Lacewings and their Allies

Part 1

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Introduction

- Part 1 of 2 on the identification of British Isles Lacewings and their Allies
- Introduction to Lacewings and their Allies
- How to identify species from images and in the field
- How to submit records

Lacewings and Allies

Closely related:

- **Neuroptera** (Lacewings)
- **Raphidioptera** (Snakeflies)
- **Megaloptera** (Alderflies, Dobsonflies, Fishflies)

Distantly related:

- **Mecoptera** (Scorpionflies, Snow Fleas)

Global Diversity:

- **Neuroptera**: 5917 species, 16 families
- **Raphidioptera**: 260 species, 2 families
- **Megaloptera**: 300 species, 2 families
- **Mecoptera**: 570 species, 9 families

British Isles Lacewings and Allies

Neuroptera (Lacewings, Antlions, etc.)


Charles J. Sharp (CC BY-SA- 4.0)


Ole Fogh Nielsen (CC BY-4.0)

- Four membranous wings, usually all the same size
- Wings with dense intricate pattern of veins
- Wings held tent-like over body
- Large Eyes
- Long antennae
- Delicate insects


Ole Fogh Nielsen (CC BY-4.0)

Raphidioptera (Snakeflies)

- Four membranous wings, same size
- Relatively dense wing venation
- Wings held tent-like over body

- Large Eyes
- Elongate pronotum
- Long needle-like ovipositor
- Delicate insects

Megaloptera (Alderflies)

- Four dark-coloured wings, all same size
- Relatively dense venation on wings
- Wings held tent-like over body

- Long antennae
- Large eyes
- Broad head
- Robust insects

Mecoptera (Scorpionflies and Snow Fleas)


R. Bartz (CC BY-SA-2.5)


Algirdas (CC BY-3.0)


G. S. Martin (CC BY SA 2.0)

- Four membranous often patterned wings (Scorpionflies), reduced (Snow Fleas)
- Face modified into a ‘beak’
- Long antennae
- Large eyes
- Male enlarged genital capsule, female abdomen slender (Scorpionflies)
- Female long ovipositor (Snow Fleas)

Neuroptera (Lacewings)

6 families 72 species

CONIOPTERYGIDAE (Waxflies)

- ***Conwentzia pineticola*** Enderlein, 1905
- ***Conwentzia psociformis*** (Curtis, 1834)
- ***Coniopteryx borealis*** Tjeder, 1930
- ***Coniopteryx tineiformis*** Curtis, 1834
- ***Coniopteryx pygmaea*** Enderlein, 1906
- ***Coniopteryx esbenpeterseni*** Tjeder, 1930
- ***Coniopteryx lentiae*** Aspöck & Aspöck, 1964
- ***Semidalis aleyrodiformis*** (Stephens, 1836)
- ***Semidalis pseudouncinata*** Meinander, 1963
- ***Parasemidalis fuscipennis*** (Reuter, 1894)
- ***Aleuropteryx juniperi*** Ohm, 1968
- ***Helicoconis hirtinervis*** Tjeder, 19

OSMYLIDAE (Giant Lacewings)

- ***Osmylus fulvicephalus*** (Scopoli, 1793)

SISYRIDAE (Spongeflies)

- ***Sisyra dalii*** McLachlan, 1866
- ***Sisyra nigra*** (Retizus, 1783) Syn: *Sisyra fuscata* (Fabricius, 1793)
- ***Sisyra terminalis*** Curtis, 1854

CHRYSOPIDAE (Green Lacewings)

- ***Chrysopa abbreviata*** Curtis 1834
- ***Chrysopa commata*** Kis & Újhelyi, 1965
- ***Chrysopa dorsalis*** Burmeister, 1839
- ***Chrysopa pallens*** (Rambur, 1838)
- ***Chrysopa perla*** (Linnaeus, 1758)
- ***Chrysopa phyllochoma*** Wesmael, 1841
- ***Chrysoperla carnea*** (Stephens, 1836)
- ***Chrysoperla lucasina*** (Lacroix, 1912)
- ***Chrysoperla pallida*** Henry, Brooks, Duelli, & Johnson, 2002
- ***Chrysopidia ciliata*** (Wesmael, 1842)
- ***Cunctochrysa albolineata*** (Killington, 1935)
- ***Cunctochrysa cosmia*** (Navás, 1918) Syn: Cunctochrysa bellifontensis Leraut, 1988
- ***Apertochrysa flavifrons*** (Brauer, 1850) Syn: *Dichochrysa flavifrons* (Brauer, 1850)
- ***Apertochrysa prasina*** (Burmeister, 1839) Syn: *Dichochrysa prasina* (Burmeister, 1839)
- ***Apertochrysa ventralis*** (Curtis, 1834) Syn: *Dichochrysa ventralis* (Curtis, 1834)
- ***Nineta flava*** (Scopoli, 1793)
- ***Nineta vittata*** (Wesmael, 1841)
- ***Nineta inpunctata*** (Reuter, 1894)
- ***Nineta pallida*** (Schneider, 1846)
- ***Nothochrysa capitata*** (Fabricius, 1793)
- ***Nothochrysa fulviceps*** (Stephens, 1836)
- ***Peyerimhoffina gracilis*** (Schneider, 1851)

HEMEROBIIDAE (Brown Lacewings)

- ***Psectra diptera*** (Burmeister, 1839)
- ***Micromus variegatus*** (Fabricius, 1793)
- ***Micromus angulatus*** (Stephens, 1836)
- ***Micromus paganus*** (Linnaeus, 1767)
- ***Drepanepteryx phalaenoides*** (Linnaeus, 1758)
- ***Hemerobius humulinus*** Linnaeus, 1761
- ***Hemerobius perelegans*** Stephens, 1836
- ***Hemerobius simulans*** Walker, 1853
- ***Hemerobius stigma*** Stephens, 1836
- ***Hemerobius atrifrons*** McLachlan, 1868
- ***Hemerobius pini* Stephens, 1836,** nec Leach
- ***Hemerobius contumax*** Tjeder, 1932
- ***Hemerobius striatus*** Nakahara, 1915 Syn: *Hemerobius fenestratus* Tjeder, 1932
- ***Hemerobius nitidulus*** Fabricius, 1777
- ***Hemerobius micans*** Olivier, 1792
- ***Hemerobius lutescens*** Fabricius, 1793,
- ***Hemerobius marginatus*** Stephens, 1836
- ***Hemerobius handschini*** Tjeder, 1957
- ***Wesmaelius malladai*** (Navás, 1925)
- ***Wesmaelius mortoni*** (McLachlan, 1899)
- ***Wesmaelius ravus*** (Withycombe, 1923)
- ***Wesmaelius balticus*** (Strøm, 1788)
- ***Wesmaelius nervosus*** (Fabricius, 1793)
- ***Wesmaelius subnebulosus*** (Stephens, 1836)
- ***Wesmaelius concinnus*** (Stephens, 1836)
- ***Wesmaelius quadrifasciatus*** (Reuter, 1894)
- ***Sympherobius elegans*** (Stephens, 1836)
- ***Sympherobius pygmaeus*** (Rambur, 1842)
- ***Sympherobius pellucidus*** (Walker, 1853)
- ***Sympherobius fuscescens*** (Wallengren, 1863)
- ***Sympherobius klapaleki*** Zelený, 1963
- ***Megalomus hirtus*** (Linnaeus, 1761)

MYRMELEONTIDAE (Antlions)

- ***Euroleon nostras*** (Fourcroy, 1785)
- ***Myrmeleon formicarius*** Linnaeus, 1767

Raphidioptera, Megaloptera, Mecoptera

Raphidioptera (Snakeflies) 4 species

RAPHIDIIDAE Latreille, 1810

- ***Subilla confinis*** (Stephens, 1836)
- ***Xanthostigma xanthostigma*** (Schummel, 1832)
- ***Atlantoraphidia maculicollis*** (Stephens, 1836)
- ***Phaeostigma notata*** (Fabricius, 1781) [note: some authors list as *Phaeostigma notatum*]

Megaloptera (Alderflies) 3 species

SIALIDAE Leach, 1815

- ***Sialis fuliginosa*** F.J. Pictet, 1836
- ***Sialis lutaria*** (Linnaeus, 1758)
- ***Sialis nigripes*** A.E. Pictet, 1865

Mecoptera (Scorpionflies and Snow Fleas) 4 species

BOREIDAE McLachlan 1868

- ***Boreus hyemalis*** (Linnaeus, 1767)

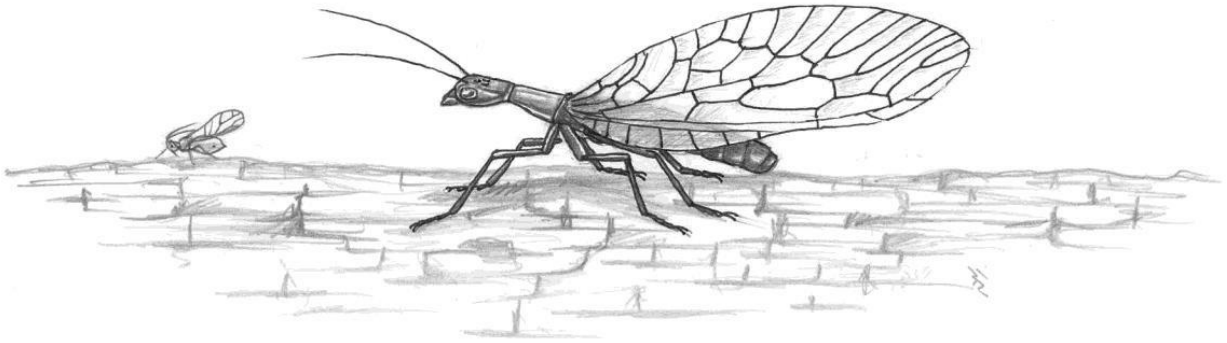
PANORPIDAE Leach, 1815

- ***Panorpa cognata*** Rambur, 1842
- ***Panorpa communis*** Linnaeus, 1758
- ***Panorpa germanica*** Linnaeus, 1758

British fossil record

- **Neuroptera:** Triassic (205 million years ago (MA)), Jurassic (150 MA), Cretaceous (140 MA) and Palaeogene (30 MA)
- **Raphidioptera:** Cretaceous (140 MA)
- No **Megaloptera** fossils
- All preserved as isolated wings
- Mostly from Dorset, Weald, and Isle of Wight

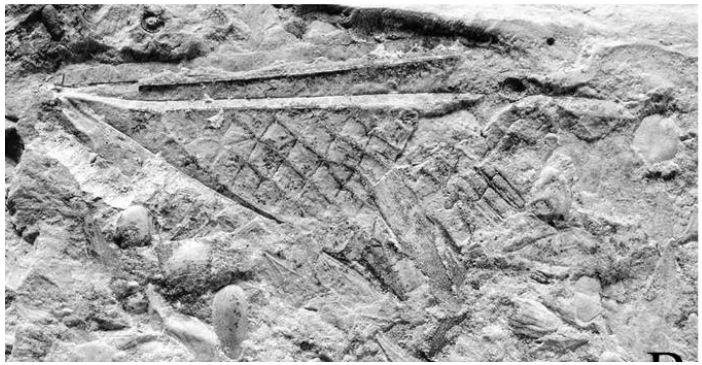
- Fossils of Chrysopidae, Osmylidae, Hemerobiidae



Cretaceous Snakefly *Proraphidia hopkinsi.* Drawing by N. Watson

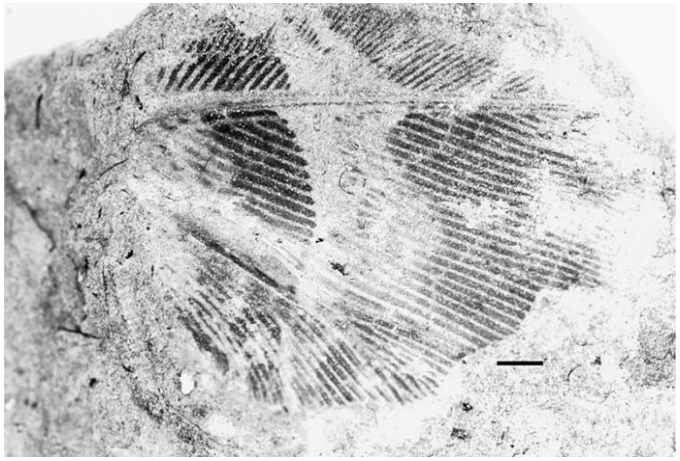
- Fossils in Britain of families alive today that are no longer present in the British Isles

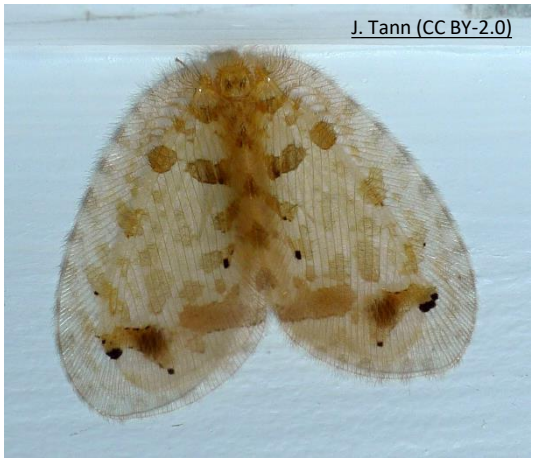
Ithonidae (Today: Nearctic, Neotropical, Australasian, Indomalayan realms)



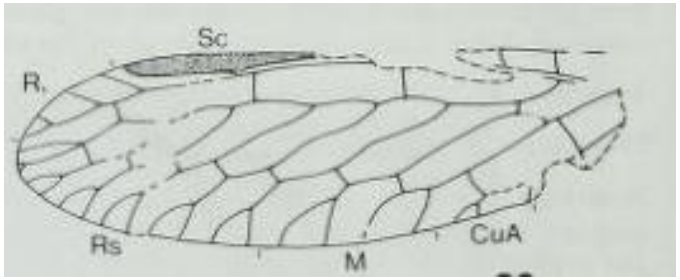
Nemopteridae (Ethiopian, Palearctic, Australasian and Neotropical realms)

Berothidae (tropical, subtropical regions)





Psychopsidae
(Afrotropical, Indomalayan, Austalasian regions)

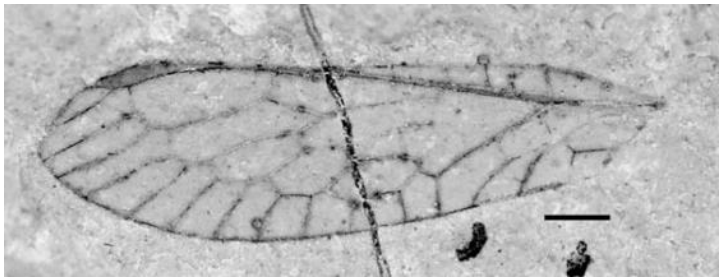


Mantispidae
(worldwide, especially tropics, subtropics)

Nymphidae
(Australia, New Guinea)

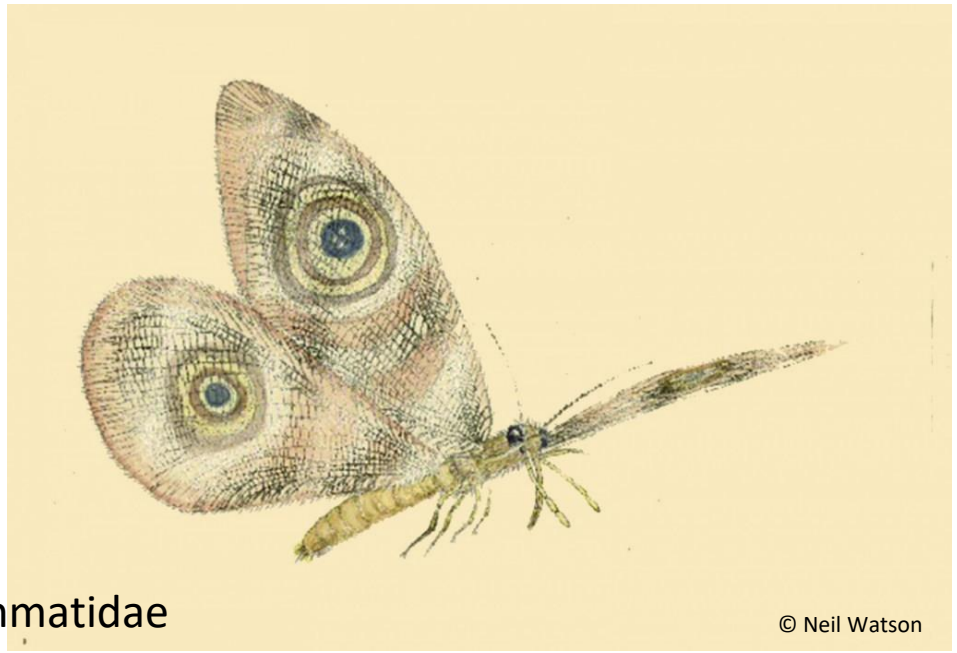
Extinct families

- Prohemerobiidae
- Kalligrammatidae
- Mesoraphidiidae (Raphidioptera)



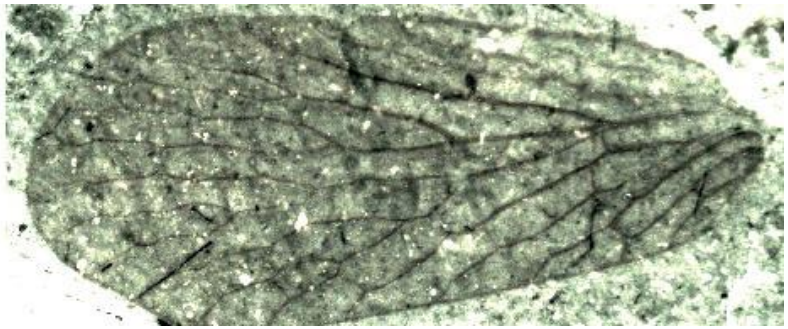
Mesoraphidiidae

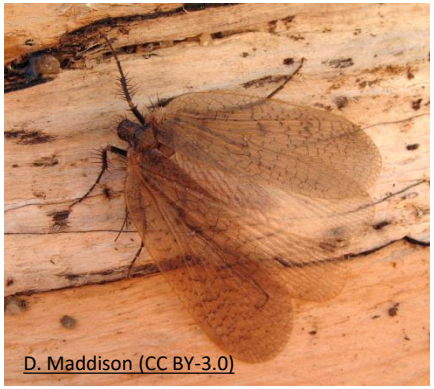
Kalligrammatidae



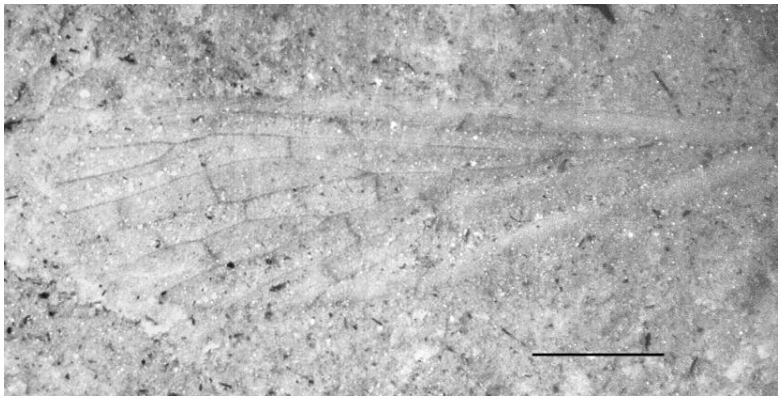
British fossil record - Mecoptera

- Known from Triassic (208 million years ago (MA)), Jurassic (150MA), Cretaceous (140MA) and Palaeogene (30MA)
- Fossil Panorpidae (Scorpionflies) are recorded
- Again, fossils in Britain of families alive today that are no longer present in the British Isles
- Extinct family: Orthophlebiidae





Eomeropidae
(one species in Chile)

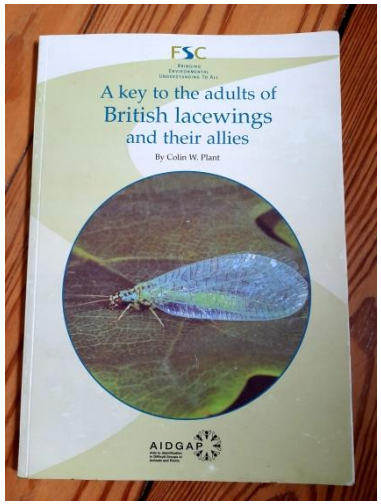


Bittacidae
(worldwide)

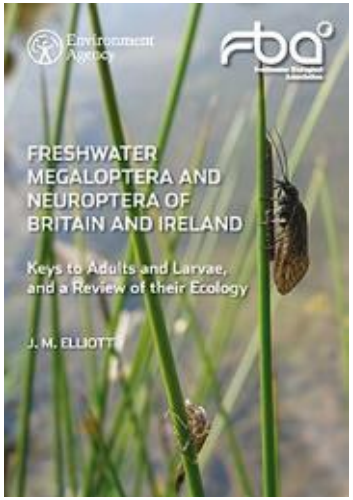
Identifying Lacewings and Allies

- Unfortunately, most species can only be identified using a microscope
- Some needing dissection
- A few species can be identified easily from photographs or in the field
- With practice, and becoming more familiar with the groups, you can start to identify more species from photographs

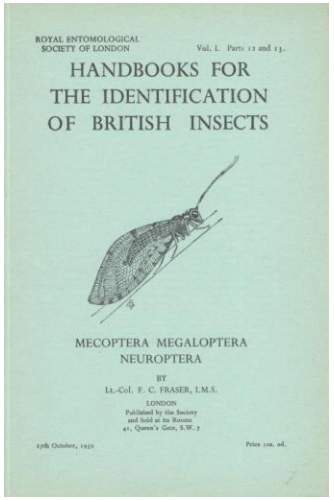
Identifying Lacewings and Allies



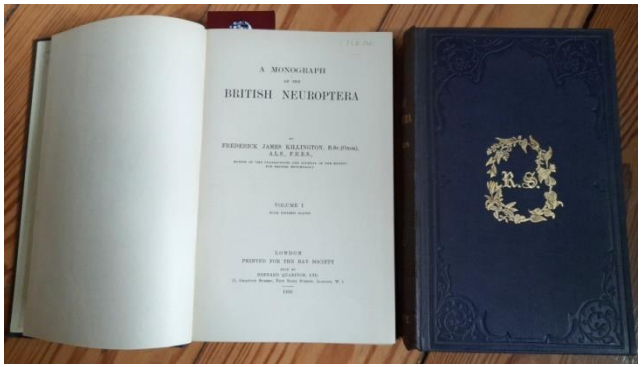
Plant, 1997



Elliot, 1996

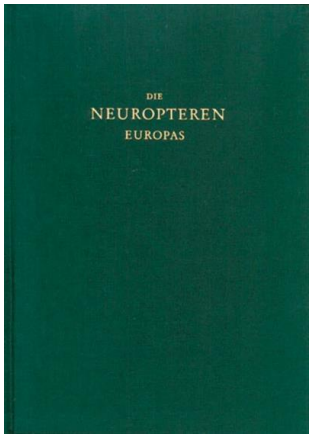


Fraser, 1959



Killington, 1936 (vol.1); 1937 (vol. 2)

German



Aspöck et al. 1980

Danish

Nielsen, 2015

Finnish

Rintala et al., 2014

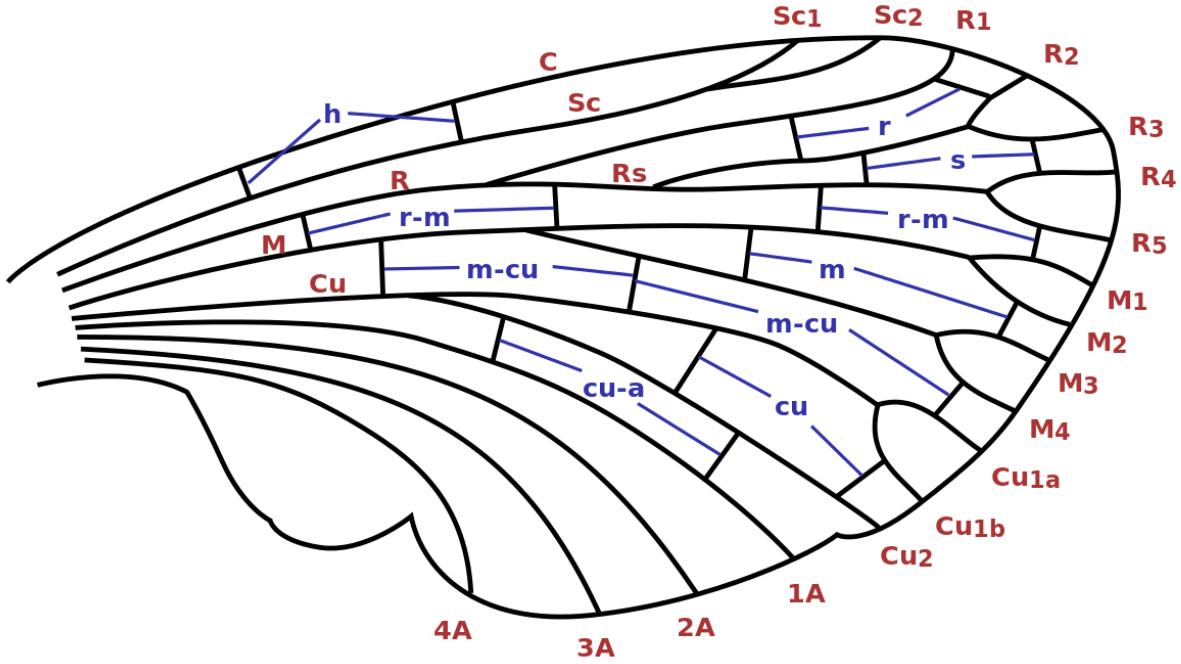
Websites:

Lacewing and Allies Recording scheme:
https://www.laars.jamesjepson.com

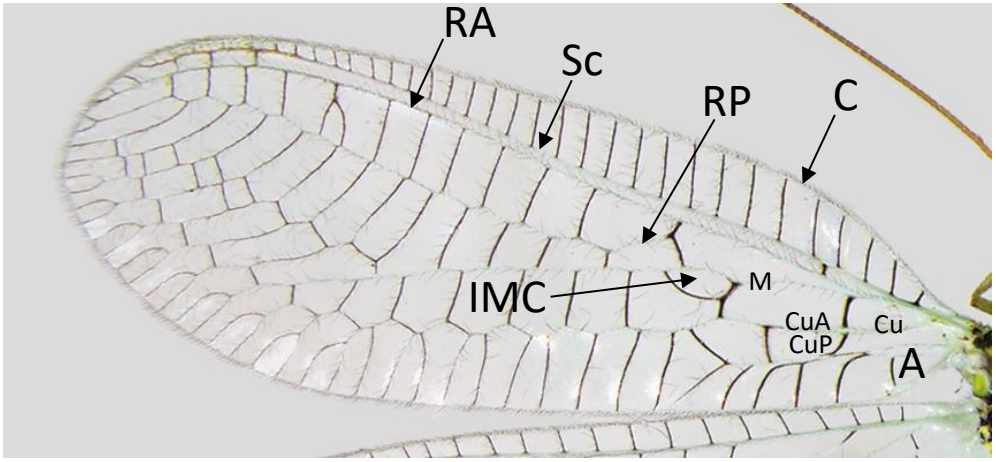
Lacewing Digital Library:
https://lacewing.tamu.edu/

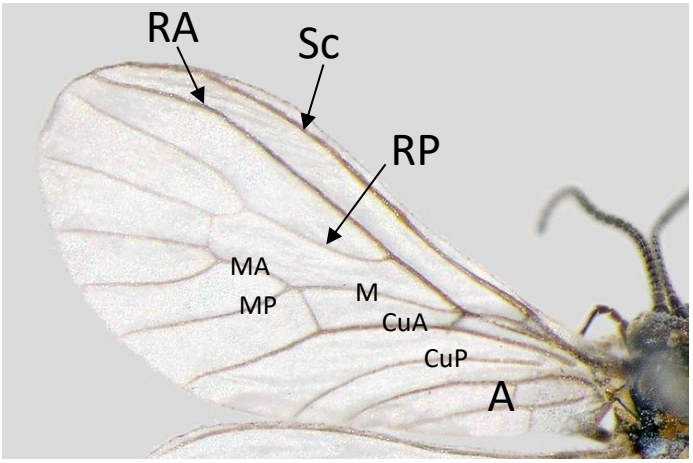
Neuropterida Norway and Nordic Countries:
https://www.artsdatabanken.no/Pages/223140/Nettvinger__mudderfluer_og_kamelhalsfluer_i

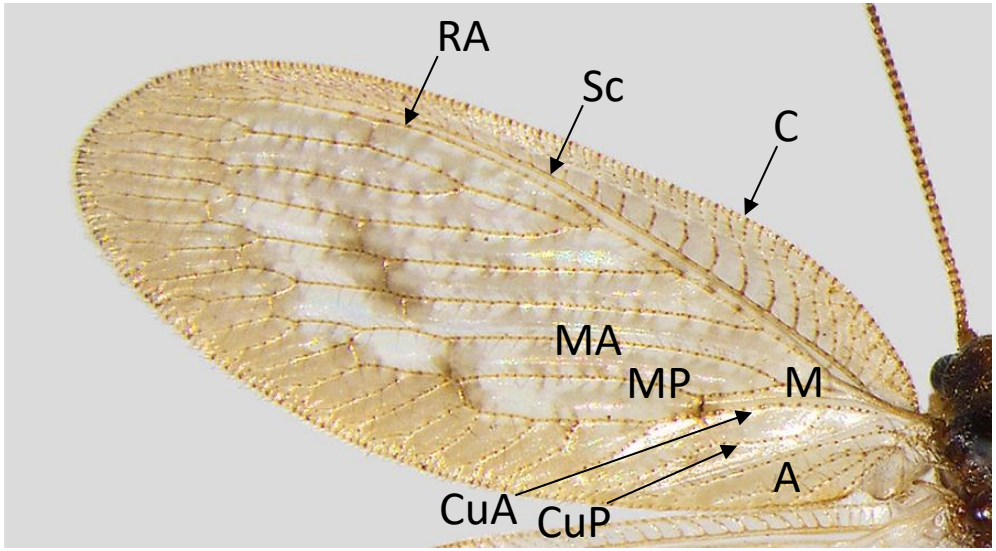
Wing venation

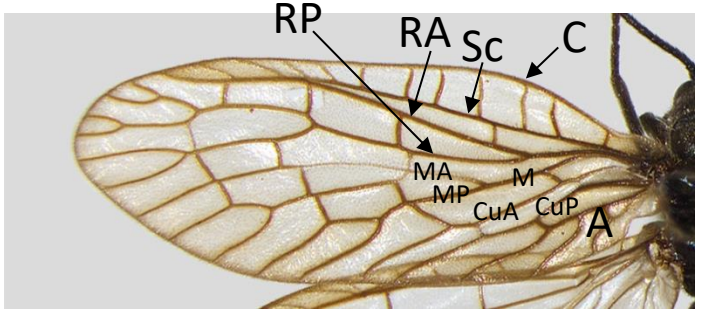


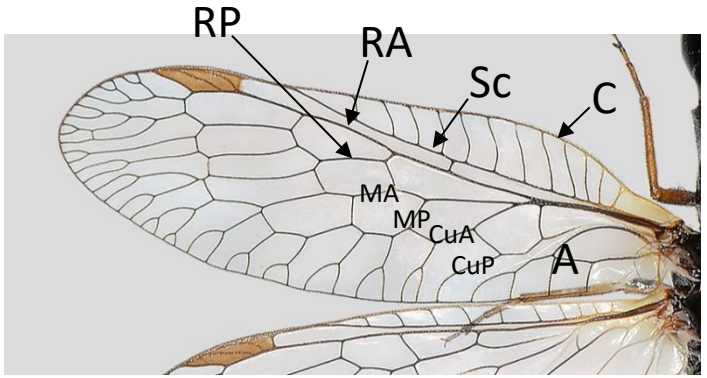
Comstock-Needham System





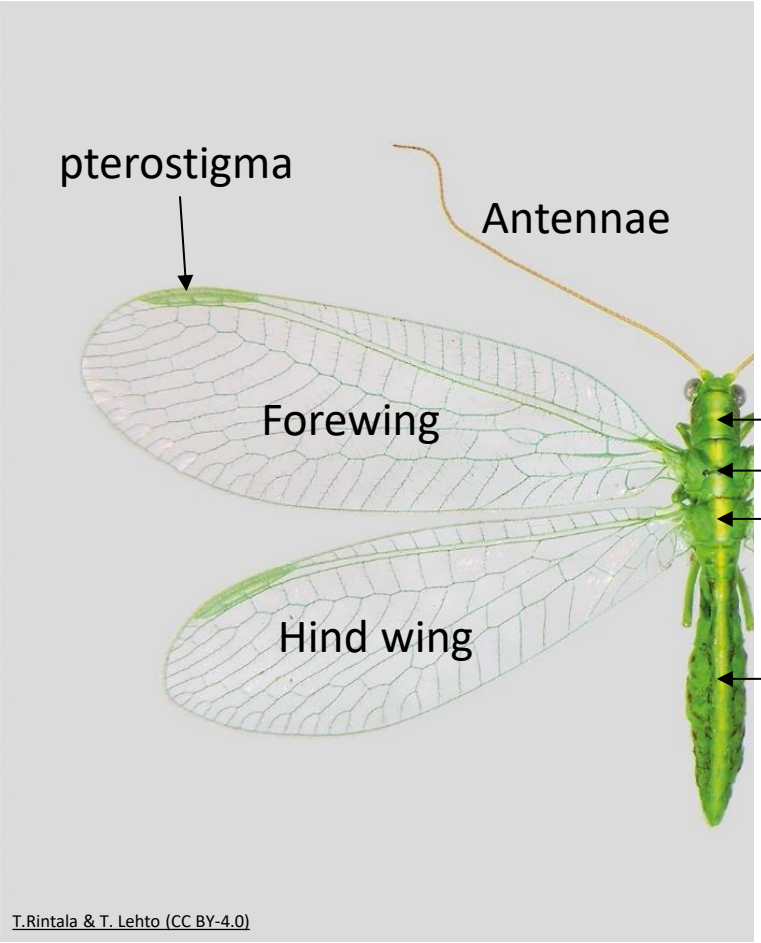


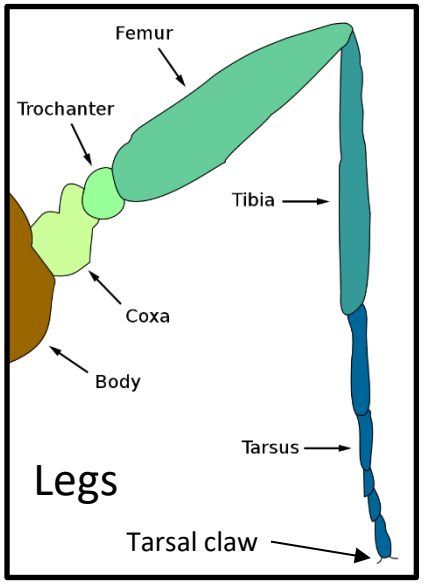


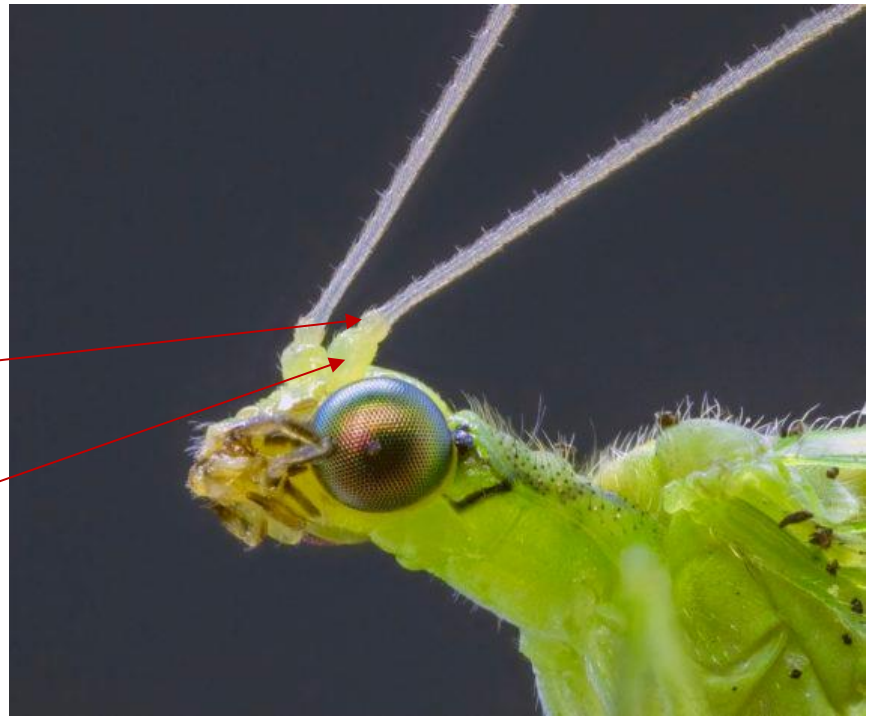


C = Costa
Sc = Subcosta
R = Radius
RA(R1) = Anterior Radius
RP(R2 or RS) = Posterior Radius (Radial sector)
M = Media
MA = Anterior Media
MP = Posterior Media
Cu = Cubitus
CuA(Cu1) = Anterior Cubitus
CuP (Cu2) = Posterior Cubitus
A = Anal veins
IMC = Intramedial Cell

Body morphology



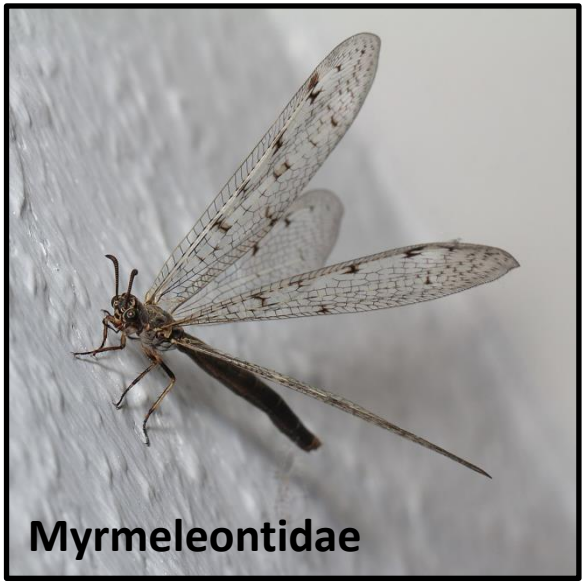


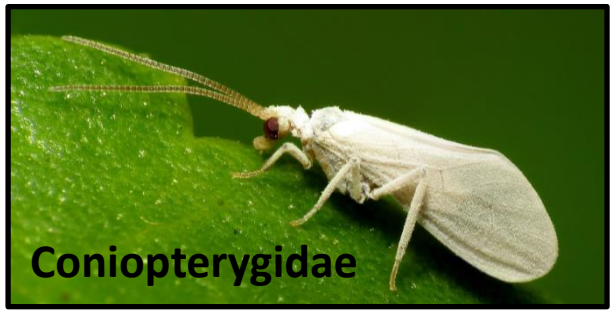


Families in the British Isles

- Raphidioptera (Snakeflies)
  - One family: Raphidiidae
- Megaloptera (Alderflies)
  - One family: Sialidae
- Mecoptera
  - Two families: Panorpidae (Scorpionflies) and Boreidae (Snow Fleas)

Neuroptera (Lacewings)





Neuroptera Family key

1a. Reduced wing venation, longitudinal veins not branched at tip, very small insects covered in wax…..**Coniopterygidae** (Waxflies)

O.Fogh Nielsen (CC BY-4.0)

T.Rintala & T. Lehto (CC BY-4.0)

1b. Dense wing venation, many crossveins, longitudinal veins often branched at tip, not covered in wax …. **2**

O.Fogh Nielsen (CC BY-4.0)

2a. Antennae short, club-like. Large insects 55-85 mm …… **Myrmeleontidae** (Antlions)

2b. Antennae long, not clubbed, small – large insects 6-55 mm …. **3**

3a. Ocelli present, clear wings with several large dark spots, antennae less than half the length of the forewing. Size 40-55 mm …….. **Osmylidae** (Giant Lacewing)

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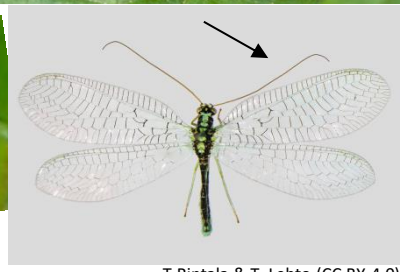
O.Fogh Nielsen (CC BY-4.0)

3b. Ocelli absent, wings various colours and patterns, Antennae at least half length of wing, often longer. Small to large insects 6-45 mm ….. **4**



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T.Rintala & T. Lehto (CC BY-4.0)

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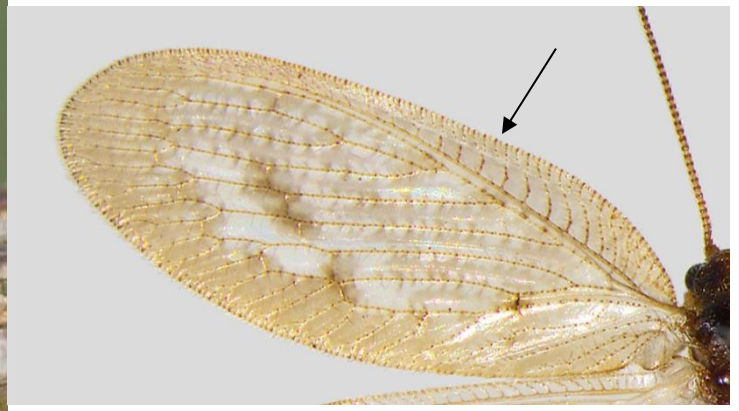
4a. Costal veinlets in forewing majority forked, wings various colours, patterns. Tiny – small insects 6-34 mm …….. **Hemerobiidae** (Brown Lacewings)



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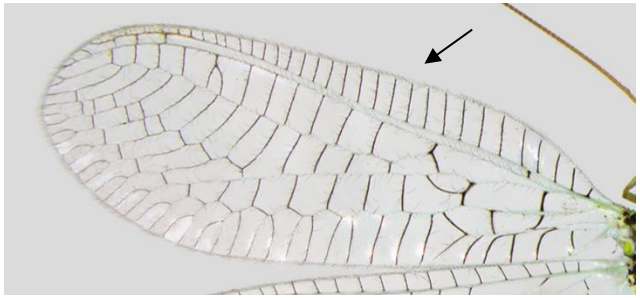
4b. Costal veinlets in forewing not forked, wings generally single coloured, occasional rare patterns. Small to large insects 11-45 mm …….. **5**



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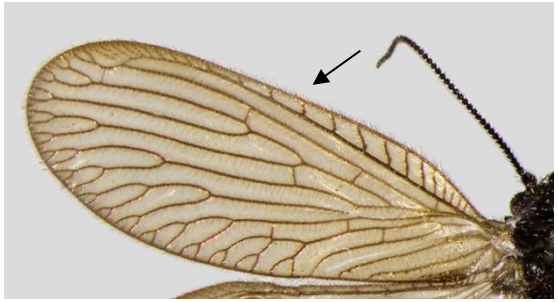

T.Rintala & T. Lehto (CC BY-4.0)

5a. Forewings ovate, uniformly coloured, one species does have rare patterns. Insects never green. Small insects 11-14 mm ……. **Sisyridae** (Sponge Flies)

5b. Forewings long, usually colourless without patterns, sometimes veins often darkened and pterostigma coloured. Often green when fresh. Medium to large insects 16-45 mm …….. **Chrysopidae** (Green Lacewings)

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Finding Lacewings and Allies

Woodland

- Coniopterygidae
- Hemerobiidae
- Chrysopidae
- Raphidioptera

Freshwater

- Sisyridae
- Osmylidae
- Megaloptera

Diverse habitats – grassland, scrub, gardens

- Chrysopidae
- Hemerobiidae
- Coniopterygidae
- Mecoptera - Scorpionflies

Sand dunes – Marram Grass

- Hemerobiidae - *Wesmaelius balticus*
- Chrysopidae - *Chrysopa abbreviata*

Sandy soil

- Myrmeleontidae

Moss

Mecoptera: *Boreus hyemalis*

Wood sage on rocky slopes

Holyrood Park, Edinburgh

Megalomus hirtus (Bordered Brown Lacewing)

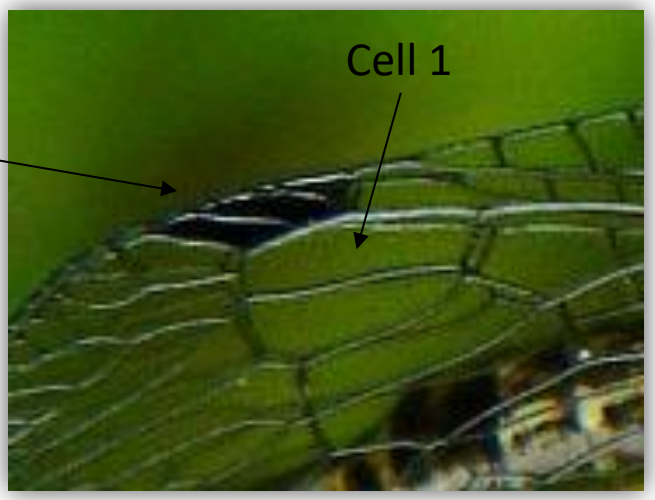
Finding Lacewings and Allies

- Sweep netting vegetation, especially in June – August is often productive
- A long-handled net can be used to sweep higher branches
- Beating accessible branches of broad-leaved and coniferous trees may also give results, especially in the early morning
- Direct searching is good for *Sialis* species that are found on waterside vegetation and *Osmylus fulvicephalus* found often under bridges
- light traps – Hemerobiidae, Chrysopidae, Coniopterygidae, occasionally Osmylidae and Sisyridae

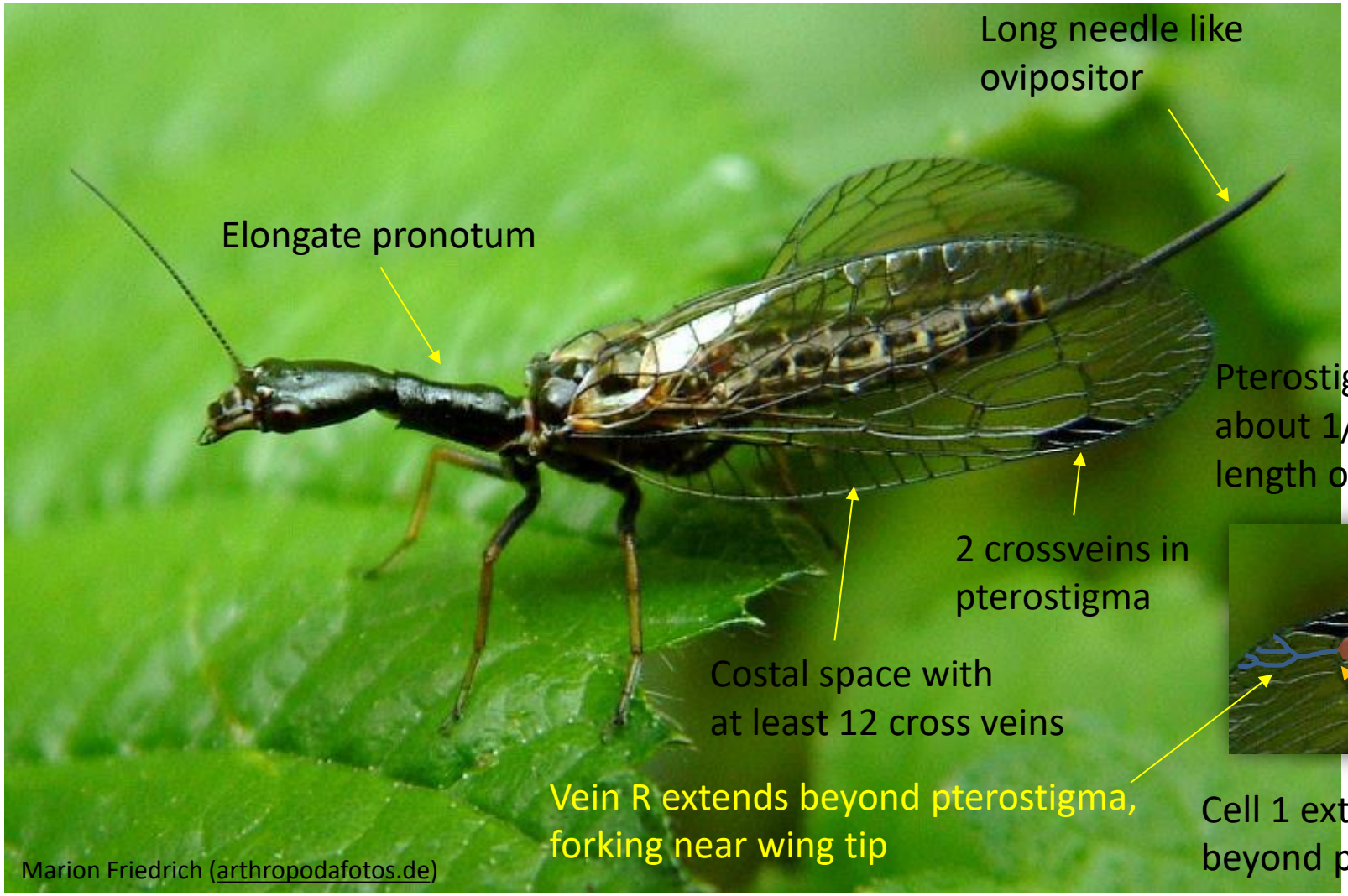
Species ID from Photos and in the Field

Raphidioptera *Snakeflies*

- All four species can be potentially identified from photographs
- Two species can confidently be identified from photographs
- Two can potentially identified by photographs, however the most diagnostic character for these is on the hind wing

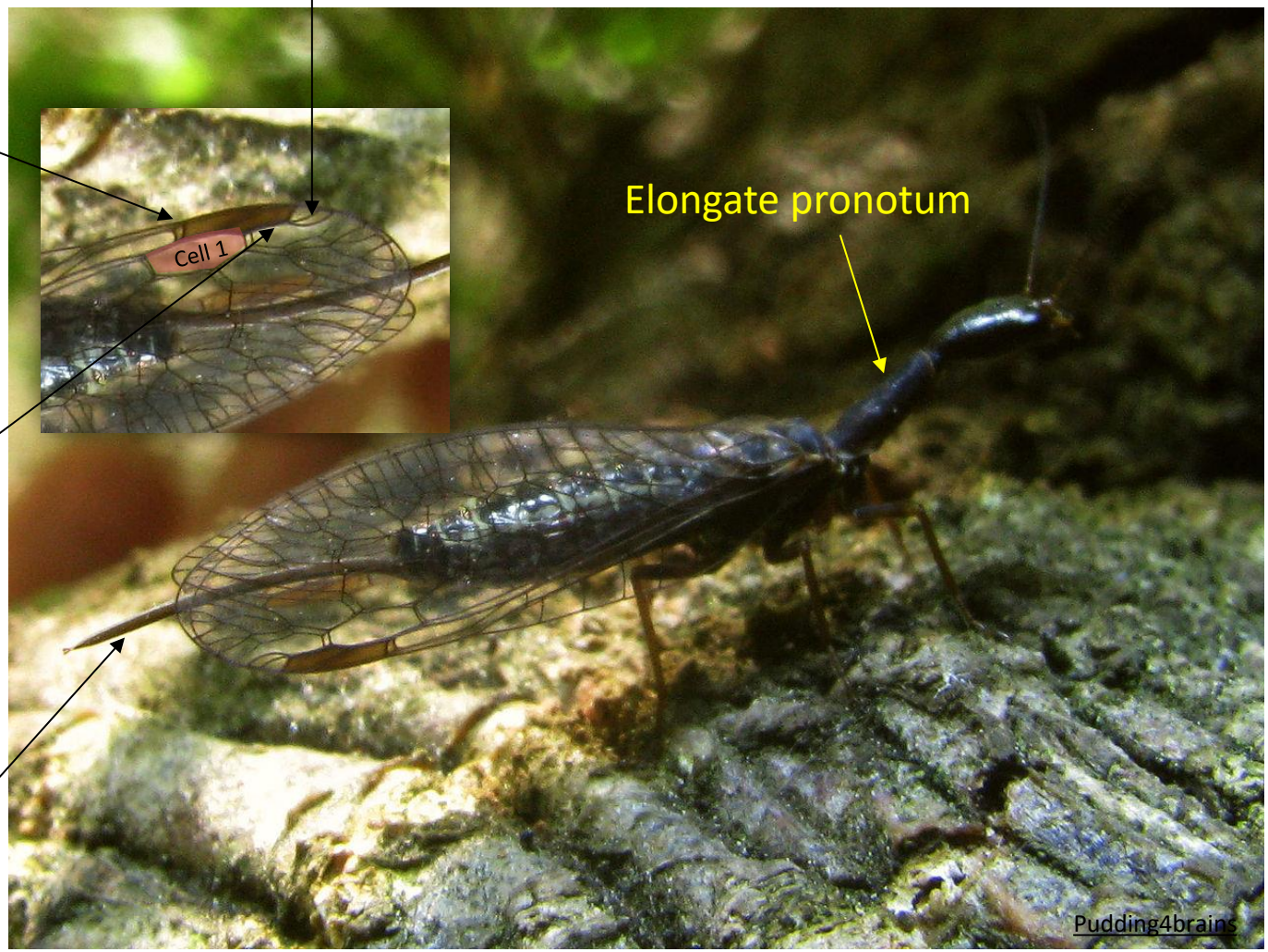


Phaeostigma notata Oak Snakefly



- Widespread in England and Wales
- Associated with Oaks

Atlantoraphidia maculicollis Pine Snakefly



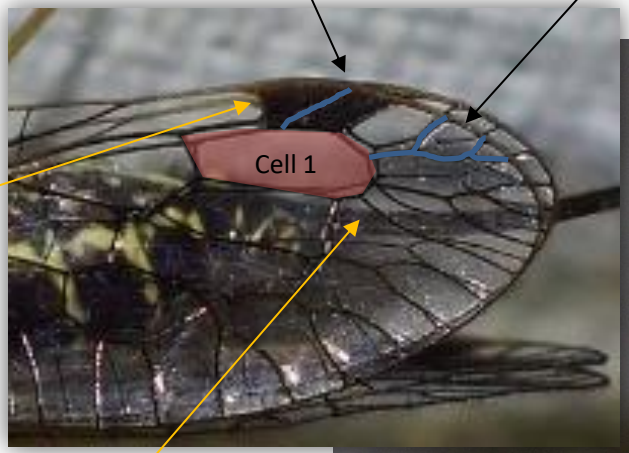
- Widespread in England, Wales, Scotland, most common in south
- Associated with Pines

Raphidia ophiopsis Northern Pine Snakefly

- Present in Fenno-Scandanavia
- Could occur in Scotland

1 crossvein in pterostigma

Vein R extends beyond pterostigma, forking near wing tip



Pterostigma starts about 1/3 – 2/3 length of cell 1 below

Cell 1 extends beyond pterostigma

Less than 10 costal crossveins

Raphidioptera *Snakeflies*

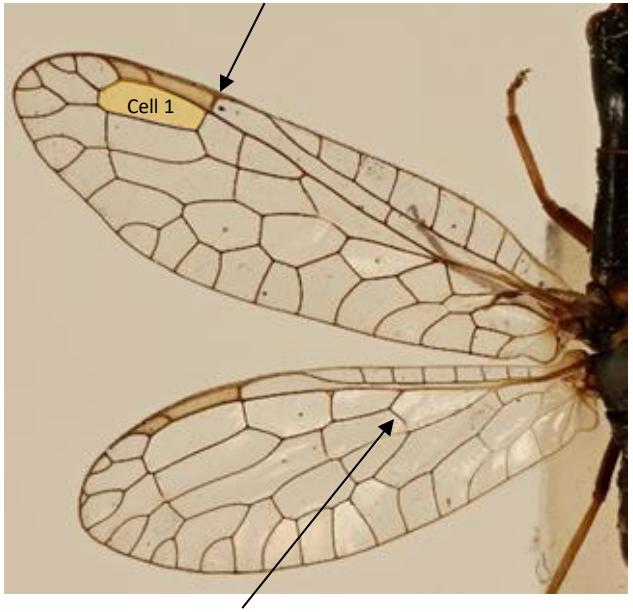
For the species *Xanthostigma xanthostigma* and *Subilla confinis*

- Hind wing venation is important to distinguish these as forewing venation is relatively similar
- There are other useful characters to identify these

Xanthostigma xanthostigma

Subilla confinis

Pterostigma as long as cell below

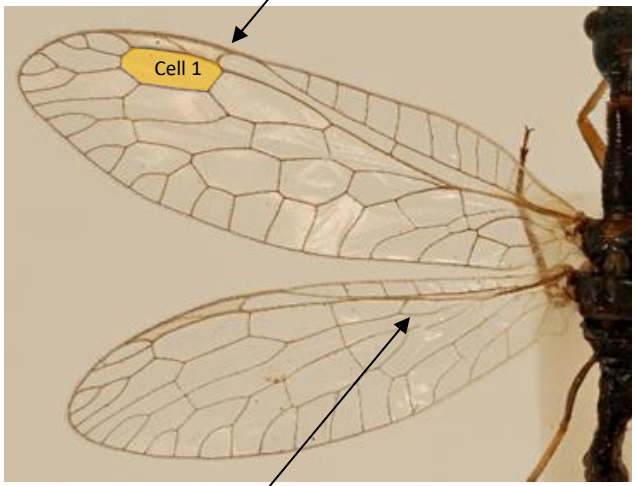


Basal branch of MA crossvein-like

Xanthostigma xanthostigma

Small Snakefly

Pterostigma as long as cell below

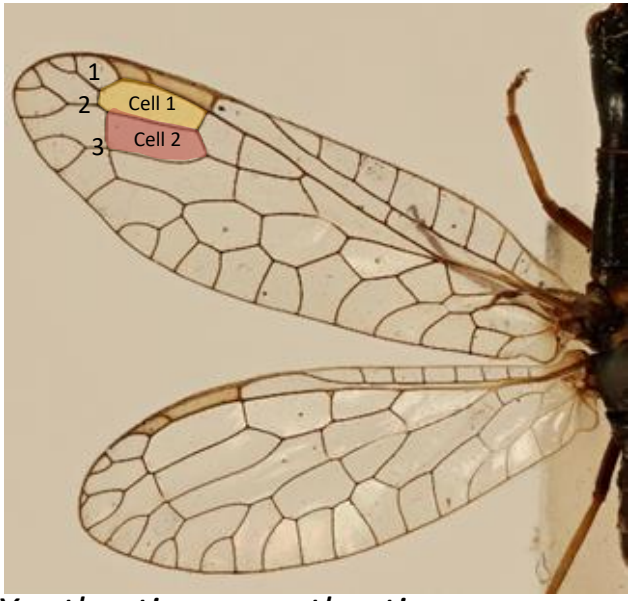


Basal branch of MA sinuous/vein-like

Subilla confinis

Scarce Snakefly

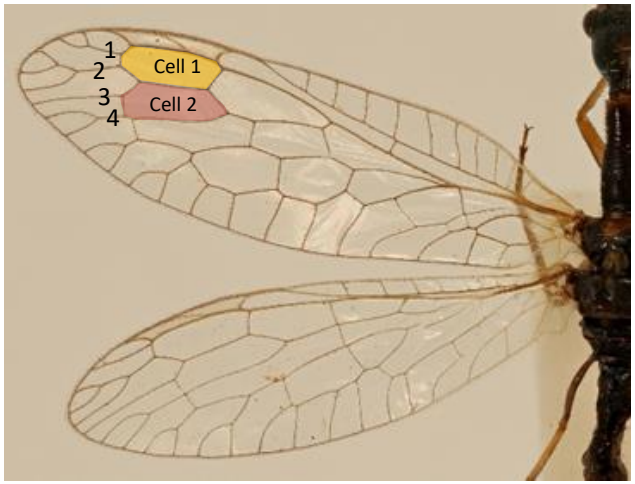
Based on key by S. Garland



Xanthostigma xanthostigma

Xanthostigma xanthostigma

- Widespread in England, localised in Wales



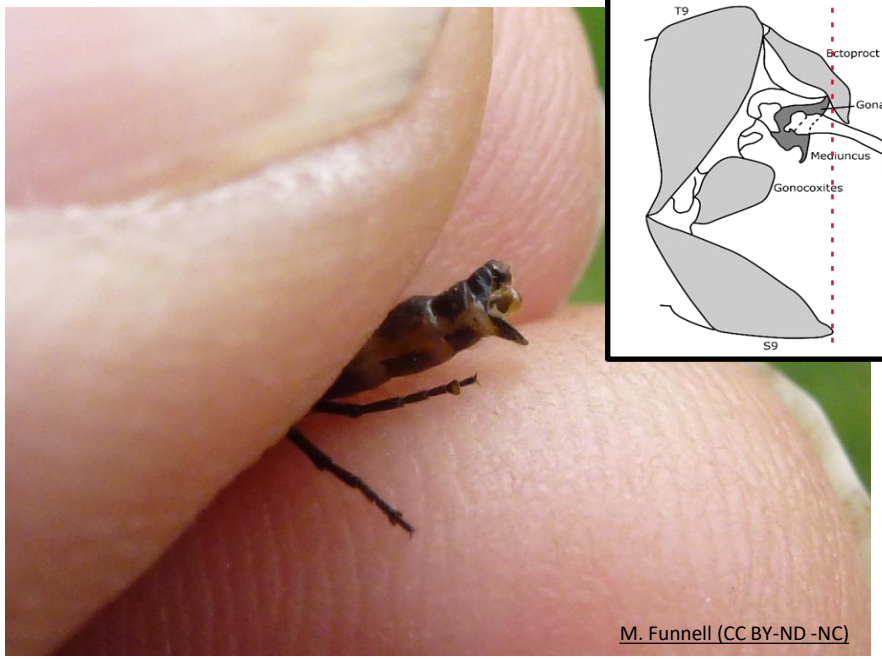
Subilla confinis

Subilla confinis

- Widespread but local in central, E, and SE England

Megaloptera *Alderflies*

- Wing venation and general morphology similar between all species
- Can only be identified from genitalia, both male and female
- May be able to identify males in the field



Sialis lutaria

- Widespread and common

Neuroptera *Lacewings*

- Unfortunately, most species require collection to identify using a microscope

All species require microscope ID:

- **Coniopterygidae**

Most species require microscope ID:

- **Hemerobiidae** and **Chrysopidae**

Most species can be identified in field or photograph:

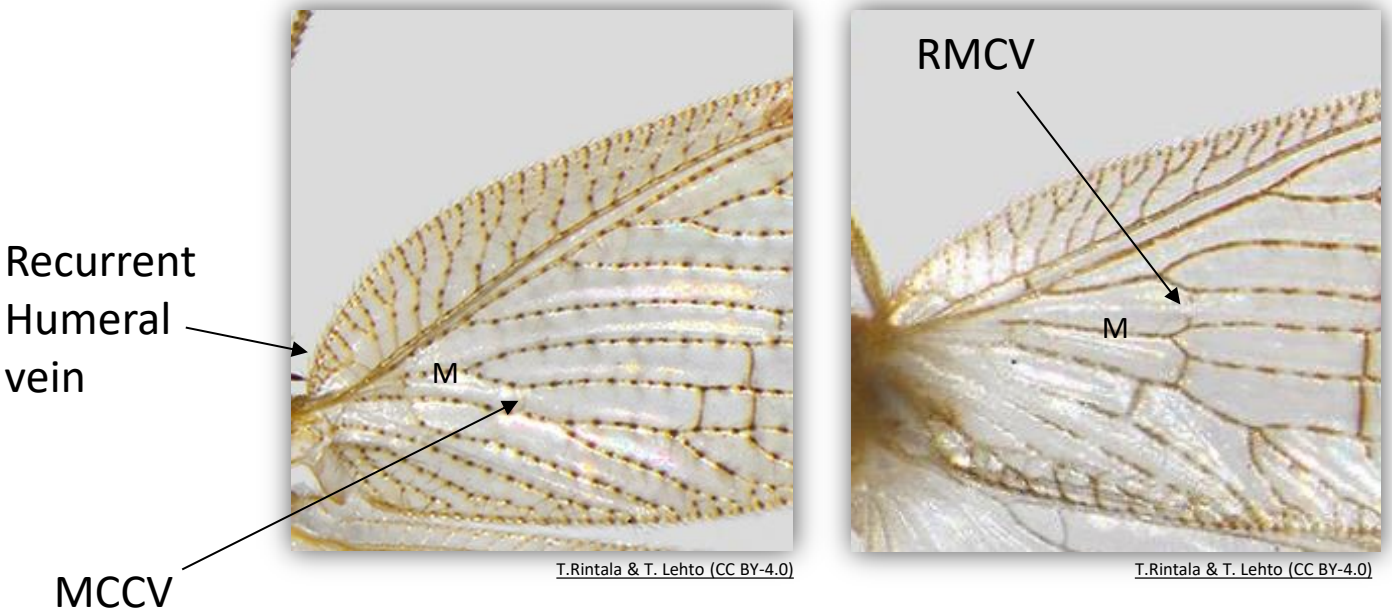
- **Osmylidae**, **Sisyridae**, and **Myrmeleontidae**

T.Rintala & T. Lehto (CC BY-4.0)

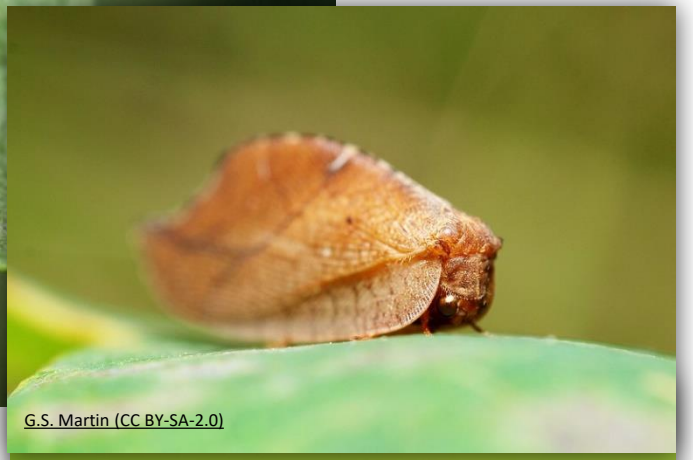
O. Fogh Nielson (CC BY-4.0)

Hemerobiidae *Brown Lacewings*

- 32 species in the British Isles
- Can look very similar
- Only a few can be confidently identified from photographs/in the field
- Found in a variety of habitats
- Some species do come to light traps

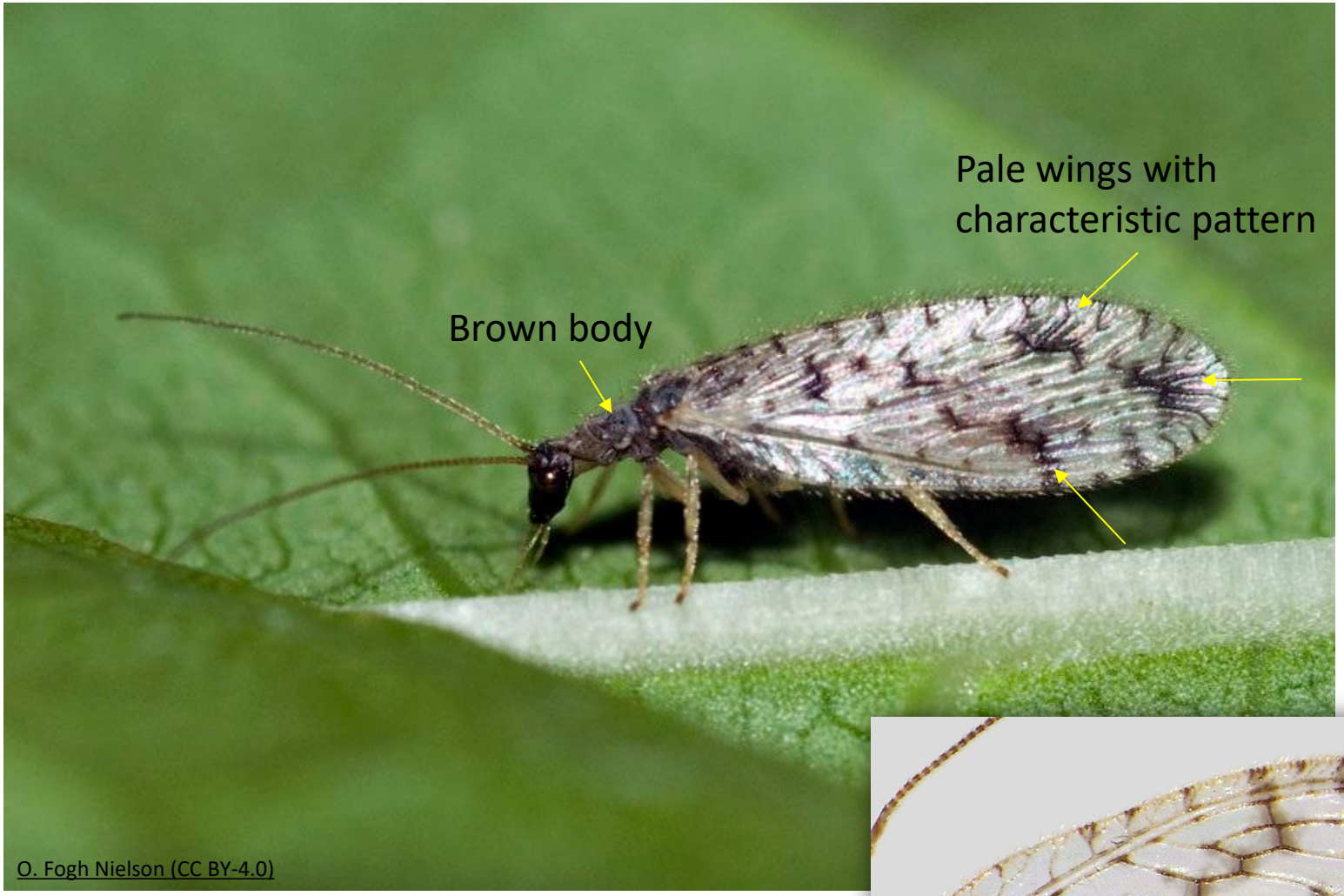


Drepanepteryx phalaenoides Hooked-wing Lacewing



- Disjunct distribution – with centres in SE and N England Isolated records in Midlands, Scotland , Ireland, and Wales

Micromus variegatus Spotted Brown Lacewing



O. Fogh Nielson (CC BY-4.0)

T.Rintala & T. Lehto (CC BY-4.0)

Humeral vein simple

- Widespread and common

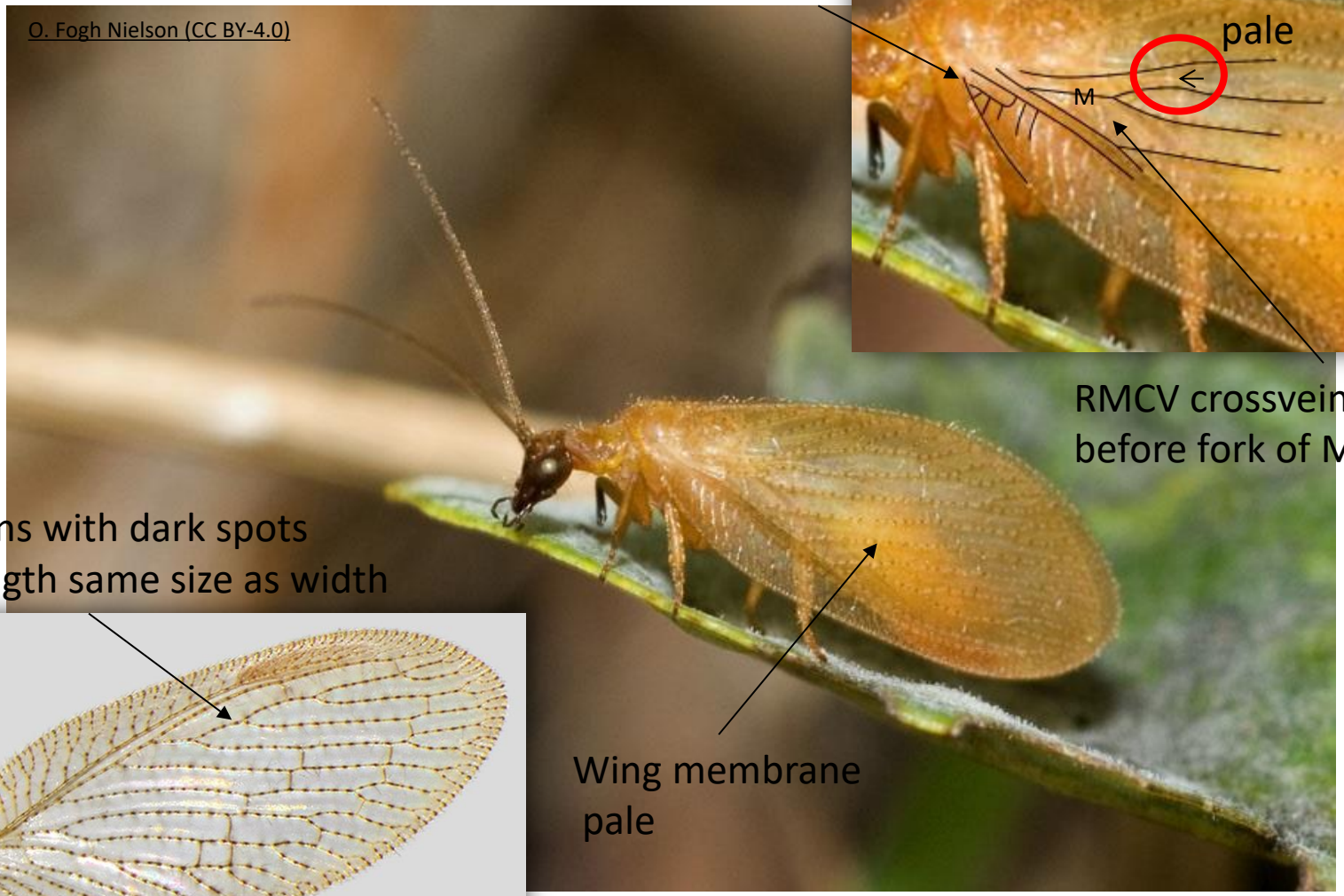
Megalomus hirtus Bordered Brown Lacewing

At least 6 branches of radial vein

Recurrent humeral vein

- Present in a few sites near Edinburgh
- Associated with Wood Sage

Hemerobius nitidulus



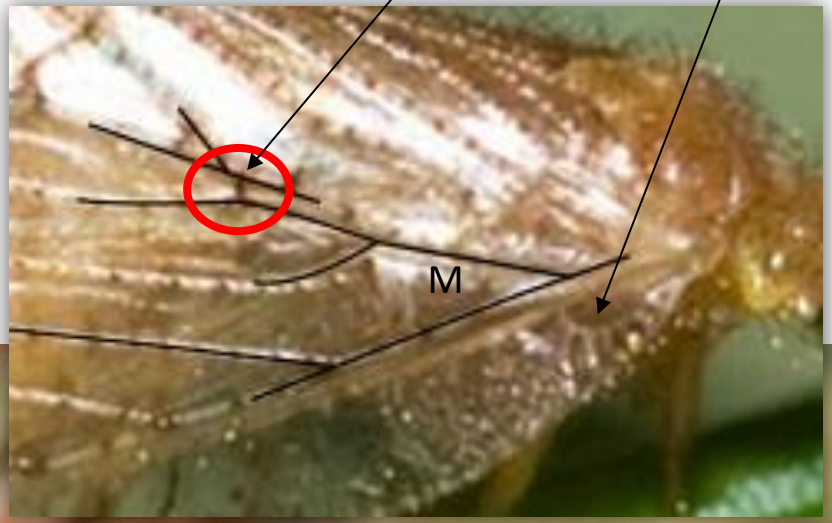
O. Fogh Nielson (CC BY-4.0)

T.Rintala & T. Lehto (CC BY-4.0)

- Widespread but local
- Associated with Pines

Hemerobius stigma Brown Pine Lacewing

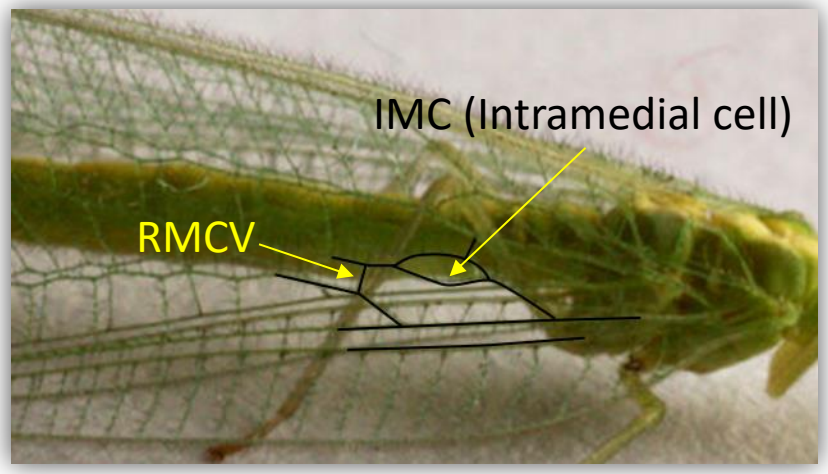
RMCV crossvein before fork of M

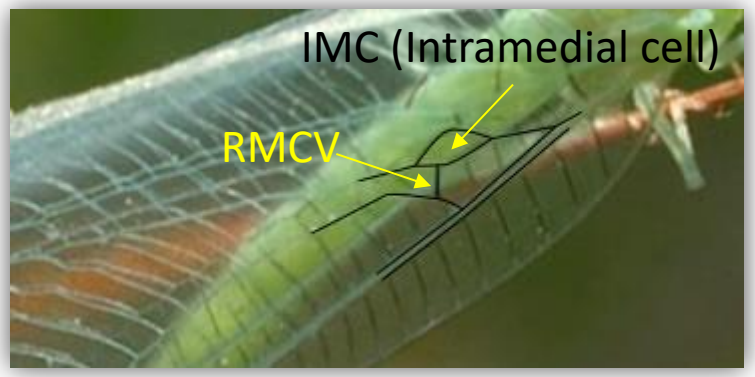


- Widespread
- Associated with Scots Pine

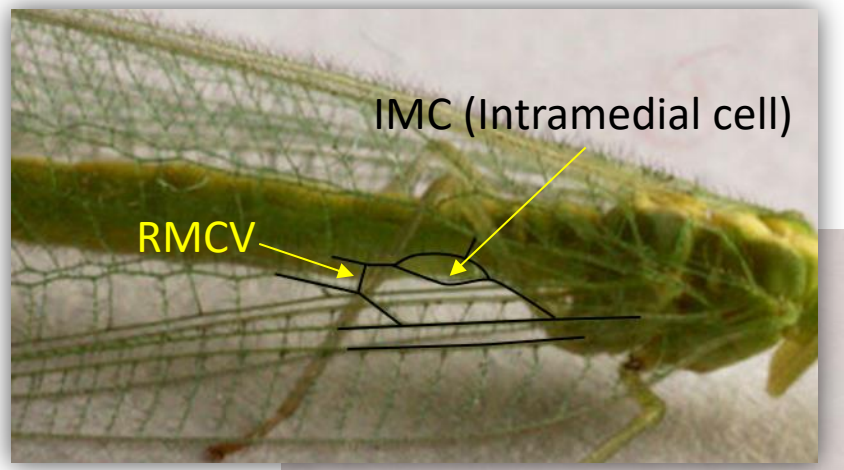
Chrysopidae *Green Lacewings*

- 21 species in British Isles
- A few species can be confidently identified from photographs or in the field
- Found in a variety of habitats
- Occasionally come to light





Chrysoperla carnea group

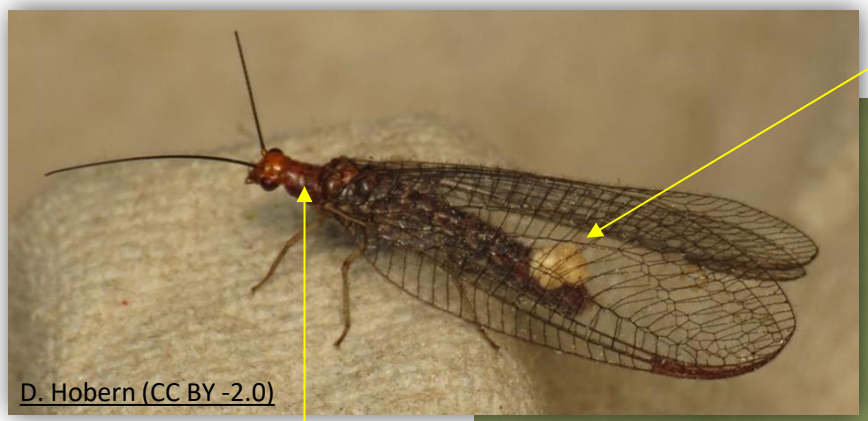


Three species:
Chrysoperla carnea
Chrysoperla lucasina
Chrysoperla pallida

- Widespread

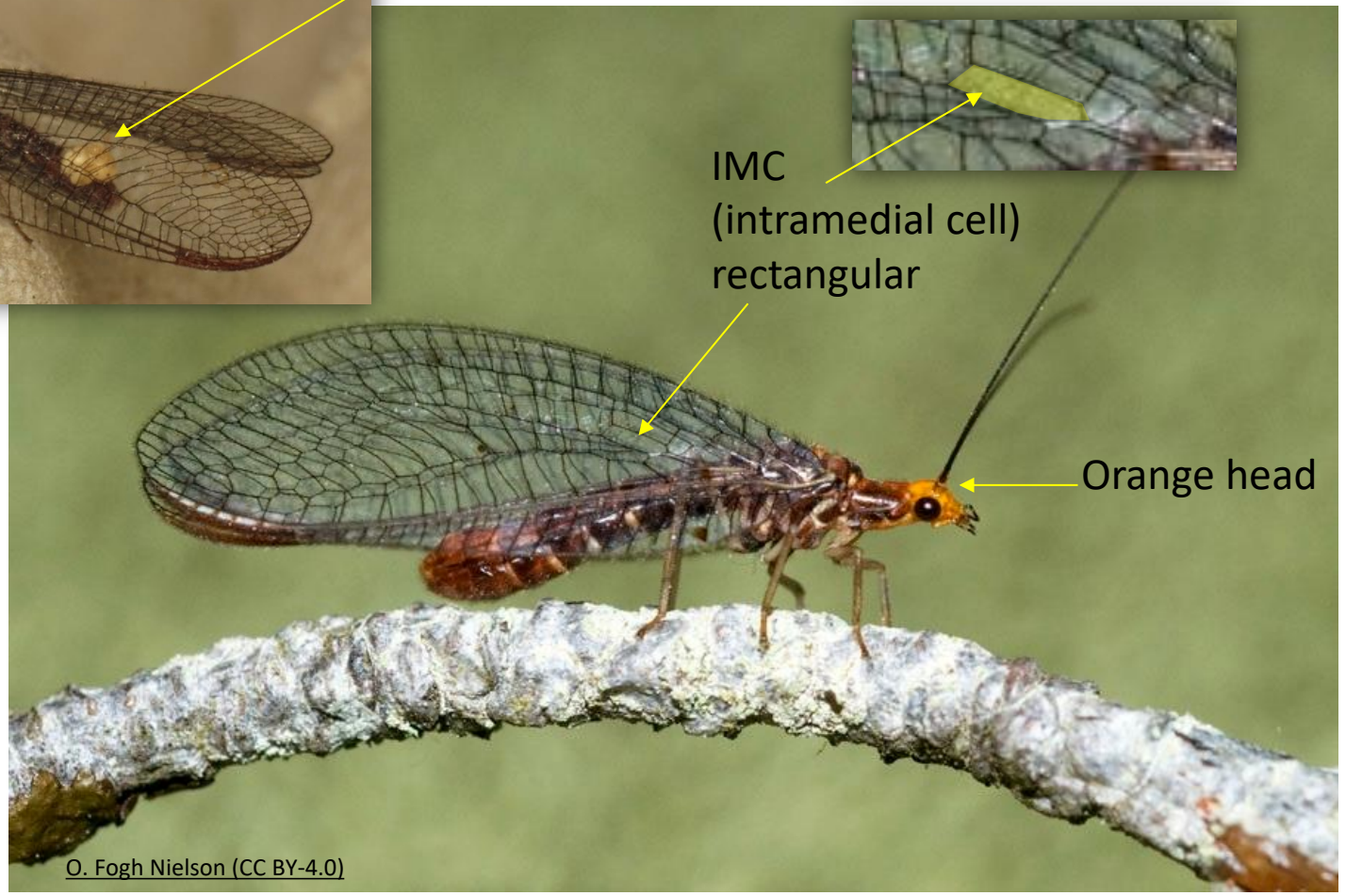
Nothochrysa capitata Orange-headed Lacewing

- Most common of the two *Nothochrysa* species



Spermatophore a package of sperm passed from the male to the female

Top of thorax red-brown no pale stripe



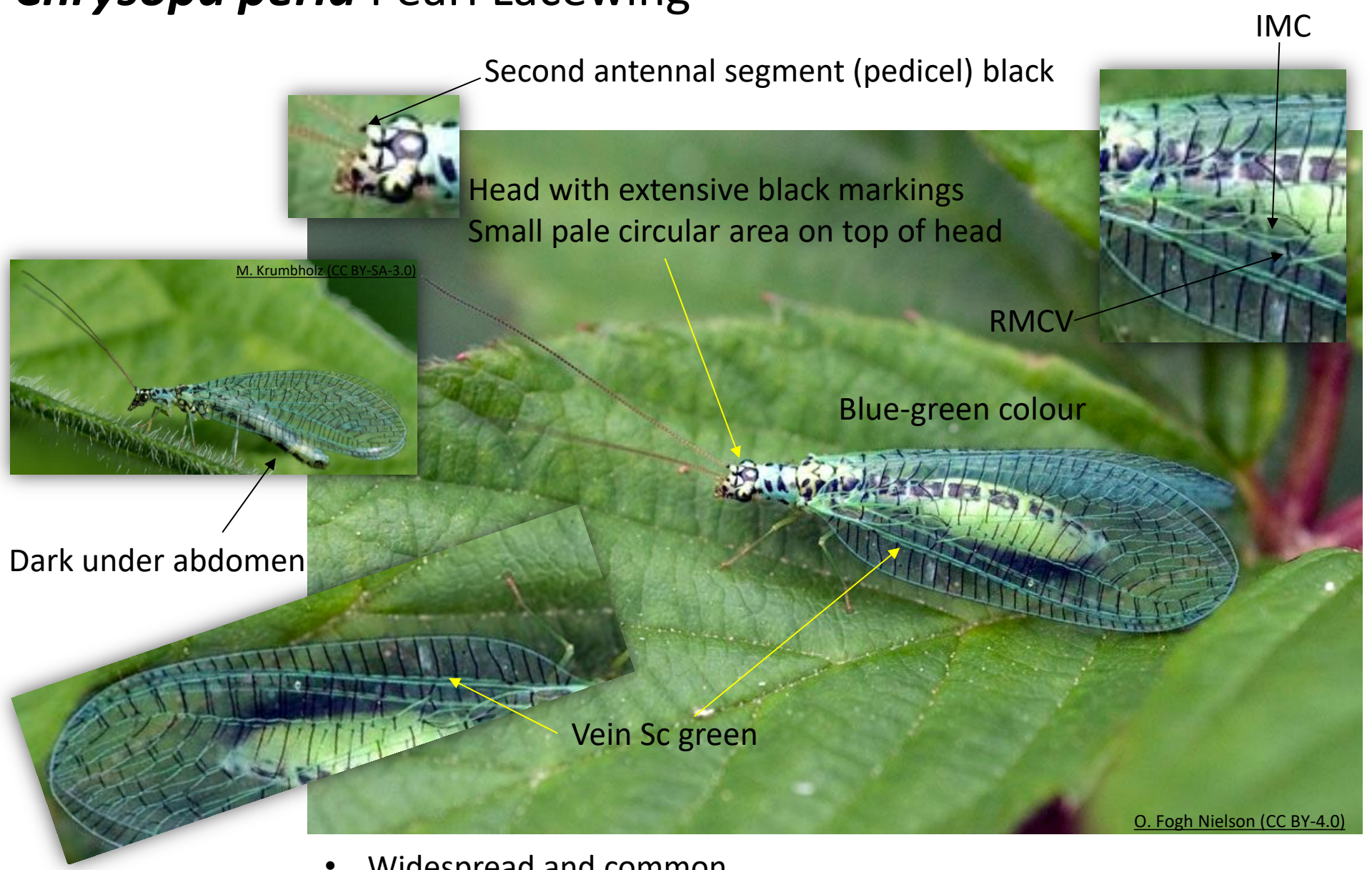
- Widespread and local in England and Wales scarce in Scotland
- Often associated with Pines

Nothochrysa fulviceps Scarce Orange-headed Lacewing

- Least common of the two *Nothochrysa* species

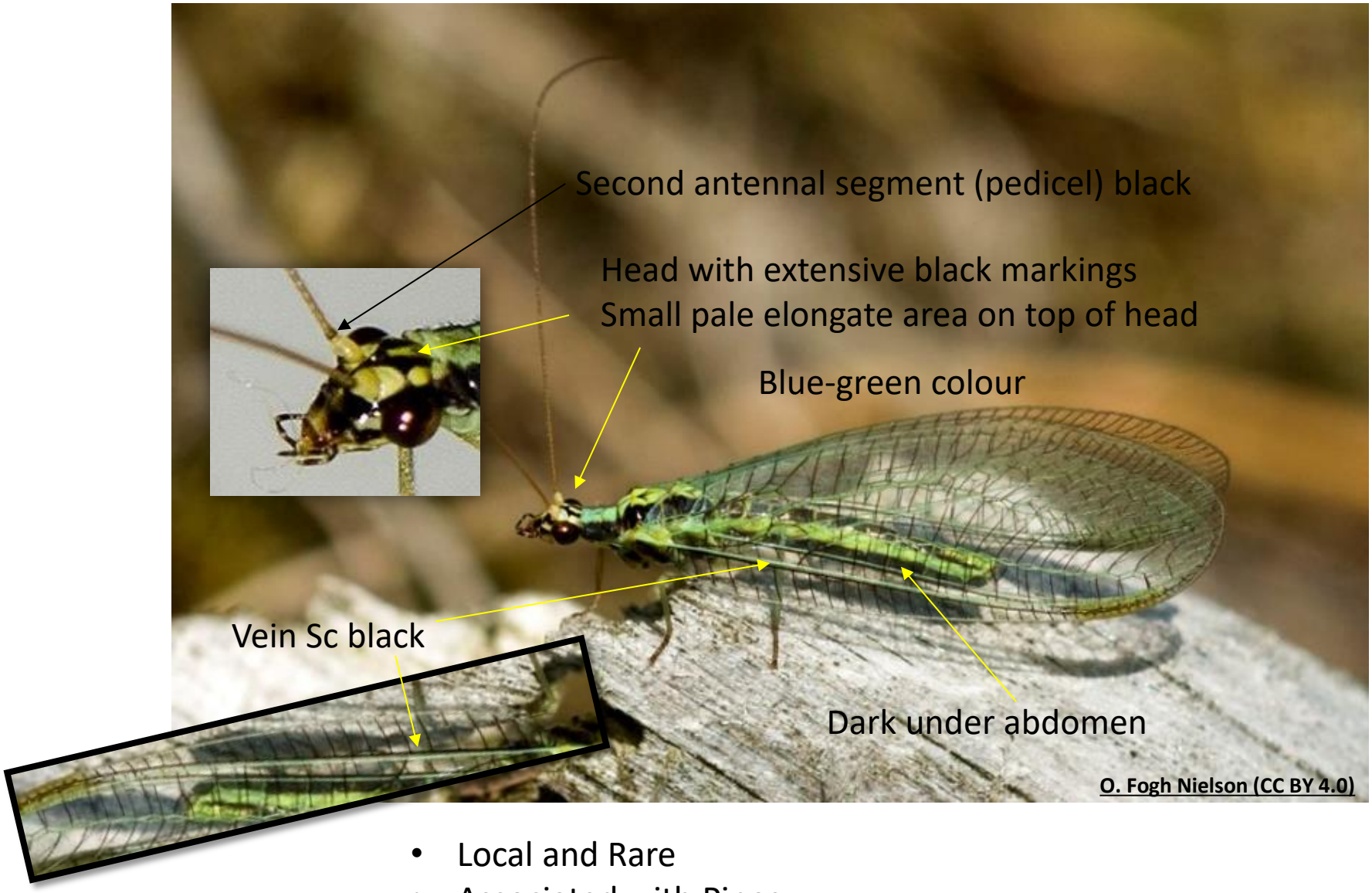
- Relatively rarely recorded
- Associated with tops of mature Oaks

Chrysopa perla Pearl Lacewing



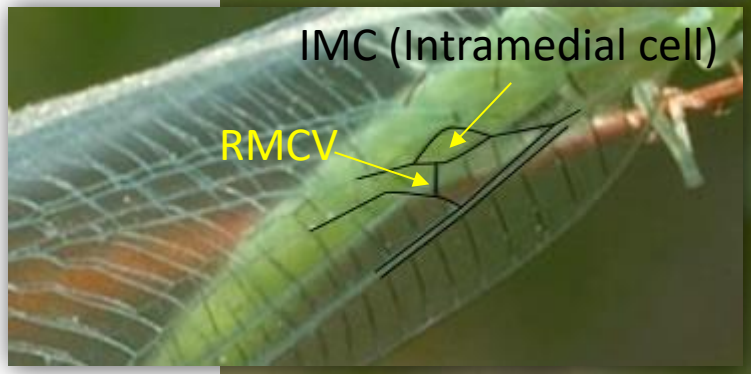
- Widespread and common
- Associated with scrubby grassland and woodland edge habitat

Chrysopa dorsalis Pine Lacewing



- Local and Rare
- Associated with Pines

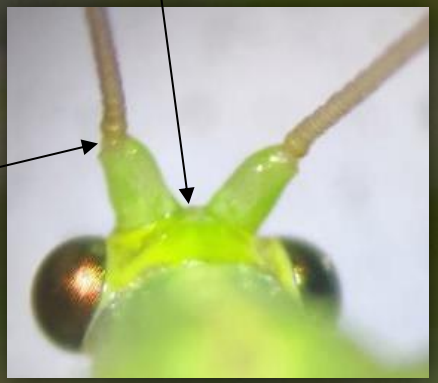
Nineta vittata



Scape twice as long as wide

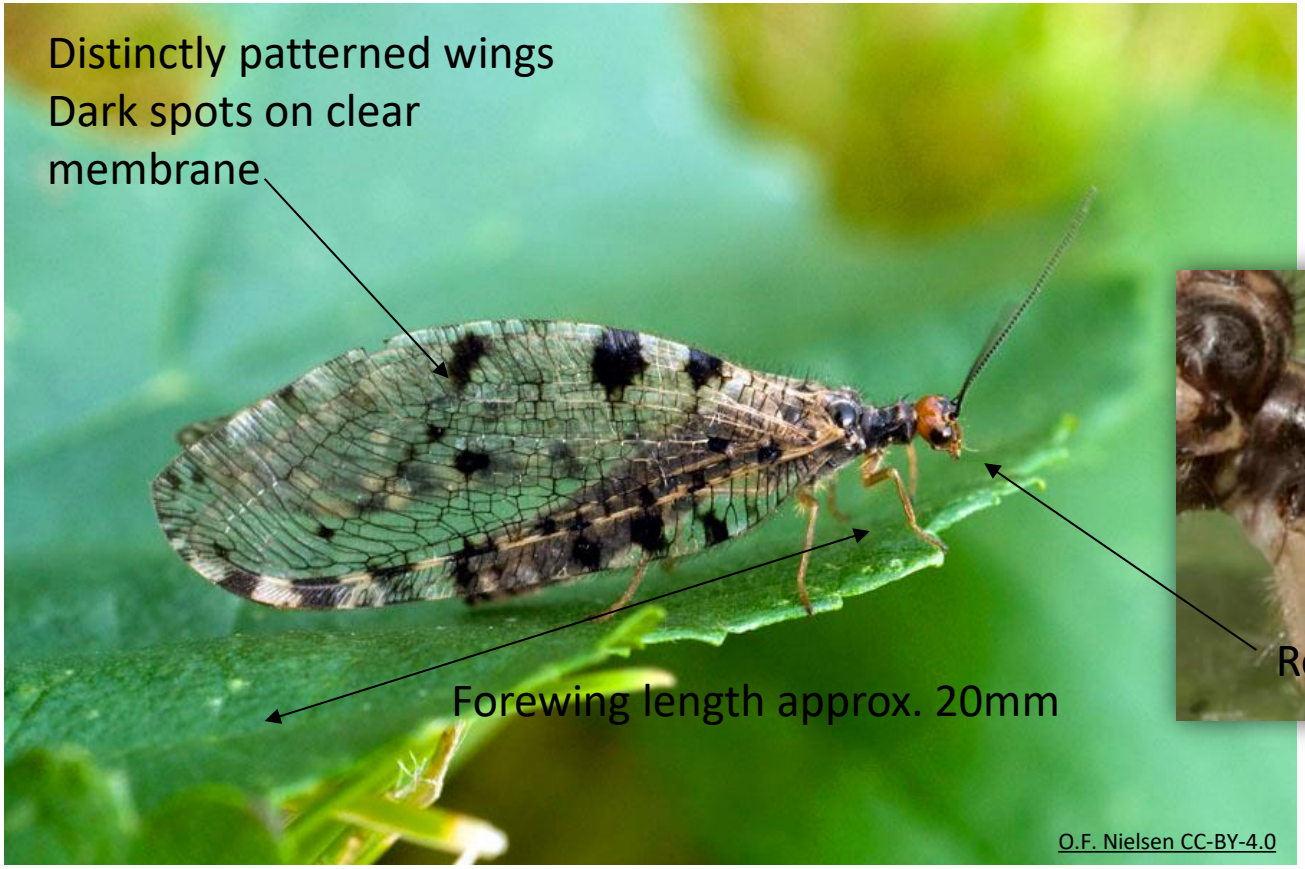
No dark spot between antennae

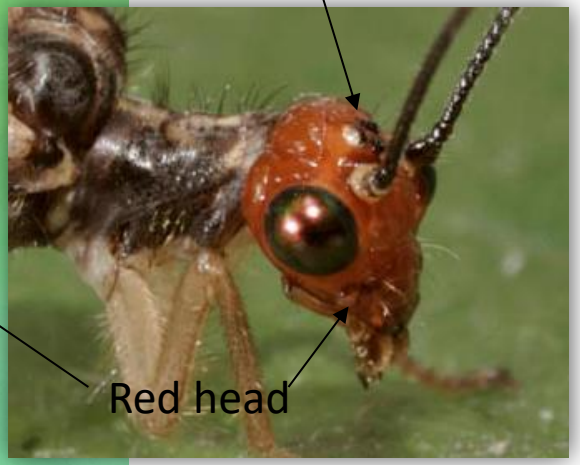
Second antennal segment (pedicel) green



- Widespread and quite common

Osmylidae *Giant Lacewings*





Only one species in British Isles: ***Osmylus fulvicephalus***

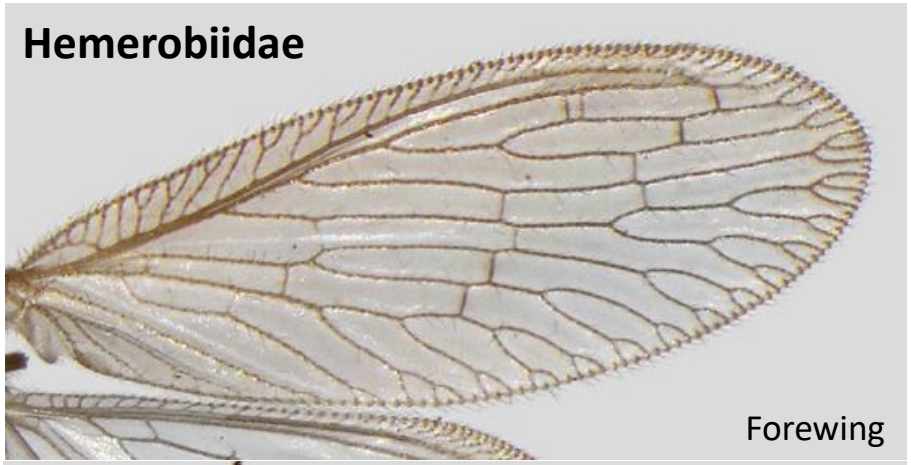
- Widespread and common
- Larvae associated with water
- Adults found resting under horizontal surfaces, e.g. fallen trees, bridges
- Occasionally come to light traps

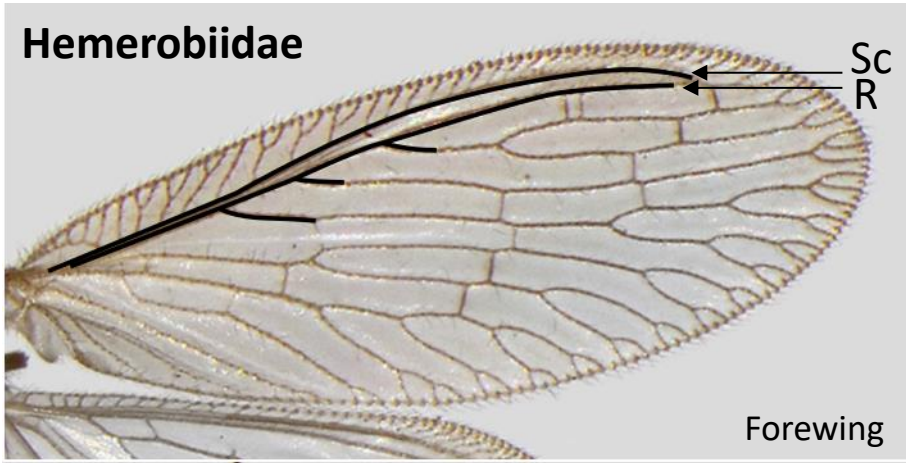
Sisyridae *Sponge Flies*

- Three species:
  - *Sisyra nigra*
  - *Sisyra terminalis*
  - *Sisyra dalii*
- All three species with practice can be identified from photographs or in the field
- However, they can be easily identified from their genitalia
- Larvae are associated with freshwater sponges
- Found on riverside vegetation
- Come to light traps

Sisyridae *Sponge Flies*

- May be confused with Hemerobiidae:





Sisyridae *Sponge Flies*

Sisyra nigra Common Sponge Fly

- Widespread and common
- Static or slow water
- Host sponges:
  Spongilla lacustris
  Ephydatia fluviatilis

Sisyra terminalis

- Rarest sponge fly, streams overhung by trees

Sisyra dalii

- Local and scarce, fast-flowing upland rivers

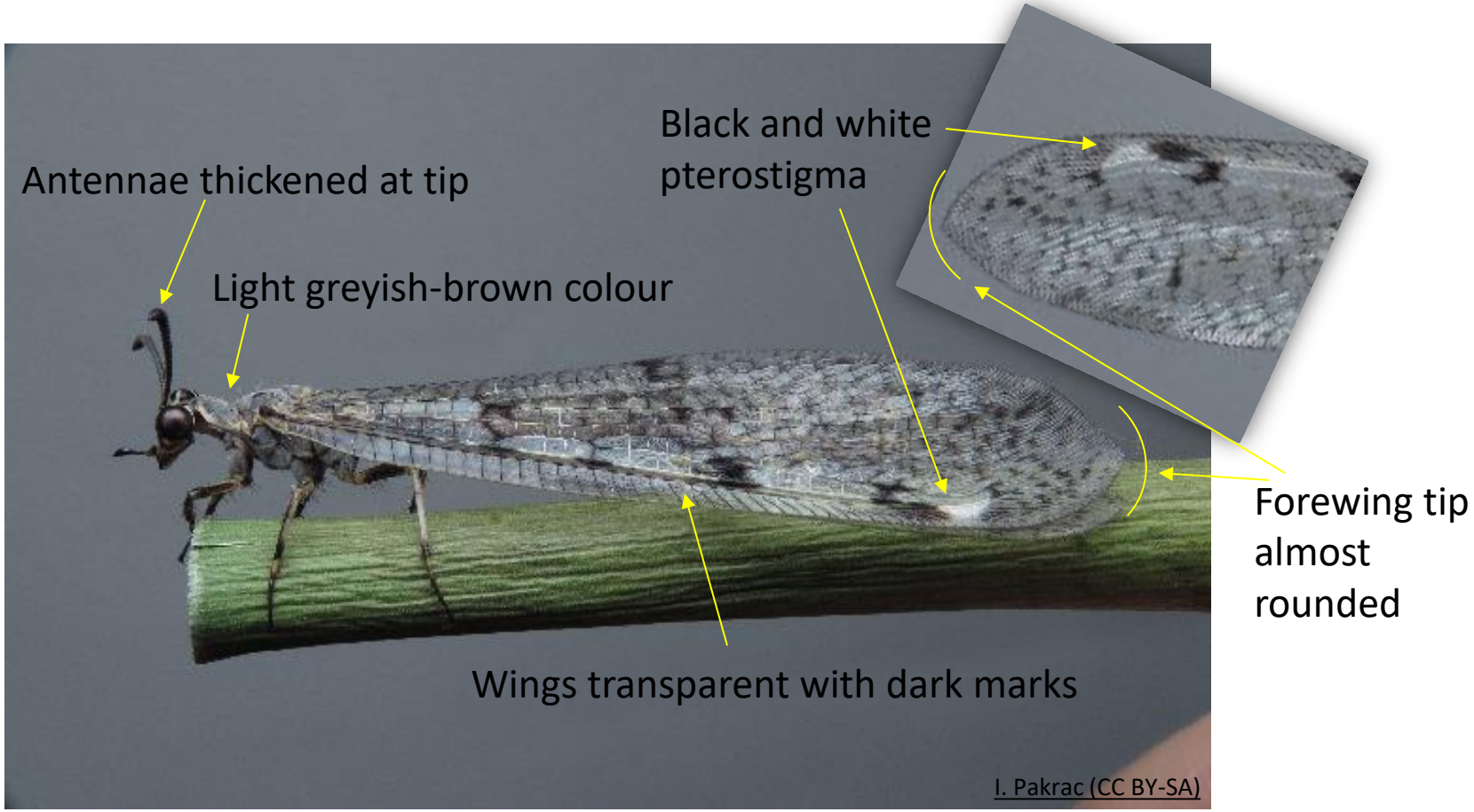
Myrmeleontidae *Antlions*

- Two species found in south of Britain
  - *Euroleon nostras* (Channel Islands, Suffolk)
  - *Myrmeleon formicarius* (Isle of Wight)
- Both are identifiable from photographs
- Larvae dig conical pits to catch prey

Antlion pit

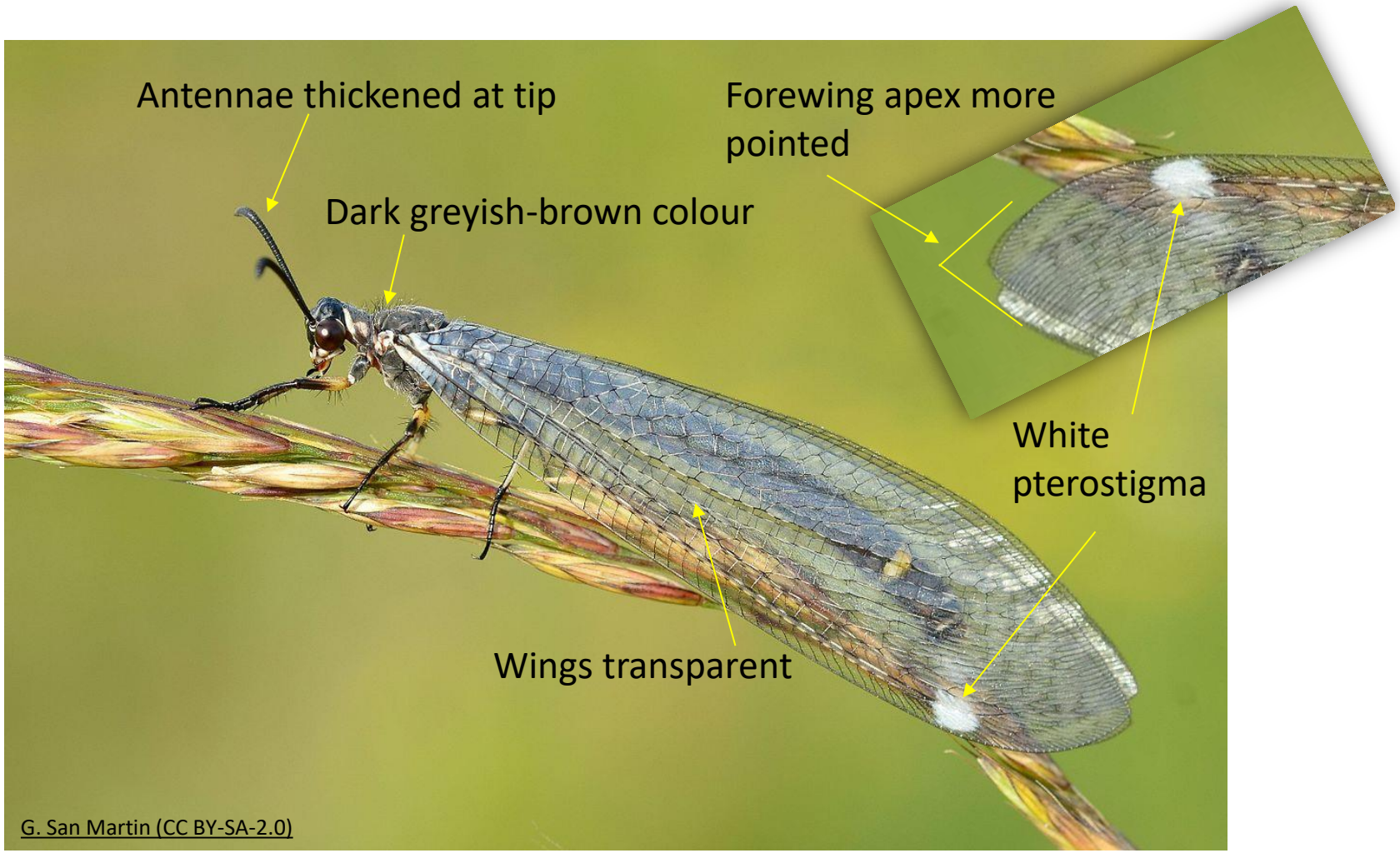
Euroleon nostras Suffolk Antlion

- Most common of the two antlions



Myrmeleon formicarius European Antlion

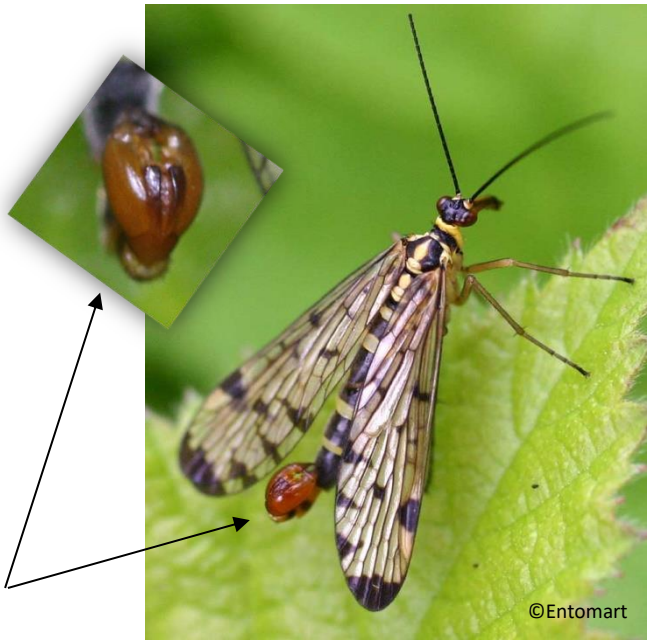
- One record from Isle of Wight possible visitor from Europe, may become established



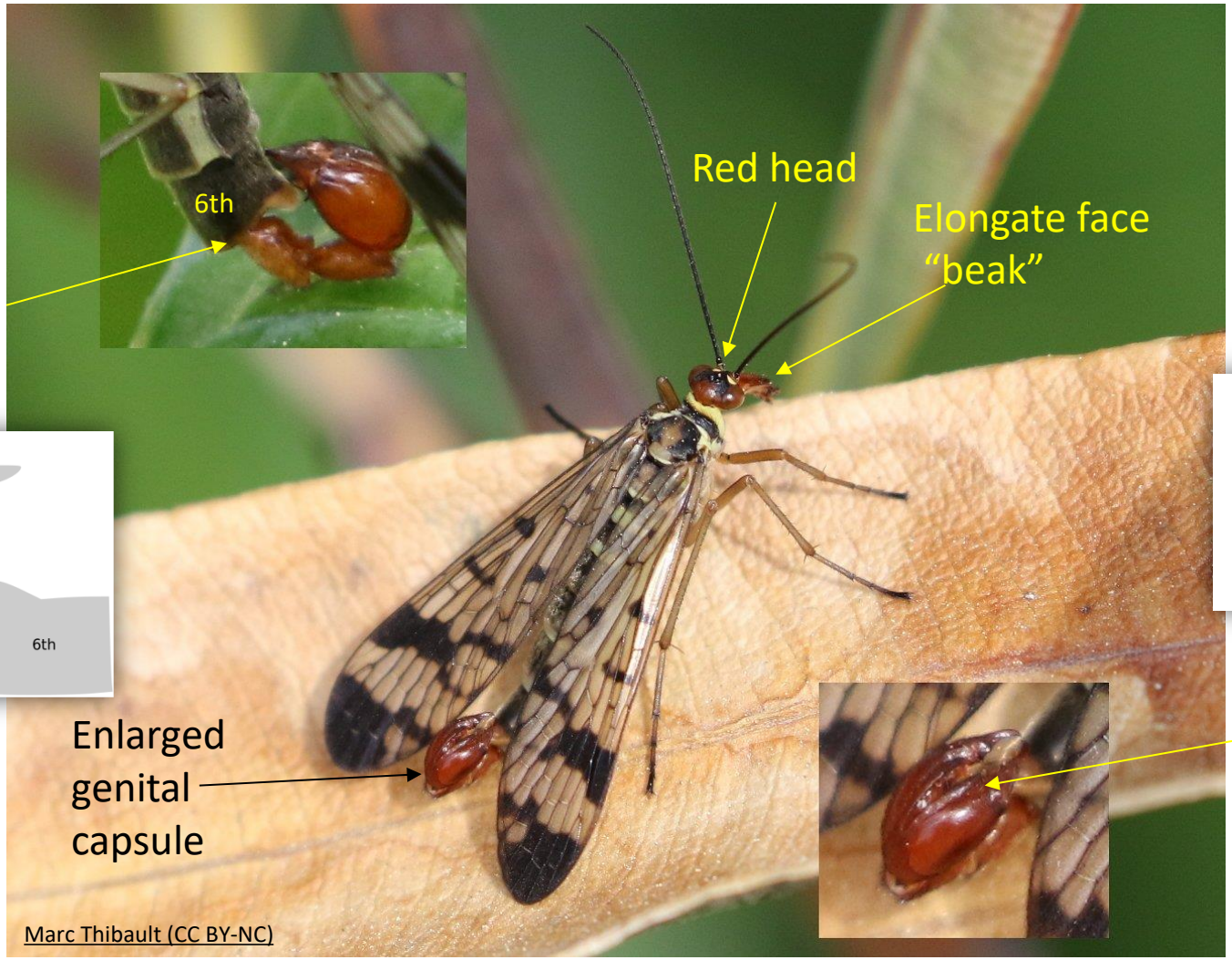
Mecoptera *Scorpionflies, Snow Fleas*

- Male Scorpionflies can easily be identified from photographs (if in right orientation) and in the field
- Females require dissection to confirm identity
- May be possible to use wing patterns for identification
- Snow Fleas can easily be identified from photographs and in the field

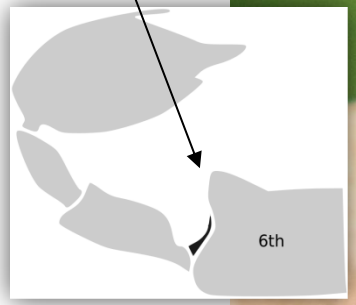
- Scorpionflies often found in dense vegetation, e.g. Bramble
- Snow Fleas found in moss in upland areas - active in Winter

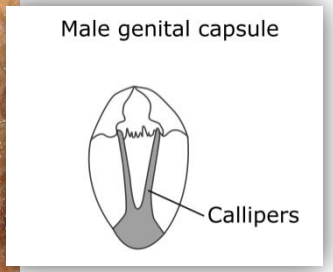


Panorpa cognata Scarce Scorpionfly



Broad tip to 6th abdominal segment



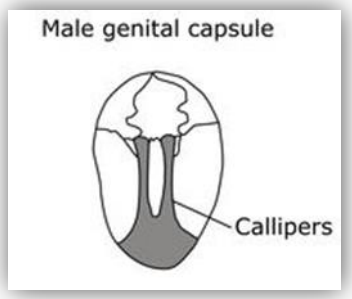


Callipers: Slender and diverging

- Least recorded of the Scorpionflies, local in England and Wales, rare in Scotland

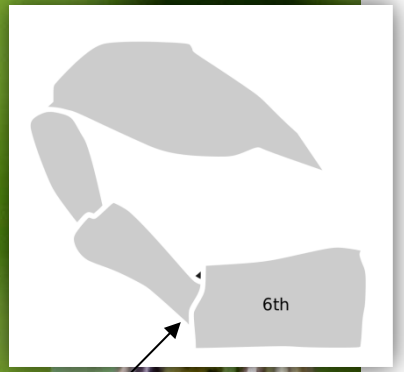
Panorpa germanica German Scorpionfly

Callipers:
Parallel, diverging slightly expanded at the tip, paddle like



Dark head

Elongate face
"beak"



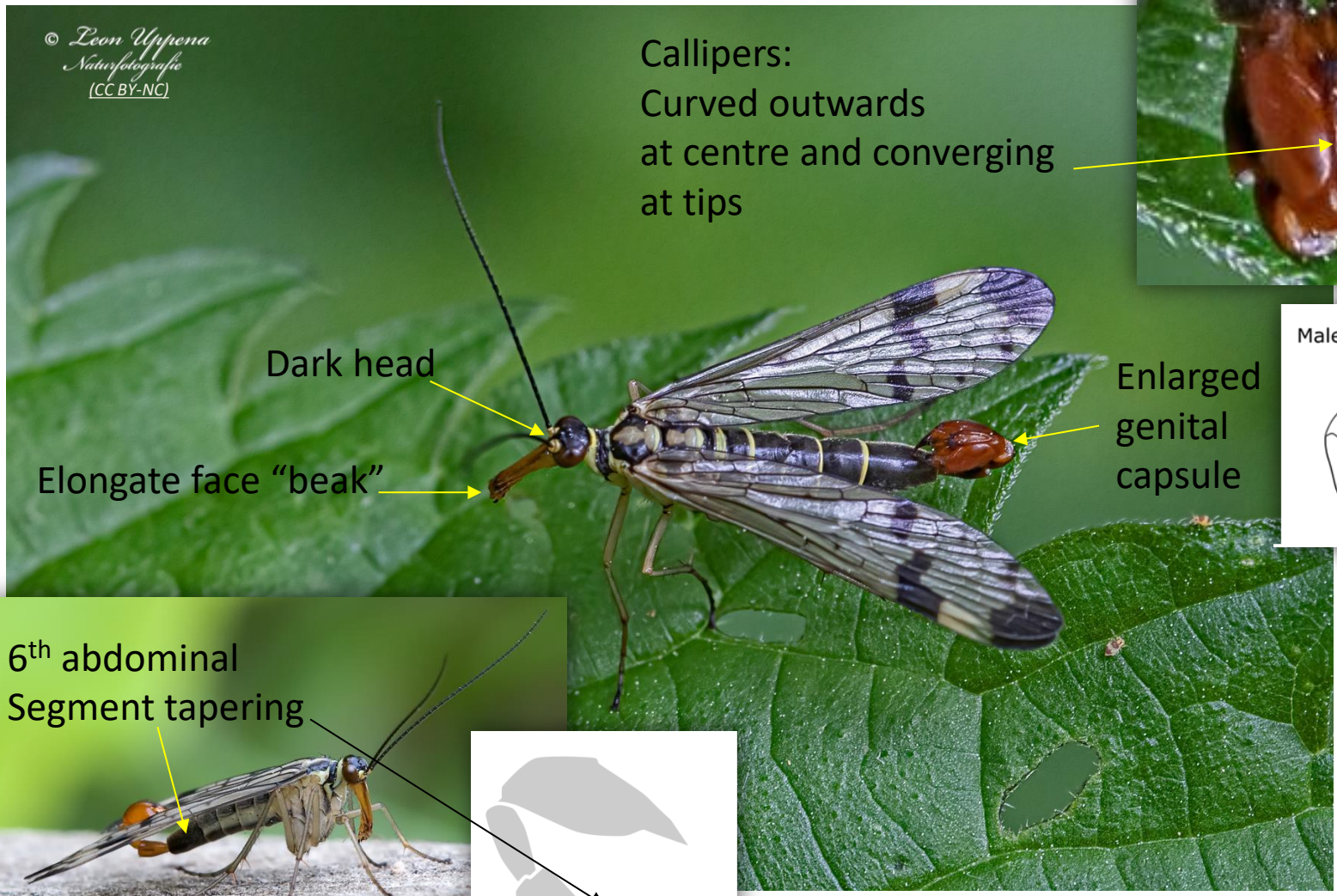
Enlarged genital capsule

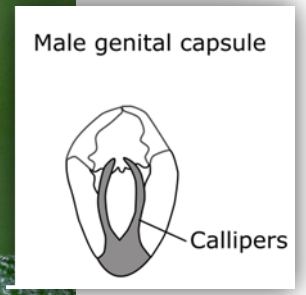
©Entomart

6th abdominal Segment tapering

- Widespread and common

Panorpa communis Common Scorpionfly





- Widespread and abundant England and Wales, local and rare in Scotland

Panorpa vulgaris

- Could possibly be present in British Isles
- Callipers similar to *P. communis*
- Major difference in wing pattern – basal spot

Panorpa communis

Comparison of ***Panorpa*** species

Panorpa communis

Complete stripe
Dark tip

Panorpa germanica

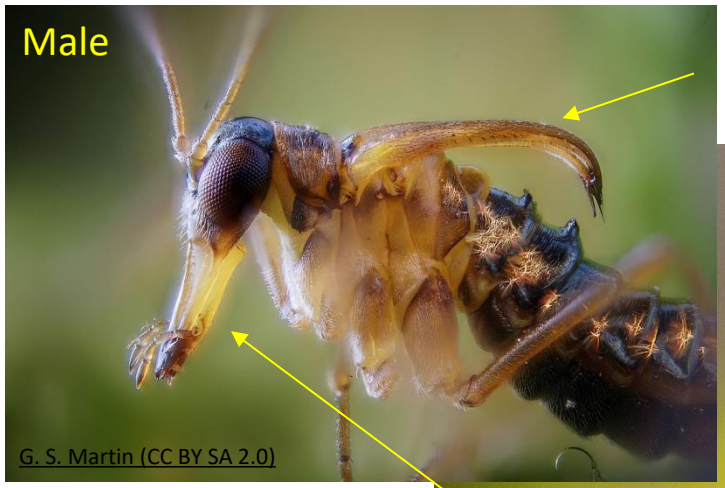
Dark tip
Spotted

borealis form - reduced markings

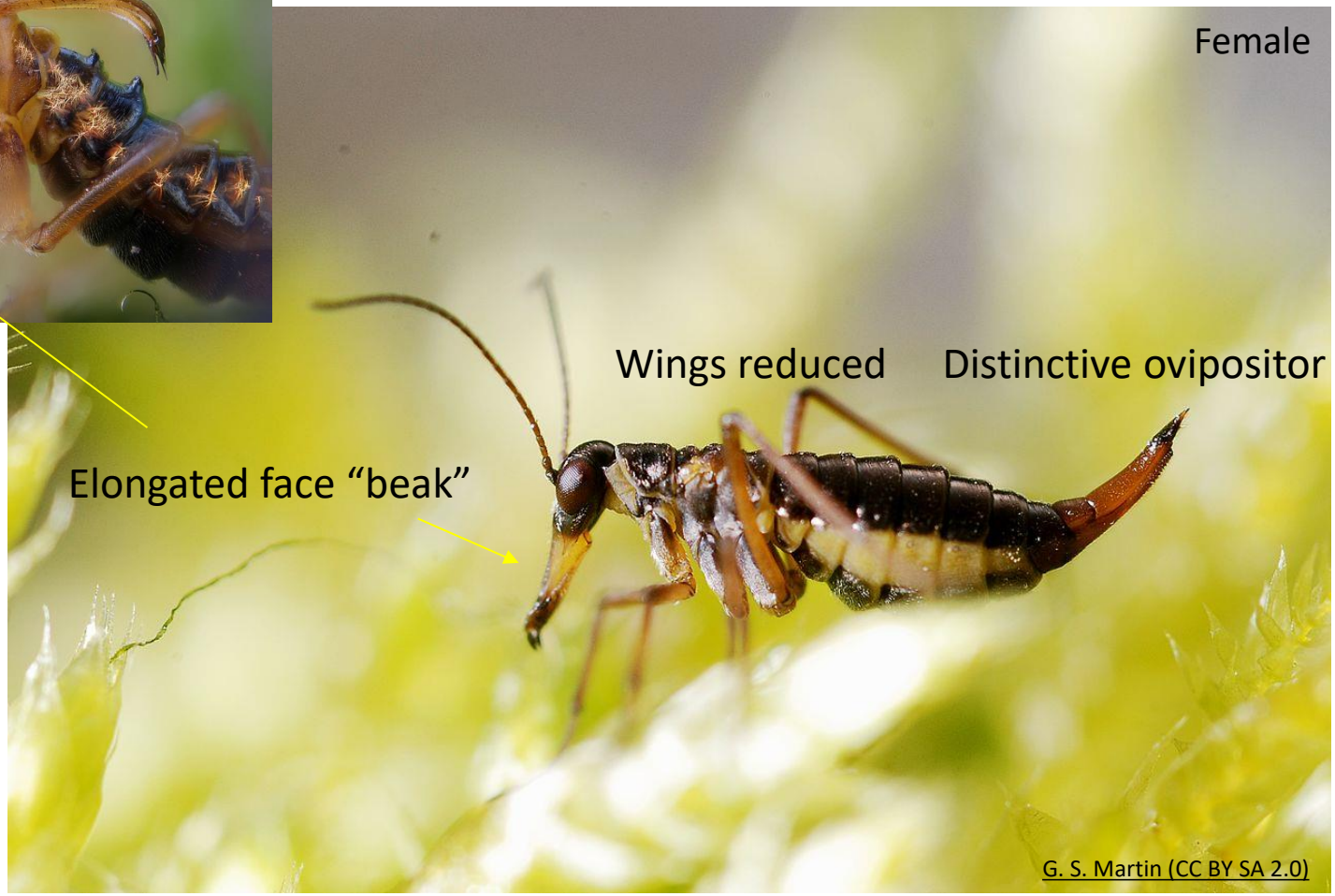
Panorpa cognata

Partially dark tip
Half stripe
Few spots

Boreus hyemalis Snow Flea



Forewing modified to spines



Small size: approx. 5 mm

- Widely distributed especially in upland areas, active in Winter

Photography

Neuroptera (Lacewings) and Raphidioptera (Snakeflies)

- A good in focus side view of the wings
- An image showing the top of the head and thorax

Mecoptera (Scorpionflies)

- Males a good view of the calipers on enlarged genital capsule
- Image of wing pattern

British Isles Lacewing and Allies Recording Scheme

Submitting your records:

- Email them to

LacewingRS@gmail.com or

colinwplant@gmail.com

- Upload records onto **iRecord**

Help with identification:

- **iRecord** – I verify all British Isles records, and some counties also have their own verifiers
- Send specimens to me or Colin Plant for ID/verification – email **LacewingRS@gmail.com** or **colinwplant@gmail.com** for arrangements
- Email images to **LacewingRS@gmail.com**

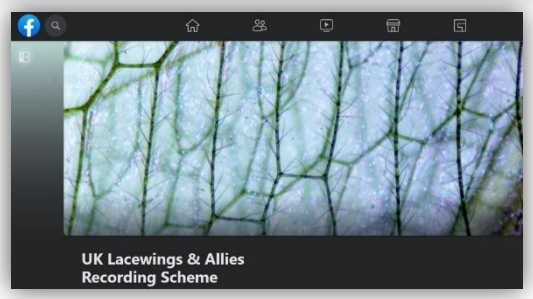
Taxon Species binomial	**Site** Ideally one featured on an OS map. Sites like "my garden" are not acceptable.	**GridRef** Min 4 figs	**VC** As a number	**Recorder** Name	**Determiner** Name of *highest* authority involved	**Date** dd/mm/yyyy separated by obliques as here	**Quantity** Number	**Method** How was it collected	**Sex** M, F or U (unknown)	**Stage** Adult, Larval etc	**Comments** Free text

British Isles Lacewing and Allies Recording Scheme

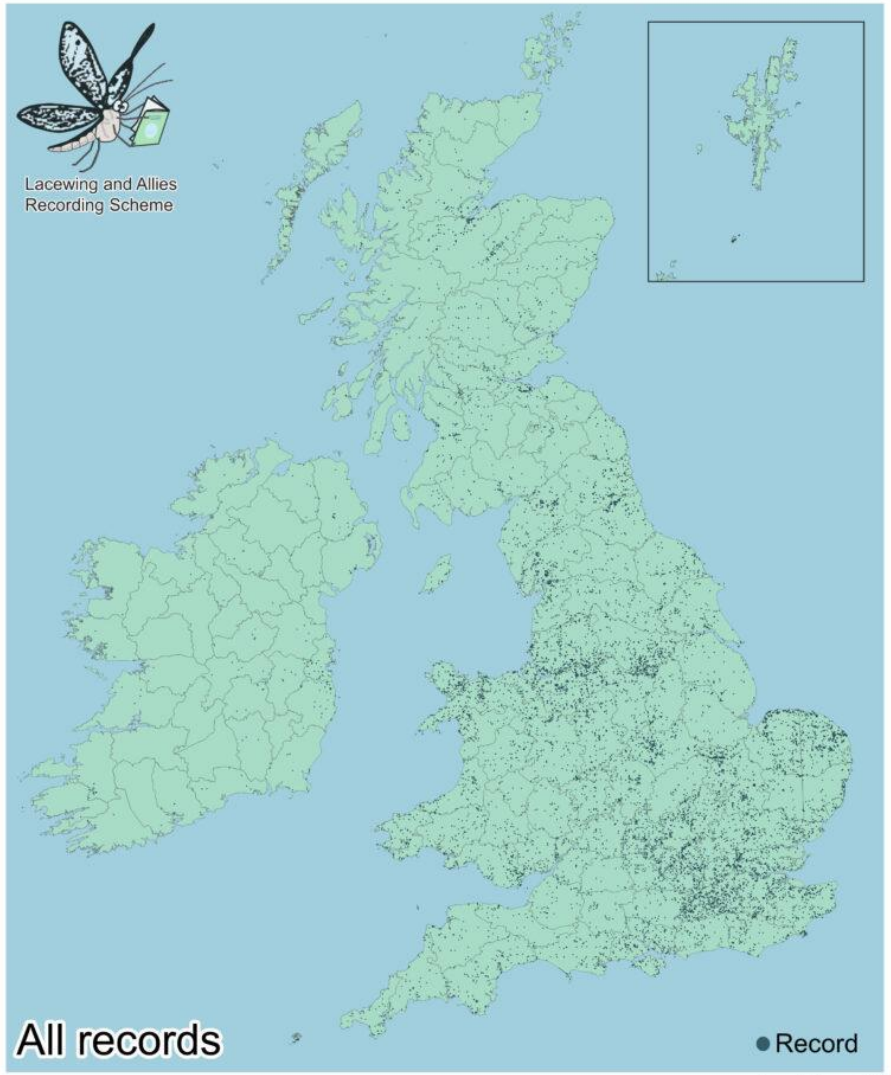
- Over 26,000 records from 1800-present
- Newsletter mailing list: 456
- Facebook group: 45 members
- If you want to be added to mailing list

  Email: LacewingRS@gmail.com

Website:
LaARS.jamesjepson.com



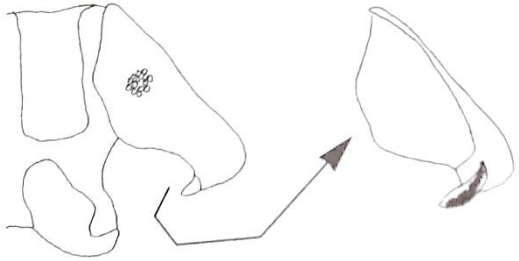
UK Lacewing and Allies
Facebook page



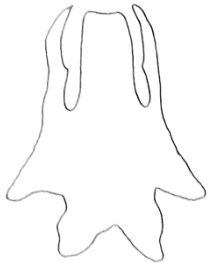
Record Coverage

Part 2

- Identifying Lacewing and Allies with a microscope



Male



Female