

Glossary of Dragonfly and Damselfly. Terms and Abbreviations	
Abdomen	The last, and the usually largest, of the three portions of a Dragonfly/damselfly body. It begins after the thorax. It usually is made up of 10 segments
Abdominal segments	The ten separate parts making up the abdomen . Joints between the segments allow the dragonfly to bend easily, this is important when dragonflies mate and lay their eggs. Usually numbered from S1 through S10 from the thorax to the tip. These segments usually show varied patterns of coloration crucial in the identification of certain species.
Al	Anterior lamina
Anal crossing	Cross-vein which links the anal vein and the cubital vein near base of wing Abbr. Cux or Ac
Anal loop	A group of cells enclosed by a thicker vein in the hindwing near the base; not present in all species; the extent of its development and shape useful in the identification of some group, especially gomphids
Anal margin	Margin of hindwing of Anisoptera , closest to abdomen
Anal pyramid	Cluster of posterior appendages forming a spiny armature around anus of Anisoptera larvae
Anal triangle	Found in a few species, a triangle of one or more cells at base of hindwing just below the point where the wing joins the body.
Anal appendages	Appendages at the tip of male abdomen. (Claspers) (Superior/inferior Appendages) (Cerci/epiproct Anisoptera) (cerci/paraproct Zygoptera)
Anal vein	The most posterior (ninth) main longitudinal vein of the wing
Andromorph	Female form which is similar to the male of the species
Anteclypeus	Forward-facing area of the face above the labrum and below the postclypeus : in most species it can only be seen when the face is viewed from the front, and not when viewed from above
Antihumeral stripe	Name given to the pale lateral stripe along the upperside of thorax .
Antennae	Refers to a pair of feelers on the head which carry sensory organs; poorly develop in dragonflies. It is thought to aid in the capturing of prey at low light and may also serve as airspeed indicators
Antenodal area	Area of the wing before the nodus between the first (costa) and third (radius) main veins, containing the antenodal Cross-veins (Ax).
Antenodal Cross-veins	Cross-veins of the leading edge of the wing before the nodus . Abbr. Ax (veins)
Anterior	towards the front of the Odonata
Anterior lamina	Protruding lower margin of abdominal segment 2 of true dragonflies (Anisoptera), which forms a lip at the anterior end of the secondary genitalia
Anisoptera	The group of species that are all true dragonflies .
Appendages	Backwards-pointing spear- or hook-shaped projections at the tip of the abdomen (there are two pairs: an upper or superior pair (superior appendages) (cerci) and a lower or inferior pair (inferior appendages) (epiproct/Anisoptera or paraproct/Zygoptera)
Arculus	A major Cross-vein close to the wing base that forms the proximal margin of the discoidal cell , and which joins the radius vein
Arthropod	An arthropod is an invertebrate animal having an exoskeleton (external skeleton), a segmented body, and jointed appendages (paired appendages).
A.s.l	Above sea level
Auricles (oreillets)	Small, lateral, leaf-like ears on the second abdominal segment of some dragonflies: they may assist in flight behaviour.
Ax. Antenodal cross-vein(s)	Area of the wing before the nodus between the first (costa) and third (radius) main veins, containing the antenodal Cross-veins (Ax).
Brace vein	The vein of the wing immediately posterior to and in line with the inner margin of the pterostigma .
Bivoltine	(adjective) referring to organisms having two broods or generations per year (Voltism)
Carina (carinae)	The sharp ridge running longitudinally along the dorsal midline of the synthorax . Also defined as raised ridges found in some species on thorax , abdomen and legs .
Caudal	Toward the end or posterior end of an organism
Cauda/lamellae	Terminal gill filaments, leaf-like projections or of the damselfly larvae (Zygoptera) which are usually flat and broad at the tip of the abdomen of Zygoptera larvae
Cerci	A pair of blade-like or leaf-like structures at the termination of the abdomen of true dragonflies . Also referred to as superior appendage .
Chin	Casual term for the labium, the lip behind the mandibles which is only visible from below
Claspers	Male anal appendages (Superior/inferior Appendages) (Cerci/epiproct in Anisoptera) (cerci/paraproct in Zygoptera)
Clypeus	The area of the face between labrum and frons , made up of the lower anteclypeus and the upper postclypeus (see epitome)
Collar	Anterior, upturned lip of the prothorax ; a ring of hairs around neck

Complete (Ax vein)	To be complete the Ax vein start at the costa through the subcosta to the radial (R1) vein. To incomplete the distal Ax vein does not complete from the subcosta to the radial (R1)
Compound eyes	Each compound eye is comprised of several thousand elements known as facets or ommatidia . These ommatidia contain light sensitive opsin proteins, thereby functioning as the visual sensing element in the compound eye. But unlike humans, day-flying dragonfly species have four or five different opsins, allowing them to see colours that are beyond human visual capabilities, such as ultraviolet (UV) light. Together, these thousands of ommatidia produce a mosaic of "pictures" but how this visual mosaic is integrated in the insect brain is still not known.
Costa	Main wing vein that is the leading edge of both the forewings and the hindwings
Costal region	The area along the leading edge of the wings
Cross-veins	Small veins bridging the gap between the main longitudinal veins, which give the wing its net-like appearance; important diagnostic Cross-veins include the antenodal Cross-veins and the arculus . The term complete means that the vein runs right across either side of the 1st radial vein. Abbr. Cux or Ac
Cubital vein (Cux)	The second to last posterior (eighth) main longitudinal vein of the wing Same as (Ac, anal crossing)
cuticle	The invertebrate cuticle or cuticula is a multi-layered structure outside the epidermis of many invertebrates and arthropods, in which it forms an exoskeleton
Cu2	Second cubital vein
Cux	cubital cross-vein(s) also known as Ac, anal crossing
Coxs or Hip	This part connects the leg to the body.
Damselfly	Insects of the suborder Zygoptera in the order Odonata .
DC	Discoidal Cell (also called the triangle)
Denticles	Tooth-like spines
DF	Discoidal field
Dichromatic/dimorphic	Having two colour/shape forms e.g. 'sexual dimorphic' refers to differences in male ♂ and female ♀
Discoidal cell	Triangular or quadrangular cell near the base of the wing , the inner side of which is formed in part by the arculus
Distal	Furthest away from the body
Dorsal	Upperside of body (opposite to ventral)
Dragonfly	Insect belonging to the order Odonata , infraorder Anisoptera (from Greek "uneven" and " wing ", because the hindwing is broader than the forewing)
Endemic	With a specified and often restricted geographical range
Endoskeleton	An endoskeleton is a skeleton that is on the inside of a body. The endoskeleton develops within the skin or in the deeper body tissues. The vertebrate endoskeleton is basically made up of two types of tissues (bone and cartilage).
Ephemeral rivers	An ephemeral waterbody is a wetland, spring, stream, river, pond or lake that only exists for a short period following precipitation or snowmelt. They are not the same as intermittent or seasonal waterbodies, which exist for longer periods, but not all year round.
Epiproct	A triangular, pointed process at the termination of the abdomen in , lying between and below the cerci (superior appendages) Epiproct is also called inferior appendage (Anisoptera)
Epistome	Middle part of the face between the labrum and frons [i.e. clypeus) which is very prominent in Chlorocyphidae
Exophytic oviposition	Laying eggs onto water or land
Exoskeleton	Is the external skeleton that supports and protects an animal's body, in contrast to the internal skeleton (endoskeleton) of, for example, a human. In usage, some of the larger kinds of exoskeletons are known as " shells ". Examples of animals with exoskeletons include insects such as grasshoppers and cockroaches and Dragonflies .
Exuvia (Exuviae)	Empty larval shuck left behind on vegetation or rocks after the adult has emerged and flown away (plural: exuviae). (technically, the shell left behind from any molt stage)
Eyes	The main eyes (compound eyes) are the large round structures dominating the head: they are so large because the dragonfly needs good sight as it is a hunter of smaller insects. These eyes are made up of hundreds of small facets, so making the eyes compound. The head also bears 3 tiny, simple eyes (ocelli) on top, arranged in a triangle between the antennae which possibly function as night/day receptors.
Face	A casual term for the whole frontal area of the head
Female	Female shown with symbol ♀
Femur	The largest and uppermost section of the leg. It is the heaviest and is similar to the human thigh. It is hairy or spiny for better gripping (the 'thigh')
Flares (of base of	Basal wing patches, usually with jogged outer edges

wings)	
Foliations	Flattened, lateral, leaf-like extensions at the tip of the abdomen of some adult Clubtails (Gomphidae) and, females of some other species
Forehead	Casual term for the front, top of the head, and made up variously of part of frons and part of vertex
Forewing(s) Fw	First pair of wings. (front wings) Abbr. Fw
Frons	Upward-facing area (in damselflies) or angular (in dragonflies) at the front of the face above the postclypeus and in front of the vertex (top of head) and between lower part of the eyes
Frontal bond	Forward-facing part of the frons of damselflies, which may be important in the identification of some species e.g. Wisps (Agriocnemis)
Genae	Areas of face between the eyes and the labrum and mandibles
Genus	Members of a family related in structures and heredity that can be further divided into species
Gills	A respiratory structure through which oxygen is obtained
Globular	Rounded in shape
Hamule	Hook like projections that are found under abdominal S2 on the male dragonfly. Its function is to hold the females genitalia in place during mating. Hamule also same as posterior hamule in Macromiidae, Libellulidae
Head	The first of three sections (the other two being thorax and abdomen) bearing important sensory organs, especially the large eyes and the mouth
Hindwing(s)	Second pair of wings
Hip or cox	This part connects the leg to the body.
Humeral stripe	Name given to the pale lateral stripe below the Antihumeral stripe along the upper side of thorax .
Hyaline	Means clear or transparent and is used to describe the wings of a dragonfly
Incomplete	Refers to the distal Ax vein that does not complete from the subcosta to the radial To be complete the Ax vein start at the costa through the subcosta to the radial (R1) vein.
Inferior appendages	" Epiproct ". Lower, terminal, appendages on segment 10 of male damselflies
Instar	A molting or shedding of the larvae exoskeleton. (Larval stage)
Intersegmental membrane	Soft, moveable joints between the segments , especially of the abdomen
Invertebrate	Animals that neither possess nor develop a vertebral column (commonly known as a <i>backbone</i> or <i>spine</i>). Includes almost all animals Familiar examples of invertebrates include insects; (Dragonflies).
IR	Inter-radial veins, numbered 1, 2, 3
Labial mask	On Odonata the part of the labium that covers part of the head
Labium	Lower lip, casually referred to as the chin, lying behind the mandibles and only visible from below
Labrum	The conspicuous plate, or front 'lip', running across the lower region of the face when viewed from the front
Larva	Immature stage of Odonata, larva, nymph, naiad are often used interchangeably to describe the intermediate stage of the dragonflies life (between eggs and adult)
Lateral	The side of the Odonata
Lip	The labrum : the bottom part of the face when viewed from the front
Legs	Dragonflies and Damselflies have 3 pairs of legs. Fore-, Mid-, and Hindlegs. Each leg has 3 segments. Femur (upper segment), Tibia (mid segment), and Tarsus (final segment). The tarsus ends in the Tarsal claw.
Male	Male shown with symbol ♂
Mandibles	Pair of pincer-like jaws
Median vein	Starts at the base of the wing and continue as upper side of the triangle and ends below the Rspl loop. Abbr. M
Melanic	Dark or blackish form
Membranule	A narrow, triangular area on the inside of the hindwing of true dragonflies : characteristically coloured in some species
Mesanepisternum	In Odonata, the anepisternum.
Mesepimeron	In Odonata, the area between the humeral and first lateral suture.
Mesepisternum (Mesepisterna)	1. The area of the mesopleuron anterior to the mesopleural suture ; sometimes divided into an upper mesanepisternum and a lower meskatepisternum ; the episternum of the mesothorax
Meskatepimeron (Mesepimera)	The lower division of the mesepimeron
Mesopleuron (mesopleura)	The pleuron of the mesothorax ; in winged insects , composed of basalare, subalare, mesepisternum , mesepimeron and mesotrochantin
Mesostigmal lamina	The ridge or flange on the mesostigmal plate of the anterior region of the synthorax
Mesostigmal plate	The small plate or sclerite forming the anterior and Dorsal edge of the synthorax , and

	may bear a ridge or flange (mesostigmal lamina); in the female , this plate is modified in accordance with the mole appendages as this is the contact point for tandem linkage in Zygotera
Mesothorax	The middle of the thoracic divisions.
Metepimeral carina	A keel-shaped anatomical part, ridge, or process at the bottom of the thorax side (often marked with a thin black line along the ridge line). On the Epimeron of the Metathorax (the lower rear of the thorax)
Moustache	A dark bond running across middle of front of face in Wisps (<i>Agriocnemis</i> spp) (see diagram p.26)
Multivoltine.	A multivoltine species is a species that has two or more broods of offspring per year. Multivoltine species are often short lived insects such as mosquitoes. They have a short adult lifespan and often die soon after mating. The larvae then develop quickly and multiple generations occur within a year.
Naiad	Immature stage of Odonata , larva , nymph , naiad are often used interchangeably to describe the intermediate stage of the dragonflies life (between eggs and adult)
Neck	Casual term for the prothorax
Nodus	The small kink more or less midway along the anterior, leading edge of the wing , and where the subcosta turns forward to meet the costa
Obelisking	In some perching dragonflies, the raising of the abdomen high in the air, sometimes on almost vertical position, to keep cool by presenting minimum area to the sun's rays, sometimes while still maintaining a territorial position
Ocelli	Three, simple eyes , arranged in a triangle on the Dorsal surface of the head
Occiput	Top, back of head: often diagnostic in damselflies as it bears the postocular spots
Odonata	The insect order made up of the true dragonflies (Anisoptera) and the damselflies (Zygotera): the term means 'toothed' referring to the strong mandibles of the adult
Ommatidium (ommatidia)	Compound eyes are composed of units called ommatidia (singular: ommatidium). An ommatidium contains a cluster of photoreceptor cells surrounded by support cells and pigment cells. The outer part of the ommatidium is overlaid with a transparent cornea. Each ommatidium is innervated by one axon bundle (usually consisting of 6-9 axons, depending on the number of rhabdomeres) and provides the brain with one picture element. The brain forms an image from these independent picture elements. The number of ommatidia in the eye depends upon the type of insect and ranges from just a handful to around 30 thousand in larger Anisoptera .
Ovipositor	Egg-laying apparatus in Zygotera and some Anisoptera
Peaks	Pair of cone-shapes on the upper surface of front of top of head (vertex) in some true dragonflies : diagnostic in some Skimmers (<i>Orthetrum</i>)
Pilosity	A covering of fine 'hairs' or setae
Pleural suture (mesopleural suture)	A suture on a thoracic pleuron extending from the base of the wing to the base of the coxa , separating the episternum and epimeron ; referred to as pro-, meso-, or meta pleural ridge .
Polymorphism	Two or more forms within the some species
Postclypeus	Upward-facing area (top of 'nose') (in damselflies) or forward-facing area of the face above the anteclypeus and below the frons
Postnodal	Beyond the nodus . Usually referring to cross-vein(s) Abbr. Px.
Postnodal cross-vein(s)	Cross-vein(s) beyond the nodus Abbr. Px.
Postocular spots	Light-coloured spots on top of the head in some damselflies: diagnostic in Sprites (Pseudagrion)
Prothorax	Small, first segment of thorax bearing first pair of legs but no wings , casually referred to as the ' neck ' (the anterior segment of the thorax of an insect)
Pruinescence	Waxy, whitish bloom on the body of many adult (especially male) dragonflies; in some species it may cover almost the whole body, and often increases in intensity and extent with age so that some old individuals appear powdery. In insects, a "bloom" caused by wax particles on top of an insect's cuticle that covers up the underlying coloration, giving a dusty or frosted appearance. The pruinescence is commonly white to pale blue in colour, but can also be grey, pink, purple, or red; these colours may be produced by Tyndall scattering of light. When pale in colour, pruinescence often strongly reflects ultraviolet .
Pruinose	Having pruinescence
Pterostigma(s)	Pigmented cell near the tip and at the leading edge of all four wings : it is thicker and stronger than the surrounding wing , and influences movement of the wing during flight. Abbr. Pt.
Px	Abbreviation for the cross-vein(s) beyond the nodus
Radial veins	Veins radiating out below the costal- and subcostal vein. Abbreviated 'R' and referred to as R2, R3, R4 and R5 in sequence from the costal- and subcostal vein.
Radial Supplement	Abbr. Rspl
Radius	Third main vein from the anterior edge of the wing
Saddle	Light- or bright-coloured patch on the upper part of the base of the abdomen : diagnostic feature in some Hawkets (<i>Aeshnidae</i>). Also a term used more widely for a dorsal , saddle-

	shaped patch anywhere on the body
Sclerites	Exoskeleton body plates
Secondary genitalia	Accessory genitalia of male damselflies and dragonflies on segments 2 and 3 of the abdomen : important in the identification of many male dragonflies
S(egment)s	An Abbreviation for abdominal segments . There are ten, with S 1 being adjacent to the abdomen end S 10 being the last and bearing the appendages . Abbr. S
Setae	Fine 'hairs'
Semivoltine	(adjective) referring to organisms whose generation time is more than one year (Voltism)
Setose	With many fine 'hair"; downy
Shoulder	Upper, dorsal area of thorax
Smoky	When wings are yellowish or brownish, especially with increasing age
Spectacled	Having the shape of spectacles or glasses: important diagnostic feature of the frons in Skimmers (Orthetrum)
Sternite	One of the plates on the underside of the thorax or abdomen
Subcosta	Second main vein from the anterior edge of the wing , running from wing base to nodus
Subnodus	The veins running towards the back of the wing immediately behind the nodus
Superior appendages	Terminal, upper appendages of the primary genitalia (appendages) (cerci) on the last abdominal segment: they are important in the identification of many damselflies in particular Found on Anisoptera and Zygoptera
Suturallines	Sutures highlighted in a dark colour against a light background
Sutures	Lines of fusion of the skeletal plates of the thorax
Sympatric	Living in the same habitat in the same geographical area
Synoptic	As pertaining to keys, a summary of all characters, rather than a selection of characters used in the more familiar binary keys
Synthorax	Bulk of the thorax , made up of the last two thoracic segments , bearing both pairs of wings and the last two pairs of legs
Tandem linkage	Clasping of the female by the male's appendages but the pair are not in genital contact
Tarsus (tarsal)	Terminal segment of the leg
Tarsal claw	Claw carried on the final tarsal segment of an insect. There may be more than one claw on each tarsus .
Taxonomy	The classification of organisms
Teneral	Freshly-emerged young adult that has a still-soft body. Males in particular have not yet developed the characteristic colours of the mature adult and are often very similar to females in colour patterning. Tenerals often move away from the water to mature.
Thorax	Thick, middle section of the body consisting principally of large muscles for the wings and legs: it is composed of a small, anterior prothorax , and a much larger synthorax
Thorax front	Dorsal , flattish area of the synthorax between the neck and the wing bases
Tibia	Middle segment of leg, between the tarsus and the femur .
Tornus	Pointed, back and inside area of the hindwing in some Anisoptera
Triangle	Discoidal cell of Anisoptera
True dragonfly	A general term for a dragonfly (Anisoptera) (Order ODONATA (Fabricius, 1793), Suborder ANISOPTERA (Selys, 1854). Damselflies (Suborder ZYGOPTERA (Selys, 1854)) are not regarded as true dragonflies .
Uncrossed	Opposite of 'crossed'; refers to a character state where there is no cross-vein in the discoidal cell
Univoltine	(adjective) referring to organisms having one brood or generation per year (Multivoltism)
Vertex	Frontal, top of head: casually referred to, at least in part, as the 'forehead'
Vertebrate	An animal of a large group distinguished by the possession of a backbone or spinal column, including mammals, birds, reptiles, amphibians, and fishes.
Voltinism	Voltinism is a term used in biology to indicate the number of broods or generations of an organism in a year. The term is most often applied to insects, and is particularly in use in Odonata where species vary in their voltinism. Univoltine – (adjective) referring to organisms having one brood or generation per year Bivoltine – (adjective) referring to organisms having two broods or generations per year Multivoltine – (adjective) referring to organisms having more than two broods or generations per year Semivoltine – (adjective) referring to organisms whose generation time is more than one year
Vulvar scale	Modified posterior margin of eighth sternite of the female
Wings	Large structures enabling dispersal and prey capture in adults: there are two pairs, the first pair being the forewings and the second pair the hindwings
Waist	Narrowing of the abdomen at segment 3 in some true dragonflies
Zygoptera	The group of species comprising the damselflies