

A 3D Model set by Ken Gilliland

**Nature's Wonders**

# Dragonflies & Damselflies

of the World Volume 2

## Manual

|   |   |
|---|---|
| Introduction                                  | 3 |
| Overview and Use                              | 3 |
| Creating a Dragonfly (in Poser or DAZ Studio) | 3 |
| Sizing and Poser Rendering Issues             | 4 |

## Field Guide

### **Dragonflies**

|                  |   |
|------------------|---|
| Shadow Hawker    | 5 |
| Thylacine Darner | 6 |
| Blue-eyed Darner | 7 |
| Migrant Hawker   | 8 |

### **Damselflies**

|                          |    |
|--------------------------|----|
| Beautiful Demoiselle     | 9  |
| Sparkling Jewelwing      | 10 |
| Japanese Jewelwing       | 11 |
| Yellow-striped Blue Dart | 12 |

|                               |    |
|-------------------------------|----|
| Resources, Credits and Thanks | 13 |
|-------------------------------|----|

## Nature's Wonders

# Dragonflies & Damselflies

## of the World Volume 2

### Introduction

Dragonflies and Damselflies are among the most ancient insects on the planet. While these insects make the top 5 in beloved bugs along with ladybugs and butterflies, dragon and damselflies are efficient and ruthless killers. Their order, *Odonata*, which means the “toothed one” in Greek, refers to dismembering their prey adeptly with their mandibles and eating them while still in the air.

This add-on set has 4 species of dragonflies and 4 species of damselflies that are found throughout the world. This set includes such dragonfly species as Australia's Thylacine Darner, which is endangered in its habitat and the Shadow Hawker from Africa which is almost all black in color. Interesting Damselflies are also included, each with a different wing coloring from solid blue to transparent with wing tip spots.

All and all, you'll find each of the species represented is more than just another dragonfly or damselfly.

### Overview and Use

The set is located within the **Animals : Nature's Wonder** folder. Here is where you will find a number of folders, such as **Manuals**, **Resources** and **Fauna Libraries**. Let's look at what is contained in these folders:

- **Fauna Libraries:** This folder holds the actual species and poses for the "premade" fauna. The fauna for this set can be found in the following folder(s):
  - **Insects/Damselflies of the World**
  - **Insects/Dragonflies of the World**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your fauna included in the set
  - **... Based Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species. When using physical renderers such as Iray and Superfly, SubD should be turned to at least “3”. For DAZ Studios 3Delight renders, the SubD must be turned from the “High Resolution” setting to the “Base” setting (otherwise some areas will render incorrectly transparent).

## Loading a Damselfly or Dragonfly

1. Go to the "Animals", "Nature's Wonders" folder and then the Nature's Wonders "Fauna Libraries" Insects folder. If using Poser, this will be found in the "Figures Library".
2. Go to the "Dragonflies of the World" or "Damselflies of the World" folder and select the render engine folder you want to use.
3. Select an insect and load it by clicking the left mouse button.
4. Go use a prebuilt pose, page back to the "Dragonflies of the World" or "Damselflies of the World" folder(s) and go to the poses folder. With the insect selected, apply a pose to it by simply selecting the pose and clicking the mouse.

## Similar but not the Same

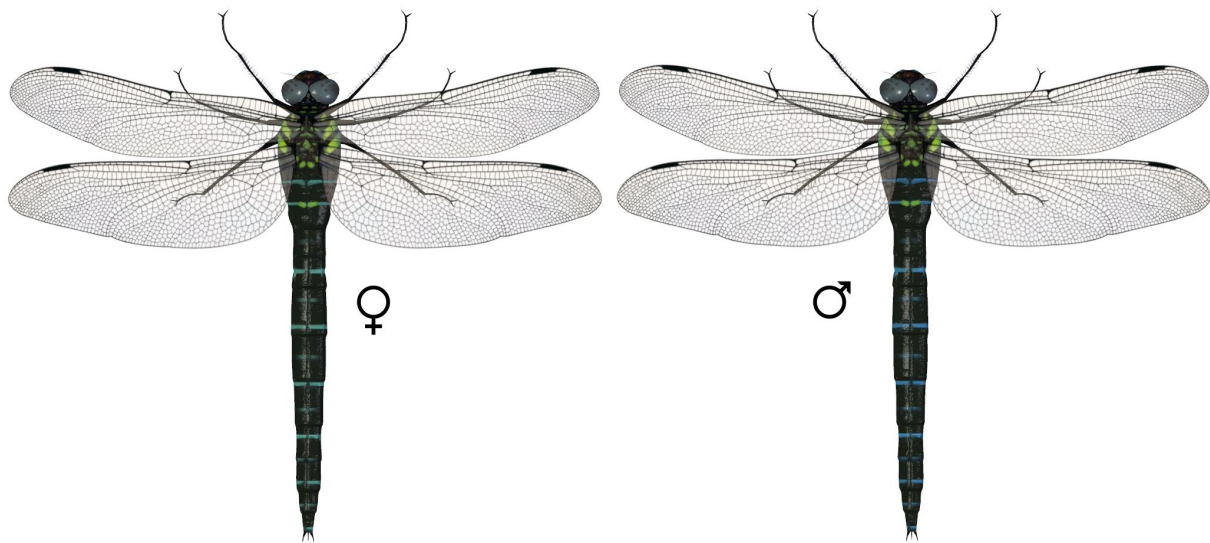
While the Dragonfly and Damselfly base models look very close and even share many similar UV coordinates, **their mapping and posing is not interchangeable**. There are significant differences in the wing and some mapped hair materials. Applying a damselfly texture to the dragonfly model or vice-versa, will create mismapped areas. In addition, applying a Dragonfly pose to a Damselfly may give undesirable results because Damselfly wings are arranged differently than Dragonfly wings are.

## Sizing & Poser Issues

An issue that can appear when rendering in Poser, with only a dragonfly or damselfly (no other items) in the scene, is that it will produce a default square shadow. It is a known bug within Poser. To correct this issue, include a second larger item off-screen and the shadows will render correctly.

# Shadow Hawker

## *Afroaeschna scotias*



**Type:** Dragonfly

**Range:** Occurs in Africa; it is found in Angola, Cameroon, Democratic Republic of the Congo, Nigeria, Rwanda, Tanzania, Uganda, and Zambia.

**Habitat and Ecology:** Its natural habitats are subtropical or tropical moist lowland forests and rivers. Streams shaded by forest. Usually with coarse detritus and often overhanging branches and submerged roots. From 400 to 2200 m above sea level, but possibly down to sea level.

**Size:** Total Length: 74 mm (2.9 inches); abdomen: 58-62 mm (2.3 to 2.4 inches); hindwing: 55 mm (2.2 inches).

**Description:** It is the only species currently recognized in this genus. This large, blackish dragonfly has large greenish eyes, two pairs of wings similar in shape and a thick abdomen. The wings are transparent with a yellowish tint. The wings are also traversed by a dense network of veins. The tips have a small black rectangle on the leading edges.

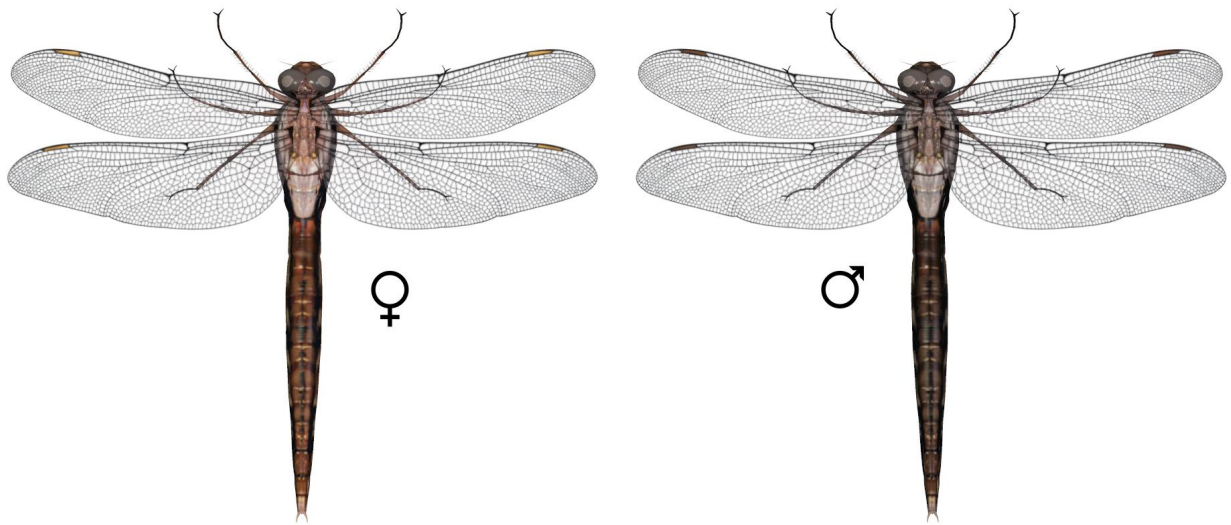
The thorax is black with neon green patterning and the abdomen is black with metallic cerulean blue edging on the tail segments.

**Rarity and Status:** This dragonfly has a wide distribution and is not threatened.



# Thylacine Darner

*Acanthaeschna victoria*



**Type:** Dragonfly

**Range:** Occurs in Australia; it is endemic to coastal areas of both southern and northern New South Wales, as well as, southern Queensland.

**Habitat and Ecology:** Its natural habitat is intertidal marshes.

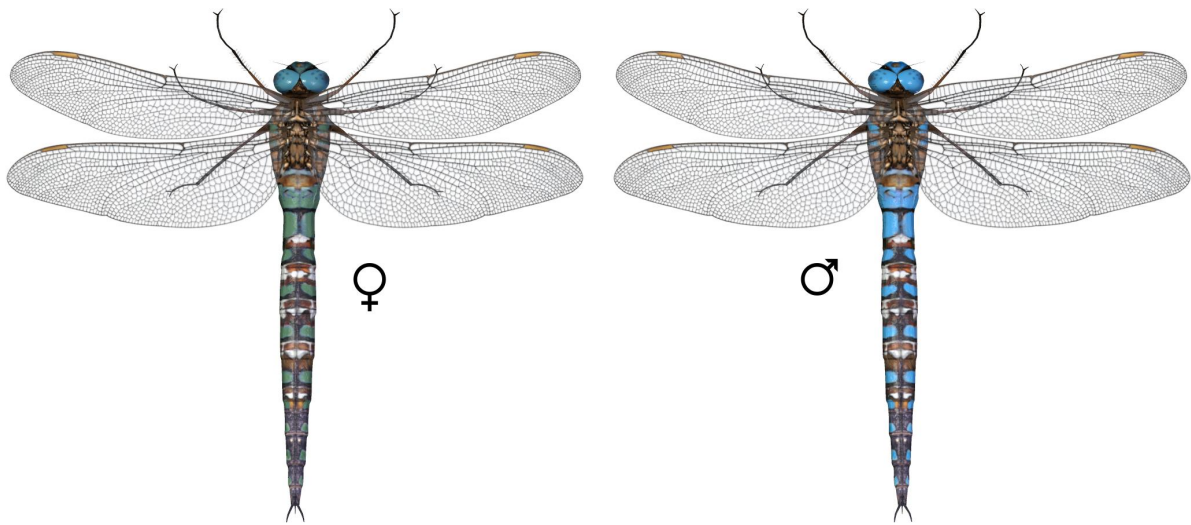
**Size:** Total Length: 57–68 mm (2.2-2.7 inches); wingspan: 80-94 mm (3.1-3.7 inches).

**Description:** It is the only member of the *Acanthaeschna* genus. It is a large, brown dragonfly with a distinctive dark band on the side of its body that runs from the head to the abdomen. It has clear wings with a small dark stain at the nodus, the joint near the middle of the leading edge of each wing.

**Rarity and Status:** Endangered. It is threatened by habitat loss.

# Blue-eyed Darner

*Rhionaeschna multicolor*



**Type:** Dragonfly

**Range:** Occurs in North America; it is native to the western United States, it is commonly sighted in the sagebrush steppe of the Snake River Plain, occurring east to the Midwest from central Canada and the Dakotas south to west Texas and Oklahoma. In Central America, it occurs southward to Panama. This is usually the second earliest darner to emerge in the spring, with the California darner emerging first.

**Habitat and Ecology:** It occurs near a variety of water bodies, lakes, ponds, slow-moving streams, canals and marshy areas, especially in open rather than wooded areas. When not breeding, it is more likely than most dragonflies to be seen far away from water, in city yards, parking lots and other urban locations. It is on the wing from spring to late in the year and may be migratory in California, as a large number of them seem to appear in the fall. Males patrol at about waist height over open water, along the margins of water bodies and among dense vegetation, often having a regular "beat", and occasionally pausing briefly to hover. Copulating couples spend some time finding a suitable location in which to perch, often high in waterside trees. Females lay eggs among dense emergent water plants, and on floating stems and branches in open water, depositing the eggs both above and below the surface.

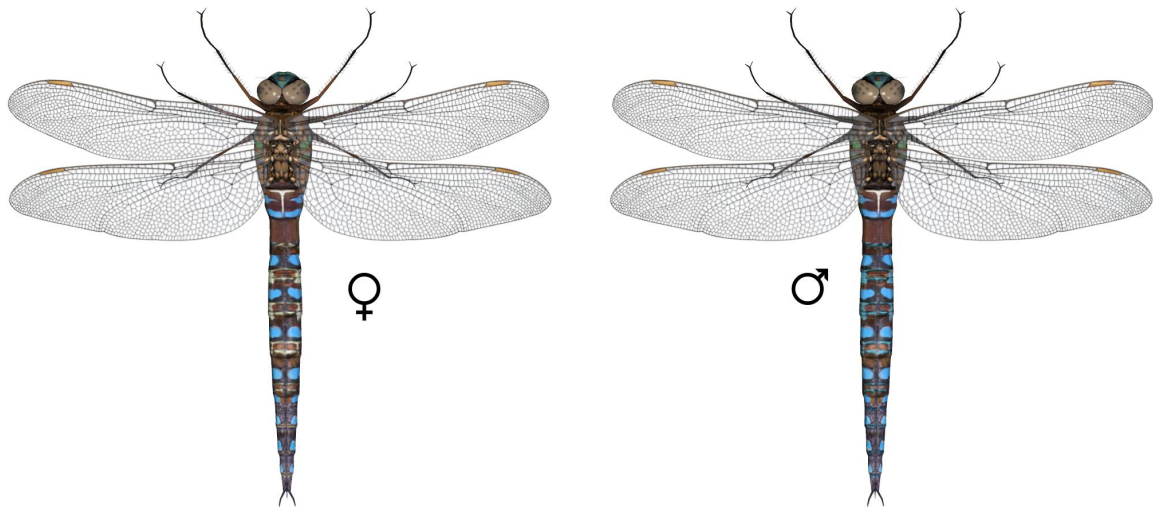
**Size:** Total Length: 65-70 mm (2.6-2.8 inches).

**Description:** Both the eyes of the males and females are bright blue. The male is dark brown to brownish black. The top of the thorax, behind the head, is marked with two blue stripes, and each side of the thorax is marked with a pair of blue diagonal stripes. The abdomen is marked with both large and small blue spots. The anal appendages of males and females are forked and the female is marked similarly to the male; however, the base color is brown and the markings are green.

**Rarity and Status:** This dragonfly has a wide distribution and is not threatened.

## Migrant Hawker

*Aeshna mixta*



**Type:** Dragonfly

**Range:** Occurs in Eurasia and Africa; it is found throughout central and southern Europe, north Africa, the Middle East and across Asia to China and Japan. As it is a migratory species it can occur outside its normal range and in recent years it has been spreading northwards.

**Habitat and Ecology:** It breeds in lakes and ponds and is tolerant of brackish water. It is also found away from water, hawking high in trees and bushes, but is often seen resting low on vegetation.

**Size:** Total Length: 80 mm (3.15 inches); abdomen: 65 mm (2.36 to 2.56 inches); hindwing: 106 mm (4.2 inches).

**Description:** It is similar in appearance to other *aeshnas* species but has a characteristic white "golf-tee" shaped mark on the second segment of the abdomen. The male has blue spots on the segment whereas the female has yellowy-green spots. The sides of the thorax have blue (male)/yellow (female) that is separated by dark brown areas so it gives the appearance of having two broad stripes.

**Rarity and Status:** This dragonfly has a wide distribution and is not threatened.



# Beautiful Demoiselle

## *Calopteryx virgo*

**Type:** Damselfly

**Range:** Europe, North Africa, and Western Asia.

**Habitat and Ecology:** This species lives mainly near small to medium-sized streams and creeks. They prefer a relatively low water temperature and a moderate to fast flow. The water must not be nutrient rich. In the northern part of their range, such as in Norway and Finland, it is also found near medium-sized rivers or even larger streams. The waters are usually in the immediate vicinity of forests.

**Size:** Total Length: 49-54 mm (1.9 to 2.1 inches); hindwing: 31-37 mm (1.2 to 1.5 inches).



**Description:** These large, dark damselflies have small hemispherical eyes, two pairs of wings similar in shape and a slender abdomen. The basal area of the wings is transparent, otherwise wings are uniformly colored. The wings are also traversed by a dense network of veins. This species presents an evident sexual dimorphism in color pattern.

The male, in the south-east of its range (the Balkans and Turkey), has wings that are entirely metallic blue while in other areas, there are clear areas at the base and tip of the wing. Immature males show brown wings, as the metallic blue wing color develops only with age. They have metallic blue-green bodies and blue-green eyes.

The female has dark brown iridescent wings, a white patch near the tip of the wings and a metallic green body with a bronze tip of the abdomen.

There are multiple subspecies:

- *C.v. britannica*. Reported by Conci in 1952
- *C.v. festiva*. Reported by Brullé in 1832. found in the eastern Mediterranean.
- *C.v. meridionalis*. Reported by Sélys in 1853. Found in the western Mediterranean and in southwestern France.
- *C.v. padana*. Reported by Conci in 1956. Found in northern Italy.
- *C.v. virgo*. Reported by Linnaeus in 1758.

**Rarity and Status:** This damselfly has a wide distribution and is not threatened.

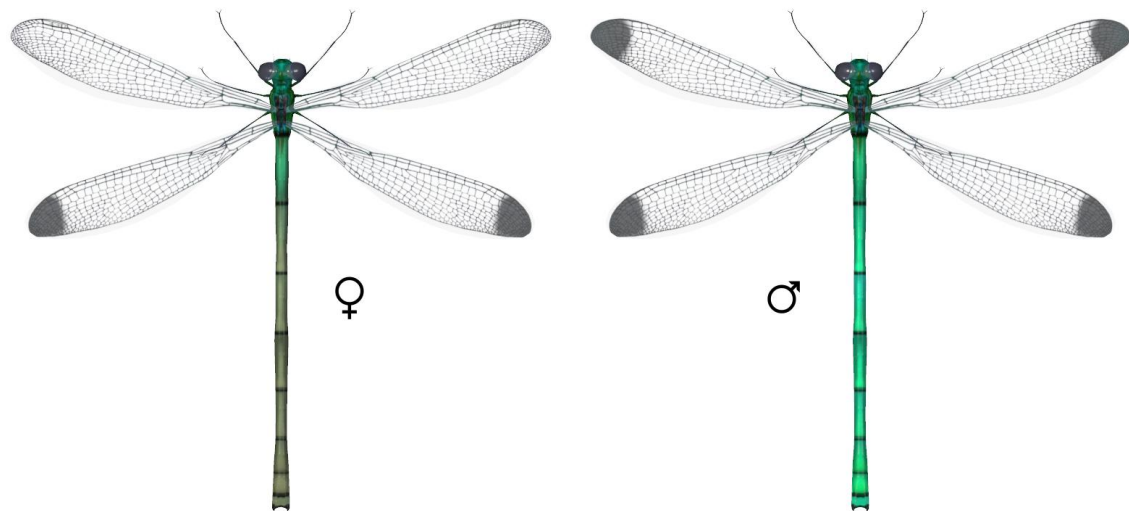
# Sparkling Jewelwing

## *Calopteryx dimidiata*

**Type:** Damselfly

**Range:** Occurs in North America; found in the eastern and southeastern United States. Its range extends from New England to Louisiana and parts of Texas, mainly on the Atlantic coastal plain.

**Habitat and Ecology:** Its natural habitat is woodland and open areas near forest rivers and streams. Both males and females can often be seen together near breeding sites, with males patrolling small territories, circling and chasing off rivals. When a female is present, ritualized courtship flights precede copulation which lasts for about two minutes. After this, the female walks down the stem of an emergent plant and spends about fifteen minutes underwater, laying a batch of several hundred eggs before returning to the surface.



**Size:** Total Length: 37-50 mm (1.5-2.0 inches).

**Description:** It is one of the smallest damselflies in its family. The thorax and the long slender abdomen are metallic bluish-green and the eyes are brown. In males, the end fifth of each wing is black, with a straight line separating the dark section from the transparent hyaline remainder of the wing. Females are a slightly more bronzy-green. Their wings may be similar to those of the male but less clearly defined, or only the hind wings may be tipped with black, or the wings may be entirely clear. There is usually a small white pterostigma near the tip of the wings. Immature adults have reddish eyes and generally duller coloring. Their fore-wings and hind wings that do not differ in size by more than 2 millimeters (0.08 in). The apex of both pairs of wing has a black band that terminates in a straight line distal to the nodus. The sternum of the tenth abdominal segment is black. These features distinguish this species from the others in its genus that share its range.

**Rarity and Status:** It is locally common and not threatened.

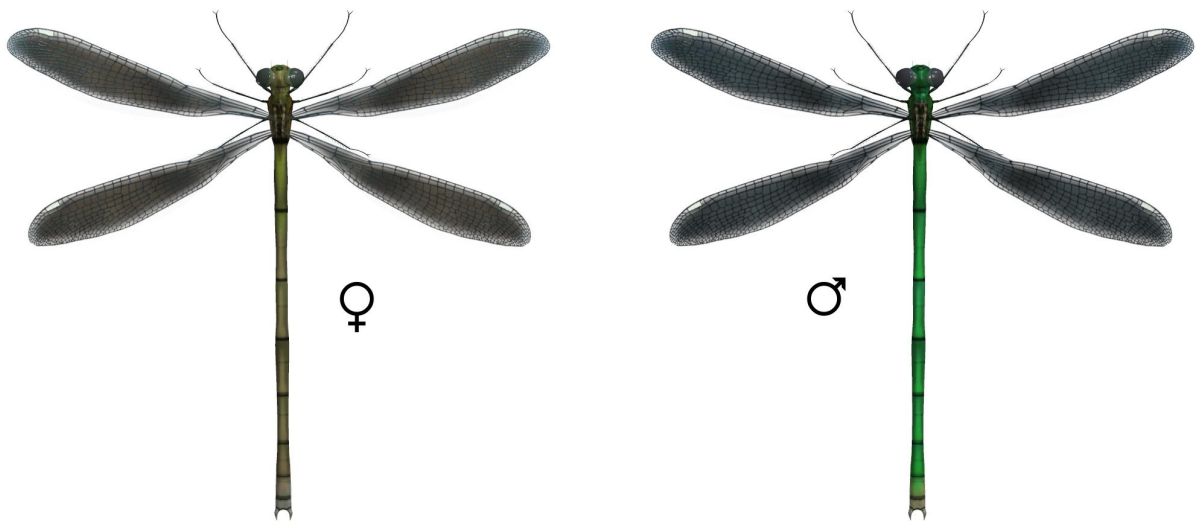
# Japanese Jewelwing

*Calopteryx japonica*

**Type:** Damselfly

**Range:** Occurs in Asia; found in East Asia (Russian Far East, Japan, Korea, and eastern China).

**Habitat and Ecology:** This species likes steeper, narrower sections of river, deeper water and doesn't mind shade. Males are often perched on twigs overhanging the river and on rocks, while females will generally be more aloof, surveying the scene from higher vantage points.



**Size:** Total Length: 60-80 mm (3-3.2 inches).

**Description:** Mature males have dark-blue wings, due to darkly colored wing membranes and blue reflecting veins. The female and immature damselflies have brown wings.

**Rarity and Status:** It is locally common and not threatened; however their population is significantly decreasing.

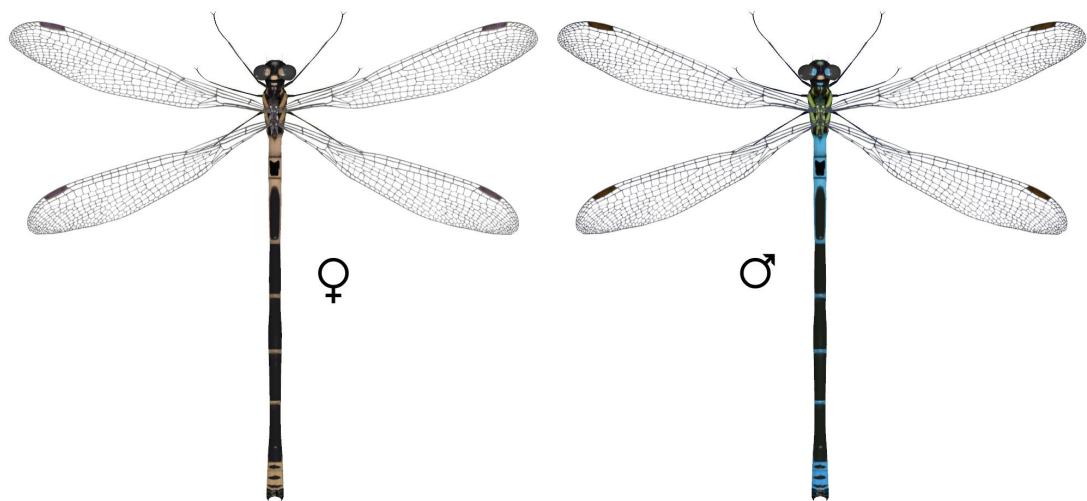
# Yellow-striped Blue Dart

*Pseudagrion indicum*

**Type:** Damselfly

**Range:** Occurs in Asia; endemic to the Western Ghats of India.

**Habitat and Ecology:** It breeds in small streams and associated marshes in sub-montane and montane areas of the Western Ghats.



**Size:** Total Length: 37 mm (1.7 inches); abdomen: 34 mm (1.5 inches); hindwing: 22 mm (0.8 inches).

**Description:** It is a medium-sized damselfly with black-capped greenish eyes. Its thorax is black on dorsum with black humeral stripes; the area between them is pale green. The lateral sides are azure blue. Abdominal segments 1 and 2 are azure blue with black marks on the dorsum. Mark on segment 2 looks like a chalice or thistle-head. Segments 3 to 7 are black on dorsum and pale blue-green on the sides. Segments 8 and 9 are azure blue with black apical annules. Segment 10 is black.

Female has yellowish green thorax and green eyes capped with yellowish green. Color of the abdomen is similar to the male; but paler. Segments 8 and 9 are also black with fine apical blue rings. Segment 10 is blue.

**Rarity and Status:** It is locally common and not threatened.

## Special Thanks to:

.. to my beta testers, Alisa and FlintHawk

## Sources:

- Wikipedia (<https://www.wikipedia.org/>)
- iNaturalist (<https://www.inaturalist.org/guides/416>)
- Discover Life (<http://www.discoverlife.org/mp/20q?guide=Anisoptera>)
- Odonata Central (<http://www.odonatacentral.org/>)
- The Dragonfly Website (<http://dragonflywebsite.com/>)



**Shirts, jerseys, sweatshirts,  
prints, cards, posters, pillows,  
coffee cups, calendars & more**

