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		-			<b>5</b>			
	DEMOISELLES	ABDOMEN						
MALES	<b>Beautiful Demoiselle</b> page 54	Metallic blue-green						
M	<b>Banded Demoiselle</b> page 56							
	D (***   D ! !!							
\LES	<b>Beautiful Demoiselle</b> page 54		with bronzy tip and ish stripe on top of S8-	10				
FEMALES	<b>Banded Demoiselle</b> page 56		with bronzy tip and ripe on top of S8–10					
MI	ERALD DAMSELFLIES:		ABDOMEN (	8× life-siz	e)			
1AI	_ES	APPENDAGE	S / S10 (from above)	S2/S1				
merald Damselfly age 58		\$10	Apps. black; lower pair <b>straight</b> , narrow tips; S10 blue	S2 all powder blue	52 51			
		i		i				

EMERALD DAMSELFLIES:		ADDOMEN (	ox ille-size	9
MALES	APPENDAGE	ES / S10 (from above)		S2 / S1
Emerald Damselfly page 58	\$10	Apps. black; lower pair <b>straight</b> , narrow tips; S10 blue	S2 all powder blue	S2 S1
Scarce Emerald Damselfly page 60	\$10	Apps. black; lower pair <b>incurved</b> , broad tips; S10 blue	S2 front half powder blue	52 51
Willow Emerald Damselfly page 64	\$10	Apps. pale; lower pair short, dark; S10 metallic bronzy-green	S2 metallic green	S2 S1
Southern Emerald Damselfly page 62	S10	Apps. pale; lower pair tips point outwards; S10 metallic bronzy- green with pale edges	S2 metallic bronzy- green	S2 S1
FEMALES	OVIPOSITO	R / S9–10 (side view)		S2 / S1
		and the second second		

Damselfly page 60		lower pair <b>incurved</b> , broad tips; S10 blue	front half powder blue	
Willow Emerald Damselfly page 64	\$10	Apps. pale; lower pair short, dark; S10 metallic bronzy-green	S2 metallic green	52
Southern Emerald Damselfly page 62	\$10	Apps. pale; lower pair tips point outwards; \$10 metallic bronzy- green with pale edges	S2 metallic bronzy- green	52 51
FEMALES	OVIPOSITOI	R / S9-10 (side view)		S2/S1
Emerald Damselfly page 58	\$10 \$9	Ovipositor extends to tip of S10, dark below; sheath pointed	S2 metallic green; S1 spots triangular	52 51
Scarce Emerald Damselfly page 60	\$10 \$9	Ovipositor extends beyond S10, dark below; sheath pointed	S2 metallic green; S1 spots rectangular	S2 S1
Willow Emerald Damselfly page 64	S10 S9	Ovipositor extends to tip of, or just beyond, S10, dark patches; sheath rounded	S2 metallic green	52
Southern Emerald Damselfly page 62	S10 S9	Ovipositor extends to tip of, or just beyond, S10, pale; sheath rounded	S2 metallic bronzy- green	52 51

		·	•	·		
THORAX		WINGS		WING-SPOT	LEGS	EYES
Metallic blue-green	Wholly brown-black; tip & base sometimes paler Broad blue-black band		ler		Black	Dark red
Metallic green	Wholly brownish Wholly greenish			white 'false wing-spot' white 'false wing-spot'	Black	Dark red
	THORAY		DACK OF			
ABOVE	THORAX	SIDE	BACK OF HEAD	WING-SPOT	LEGS	EYES
Metallic green ak powder blue pro powder blue bel	notum;		Green	narrow: length/width >3  broad: length/width <3	Mainly black	Blue
Metallic green ak narrow shoulder and <b>prominent</b> 's marking	stripes			large and pale	Black and cream	Brownish
Metallic bronzy- above, with broa shoulder stripes	green d yellowish		Yellow	black and white	Cream with black stripes	DIOWIIISII
Metallic green ak yellow below			Green	narrow: length/width >3 broad: length/width <3	Black and cream	Brown
Metallic green ab with incomplete, shoulder stripes a prominent 'spur'	narrow and			large and pale	Black and cream	biowii
Metallic bronzy-gabove, with broa			Yellow		Cream with black	

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stripes

black and white

shoulder stripes

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SPECIES	ABDOMEN (2× life-size)	S2 / S1 (8× life-size)
Large Red Damselfly page 68		
Small Red Damselfly page 70	*	
White-legged Damselfly page 74		
<b>Common Blue Damselfly</b> page 76		S2 S1
Variable Damselfly page 80	2) }):	S2 S1
<b>Azure Damselfly</b> page 78		52 51
<b>Southern Damselfly</b> page 82		52 51
Northern Damselfly page 84		52 51
Irish Damselfly page 86		52 51
<b>Dainty Damselfly</b> page 88		52 51
Blue-tailed Damselfly page 92		
Scarce Blue-tailed Damselfly page 94	<b>∞: (€)</b> : : : : : : : : : : : : : : : : : : :	
Red-eyed Damselfly page 96		
Small Red-eyed Damselfly page 98		

THORA ABOVE	X SIDE	PRONOTUM (rear edge)	WING-SPOT	LEGS	EYES
Two <b>red</b> shoulder stripes	One black stripe		Black	Black	D-4
Wholly bronzy-black	Two black stripes		Red	Red or pink	Red
Four blue stripes			Pale brown	Broad, white tibiae	
<b>Broad</b> blue shoulder stripes					
<b>Broken</b> blue shoulder stripes					
<b>Narrow</b> blue shoulder stripes			Black	Black and pale blue; narrow tibiae	Green- blue
<b>Narrow</b> blue shoulder stripes				Black and pale blue	Green- blue
Wholly black			Black	Black	Deep burgundy- red
Narrow shoulder- stripes, usually incomplete			DIdCK	Dark bluish- grey	Tomato- red

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	2
SPECIES	ABDOMEN (2× life-size)
<b>Large Red Damselfly</b> page 68	Form typica Form fulvipes Form melanotum
Small Red Damselfly page 70	Form typica Form melanogastrum Form erythrogastrum
<b>White-legged Damselfly</b> page 74	Mature (
<b>Common Blue Damselfly</b> page 76	Green form  Blue form
<b>Variable Damselfly</b> page 80	Dark form   Variegated form
<b>Azure Damselfly</b> page 78	Variegated form
<b>Southern Damselfly</b> page 82	
Northern Damselfly page 84	
<b>Irish Damselfly</b> page 86	
<b>Dainty Damselfly</b> page 88	
Blue-tailed Damselfly page 92	Forms violacea, typica & rufescens Forms infuscans & rufescens-obsoleta
Scarce Blue-tailed Damselfly page 94	Mature Immature
Red-eyed Damselfly page 96	
Small Red-eyed Damselfly page 98	

THORA ABOVE	X SIDE	PRONOTUM (rear edge)	WING-SPOT	LEGS	EYES
<b>Red or yellow</b> shoulder stripes	One black stripe		Black	Black	Dull red
Very narrow shoulder stripes, broken or absent	Two black stripes		Red	Pinkish	Brownish- red
<b>Four</b> pale stripes			Pale brown	Broad, white tibiae	
<b>Broad</b> pale green, buff or blue shoulder stripes					
<b>Narrow</b> pale green or yellow shoulder stripes			Black	Black and pale blue; narrow tibiae	Greenish
Shoulder stripes absent in some forms	a Spa			Black and	Brownish-
Brownish-green (mainly orange in immature)				pale stripes	red
Incomplete, narrow yellow shoulder stripes			Pale brown	Black	Brownish- red
Narrow shoulder stripes			raic DIOWII	Dark bluish- grey	Brownish above; pale below

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			MALES	
SPECIES	WINGS	HEAD	THORAX	ABDOMEN (life-size)
Hairy Dragonfly page 104	costa: Yellow wing-spot: Long, thin and brown	EYES: Blue from above	Hairy	to the life life life life life life life
Azure Hawker page 106	COSTA: Brown	EYES: Blue from above EYE CONTACT ZONE: <b>short</b>		
Common Hawker page 108	COSTA: <b>Yellow</b>	eyes: Blue from above eye contact zone: broad		
Migrant Hawker page 110	COSTA: Brown	EYES: Blue from above		
Southern Migrant Hawker page 112	COSTA: Pale	EYES: Blue		
Southern Hawker page 114	costa: Brown	EYES: Blue from above		
<b>Brown</b> <b>Hawker</b> page 116	Brown-tinted	EYES: Bluish from above	TOP: Brown SIDE: 2 prominent yellow stripes	
Norfolk Hawker page 118	Amber base to hindwings WING-SPOT: Amber	eyes: <b>Green</b>	TOP: Brown, without stripes SIDE: 2 yellow stripes	
Emperor Dragonfly page 120	costa: Yellow wing-spot: Brown	EYES: Blue-green from above	Wholly green with 2 small blue wedges on top	
<b>Lesser</b> <b>Emperor</b> page 124	Yellow suffusion costa: Yellow wing-spot: Brown	EYES: Green from above	TOP: Violet-brown SIDE: Green-brown	
Vagrant Emperor page 126	Yellow suffusion costa: Yellow wing-spot: Brown	EYES: Brown from above	Brown	
Golden-ringed Dragonfly page 128	costa: <b>Yellow</b> WING-SPOT: Black	EYES: Green from above, just meeting	TOP: 2 tapering yellow stripes SIDE: 2 bold yellow stripes	

FEMALES							
ABDOMEN (life-size)	THORAX	HEAD	WINGS				
	Hairy	EYES: Brownish from above	costa: Yellow WING-SPOT: <b>Long, thin</b> <b>and brown</b>				
		EYES: Brown from above EYE CONTACT ZONE: short	costa: Brown				
		EYES: Green-brown from above EYE CONTACT ZONE: broad	COSTA: <b>Yellow</b>				
		EYES: Green-brown from above	COSTA: <b>Brown</b>				
		EYES: Brown from above	COSTA: Pale				
		eyes: Brownish- green from above	costa: Brown				
	TOP: Brown SIDE: 2 prominent yellow stripes	EYES: Yellowish- brown from above	Brown-tinted				
	TOP: Brown, without stripes SIDE: 2 yellow stripes	EYES: Green from above	Amber base to hindwings WING-SPOT: Amber				
	Wholly green	EYES: Greenish from above	costa: Yellow wing-spot: Brown				
	TOP: Violet-brown SIDE: Green-brown	EYES: Green from above	Yellow suffusion costa: Yellow wing-spot: Brown				
	TOP: <b>Brown</b> SIDE: Greenish	EYES: Brown from above	Yellow suffusion costa: Yellow wing-spot: Brown				
	TOP: 2 tapering yellow stripes SIDE: 2 bold yellow stripes	EYES: Green from above, just meeting	COSTA: <b>Yellow</b> WING-SPOT: Black				

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A summary of key features of mature adults of species confirmed breeding in Britain or Ireland.

	MALES								
SPECIES	WINGS	HEAD	THORAX	ABDOMEN (life-size)					
Downy Emerald page 136	Clear with yellow bases	eyes: Bright green from above 'FACE': Dark, with yellowish jaws and pale bar between eyes	Downy; metallic bronzy-green						
Brilliant Emerald page 138	Yellow suffusion, deeper at bases COSTA: Yellow	EYES: Bright green from above 'FACE': As Downy Emerald but with additional yellow 'U' on frons	Shiny emerald green	<b>a)</b>					
Northern Emerald page 140	Yellow suffusion, deeper at bases	EYES: Bright green from above 'FACE': Yellow spot on each side	Metallic bronzy-green						
Common Clubtail page 132	COSTA: Dark WING-SPOT: Dark	EYES: Dull green from above, clearly separated	TOP: Four pale green stripes SIDE: Pale green with thin black line	XIII DE LE CONTROL DE LA CONTR					
Four-spotted Chaser page 146	Dark bases to hindwings and spot on nodes	EYES: Brown from above	Brown						
Broad-bodied Chaser page 148	Dark bases to wings. WING-SPOT: Black	eyes: Brown from above	Brown with 2 pale stripes on top						
Scarce Chaser page 150	Dark bases and <b>spot at</b> <b>wingtips</b> WING-SPOT: Dark brown	EYES: Blue-grey from above	Brown						
Black-tailed Skimmer page 152	Clear; yellow antenodal cross-veins and costa WING-SPOT: Black	EYES: <b>Greenish-blue</b> from above	Olive-brown above with 2 incomplete thin black stripes						
Keeled Skimmer page 154 (see also page 51)	Clear; yellow antenodal cross-veins and COSTA WING-SPOT: Orange	EYES: Blue-grey from above	Dark brown above with 2 buff stripes, becoming blue with age						

FEMALES					
ABDOMEN (life-size)	THORAX	HEAD	WINGS		
	Downy; metallic bronzy-green	EYES: Bright green from above 'FACE': Dark, with yellowish jaws and pale bar between eyes	Clear with yellow bases		
	Shiny emerald green	EYES: Bright green from above 'FACE': As Downy Emerald but with additional yellow 'U' on frons	Yellow suffusion, deeper at bases COSTA: Yellow		
	Metallic bronzy-green	EYES: Bright green from above 'FACE': Yellow spot on each side	Clear with faint yellow bases		
	TOP: Four yellow stripes SIDE: Yellow with thin black line	EYES: Dull green from above, <b>clearly</b> <b>separated</b>	COSTA: Dark WING-SPOT: Dark		
	Brown		Dark bases to hindwings and <b>spot on nodes</b> . Yellow at base and front of inner wings		
	Brown with 2 pale stripes on top	EYES: Brown from above	Dark bases to wings WING-SPOT: Black		
	Brown		Dark bases and spot at wingtips. Yellow suffusion along front of wings WING-SPOT: Brown		
	Olive-brown above with 2 incomplete thin black stripes	EYES: Brown from	Clear COSTA: <b>Yellow</b> WING-SPOT: <b>Black</b>		
	TOP: Dark brown above with 2 buff stripes SIDE buff, lacking black stripes	above	Golden/yellow suffusion to front of basal half with line of yellow cross-veins costa: Pale yellow wing-spot: Orange		

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A summary of keys feet tweet potanet titteen and with its sibsport these pour list mered breeding in Britain or Ireland.

MALES					
SPECIES	WINGS	HEAD*	THORAX	LEGS	ABDOMEN (1.2× life-size)
White-faced Darter page 160	Dark basal patches; line of yellow cross-veins near front WING-SPOT: Dark brown	FRONS: Cream-white	Black above with 2 broken reddish stripes	Black	
<b>Black Darter</b> page 164	Clear WING-SPOT: Black	FRONS: Darkens with age	TOP: Black SIDE: Yellow with black central patch containing three yellow spots	Black	
Common Darter page 168	Clear with tiny area of yellow at base WING-SPOT: Yellow to reddish- brown	FSL: absent (except in dark forms in NW Scotland)	TOP: Brown SIDE: 2 large yellow patches on side divided by reddish- brown panel	Dark with yellow stripe along length	
Ruddy Darter page 166	Clear with tiny area of yellow at base (may take on golden hue with age) WING-SPOT: Red-brown	FSL: present	TOP: Red- brown with black collar SIDE: Yellowish	Black	
Red-veined Darter page 172	Yellow bases and red costa and other veins WING-SPOT: Pale, outlined in black	FSL: present EYES: blue undersides	Reddish above SIDE: Grey-brown	Dark with yellow	
Yellow- winged Darter page 174	Basal half tangerine WING-SPOT: Red or brown with thick black margins	FSL: present	TOP: Yellow- brown SIDE: Relatively plain yellowish	stripe along length	

<sup>\*</sup> Darter heads: The combination of eye colour, frons colour and the presence of dark lines down each side of the frons helps with darter identification. The presence or absence of this 'frons side line' (FSL) is indicated in the table above.

FEMALES				
ABDOMEN (1.2× life-size)	LEGS	THORAX	HEAD*	WINGS
	Black	Black above with 2 broken <b>yellowish</b> <b>stripes</b>	FRONS: Cream-white	Dark basal patches; line of yellow cross-veins near front WING-SPOT: Dark brown
	Black	TOP: Yellow-ochre with black triangle SIDE: Yellow with black central patch containing three yellow spots	FRONS: Yellow, becoming darker with age	Clear with tiny area of yellow at base wing-spot: Black
	Dark with yellow stripe along length	TOP: Brown SIDE: Yellow divided by narrow black lines	FSL: absent (except in dark forms in NW Scotland)	Clear with tiny area of yellow at base wing-spot: Yellow to reddish-brown
	Black	TOP: Yellow-ochre with black collar SIDE: Yellowish	FSL: present	Clear with tiny area of yellow at base (may take on golden hue with age) wing-spot: Red-brown
	Dark with yellow	Yellow-ochre with dull greenish- yellow sides	FSL: present EYES: blue undersides	Yellow veins on basal half of wings WING-SPOT: Pale, outlined in black
	stripe along length	TOP: Yellow-brown SIDE: Relatively plain yellowish	FSL: present	Basal half tangerine (fading with age) WING-SPOT: Red or brown with thick black margins
KEELED SKIMMER (for comparison)	Brown	TOP: Dark brown above with 2 buff stripes SIDE: buff, lacking	EYES: Brown from above	Clear; yellow antenodal cross-veins and costa. WING-SPOT: Orange

(see also pages 48–49)
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accessory genitalia structure on underside of **S2** of male's abdomen that holds sperm prior

to copulation (also known as secondary genitalia)

**anal appendages** appendages at tip of abdomen of a Dragonfly **larva** 

antenodal cross-veins veins at right angles to the costa, between the body and the node appendages 2–4 extensions at tip of the abdomen, in males used to clasp the

female during copulation

caudal lamella appendage at the rear of damselfly larvae (usually three), used for

respiration and locomotion (plural: lamellae)

cerci upper pair of anal appendages on a dragonfly larva costa thick front vein that forms the leading edge of the wing

epiproct central anal appendage of a dragonfly larva

exuvia cast larval skin (plural: exuviae)

**eye-spots** pale spots behind the eyes of some damselflies, technically known as

post-ocular spots

**frons** uppermost part of front of head ('face')

**immature (imm.)** an adult that has not yet attained the full colouring typically associated

with sexual maturity

**in tandem** when male and female are joined (before or after copulation)

iridescent showing colours (typically green, blue or bronzy) that change with the

angle of observation and/or illumination

**labium** extendable lower lip of the mouthparts of a **larva**, sometimes termed

'mask', used for catching prey

 larva (or nymph)
 immature stage before becoming an adult (plural: larvae)

 metamorphosis
 transition from larva to adult; this is termed 'incomplete metamorphosis' in Dragonflies, since there is no pupal stage

**node (or nodus)** notch halfway along leading edge of wing

**obelisk position** position adopted by some dragonflies in which the abdomen is

pointed towards the sun to avoid overheating

**ovipositor** blade-like egg-laying structure under **S9–10** of female Dragonflies that

deposits eggs into plant material or substrates

paraprocts lower pair of anal appendages on a dragonfly larva

**prementum** stalked base of the **labium** 

pronotumshield-like plate that covers the top of the front of the thoraxpruinosecoated in a waxy bloom, often pale blue (pruinescence)

**S2, S3, S8–10 etc.** abbreviations used for the number, or range, of abdominal or antennal

segment(s), counted from the base

**shoulder stripes** pair of pale stripes on the top of the thorax (antehumeral stripes)

teneral newly emerged adult Dragonfly with soft cuticle and shiny wings,

lacking full adult coloration

**vulvar scale** flap below **S8–9**, prominent in some species, present in dragonflies

that lay eggs freely onto the water surface; not present in damselflies

wing-spot dark or coloured cell along leading edge of wing, towards the tip,

technically known as pterostigma (female demoiselles have a whitish

'false wing-spot')

The species accounts that follow are grouped as follows:

Pages 54–179: the 58 species that are known to have occurred naturally in Britain or Ireland, including nine confirmed vagrants and the two former breeders (the latter are indicated by pages shaded red). Pages 180–95: seven potential vagrants (which are indicated by pages shaded grey).

The order of species is broadly taxonomic, although in some cases similar species have been grouped together for ease of reference. The text for each is presented as follows:

#### IUCN RED LIST CODES, etc.

Britain (LEFT) and Ireland (RIGHT). For potential vagrants the EU Red List code is shown.

For details see *page 230* or the *front flap* of the cover.

#### **ADULT LENGTH (RANGE) \***

Bar shows actual maximum and **minimum** total length.

#### **LEGISLATIVE PROTECTION**

For details see *pages 228–29*.

#### **STATUS & TREND**

For details see page 230.

#### **HABITATS**

See also pages 30–31.

#### **DISTRIBUTION MAP**

For details see page 225.

- main range
- isolated record
- former location for regionally extinct species
- European range (for nonbreeding species only)

#### **MEASUREMENTS**

Typical adult biometrics

#### **ILLUSTRATIONS**

Showing key features

#### **THE PLATES**

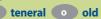
Typically showing both sexes and immature forms from above and the side, scaled optimally for each group.

The following annotations are used on the plates:





immature



<sup>\*</sup> Applies to printed book only.

**NOMENCLATURE** Follows BDS, or Smallshire & Swash (2020) for species not recorded in Britain or Ireland.

SCALE \* of photos

### **English** name

Scientific name x2

Eu: English name used in Europe; (alternative names are shown in brackets)

Relevant legislation

Status & trend [=, ▼, △ or ?]

**Principal habitat(s)** and secondary habitat(s)



J F M A M J J A S O N D

Overall length: Hindwing: xx-xxmm





THORAX

#### **D** LOOK-ALIKES

The species or forms most likely to cause confusion.

An introductory paragraph.

#### **Adult identification:**

A concise description of the adult forms, detailing the key identification features, with the most important highlighted in **bold** text.

The key identification features are highlighted on the plate opposite.

**Behaviour:** Aspects of behaviour that are a clue to identification.

**Breeding habitat:** A brief summary of the species' habitat preferences.

#### **Population and conservation:**

Notes on status and distribution, and a résumé of threats and conservation action.

#### **FLIGHT PERIOD**

The darker the shade of green, the more likely to be seen at that time For vagrants, the flight period shown is that for northern Europe.

#### WHERE TO LOOK

Suggestions of typical sites, or key areas to look for scarce species.

#### **OBSERVATION TIPS**

Suggestions and tips to help you find and watch the species.

## Beautiful Demoiselie permission of the publisher. Calopteryx virgo ×2



Overall length: 45–49 mm Hindwing: 29–36 mm





Comparison of position of 'false wing-spot' in female demoiselles

LOOK-ALIKES

Banded Demoiselle (page 56)

A common large and conspicuous damselfly that is typical of fast-flowing waters in southern and western Britain. Living up to its common name, it presents a dazzling spectacle that greatly enhances the rivers and streams that it inhabits.

**Adult identification:** MALE: Wings dark brown-black with iridescent blue veins; the extreme tips and bases may be paler and immatures have browner wings. The body is metallic blue-green. **FEMALE:** Wings iridescent dark brown with a white 'false wingspot' that lies farther from the tip than in Banded Demoiselle (*page 56*). The body is metallic green with a bronzy tip to the abdomen.

**Behaviour:** Males are territorial, perching on bankside vegetation and trees. They habitually flick open their wings when perched, and dash off to chase passing insects, often returning to the same perch. Females live away from water unless egg-laying or seeking a mate, and individuals of both sexes frequently stray well away from water. Females lay up to 300 eggs at a time into emergent or floating vegetation, such as water-crowfoot, often submerging to do so.

**Breeding habitat:** This is one of the few British species that is restricted to running water, being found only along streams and rivers, often acidic, with a sand or gravel bottom. Although mostly found along heathland and moorland streams, it also occurs widely in farmland and woodland, including well-shaded watercourses.

Population and conservation: Often widespread and abundant along suitable watercourses in the south and west, but absent or at least very local over much of the rest of England, Scotland and the northern half of Ireland. Although it is said to be restricted to unpolluted waters, many stretches that have suffered from localized farm pollution incidents appear to recover and remain occupied. Recent, limited range expansion may be due to improved water quality.

#### **WHERE TO LOOK**

Found along many watercourses in south-west England, Wales and southern Ireland. Elsewhere, it is localized and usually only found along heathland streams.

#### **OBSERVATION TIPS**

Sits on sunny perches over fast-flowing water and flits slowly over the water with a distinctive fluttering flight. They can be wary, so a slow approach is needed to obtain close views.

© Copyright, Princeton University Press. No part of this book may becautiful DEMOISELLE distributed, posted, or reproduced in any form by digital or mechanical means without prior written permission of the publisher. Female: wings brownish, each with a white spot Mature male: iridescent, wholly dark wings For general queries, contact info@press.princeton.edu

## Banded Demoiselle permission of the publisher lopteryx splendens ×2



Overall length: 45–48 mm Hindwing: 27–35 mm





Comparison of position of 'false wing-spot' in female demoiselles A stunning damselfly, often encountered along slow-flowing streams and rivers in the lowlands.

**Adult identification:** MALE: Wings translucent, each with a broad, dark, iridescent **blue-black spot** (or band) across the outer part; on immatures, this marking is dark brown. The body is metallic blue-green. **FEMALE:** Wings translucent **pale green iridescent**, with a white 'false wing-spot' nearer the tip than in Beautiful Demoiselle (*page 54*), and a metallic green body; S8–10 bronze-coloured with a narrow stripe down the middle that is usually paler than in Beautiful Demoiselle.

**Behaviour:** Males are territorial, but large numbers can be found among lush bankside vegetation and on floating plants. They court females by flicking their wings open and performing an aerial dance in front of them. Like many damselflies, females stay away from water unless looking for a mate or egg-laying. The adults often make use of luxuriant vegetation like nettle beds and tall emergent grasses. Females can lay about 10 eggs per minute for up to 45 minutes, laying into a wide variety of emergent or floating plants, often submerging to do so.

**Breeding habitat:** Along with the more locally distributed White-legged Damselfly, this species is characteristic of mature, slow-flowing streams and rivers, and sometimes canals, with muddy sediment; it can occur with Beautiful Demoiselle if patches of sand or gravel are also present. Individuals of both sexes frequently stray well away from water and may be found at ponds where breeding is unlikely.

**Population and conservation:** The Banded Demoiselle is abundant along many of its occupied watercourses. It is rare in Scotland and scarce in northern England, where there has been some northward range expansion in recent years. It appears to be tolerant of the high nutrient levels typical of the lower stretches of many rivers.

#### **WHERE TO LOOK**

Found along slow-flowing watercourses in the lowlands of Ireland, Wales and England. Look for it sitting in sunny patches on sheltered bankside vegetation.

#### **OBSERVATION TIPS**

The large size and fluttering wing-beats help to identify both sexes. The greenish females can be inconspicuous against lush vegetation.

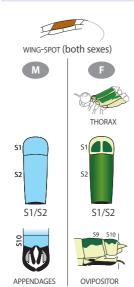




#### **Eu: Common Spreadwing**



Overall length: 35–39 mm Hindwing: 19–24 mm



#### LOOK-ALIKES

Scarce Emerald Damselfly (p. 60) [See also Small Spreadwing (p. 182)] A species of shallow, well-vegetated standing waters in both the uplands and the lowlands. Numbers peak in late summer, later than most other damselflies. During 1970–2019 its population, determined by occupancy-detection modelling, declined by 14%, more than that of any other Dragonfly in Britain and Ireland.

**Adult identification:** All emerald damselflies have largely metallic-green bodies, like the demoiselles, but are distinctly smaller, have clear wings and habitually rest with wings well-spread. The narrow wing-spot (length/width >3) is initially pale and develops through brown to blackish. MALE: Powder blue pruinescence develops on S1-2, S9-10 (sometimes S8) and on the pronotum and sides of the thorax. The eyes are blue. The appendages are prominent, with the smaller, lower pair being **straight**. **FEMALE**: Abdomen distinctly thicker than male's, usually lacking any blue, and with beige underparts (although rarely pruinesces with age). The eyes are brown. The ovipositor is prominent and just **reaches** the tip of S10. S1 has a diagnostic pair of **rounded** dark spots. Other minor features include pale lower lobes to the pronotum, an isolated metallic spot just above the base of the middle leg, and thin, yellowish shoulder stripes. IMMATURE: Both sexes are metallic emerald with warm-buff underparts, and mature over a period of two weeks or so, a much longer period than in Scarce Emerald Damselfly (page 60).

**Behaviour:** The elongated eggs are inserted into the stems of emergent plants (*e.g.* rushes), the female starting above water and often submerging completely.

**Breeding habitat:** Tends to favour smaller, shallow standing waters with luxuriant vegetation, such as tall grass, rushes and sedges. Sites range from acidic bog pools, through enriched ponds to brackish ditches. Even sites that dry out in late summer can remain occupied, due to the species' late emergence and the fact that it overwinters as eggs.

**Population and conservation:** May be affected locally by large-scale dredging of well-vegetated ponds and ditches, although the reasons for its national decline are currently unclear. The species is classified as Near Threatened in Europe.

#### **WHERE TO LOOK**

Rushy pools almost anywhere in Britain and Ireland during late summer.

#### **OBSERVATION TIPS**

Flies very slowly and can be remarkably inconspicuous. Look closely for adults sitting with their wings spread among dense rushes.



## Scarce means without prior written permission of the publisher.

Lestes dryas ×2

**Eu: Robust Spreadwing** 



A rare and enigmatic species of ephemeral and transitional sites where few other Dragonflies can survive.

**Adult identification:** Both sexes have largely metallic green bodies with a bronzy iridescence, and habitually rest with wings well-spread. This species is more robustly built than Emerald Damselfly (page 58) and has slightly broader wing-spots, but differences in genitalia provide the only reliable means of **identification**. **MALE:** Powder blue pruinescence develops on S1, usually only the **front half or so of S2**, S9–10 (sometimes S8), the pronotum and the sides of the thorax. Eyes bluer than all but the oldest Emerald Damselflies. The lower appendages are distinctively thick and **incurved** at the tip. **FEMALE**: Thorax and abdomen **chunky**, lacking any blue, and with greenish-cream underparts. Eyes brown. The ovipositor is prominent and just **protrudes** beyond the tip of S10. S1 has a diagnostic pair of square, dark marks. Other minor features include metallic green lower lobes to the pronotum, extensive dark metallic area above the base of the middle leg and very thin incomplete shoulder stripes. **IMMATURE:** Both sexes are metallic chocolate-emerald with greenish-cream underparts and lack the 'juvenile' pinkish-buff colour phase of Emerald Damselfly.

**Behaviour:** Elongated eggs are laid, usually above water, into plant stems, *e.g.* rushes, which are covered as water levels rise in winter.

**Breeding habitat:** Around the Thames Estuary, it occurs in coastal ditches choked with vegetation. Also found at a few shallow ponds and lakes inland in Norfolk and more widely in Ireland. These sites may dry out occasionally but remain occupied because the species emerges late, overwinters as eggs and has fast-growing larvae.

**Population and conservation:** Believed extinct in England until re-discovered in Norfolk in 1983. Subsequently found at several sites in south-east England, many of which are at risk from abstraction, eutrophication, overgrazing, successional change, drought and coastal flooding. There are signs of recent expansion in south-east England, especially inland. The species has been found to be more widespread in Ireland than previously thought, although populations vary widely between years.

# WING-SPOT (both sexes) M F THORAX 51 52 51/52 51/52 59 510

20-27 mm

**Hindwing:** 

#### WHERE TO LOOK

Densely vegetated coastal ditches (e.g. at Canvey Island, Essex), Breckland ponds (e.g. Thompson Common, Norfolk) and turloughs in The Burren, Co. Clare.

#### **OBSERVATION TIPS**

Very similar in character to Emerald Damselfly, flying slowly amongst dense emergent vegetation. Close study is essential to confirm identification.

Emerald Damselfly (page 58) [See also Small Spreadwing (p. 182)]

OVIPOSITOR



#### Southern Emeral of the publisher. Lestes barbarus x2

#### **Eu: Migrant Spreadwing**



Overall length: 40-45 mm **Hindwing:** 20-27 mm



THORAX (both sexes)



S1/S2 (both sexes)



OIVIPOSITOR

APPENDAGES

#### CONTINUES

Emerald Damselfly (page 58) Scarce Emerald Damselfly (p. 60) Willow Emerald Damselfly (p. 64) [See also Small Spreadwing (p. 182)]

A large emerald damselfly that occurs just across the English Channel and has made a faltering attempt to colonize Britain.

**Adult identification:** Differs from other emerald damselflies in Britain in having **bicoloured** wing-spots. These are similar to those of the blue-tailed damselflies (pages 92-95) but longer (about 4× the width) and much more conspicuous. The wings are typically **held well-spread**. Both sexes are mainly **metallic green**, becoming bronzy with age. The eyes are greenish, the rear of head is yellow and the edges to the top of S8–10 are pale. The shoulder stripes are relatively broad and yellow. MALE: Generally lacks blue pruinescence, although S10 is whitish. From above, the upper appendages are pale with dark tips and the lower appendages are small, pointed and outcurved at the tips. FEMALE: Ovipositor is entirely pale. IMMATURE: Wing-spots wholly pale initially, as with other emerald damselflies.

**Behaviour:** Breeding biology is similar to other emerald damselflies, but the eggs may be laid into woody stems, such as those of willows, as well as rushes, sedges and other wetland plants.

**Breeding habitat:** Breeding attempts in Britain have been in dune ponds and ditches. Elsewhere, it is a specialist of seasonally flooded still waters, sometimes slightly brackish. These habitats typically dry out early in the summer and eggs are often laid in apparently dry areas. It is often found some distance from water.

**Population and conservation:** First seen in Britain in 2002 in Norfolk and during 2004–10 in Essex, Kent, Norfolk, Suffolk and Sussex, with eggs laid at two sites. Found breeding on the Isle of Wight in 2015 and in Buckinghamshire in 2018–19, and a small colony was found in Cornwall in 2024, although most sites remain in south-east England. There have been sporadic records from the Channel Islands and there is evidence that it has been breeding there since 1995.

#### **WHERE TO LOOK**

Most likely to occur at waters near the south or south-east coasts, at or near temporary pools in sand dunes or coastal marshes.

#### **OBSERVATION TIPS**

Similar to the commoner emerald damselflies in holding their wings spread at rest, but appear larger and paler and have diagnostic two-toned wing-spots.



## Willow Tenerald Damselfiy of the publisher Chalcolestes viridis ×2



Overall length: 39–48 mm Hindwing: 23–28 mm

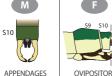
WING-SPOT (both sexes)

THORAX (both sexes)

\$1

\$2

\$1/52 (both sexes)



#### **D** LOOK-ALIKES

Emerald Damselfly (page 58) Scarce Emerald Damselfly (p. 60) Southern Em'ld Damselfly (p. 62) [See also Small Spreadwing (p. 182)] Easily overlooked, due to an association with waterside trees, where the large, long-bodied adults may be seen hanging cryptically with their wings spread wide; has recently become well-established in south-east England, centred around Suffolk.

Adult identification: Both sexes are mainly metallic green, like other emerald damselflies, but larger, darker and without blue eyes or pruinescence. The wing-spots are large and pale, outlined in black (beware of tenerals of other species of emerald damselfly, which also have pale wing-spots and lack pruinescence). The thorax has thin yellow shoulder stripes; the lower border of the metallic green on the side of the thorax is irregular and forms a dark 'spur' (this may be present in a reduced form in the commoner emerald damselflies). MALE: Abdomen very long. The upper appendages are distinctly pale with black tips and are more than 3× the length of the lower appendages. FEMALE: The ovipositor is dark with a pale area on the lower edge.

**Behaviour:** Eggs are laid into twigs overhanging water using serrations on the underside of the ovipositor; this results in distinctive oval scars (as shown on the plate).

**Breeding habitat:** Standing and slow-flowing waters with overhanging trees, where males defend vertical territories. In Suffolk, egg-laying has been observed on willows, Alder, Ash. birches. Hawthorn and Elder.

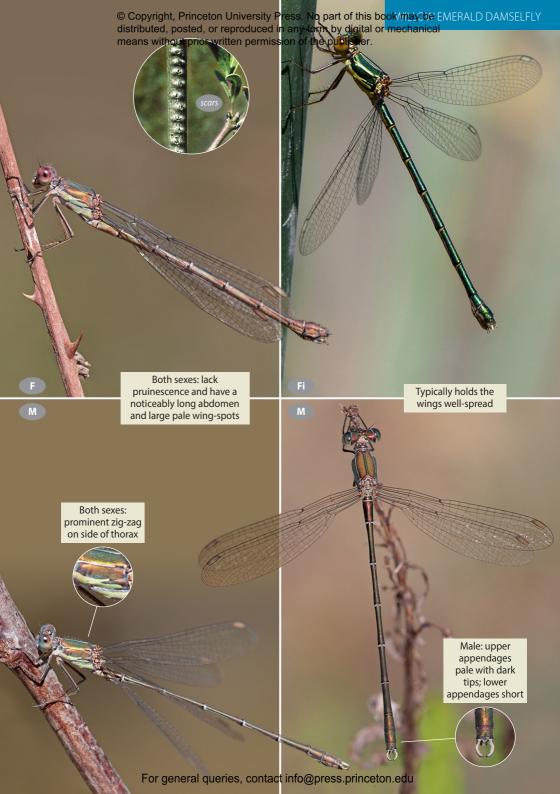
Population and conservation: The first records were of an adult found dead near Pevensey, East Sussex, in 1979; an exuvia collected at Cliffe Marshes, north Kent, in 1992; and a female found on the Suffolk coast in 2007. In 2009, however, some 400 were reported, including tenerals, from 35 sites in east Suffolk, north Essex and south Norfolk, perhaps from an undetected influx in 2007. The species has since become firmly established, spreading to Kent by 2012 and Cambridgeshire, Hertfordshire and West Sussex by 2015. During the next decade it spread as far west as Somerset and as far north as Tyneside. In continental Europe, its range extends from north-west Africa to the English Channel and North Sea coasts. It is widespread on Jersey, and was first recorded on Guernsey in 2003 and Alderney in 2010.

#### WHERE TO LOOK

Scan trees beside or near water, from eye-level to several metres up, for adults hanging on twigs at an angle of about 45°, often in shade.

#### **OBSERVATION TIPS**

Breeding is indicated by series of egg-laying scars on branches, which often remain visible for several years.



#### **Eu: Common Winter Damsel**



34-39 mm Overall length: **Hindwing:** 18-23 mm

Although this species is as large as the related emerald damselflies, the lack of bright colours means that it can easily be overlooked.

**Adult identification:** Both sexes are pale **fawn**, but darker after hibernation, with dark, slightly metallic markings down the centre of the abdomen and top of the thorax. Although this metallic colouring recalls emerald damselflies, the wings are held closed when at rest, like other damselflies. The brownish shoulder stripes are as broad as the dark lines below them, which, together with 'rocket'-shaped dark markings on S3-6, give a passing resemblance to a dull female Common Blue Damselfly (page 76). The long, brown wing-spots are **nearer** the wingtip on the forewings than on the hindwings. MALE: Upper appendages pale and pincer-shaped like emerald damselflies (pages 58–65). **FEMALE:** Appendages **longer** than in emerald damselflies and straight, but the ovipositor is **shorter**.

**Behaviour:** This and another very similar *Sympecma* species, Siberian Winter Damsel S. paedisca, are the only European Dragonflies to overwinter as adults. Adults are found in all months on the continent, emerging from July and some persisting until the following June. From late September, adults hibernate in sheltered areas away from water, occasionally rousing to fly in warm weather. They return to water from March and females lay eggs into floating dead stems of reeds and other similar debris. The larvae develop rapidly during the summer and adults emerge from July onwards.

**Breeding habitat:** Breeds in standing waters, sometimes brackish, with abundant emergent vegetation where adults gather in spring. In autumn, adults move to sheltered areas and hibernate amongst dry grasses, twigs or woodpiles etc., but sometimes on exposed perches.

**Population and conservation:** Recorded twice in Britain: in December 2009 a female was discovered inside a house at Tonna, near Neath, south Wales; the second was also of a female, at Wildern, near Southampton, Hampshire in May 2022. This species is found throughout southern and central Europe and eastwards, and has increased in the Netherlands in recent years. It may have bred in 1945 on Jersey, where the only other record was in 1992.





#### **WHERE TO LOOK**

Might be found in late summer near the south-east coast. In rest of Europe often seen away from water, along sheltered rides in woodland.

#### **OBSERVATION TIPS**

An inconspicuous damselfly, in both colour and behaviour, often sitting with its abdomen held tight against a perch.



APPENDAGES

Emerald damselflies (pp. 58-65) Common Blue Damselfly (p. 76)



## Large Red Daniselly permission of the publisher. Pyrrhosoma nymphula ×2

#### **Eu: Large Red Damsel**



Overall length: 33-36 mm Hindwing: 19-24 mm



ABDOMEN (life-size)

#### LOOK-ALIKES

Small Red Damselfly (page 70) Red-eyed Damselfly (page 96) One of the three most widespread Dragonflies, this is the first species to emerge in spring and brings a welcome dash of colour to otherwise sombre waters at that time of year.

**Adult identification:** Relatively large, robust and active, differing from the tiny, weak Small Red Damselfly (page 70) in having black, rather than reddish, legs and wing-spot, and broad red or yellow **shoulder stripes**. Both sexes have **red eyes**, duller in females and immatures, and yellow sides to the thorax. MALE: Abdomen deep red with bronzy-black bands on S7-9, although these can be **difficult to see in strong sunlight**. The thorax has a bronzy-black top and stripe across the side. **FEMALE:** Has three colour forms. The commonest, *typica*, is like the male but has more extensive black on all abdominal segments. The dark form *melanotum* has yellow shoulder stripes (as do immatures of both sexes) and very restricted areas of red and yellow on the largely black abdomen; the red joints between the terminal segments help to distinguish it from female Red-eyed Damselfly (page 96), in which they are blue. The red form *fulvipes* has black on the abdomen intermediate between typica and the male.

**Behaviour:** Males emerge slightly earlier and in larger numbers than females, maturing in about 12 days, four days less than females. Males are aggressive, investigating any passing insects and driving off other males. The elongated eggs are laid in tandem into submerged vegetation in batches of about 350.

**Breeding habitat:** Occupies most wetland habitats, from acidic moorland bog pools to brackish ditches, but avoids fast-flowing waters and shows some preference for sheltered waters with abundant aquatic plants.

**Population and conservation:** This species' broad distribution reflects a wide habitat tolerance. It is found in virtually every part of Britain and Ireland, although the paucity of records in some arable and upland areas indicates that it is not universally common.

#### **WHERE TO LOOK**

This species can be found almost anywhere from spring to midsummer. Indeed, it not infrequently finds humans – having a habit of landing on pale clothing!

#### **OBSERVATION TIPS**

On hot days, territorial males can fly rapidly enough to give the impression of darters, but the peak flight periods do not overlap.

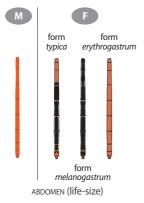


## Small Red Daniserity permission of the publisher eriagrion tenellum ×2

#### **Eu: Small Red Damsel**



**Hindwing:** 15-21 mm



This is one of Britain's two red damselflies and amongst the smallest of all the damselflies. It flies weakly at heathland bogs and streams in southern England and west Wales.

**Adult identification:** A very small damselfly, about 15% shorter than Large Red Damselfly (page 68). Both sexes have a diagnostic combination of red or reddish legs, eyes and wing**spot**. The thorax is bronzy-black on top, with no more than a hint of pale shoulder stripes, and yellow on the sides with **two** black lines. MALE: Abdomen entirely bright red. FEMALE: Has three colour forms. The abdomen of the 'normal' form (typica) is bronzy-black with S1-3 and S9-10 mostly red. The dark form (melanogastrum) occurs quite frequently and has an almost entirely dark abdomen marked with pale segment divisions, the last three of which are reddish. An uncommon red form (erythrogastrum) resembles the male.

**Behaviour:** Adults fly low and weakly, rarely moving far from breeding waters. Like the Southern Damselfly (page 82), which sometimes occurs at the same site, they are reluctant to fly in any but the warmest, sunniest and calmest conditions. They can be surprisingly inconspicuous, especially the darker females. Elongated eggs are laid while in tandem into submerged and emergent plants.

**Breeding habitat:** Prefers shallow, relatively warm acidic waters, occurring mainly at pools, seepages and small streams. These are usually associated with heathland bogs or old tin or clay workings, up to an altitude of about 300 m. Such sites typically have a lush growth of bog-mosses and Marsh St John's-wort. It also occupies pools at a few calcareous mires.

**Population and conservation:** It can be abundant at breeding sites but these are often quite isolated. The species is therefore vulnerable to local extinctions, losses having occurred at some sites. It can tolerate short-term scrub encroachment around ponds and has been known to colonize new small ponds from adjacent sites.

#### **WHERE TO LOOK**

Boggy heathlands of Surrey/ Hampshire, the New Forest, Purbeck and Pembrokeshire and in old tin and clay workings around Bodmin Moor and Dartmoor.

#### **OBSERVATION TIPS**

Flies low down and weakly between grass or heathers, where females especially can be very inconspicuous.

#### C LOOK-ALIKES

Large Red Damselfly (page 68) Southern Damselfly (fem.) (p. 82) This index includes the English and *scientific* names of all the Dragonflies included in this book. **Bold** names are the preferred English names used throughout. Normal text is used for alternative names or names used in Ireland or Europe; these are cross-referenced to the preferred English name, against which all the key entries for the species are listed. Page references given against scientific names are to the main species accounts, larval identification chart and selected entries.

**Bold red** numbers highlight the main species accounts.

**Bold black** numbers refer to the tables that summarize the key adult identification features. Blue numbers relate to larvae, those in **bold** indicating the relevant page in the identification chart. *Italicized* numbers indicate page(s) on which a photograph of an *adult* or a *larva* may be found. Other numbers highlight page(s) where other key information is given.

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means without prior written permission of the publisher.

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