

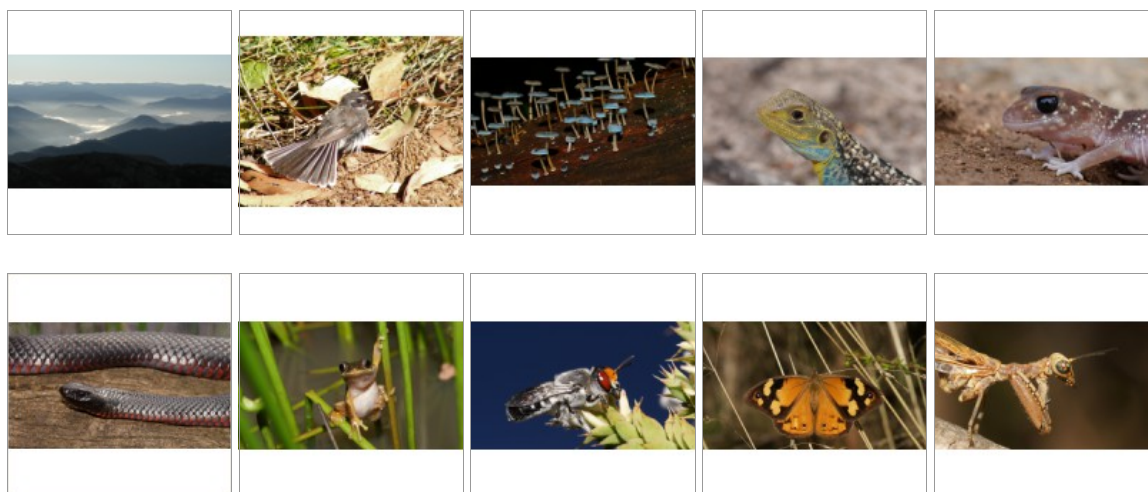
Photographing and Identifying Dragonflies in Gippsland, Victoria

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Introduction

I had always enjoyed photography, had a disposable camera as a child and took photography classes in high school. It wasn't until I got my first digital camera in late 2001 that I started taking lots of photos. I photograph anything in nature that I find interesting, including dragonflies, which is what I'll be covering here. These days I take mostly macro photos.



In the beginning I wasn't trying to identify much but after several years came in contact with a few people over the internet that had an interest in Victorian dragonflies in particular and they helped me out. It was good to start in a restricted to a region with limited species rather than, for example, having to sift through more than 300 species found throughout Australia. It however still took me another 5 years before I started confidently being able to identify most of Victoria's 75 or so species.

In this presentation I will discuss how I go about chasing them and detail some species found in central Gippsland.

Photographing Odonata

I almost always take photos free-hand as stalking small animals with a tripod is just too impractical. I also use flash most of the time, except sometimes when the dragonfly is perched in direct sunlight and that is the angle from which I am taking the photo. Odonata do not seem to react to the flash, unlike butterflies and some flies (Diptera).

I record every dragonfly species I see so usually will first take an "ID" photo, just good enough to tell what the species is. I might take a few more photos while gradually moving closer. If it is one that I want to get a good shot of I can spend more than 10 minutes with it (and often get frustrated if they fly away). So finding a perched individual in the evening or early morning usually allows for easiest photographs.



Classification

Modern damselflies and dragonflies belong to the order *odonata* and their ancestors (*Odonoptera*) can be found in fossils from the late carboniferous over 300-million years ago. Depending on species and environment, larvae can mature from eggs after several weeks or over winter for the next season and adults can live from a week to several months.

They usually lay their eggs directly in water or vegetation close by, with the females of some species submerging themselves while ovipositing. They have several aquatic larval stages (instars) before finally emerging as adults for the last phase of their life out of water. As larvae they require water to live in but this may be ephemeral (some species live in temporary pools). The Petalurid larvae (not recorded in Victoria) even leave the water to hunt for invertebrates (similar to crayfish).

Although often leaving the immediate area from where they hatched to feed and mature (distances vary by species), they will return to wetland habitats to breed. Males then tend to form territories and stay at such sites waiting for females.

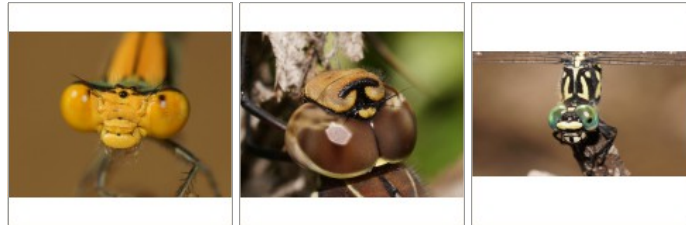


Damselflies belong to the suborder *Zygoptera* (from Greek *zugos*, "even" and *ptera*, plural of "wing"). They commonly (though not exclusively) hold their wings closed when at rest, their eyes are hemispherical and well separated and the larvae have external gills at the end of their body. Their forewings and hindwings are similar in shape and size.

Although a word often used for for either suborder, true dragonflies belong to the infraorder *Anisoptera* (from Greek *anisos* "unequal" + *ptera* plural of "wing") in the suborder *Anisozygoptera*. These usually hold their wings spread out fairly flat at rest, often their eyes meet at the top of the head (holoptic) and the larvae have internal gills. The scientific name is derived from the fact their forewings and hindwings are noticeably different from each other, particularly in males.

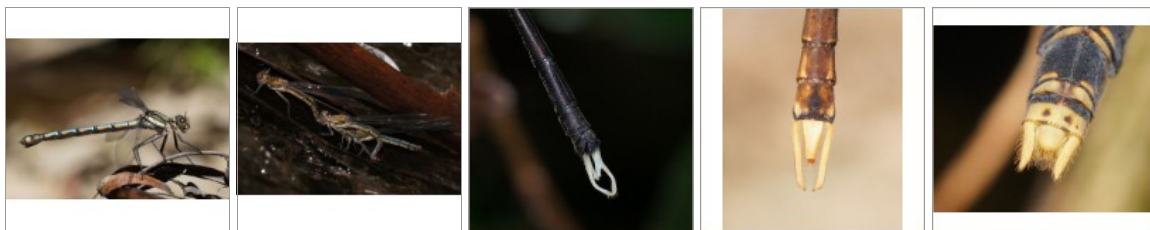
Identification

It is easiest to separate dragonflies from damselflies by their eyes, the differences being visible from most angles. All damselflies feature near hemispherical eyes well separated on the side of the head. The majority of dragonfly families feature holoptic eyes – they meet at the top of the head. Exeptions are species in the families Gomphidae and Petaluridae where the eyes only converge.



Narrowing down further to just a few possible species can usually be done quite easily, particularly when a local species list is known.

Coloration can be used with caution. In most cases mature males are easiest to identify by color but *teneral* individuals are often comparatively pale. Females are usually less brightly adorned. Males have appendages at the end of their tails to help them grasp females while mating. Females usually have relatively blunt ends and often have a thickened bulge for extra muscles for species that lay their eggs in to vegetation or other material.



Checklist of Odonata Species in and around Latrobe Valley

Nearly 30 species can be observed in the Latrobe Valley, which I have listed below. I have included abundance as the likelihood of encountering them at their preferred habitat in the area and indicated by the letters: **c**=common, **m**=moderately common, **u**=uncommon, **r**=rare.

Damselflies		Dragonflies	
<i>Austroagrion watsoni</i>	c	<i>Adversaeschna brevistyla</i>	c
<i>Austroargiolestes icteromelas</i>	c	<i>Austroaeschna unicornis</i>	u
<i>Austrocnemis splendida</i>	r	<i>Austrogomphus guerini</i>	m
<i>Austrolestes analis</i>	c	<i>Austrothemis nigrescens</i>	r
<i>Austrolestes annulosus</i>	c	<i>Cordulephya pygmaea</i>	r
<i>Austrolestes io</i>	r	<i>Diplacodes bipunctata</i>	c
<i>Austrolestes leda</i>	c	<i>Diplacodes haematodes</i>	r
<i>Austrolestes psyche</i>	m	<i>Diplacodes melanopsis</i>	c
<i>Coenagrion lyelli</i>	r	<i>Hemianax papuensis</i>	m
<i>Ischnura aurora</i>	m	<i>Hemicordulia australiae</i>	u
<i>Ischnura heterosticta</i>	c	<i>Hemicordulia tau</i>	c
<i>Nososticta solida</i>	r	<i>Nannophya dalei</i>	r
<i>Synlestes weyersii</i>	c	<i>Orthetrum caledonicum</i>	c
<i>Xanthagrion erythroneurum</i>	m	<i>Procordulia jacksoniensis</i>	r
		<i>Synthemis eustalacta</i>	m

This second table lists nearly 20 additional species, but ones only likely to occur in nearby forests and mountains, including Bunyip State Park, Mt Baw Baw and Strzelecki Ranges.

Damselflies		Dragonflies	
<i>Austroargiolestes calcaris</i>	m	<i>Austroaeschna atrata</i>	r
<i>Austrolestes cingulatus</i>	u	<i>Austroaeschna multipunctata</i>	m
<i>Diphlebia lestoides</i>	r	<i>Austroaeschna parvistigma</i>	r
<i>Diphlebia nymphoides</i>	r	<i>Austroaeschna subapicalis</i>	r
		<i>Austroaeschna pulchra</i>	u
		<i>Austrogomphus ochraceus</i>	u
		<i>Austropetalia tonyana</i>	r
		<i>Eusynthemis brevistyla</i>	m
		<i>Eusynthemis guttata</i>	c
		<i>Eusynthemis virgula</i>	r
		<i>Hemigomphus gouldii</i>	u
		<i>Notoaeschna sagittata</i>	u
		<i>Spinaeschna tripunctata</i>	r
		<i>Telephlebia brevicauda</i>	m

Following are descriptions of a selection of the most common species to be found in the west Gippsland plains. Sizes given are a general indication only as individuals can vary by as much as 20% within the same species.

Selected Dragonflies

Orthetrum caledonicum

This is a widespread and common species, found along slow moving rivers and the edges of lakes where the males will perch low to or on the ground, including on exposed rock in full sun, waiting for females to arrive. The coloration and behaviour of mature males give rise to the common name “blue skimmer” – as they also fly low above the water – but immature specimens and most females are largely yellow with black markings.



Austrogomphus guerini

The yellow-striped hunter is the most likely encountered species of the this family in central Victoria. A diagnostic feature is that the pale on top of the tail extends its entire length. These are mostly found around rivers and usually perch on open ground. Unlike *Orthetrum*, the striping on the thorax of *Austrogomphus* is clear and bold. Their eyes are usually brownish.



Austrogomphus ochraceus

The jade hunter is similar but usually their eyes are green and the yellow doesn't extend all the way along the top of the tail. They are more common along rivers that dams.

Hemicordulia tau

This dragonfly is widespread and common in Victoria and can often be found flying about in large numbers in open woodland away from water. They can spend a lot of their time on the wing but perch hanging on elevated vegetation when they do. This species features a distinct mark, like a Greek tau, on its frons (nose) and yellow pterostigma and veins on the leading edge of the wings.

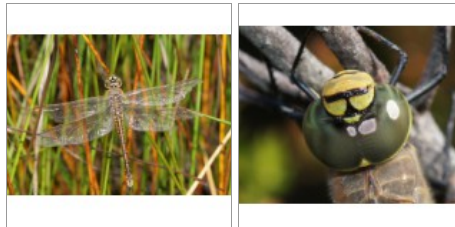


Hemicordulia australiae

Less common is *H. australiae*, which is quite similar to *H. tau* in appearance and behaviour. *H. australiae* however has dark leading edges to the wings and just a dark patch on the frons. It is more likely to be found around swamps of forested areas.

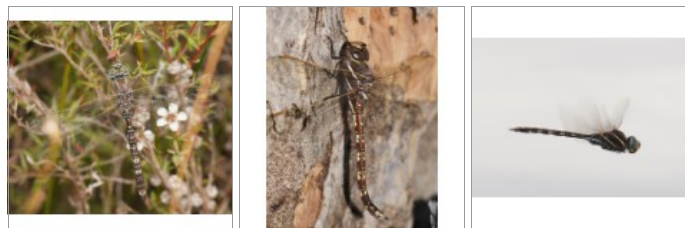
Anax papuensis

The Australian Emperor is one of the largest dragonflies found in Victoria and also feature a “T” like marking on the nose. Their abdomen contain squarish black lines on yellow. On warm summer afternoon they can often be found hunting over roads for flying insects and I have accidentally caught a few in my grill while driving.



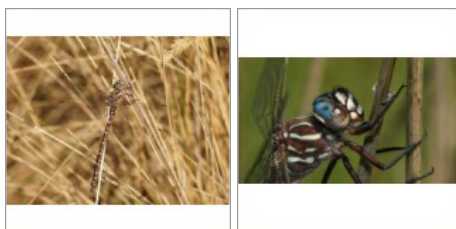
Adversaeschna brevistyla

These are also quite large but their color is a medium brown – noticeably darker than *Anax papuensis*. For males, the pale markings around the head and thorax turn blue once mature. They can often be seen flying a metre or two above lakes, swamps or along forest tracks and they perch hanging from vegetation. Their distinctive pale, diagonal lines on the side of the thorax can even be seen in flight.



Austroaeschna unicornis

This is the most common of the *Austroaeschna* darner genus and can be found along the rivers of the Gippsland plains. Care should be taken not to confuse these with the rare *A. inermis* – a side view of the thorax is required.



Diplacodes bipunctata

Diplacodes bipunctata is a very widespread species (in Victoria and Australia) and the one I see most often in the wild. They can be found in a wide variety of habitats, including farm dams, all through the dragonfly season (about October–April in Victoria). Like many odonata, they emerge a pale yellow and mature to orange or brown (females) or red (males).

Two less common species in Victoria are *Diplacodes haematodes* and *Diplacodes melanopsis* (although the Gippsland plains are the most likely place to encounter them) The former has few dark markings on the body (although female of *D. haematodes* and *D. bipunctata* are hard to tell apart) while *D. melanopsis* doesn't have two spots on the side of the thorax.

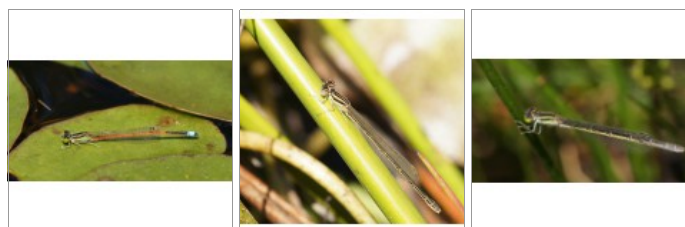


D. bipunctata and *D. haematodes* can be found along rivers, swamps or ponds. *D. bipunctata* perch on the ground or on surface aquatic vegetation and *D. haematodes* like to perch on exposed soil or rocks. *D. melanopsis* like to perch on vegetation near water but are more likely to be up to a metre off the ground.

Selected Damselflies

Ischnura aurora

The Aurora Bluetail, *Ischnura aurora*, is found throughout Australia at all altitudes and is one of the most common damselflies. Mature males are distinctive with bright green, red and blue. Immature individuals and females just have the black markings with pale brown or green. A diagnostic feature for these are two pale spots on the back of the head behind the eyes.



These are one of Victoria's smallest damselfly at just over 20mm long and one of only two with the spots behind the eyes. They occur in most habitats from temporary pools to slow sections of rivers and usually perch low to the ground or near the water surface on vegetation.

Ischnura heterosticta

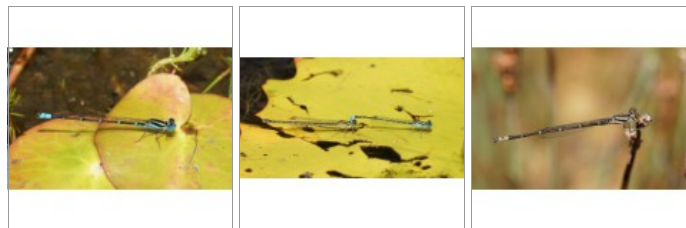
This is also a very common species and is also identified by two pale spots behind the eyes. It is considerably larger than *I. aurora* and mature males are bright blue with black. Apart from size, females of *I. heterosticta* can be separated from *I. aurora* by two segments near the end of the tail being pale above. Females can be blue colored as well.



These can be found around most still and sluggish water and are amongst the hardiest in terms of surviving in poor water quality.

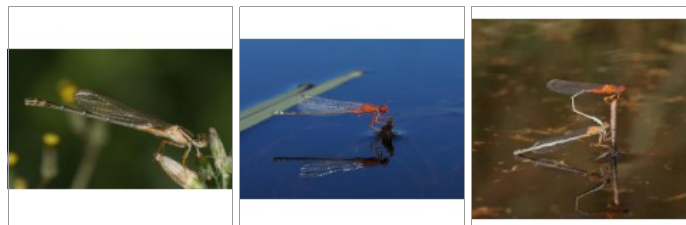
Austroagrion watsoni

This is a small damselfly (around 25mm long) with mature males being black with bright blue markings. A diagnostic feature for these are an evenly thick, pale blue line crossing behind the eyes. Females are similarly marked, except the tail is completely black along the top, but with bright green or tan coloration instead of blue.



Xanthagrion erythroneurum

Xanthagrion erythroneurum also have a pale line but are larger and turn orange to red when mature. Immature females have very similar markings to *Austroagrion* sp. These are most often found around lakes and ponds with open water or slow flowing rivers.



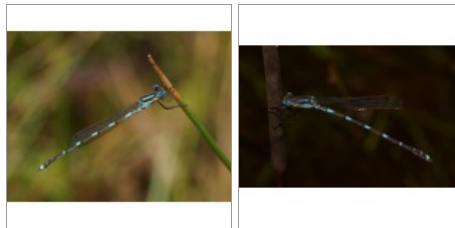
Austrolestes species

There are several similarly marked and sized damselflies in this group. They can also all be found in the same habitats, particularly swamps and dams, and often two or three species in this group are present simultaneously. Initially they can be confusing but they all have diagnostic features that allow them to be narrowed down to at least the nearest two species.

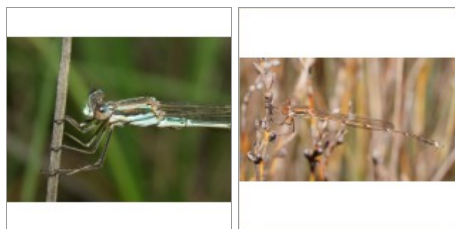
The humeral stripe is the pale section on the “shoulder” of these damselflies. If this is a solid line then the species will be either *Austrolestes annulosus*, *Austrolestes cingulatus* or *Austrolestes psyche*.



If the stripe has a small additional mark then it will probably be the common *Austrolestes leda* (or possibly the rare *Austrolestes io*).



If there is a large mark to the rear and below the humeral stripe then east of Melbourne it will be the common *Austrolestes analis*. *Austrolestes aridus* is somewhat similar but only found north-west from the Grampians.



Austroargiolestes icteromelas

Known as the common flatwing, this species is indeed very common along rivers and creeks east from Melbourne into southern Queensland. The flatwings are a fairly large family that can be difficult to separate and the lower side of the thorax shows the required diagnostic patterns. This is however the only one likely to be encountered in lowland plains in Victoria.



Synlestes weyersii

This large, slender damselfly is common mainly along rivers and streams in hills from Melbourne to Brisbane. They prefer to perch from vegetation hanging over the edge of the water. An unusual species in that as an adult it freely perches with its wings held flat or closed. It seems when it wants the warmth of the sun it will spread its wings but when it gets too cold it huddles together.

