

Les descriptions originales des Odonates d'Europe

8. Leach, William Elford (1790-1836)

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Résumé : Ce huitième article est consacré à William Elford Leach (1790-1836) qui décrit plusieurs genres et espèces, dont les genres *Cordulia*, *Cordulegaster*, *Gomphus*, *Anax* avec l'espèce *imperator*, *Lestes* et *Calepteryx*.

Summary : The original descriptions of European Odonata. 8. Leach, William Elford (1790-1836)

This eighth article is devoted to William Elford Leach (1790-1836), who described several genera and species, among them the genera *Cordulia*, *Cordulegaster*, *Gomphus*, *Anax* with the *imperator* species, *Lestes* and *Calopteryx*.

Né à Plymouth, le Dr Leach est mort du choléra, en Italie à Tortona.

Parmi la vingtaine d'écrits de cet entomologiste, un seul intéresse les odonatologistes : c'est l'article *Entomology* paru en 1815 dans la *Brewster's Edinburgh Encyclopaedia* T. 9 (1) aux pages 57 à 172 avec deux planches gravées.

Dans cet article il examine la Tribu des Libellulides aux pages 136 et 137, décrivant les genres *Cordulia*, *Cordulegaster*, *Gomphus*, *Anax* avec l'espèce *imperator*, *Lestes* et *Calepteryx*.

Nous reproduisons le début de l'article *Entomology* de la première partie du tome 9 de la *Brewster's Edinburgh Encyclopaedia* et les pages 136 et 137.



En raison du format original de cette revue, nous avons réduit les trois pages à environ 80% afin qu'elles puissent être insérées dans *Martinia*.

M S S

ENTOMOLOGY.

Entomology.
Definition.

ENTOMOLOGY, from *ἔντομα*, an insect, and *λόγος*, a discourse; the science which treats of insects, a class of animals, which were formerly arranged, along with CRUSTACEA and ARACHNIDES, under the general denomination of insects (INSECTA), which, as we have already shown under the article CRUSTACEOLOGY, are now universally allowed to be distinct. The word *ἔντομα* is derived from *ἐν*, into, and *τέμνω*, to cut; and *insectum* has a similar root, from *in*, into, and *seco*, to cut, because insects are divided into numerous segments, or from their being generally almost divided into two parts, which are merely attached to each other by a slender thread. The former term was made use of by Aristotle, who lived about 500 years before the Christian era, and seems to have been known much earlier than his time. It is defined by him to signify an animal which, by incisions, is severed into two or more parts. The latter word, *insectum*, is adopted by Pliny, and was in use among the Latins long before his time, and we find it applied in the same sense as the *ἔντομα* of Aristotle.

Importance
of the sci-
ence.

As the animals of this class constitute the most considerable portion of animated beings, it becomes one of the most interesting and important sciences which can engage the mind of the philosopher. The extreme difficulty of discriminating the characters and particular affinities of these beings, arising from their number and variety of form, in addition to their minuteness, more strongly claims his consideration. He who neglects the study of insects, or thinks it beneath his notice, cannot deserve our respect, as a general observer of nature, nor be considered a scientific naturalist. The views of such a man will be partial, and his inquiries circumscribed; he regards only an inconsiderable portion of animated nature; and he confines his remarks to such as, from their size and distinctness of character, present the least obstacle to investigation. In the study of entomology, the man of science will find abundant scope for the exercise of his zeal. The amazing number of species; their curious forms, so infinitely varied, and yet so nearly and gradually approximating through an endless series of transitions into one species to another; the diversity of structure observable in those parts which afford generic characters, added to the wonderful changes in form which they undergo, with their surprizing economy,—are circumstances which contribute to render them objects of most curious speculation to the philosopher. And although the study of every class of animals is most indisputably attended with peculiar advantages, yet we shall venture to affirm, that it is from a knowledge of the characters, metamorphoses, and various modes of life, these little animals are destined to pursue, that he will obtain a more intimate acquaintance with the great laws of nature, and veneration for the Great Creator of all, than can be derived from the contemplation of any other class in nature. Many other attractions accompany the study of this department of science. The beauty of insects in general, renders them engaging to many who have neither time nor inclination for studying their more complicated structure; and the gaiety of their colours, often combined with the most graceful forms, displays a beauty, splendour, and vivacity, greater than that bestowed by the hand of Nature on any of her other works. One

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defect in appearance must indeed be conceded; and this may be regarded, in point of beauty, a material defect; they are not always so considerable in magnitude as to become, even with these embellishments, so strikingly attractive. Were they equal in size to the smallest birds, their elegance would render them more inviting in the eyes of mankind in general; but, even amongst the minor species, when examined with a microscope, we find their beauty and elegance far superior to that of any other class in nature. "After a minute and attentive examination," says Swammerdam, "of the nature and structure of the smaller as well as the larger animals, I cannot but allow an equal, if not superior, degree of dignity to the former. If, whilst we dissect with care the larger animals, we are filled with wonder at the elegant disposition of parts, to what a height is our astonishment raised, when we discover these parts arranged in the least in the same regular manner!"

Entomology.

Insects may be divided into two kinds; those which are immediately or remotely beneficial or injurious to mankind. Many insects certainly seem not to affect us in any manner; others, and by far the greater number, most assuredly fall under one or the other denomination, and surely on this account demand our most serious attention; but, lest our allusion to the utility of some insects should seem hypothetical to the superficial observer, whilst the noxious effects of others are too obvious to admit of doubt, we shall be more explicit in this observation. The depredations of insects upon vegetable bodies, are often detrimental; but it must be remembered, that in these ravages they often repay the injury they commit. The locust, the most destructive of all insects, whose numbers spread desolation through the vegetable world, are not (except on some occasions when their multiplication exceeds all bounds) unproductive of advantage. Although they deprive mankind of a certain portion of their vegetable food, yet, in return, their bodies afford nutriment of a wholesome and palatable kind, and in much greater abundance. The various species of locusts are the common food on which the inhabitants of many parts of the world subsist at particular seasons. The honey of bees, in many warm climates, constitutes another primary article of food. The caterpillars of several moths furnish materials for the silken raiment so universally worn by all ranks in the eastern parts of the world; and hence, in these countries, the silky produce of these industrious little animals is of as much use as the fleecy coat of the sheep is to us. As an object of traffic, silk is one of the utmost importance in China and Tartary; and, in those parts, paper is manufactured from the refuse of the same material. The extensive use of wax in all ages, is well known; but it is less generally understood that all wax is not produced by the bee alone; the wax-insect of China is a very distinct animal: (See CICADA, *Index*; and Donovan's *Insects of China*). Some insects are used with success in medicine; and many others (the cochineal, for instance,) are rendered useful in the arts: and greater numbers might perhaps also be employed for the same purposes. These few, out of a vast many more instances, are sufficient to prove the absurdity of an opinion very prevalent, "that insects are too insignificant to deserve the attention of

Uses of
entomology.

Metabolia.

Characters of the Order.

Wings much deflexed, with strong nervures, hispid or hairy, the lower wings plicate. Antennæ inserted between the eyes, often very long, composed of an infinity of joints. Feet elongate, spinulose. Tarsi elongate, five-jointed; the last joint with two small nails.

Larva elongate, agile, somewhat cylindrical, composed of twelve joints, the three first harder than the rest, and each bearing a pair of feet; the last segment with two hooked processes. It inhabits tubes constructed of sand, bits of wood, stone, or grass, glued together by a cement impenetrable to water.

Pupa somewhat resembling the perfect insect, shut up in the tube it lived in whilst a larva, but having the power of motion prior to its emerging from the water (in which it resides), for the purpose of changing into the fly-state.

GENUS I. PHRYGANEÆ. Linn. Fabr. Geoff. Latreille.

Obs. This genus Dr Leach has divided into several genera, from the proportion of the antennæ and palpi. We shall give as many examples as we can; but we must refer to a work which he is about to publish, entitled *Trichoptera Systematica*, for a more particular account, and for the characters of these genera, and of others named, 1. *Ceruclea*, 2. *Gœra*, 3. *Potonaria*, 4. *Protoponia*, 5. *Chimarra*, 6. *Tinodes*, 7. *Philopotamus*, and 8. *Neuronia*.

TRIBE I. LEPTOCERIDES.

Antennæ much longer than the whole body.

GENUS CCCCLXXV. LEPTOCERUS. Leach's MSS.

Antennæ simple, not denticulated.

Sp. 1. *Interruptus*.

Phryganea interrupta. Fabricius.

Leptocerus interruptus. Leach's MSS.

Inhabits Great Britain. It is found in great plenty near Luss, on the banks of Loch Lomond, on the margins of rivulets at Dreghorn near Edinburgh, and near Carlisle in northern England. It occurs during the day time on the smaller branches of trees, and in the afternoon flies about in great abundance, in flocks.

GENUS CCCCLXXVI. ODONTOCERUM. Leach's MSS.

Antennæ with their inner edge denticulated.

Sp. 1. *Griseum*.

Odontocerus griseum. Leach's MSS.

Inhabits Ireland and England. It is common at Duntough Gap, near Killarny; and near Carlisle, on the banks of the Eden river. It has likewise been taken in Norfolk by Mr Scales, near Cheltenham, and near Plymouth, by Dr Leach.

TRIBE II. PHRYGANIDES.

Antennæ as long as the body.

GENUS CCCCLXXVII. PHRYGANEÆ. Leach's MSS.

Anterior wings soft, villose.

Sp. 1. *Grandis*.

Phryganea grandis. Linn. Fabr. Latr.

Inhabits Europe.

GENUS CCCCLXXVIII. LIMNEPHILUS. Leach's MSS.

Anterior wings slightly coriaceous, nervures hispid or hairy.

Sp. 1. *Rhombicus*.

Phryganea rhombica. Linn.

Limnephilus rhombicus. Leach's MSS.

Inhabits Europe.

475. LEPTOCERUS.
Interruptus.476. ODONTOCERUM.
Griseum.477. PHRYGANEÆ.
Grandis.

478. LIMNEPHILUS.

Rhombicus.

Metabolia.

ORDER XIII. NEUROPTERA.

Order NEUROPTERA. Linn. Latr. Lam. Cuvier.

Class ODONATA. Fabricius.

Class SYNISTATA. Fabricius.

Wings four, naked, reticulated, and divided into a vast number of areolæ.

SECT. I. SUBULICORNES.

Antennæ subulate, very short, the last joint setiform. Maxillary palpi very short. Wings extended horizontally, or erect, very much reticulated.

METAMORPHOSIS semicomplete.

LARVÆ and PUPÆ aquatic, somewhat resembling the perfect insect.

TRIBE I. LIBELLULIDES.

Tarsi three-jointed. Mandibles strong, coraceous. Maxillæ coraceous, strong. Wings equal, or the hinder ones a little larger at their base. Abdomen not terminated with setæ or filaments. Eyes very large.

FAMILY I. *Libellulida*.

Wings horizontal. Head hemispheric, with a distinct vesicle, on which the little eyes are placed in a triangle. Abdomen more or less depressed. Lip with the middle lamella smallest.

GENUS CCCCLXXIX. LIBELLULA. Linn. Fabricius, 479. LIBELLULA.

Latreille, Leach.

Posterior wings alike in both sexes.

Sp. 1. *Depressa*.

Libellula depressa. Linn. Fabr. Latr.

Sp. 2. *Conspicua*.

Libellula conspicua. Fabr. Sowerby.

Libellula quadrimaculata. Donovan.

Sp. 3. *Quadrimaculata*.

Libellula quadrimaculata. Linn. Fabr. Donovan.

Sp. 4. *Cancellata*.

Libellula cancellata. Linn. Donovan.

Inhabits Europe. Is common on the Croydon Canal, near London.

Sp. 5. *Vulgata*.

Libellula vulgata. Linn. Fabr. Donovan.

Sp. 6. *Donovani*.

Libellula Donovani. Leach.

Libellula biguttata. Donovan.

Sp. 7. *Scotica*.

Libellula Scotica. Leach, Donovan.

GENUS CCCCLXXX. CORDULEA. Leach's MSS.

LIBELLULA. Linn. Donovan. Panzer, Latreille.

Posterior wings in the male produced into an angle at the anal edge.

Sp. 1. *Ænea*.

Libellula ænea. Linn. Donovan, Panzer, Latreille.

Cordulea ænea. Leach's MSS.

FAMILY II. *Æshnides*.

Wings horizontal. Head hemispheric, without a distinct vesicle for the little eyes, which are arranged in a straight line. Abdomen cylindrical, sometimes clavate. Lip with the middle lamella not much smaller than the others.

GENUS CCCCLXXXI. CORDULEGASTER. Leach's MSS. 481. CORDULEGASTER.

LIBELLULA. Linn. Donovan.

ÆSHNA. Latreille.

Hinder wings of the male angulated at their anal

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- Metabolia.** edge. Abdomen of the male clavate, of the female with an acuminate process.
- Annulatus.** *Sp. 1. Annulatus.*
Libellula forcipata. Harris.
Aeshna annulata. Latreille.
Libellula Boltonii. Donovan.
Cordulegaster annulatus. Leach's MSS.
Inhabits Yorkshire, Devonshire, Dorsetshire, Somersetshire, and Cornwall. It likewise occurs amongst the lakes, in the north of England; amongst the Pentland hills, near Edinburgh; and on Loch Lomond and Loch Katrine.
- 482. GOMPHUS.** GENUS CCCCLXXXII. GOMPHUS. Leach's MSS.
LIBELLULA. Linn. Donovan.
Wings of the male angulated at their anal edge. Abdomen clavate in both sexes.
- Vulgatissimus.** *Sp. 1. Vulgatissimus.*
Libellula vulgatissima. Linn.
Libellula forcipata. Donovan.
Gomphus vulgatissimus. Leach's MSS.
Inhabits Europe. Is occasionally taken near London.
- 483. ÆSHNA.** GENUS CCCCLXXXIII. ÆSHNA. Fabricius.
LIBELLULA. Linn. Donovan.
Hinder wings of the male angulated at their anal edge. Abdomen cylindrical in both sexes, not clavate.
- Grandis.** *Sp. 1. Grandis.*
Libellula grandis. Linn. Donovan.
Aeshna grandis. Fabricius.
Inhabits Europe.
Obs. There are several European species, which have been confounded with *Aeshna grandis.*
- 484. ANAX.** GENUS CCCCLXXXIV. ANAX. Leach's MSS.
Hinder wings of the male not angulated at their anal edge, but resembling those of the female. Abdomen cylindrical in both sexes; not clavate.
- Imperator.** *Sp. 1. Imperator.*
Inhabits England.
- FAMILY III. Agrionida.**
- Wings erect. Head transverse. Abdomen cylindrical-linear. Ocelli, or little eyes, placed in a triangle.
- 485. AGRION.** GENUS CCCCLXXXV. AGRION. Fabr. Latreille.
LIBELLULA. Linn.
Wings membranaceous, with a rhomboidal stigma. Abdomen of the male not armed with a forceps-like appendage.
Obs. We have of this genus several indigenous species, not accurately determined.
- 486. LESTES.** GENUS CCCCLXXXVI. LESTES. Leach.
Wings membranaceous, with an oblong quadrate stigma. Abdomen of the male armed with a forceps-like appendage.
Obs. We have three indigenous species.
- 487. CALEPTERYX.** GENUS CCCCLXXXVII. CALEPTERYX. Leach's MSS.
AGRION. Fabricius Latreille.
Wings coriaceous-membranaceous, without a real stigma, in place of which is sometimes an irregular opaque spot. Abdomen of the male furnished with a forceps-like appendage.
Obs. This genus comprehends those *Agrionida* with coloured wings.
- TRIBE II. EPHEMERIDES.**
- Tarsi four-jointed. Mouth not distinct. Inferior wings much smaller than the others, sometimes wanting. Abdomen with the extremity furnished with filaments. METAMORPHOSIS quadruple.
- FAMILY I. Bæctida.**
- Tail with two filaments.
- GENUS CCCCLXXXVIII. BÆCTIS. Leach's MSS. **488. BÆCTIS.**
EPHEMERA. Linn. Fabricius, Latreille.
Wings four.
- Sp. 1. Bioculatus.*
Ephemera bioculata. Linn. Fabr.
Bæctis bioculatus. Leach's MSS.
Inhabits Europe.
- GENUS CCCCLXXXIX. CLOEON. Leach. **489. CLOEON.**
EPHEMERA. Linn. Fabricius.
Wings two.
- Sp. 1. Pallida.*
Ephemera diptera. Linn. Fabr.
Clœon pallida. Leach's MSS. **Pallida.**
- FAMILY II. Ephemerida.**
- Tail with three filaments.
- GENUS CCCXC. EPHEMERA. Linn. Fabr. Latr. **490. EPHEMERA.**
Leach. **Vulgata.**
Sp. 1. Vulgata.
Ephemera vulgata. Linn. Fabr.
Inhabits Europe.
- SECT. II. FILICORNES.**
- Antennæ longer than the head, not subulate. Wings generally deflexed, or incumbent.
- TRIBE I. PANORPIDES.**
- Head anteriorly produced into a rostrum.
- FAMILY I. Physopida.**
- Wings extended, unequal, anterior ones somewhat triangulate-rounded, the hinder ones very long, linear. Ocelli none.
- GENUS CCCXCII. PHYSAPUS. **491. PHYSAPUS.**
PANORPA. Linn. Fabricius.
NEMOPTERA. Latreille. **Coa.**
Sp. 1. Coa.
Panorpa coa. Linn. Fabr.
Nemoptera coa. Latreille.
Inhabits Portugal, Spain, and the islands of the Archipelago.
- FAMILY II. Panorpidia.**
- Wings equal, ovate-elliptic, laying one over the other. Ocelli three, approximate, arranged in a triangle.
- GENUS CCCXCIII. PANORPA. Linn. Fabr. Lam. **492. PANORPA.**
Latr.
Tarsi with two bent claws, denticulated beneath, having a spongy pulvillus between them. Palpi nearly equal, filiform; the last joint cylindrical-ovate. Mandibles with their points distinctly bidentate. Abdomen of the male with the three last joints forming a tail armed with a forceps.
- Sp. 1. Communis.*
Panorpa communis. Linn. Fabr. Latr. Panz.
Inhabits Europe.
- GENUS CCCXCIII. BITTACUS. Latreille. **493. BITTACUS.**
PANORPA. Linn. Fabr.
Tarsi with a single nail. Palpi of the maxillæ distinctly longer than the labial ones; the second and third joint much lengthened, thicker: labial palpi with two elongate cylindrical joints. Mandibles very long, narrow; apex acute, entire. Abdomen cylindrical, that of the male not terminated with a forceps. Legs long.
- Sp. 1. Tipularius.* Obscure reddish; wings imma- **Tipularius.**