored meats.



Above: *Phlogistus* sp. on *Leptospermum*.



Above: *Stigmatium acerbum* on a fence post.

Scrobiger splendidus. It is worth looking at the extraordinary colours and patterning. The posture head hanging down is a classic defensive posture of this beetle. It is pretending to be dead.



Soft-winged Flower Beetles - Melyridae

The name **Melyridae** comes from the Greek 'melyros' meaning 'ash-coloured' or 'yellowish', likely referring to the colouring of some species. **Melyridae** are typically elongated, with soft bodies, hence their common name. Some species are found on flowers, where they feed on pollen and nectar, and others prey on other insects such as aphids and caterpillars.

Comparison

Comparison

Three beetles from one genus, *Carphurus*.

Top: *Carphurus blackburni*

Middle: *Carphurus cyanopterus*

Bottom: *Carphurus cyaneipennis*



Left: Two beetles from one genus, *Dicranolais*.

Top: *Dicranolais cinctus*

Bottom: **Red and Blue Beetle.**

Dicranolais bellulus.

An obvious difference between the two is the orange tips on the ends of the elytra on *Dicranolais bellulus*.

Below: *Dicranolais bellulus* taking flight. Note the elytra lifted to allow the membranous flight wings to unfurl.

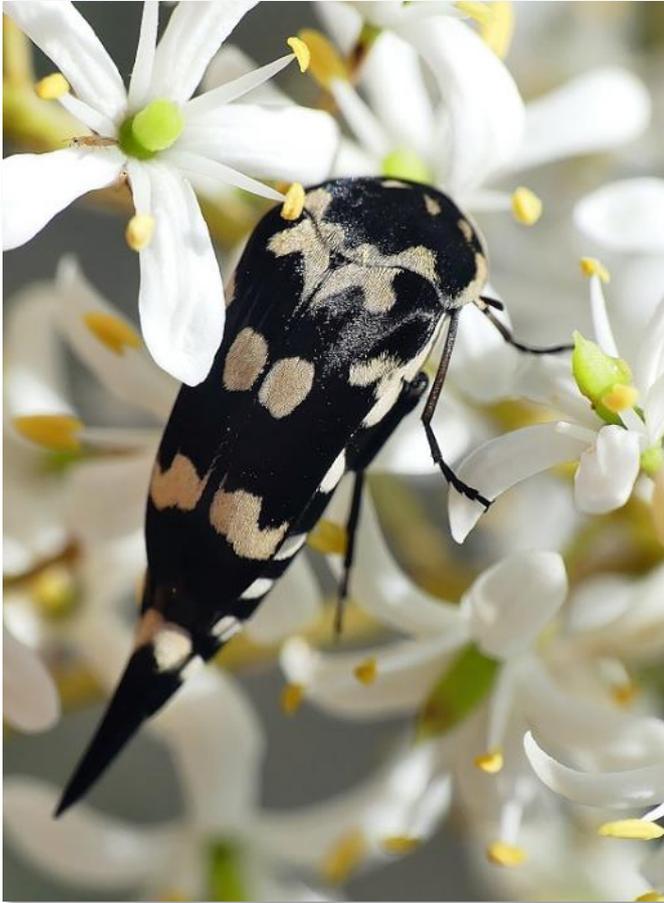


Left: *Balanophorus brevipennis*.

This beetle can be distinguished from those above, by its strongly combed or flabellate antennae.

Pintail Beetles - Mordellidae

The etymology of the name **Mordellidae** is unclear. They are commonly known as **Pintail Beetles** or **Tumbling Flower Beetles**, the latter describing their ability to curl into a ball when disturbed, presumably to escape predators. Their pointed abdominal 'tail' helps them carry out this tumbling movement. Many of this species are valuable pollinators and I have only ever found them on flowers.



Above: **White-spotted Pintail Beetle, *Hoshihananomia leucosticta***. This beetle is a firm favourite. I see it each year when the *Bursaria spinosa* is flowering.

Below: ***Mordella australis***. A very small Pintail Beetle I see on a variety of flowering plants. Here on *Brunonia australis*. Note the patterning.



Comparison

Two beetles from one genus, *Hoshihananomia*.

Top: *Hoshihananomia leucosticta*.

Bottom: *Hoshihananomia dumbrelli* a smaller beetle I have only seen infrequently. Both on *Bursaria spinosa*.



A very small black **Pintail** that is extremely active on *Bursaria spinosa*. Easily missed and mistakenly thought of as a small fly or mosquito. **Tribe *Mordellini***.

Long-horned Beetles - Cerambycidae

The name **Cerambycidae** comes from the Greek mythological figure Cerambus, who after an argument with the nymphs was transformed into a large beetle with horns. **Cerambycidae** are generally cylindrical or rectangular large beetles, with antennae that are often longer than their body. Their larvae usually bore into the roots and wood of trees and as such can be seen to be doing damage. As with all living creatures they are however an integral part of the ecosystem, decomposing dead wood and as prey for other insects, birds and mammals.



Left: The most common Longhorn Beetle I see is a **Stinking Longhorn, *Stenoderus suturalis***. Its common name refers to its clever ability to produce a foul-smelling deterrent when threatened. 'Suturalis' refers to the lines (sutures) on the elytra. A beautiful Beetle, always seen on flowers.

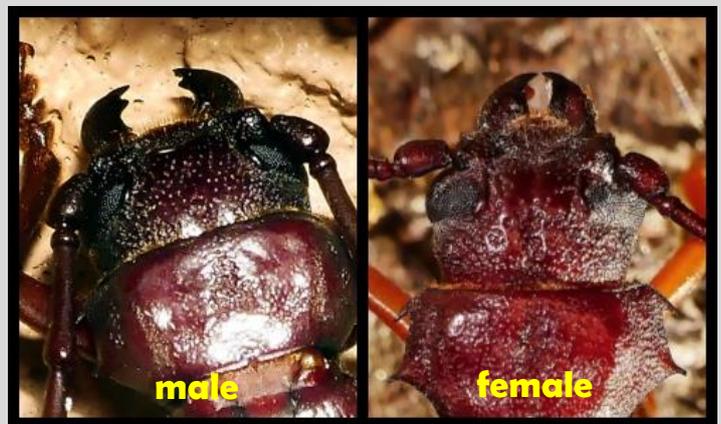
Below: ***Pempsamaca dispersa*** always seen on ***Gaudium* / *Leptospermum***.



A big beetle!

The largest Beetle I have seen is *Cacodacnus planicollis*. Below is my finger for comparison. This is a male. The photo on the right is a female laying eggs on the trunk of a **Bunya Pine**. Note her large ovipositor.

Although the males of this species have sizable jaws for fighting, the jaws of females are still quite large! See comparison lower right. They also offer quite a sizable nip!



Comparison

By far the smallest Longhorn I see, always on *Bursaria spinosa*, is *Syllitus* sp.

The two photos on the left show *Syllitus rectus* and the photos on the right is the much smaller *Syllitus microps*.

The size of the flowers gives an indication of size.

Note also the ends of the stripes on the elytra which differ between species.





Above: The very distinctive *Rhinophthalmus nasutus*. Named for its prominent 'nose'.



Left: *Calidiopsis scutellaris* (deceased)

Below: Common Eucalyptus Longhorn, *Phorocantha semipunctata* (deceased)



Phacodes personatus



Below: *Disterna canosa*



Above: *Ancita sp.* A genus of Longhorn I see fairly frequently. Here it is showing off the antennae that make this family of Beetle distinctive. On *Acacia pycnantha*.



Above and left: *Neostenus* sp.
A large beetle from the Subfamily Cerambycinae (Round-necked Longhorn Beetles).

Right: *Bimia bicolor*. I found this beetle deceased on the path at home. It is another example of Lycid mimicry. The Lycid colours warn potential predators that this beetle may well be toxic, even though in this case it is likely just a deception.



Left: Typical feeding trails of **Longhorn Beetles** on a fallen log. These trails would originally have been under the bark. The central area from which all feeding trails radiate would have been where the eggs were laid.

Darkling Beetles - Tenebrionidae

The name **Tenebrionidae** comes from the Latin word 'tenebrae' which means darkness or shadow. These beetles are mostly dark or black in colour. Additionally, they live in dark, sheltered places like rocks, logs, or in soil. They play important roles in the ecosystem as scavengers, decomposers, herbivores, predators and even fungivores.

Comparison



Two beetles from one genus, *Ecnolagria*.

Honeybrown Beetles, *Ecnolagria* sp. are very common. I see two species that are difficult to tell apart. On the left is *Ecnolagria rufescens*. Note that the segments of the antennae are rounded and quite symmetrical. On the right is the more common *Ecnolagria grandis*. Note that the segments of the antennae are slightly barbed and not symmetrical.



Right is an *Ecnolagria* larva. It is impossible to narrow it down to species.



Left: *Celibe* sp.
A distinctive terrestrial beetle.



Right: *Saragus* sp.
Another distinctive terrestrial beetle.

Larva

Right: **Tenebrionidae** larva found in the garden. Downward facing mouthparts indicate this family. Two photos overlaid to show entire larva.





Left:
***Chalcopteroides* sp.**
It was seen on my car when parked in Belair NP. Characterised by rainbow colours. Such beauty.



***Adelium* Darkling Beetle, *Adelium* sp.**
A beetle frequently seen in different environments.



Prophanes simplex.
A chance sighting of this large beetle crawling out of a toilet block.



Ulomoides tetraspilotus.
A very small beetle seen under bark of a recently-fallen tree.



Left: ***Lepturidea* sp.**
A small active beetle seen fairly frequently.

Right: ***Pemanoa tasmanica.***
Many of these small beetles seen on *Leucopogon virgatus* flowers. ID confirmed by an expert in these beetles.



Leaf Beetles - Chrysomelidae

The name **Chrysomelidae** comes from the Greek: 'chrysos' meaning 'gold' and 'melos' meaning 'limb' or 'part'. This likely refers to the golden or metallic appearance of some of these beetles. **Chrysomelidae** are one of the largest beetle families and definitely one of my favourites. Although highly diverse, they generally feed on plant material, hence their common name. Most are extremely beneficial for the environment although some are considered 'pests' in the man-made/man-altered world.



Left and above: **Metallic Dodonaea Leaf Beetle, *Callidemum hypochalceum***. This is probably the most common Leaf Beetle I see in Belair NP. Always on ***Dodonaea viscosa*** (Sticky Hop Bush) and with quite a lengthy period of activity.

Below: ***Trachymela* sp.** This is two different individuals. They can't be IDed to species.



Left top and middle: ***Calomela ioptera***. Note the beautiful iridescent blue spots on this beetle.

Below left: Although this is definitely a **Calomela** larva, it can't be IDed to species.



Comparison

Three species from one genus, **Peltoschema**.
Left to right: ***P. hamadryas***, ***P. delicatulum***, ***P. dryope***.



Comparison

Two species from one genus, *Paropsisterna*.

Below: *Paropsisterna intacta*. A rare variation confirmed by expert Martin Lagerway.



Above: *Paropsisterna cloelia*. A beetle I see frequently. Also included are eggs I saw nearby which are presumably from this beetle.

Left: *Paropsisterna* larvae of unknown species.



Comparison

Four species from one genus, *Paropsis*.

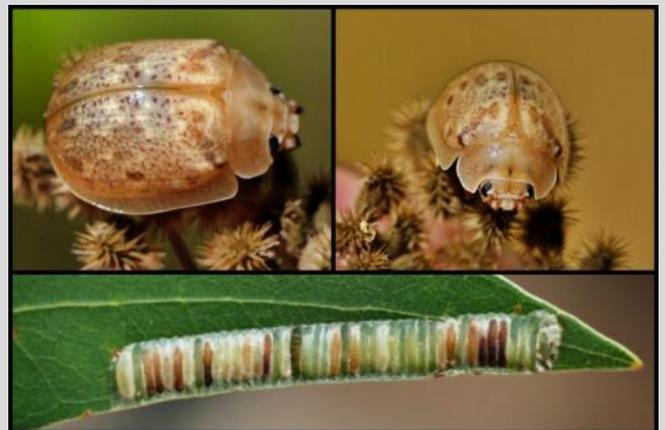


Above: *Paropsis aegrota*



Above: Distinctive eggs of Dotted Paropsine Leaf Beetle, *Paropsis atomaria*.

Below: *Paropsis* larvae, species unknown.



Above: Eucalyptus Tortoise Beetle, *Paropsis charybdis*. Showing an adult and also its very distinctive line of its eggs.

Below: *Paropsis deserti*.





Comparison

Two species from one genus, *Aporocera*. Both mating.

Left is *Aporocera scabrosa* on *Calytrix tetragona* and right is *Aporocera bynoei* on *Acacia pycnantha*.

These beetles are very small.



Above: **Lilly Pilly Leaf Beetle, *Paropsides calypso***. A very common beetle seen fairly frequently in human-created monocultures such as Lilly Pilly hedges, in which it is considered a 'pest'. It is a native beetle.

Two common introduced beetles. Below is **Elm Leaf Beetle, *Xanthogaleruca luteola***. Although it is considered an invasive pest for Elm trees, it is good that it kills the very weedy Elms that invade native bushland.

Right is **Saint John's Wort Beetle, *Chrysolina hypericini*** which was introduced as a biological control for the weedy St John's Wort.



Interesting info - different shapes

Not all Leaf Beetles have the characteristic rounded shape. Here are two species that look quite different.

Eurispa albipennis (left) is a member of the subfamily Cassidinae, Tortoise and Hispine Beetles. It is very small and I've found it on reeds.

Hispellinus multispinosus (right) is also a member of the subfamily Cassidinae. It is from the tribe Hispini or the aptly-named Spiky Leaf Beetles. It is also very small.



Comparison

Three species from one genus, *Cadmus*.

Left is *Cadmus crucicollis*, middle is *Cadmus rugicollis* and right is *Cadmus luctuosus*. They belong to **Case-bearing Leaf Beetles**, Subfamily **Cryptocephalinae**. *Cadmus luctuosus* is the only sighting in SA.



Above left and right: Two *Edusella* sp. with different colouring. A shiny beetle approx. 5mm in body length.

Below: **Small Striped Flea-Beetle** *Phyllotreta undulata*.



Right: *Arsipoda chrysis*.

One of the tiny tiny Flea Beetles, Tribe **Alticini**. I have seen these on reeds near water.



Left: *Monolepta minima*. A very small beetle 3mm. I saw this one on my car but there were also many in the surrounding area that day in June. It is one of the **Skeletonizing Leaf and Flea Beetles**, Subfamily **Galerucinae**.

Soldier Beetles - Cantharidae



The name **Cantharidae** comes from the Greek word 'kantharos' which originally referred to a specific type of beetle. Over time it was used to specifically refer to Soldier Beetles. These Beetles have elongated, soft bodies and often bright, contrasting colors which may resemble soldiers' uniforms! They feed on nectar, pollen and small insects. **Soldier beetles** are beneficial to gardens as both adults and larvae prey on insects that are regarded as 'pests'.

Left: *Heteromastix* sp. These Beetles are very small. I have seen them a number of times.

Sap-feeding Beetles - Nitidulidae

The name **Nitidulidae** comes from the Latin 'nitidus' meaning 'shiny' or 'glossy'. These beetles have shiny flattened bodies and are found on flowers, fruits and decaying organic matter, where they feed on sap, nectar, pollen and fermenting substances. **Nitidulidae** play significant roles in ecosystems as decomposers.



Subfamily *Cryptarchinae*. Very small 2mm.



Brachypeplus sp. Found under bark and only 2-3mm.



Cychramptodes murrayi feeding on Wattle Tick Scale, *Cryptus baccatus*.



Left two photos:
Dried Fruit Beetle,
Carpophilus hemipterus.
A very small beetle found on my kitchen window ledge. Very active. Note flight wings still visible.

Ant-like Flower Beetles - Anthicidae

The term **Anthicidae** comes from the Greek word ‘anthicus’ which means pertaining to ‘ants’ or ‘ant-like’. The ant-like appearance of these beetles is believed to be a form of mimicry, possibly providing protection from predators by resembling ants. **Anthicidae** are omnivorous, eating small arthropods, lichen, fungi and whatever they can find.



I have found only one species of **Anthicidae**, *Lemodes coccinea*. It is very small and brightly coloured. It has different common names including **Scarlet Ant-like Beetle** and **Brake-lights Beetle**! I see this beetle mostly in the darker vegetated areas.



Skin Beetles - Dermestidae

The name **Dermestidae** comes from the Greek word ‘dermestes’ which means ‘a skin eater’. This refers to their habit of feeding on animal hides, skins and other organic materials. These beetles are typically small, with oval or elongated bodies often covered in scales or hairs that can be brightly colored or patterned. While they play essential roles in natural decomposition processes, **Dermestidae** can also be significant pests in homes and museums, where they damage textiles, carpets and preserved biological specimens.

Right: The most-commonly seen species in this family is the introduced **Varied Carpet Beetle**, *Anthrenus verbasci*. It is a very small beetle I frequently see around the house and garden. It is beautifully patterned.



A rare native Beetle!

Left: *Neoanthrenus* sp. on *Ixodia achillaeoides*.

This is a rare native Carpet Beetle and an important sighting, with only 10 recorded in Australia. They were once thrown together with *Anthrenus* species by mistake. Instead, they are part of the rich native fauna of Australian carpet beetles. They are currently being grouped under one big genus, *Eurhopalus* which will include *Neoanthrenus* species

True Weevils - Curculionidae

The name **Curculionidae** comes from the Latin 'curculio' which literally means 'weevil' or 'grain beetle'. It was used by ancient Romans to describe the beetles that were found in stored grain. **True Weevils** are one of the largest Beetle families with over 60,000 species. They generally feed on wood, roots and leaves. The fact their antennae are 'elbowed' differentiates them from the **Primitive Weevils**. I see many **True Weevils** in Belair NP and the general area. Undoubtedly there are countless more.



Left and right: One of the most delightful critters I come across is the **Elephant Weevil**, **Orthorhinus cylindrirostris**. It is difficult not to anthropomorphise their cute faces and 'ears'.

Right is a wonderful encounter I photographed between an **Elephant Weevil**, an ant (*Dolichoderus scabridus*) and a caterpillar (Omnivorous Tussock Moth, *Acyphas semiochrea*).

Comparison

Two beetles from one genus, *Orthorhinus*.



Left: **Vine Weevil** **Orthorhinus klugii**. The other member of this genus is much smaller than the **Elephant Weevil** (above) and has at times been referred to as 'The Small Elephant Weevil'. Of note is the white patch on its side. The Weevil on the left is 'playing dead' and is very much alive.

Following page, a selection of **True Weevils**.

Flea Weevils,

Tribe Rhamphini.

Very small. 1mm. On *Acacia pycnantha*.



White-fringed Weevil, *Naupactus leucoloma*.

A Broad-nosed Weevil. Introduced.



Genus *Pelororhinus*.



Garden Weevil, *Phlyctinus callosus*.

A Broad-nosed Weevil.



***Gerynassa* sp.**



***Misophrice* sp.**

Very small. Partial to *Allocasuarina*.



***Aterpodes* sp.**



Tribe **Gonipterini.**



Broad-back Weevil, *Leptopius duponti*. A Broad-nosed Weevil.



Hypolixus mastersii



Tribe **Tropiphorini.** A Broad-nosed Weevil.



***Sitona discoideus*.** A Broad-nosed Weevil. Introduced.



Fuller's Rose Weevil, *Pantomorus cervinus*. Seen frequently in gardens. A Broad-nosed Weevil. Introduced.



Microporopterus tumulosus



***Lybaeba* sp.**



Epamoebus ziczac



Subtribe Tylodina



Mandalotus sp.



Above: Other Broad-nosed Weevils (subfamily Entiminae) in addition to those in the chart on the previous page. It has been impossible to ID these even to genus.

A colourful small Weevil I frequently see on *Acacia pycnantha* is Neolaemosaccus peccuarius. It is interesting in that it is native only to the region around Adelaide, nowhere else. Its very distinctive eating pattern is often visible on the leaves of *Acacia pycnantha* (see photos below). This pattern is also made by Euops sp. (Attelabidae family).



Primitive Weevils - Belidae

The etymology of the name **Belidae** is unknown. **Primitive Weevils** are different from the **True Weevils (Curculionidae)** by the fact that they have straight antennae rather than elbowed. They also retain many ancestral traits that are not present in the **True Weevils**. The only genus of **Primitive Weevil** I see in Belair National Park and surrounds is *Rhinotia* sp.

Comparison

Four species from one genus, *Rhinotia*.

The name *Rhinotia* comes from the Greek 'rhinos' meaning 'nose' or 'snout'. This word is often used to refer to animals with prominent snouts or nose-like structures.



Tailed Weevil, *Rhinotia suturalis*

Note the pointed tail and body-length dorsal white stripe.



Rhinotia melanocephala

No tail and a shorter, stumper body. Minimal white on head.



Rhinotia filiformis

A thinner body with no white dorsal stripe and no tail. Hair on head is partly fuzzy.



Rhinotia centralis

Somewhat larger than the other species here. Perhaps named for the central dorsal mark.

Straight-snouted Weevils - Brentidae

The etymology of the name **Brentinae** is unknown. The common name is self-explanatory!



Above: *Eurhynchus* sp. This Weevil walking along a barbed wire fence made quite a striking image.



Left: Straight-snouted Weevil,
Cordus hospes.

This is the most well-known of this genus which I see most often on walls.



Right: Tribe Apionini.

A very tiny Weevil, 2mm in length, found in a *Diosma* bush in my garden.

Leaf-rolling Weevils - Attelabidae

The name **Attelabidae** likely comes from the Ancient Greek 'attelabos' which was used to describe any small hopping or jumping insect. It was common practice to group various small insects together regardless of taxonomic distinctions. This family is distinguished by the unique behavior of rolling leaves to create protective nests for eggs and larvae.

Below: Three different encounters with the tiny *Euops* sp. They are very small, perhaps 3mm at most. I've always seen them on *Acacia pycnantha* leaves. Note their characteristic eating patterns evident in these photos.



Fungus Weevils - Anthribidae

The name **Anthribidae** comes from the Greek word 'anthribus' which means 'small coal' or 'charcoal'. This may refer to the dark colouration typical of many in this family. Both larvae and adults feed on fungi.

Right: *Araecerus palmaris*. Note the humped back and long front legs.

