

RESOURCES IN SCOTTISH NEUROPTEROLOGY

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The Neuroptera collections of the National Museums of Scotland are hitherto an unexplored resource. Some records based on specimens exist, scattered through the British literature in small reports and citations, amalgamated into mapping exercises or are part of short papers describing new species. It is the purpose of this paper to outline the content of the collections and associated data sources.

Specimens, and labels directly associated with them, are the primary source of data. Most specimens are pinned in traditional entomological drawers. A smaller quantity of material exists in Industrial Methylated Spirits (70% IMS) with a much smaller quantity (a few species) in 70% Ethanol.

The secondary, but no less important, source of information exists in a database called the Scottish Insect Records Index (SIRI). This is a paper database of the citations for published Scottish Insect records – a key link to the British literature. The Neuroptera Records from this index are now being electronically databased.

From these data sources, we can establish how many specimens exist in which species and from what locations. Thus, informed answers to environmental and conservation questions can be supplied, and we can determine where further research is required.

Keywords: Megaloptera, Neuroptera, Raphidioptera

INTRODUCTION

The natural history collections of the National Museums of Scotland have their origins as early as 1812, due largely to the efforts of Professor ROBERT JAMESON (STEPHEN 1954, SWINNEY & SHAW 1998). At this time the Natural History specimens formed a museum collection belonging to the University of Edinburgh, but was combined (in 1855) with the cultural and technological displays of the then recently formed Industrial Museum of Scotland (ALLAN 1954, SWINNEY & SHAW 1998). In 1864 the combined body of collections took on the name “Edinburgh Museum of Science and Art” and in the jubilee year (1904) the name was again changed to the “Royal Scottish Museum” (ALLAN 1954). As a consequence of a change in policy (formation of a Board of Trustees in 1985 – SWINNEY & SHAW 1998), together with the recent opening of the “Museum of Scotland” (predominantly a museum of Scottish artefacts), on an adjacent site, the name was again changed to the “Royal Museum” under the umbrella organisation of the “National Museums of Scotland”.

The Neuropterida collections are thus part of a much broader accumulation of specimens and artefacts, that included insect material from these earliest of times. In 1819 the renowned Dufresne Collection was purchased from Paris containing (among other natural history specimens) 12 000 insects (STEPHEN 1954) and it is to this collection that the earliest neuropterid specimen can be traced.

The insect collections have since grown, to now include approximately a million specimens, of which about 10 000 are Neuropterida, pinned and housed in 166 wooden drawers. There are also numerous store-boxes – some of which are wooden, the remainder are firm cardboard – containing material still in the process of being sorted.

The Neuropterida collection contains 19 families, 184 genera and 502 species, from a geographical range of 64 countries. The majority of specimens have been determined and sorted by five individuals: P. H. GRIMSHAW, K. J. MORTON, A. R. WATERSTON, C. W. PLANT and A. E. WHITTINGTON. Many specimens lack det. labels, but are placed under particular names in the collection (presumably by GRIMSHAW and WATERSON). During his term of office as Curator (1893–1930) and later Keeper (1930–1935), the insect collections were invigorated and rejuvenated by PERCY H. GRIMSHAW (1869–1939), who was fundamentally a dipterist. The Neuropterida collections (plus Odonata, Plecoptera and Trichoptera), grew dramatically with the presentation of K. J. MORTON's collection in 1940. With receipt of this bequest, RODGER WATERSON took on the considerable task of re-curating and organising the collection, incorporating material previously included in the general Entomology collection. He began by re-organising the Odonata and had started on the Neuroptera, but not finished before his retirement. Through his prior contacts with personnel in the Anti-Locust operations in the Middle East, these collections were to grow once more. He actively encouraged KEN GUICHARD (among others) to donate large quantities of material to the collections. Most of the strengths of the collection are based on the material contributed by MORTON and GUICHARD.

Recent loan records indicate that, hitherto, this is a largely underused resource. Documentation, cataloguing and curation of the collection has highlighted the fact that outside of these activities, the collection has received little international attention. And yet it is a collection drawn from a wide geographical context, covering taxa of extensive research interest. It is the purpose of this paper to outline what is available in the collections and associated data sources in the hope that this will encourage their use.

The primary source of data is the specimens and the labels directly associated with them. The vast majority of specimens are pinned in traditional entomological drawers. Presently the British material is pinned in 29 drawers separate from the

material from other parts of the World and this material is predominantly Scottish in origin. A smaller quantity of material exists in Industrial Methylated Spirits (70% IMS) with a much smaller quantity (a few species) in 70% Ethanol. Some dissected material exists on microscope slides, but this has yet to be assessed and catalogued. Label data from this primary source is being accumulated in a database.

At the family level, the collections show a healthy total of 19 out of 22 possible families (OSWALD & PENNY 1991), only the families Ithonidae, Rapismatidae and Rhachiberothidae are not represented.

At the generic and species levels, representation in the collections is poorer. There are 191 out of approximately 1000 genera and 547 out of more than 4000 species (OSWALD & PENNY 1991), with large numbers of world taxa not represented and there are obvious geographical strengths and limitations. The taxa currently present are listed in Appendix 1, while Figure 1 shows how many species originate from the upper range of countries listed in Appendix 2. All countries for

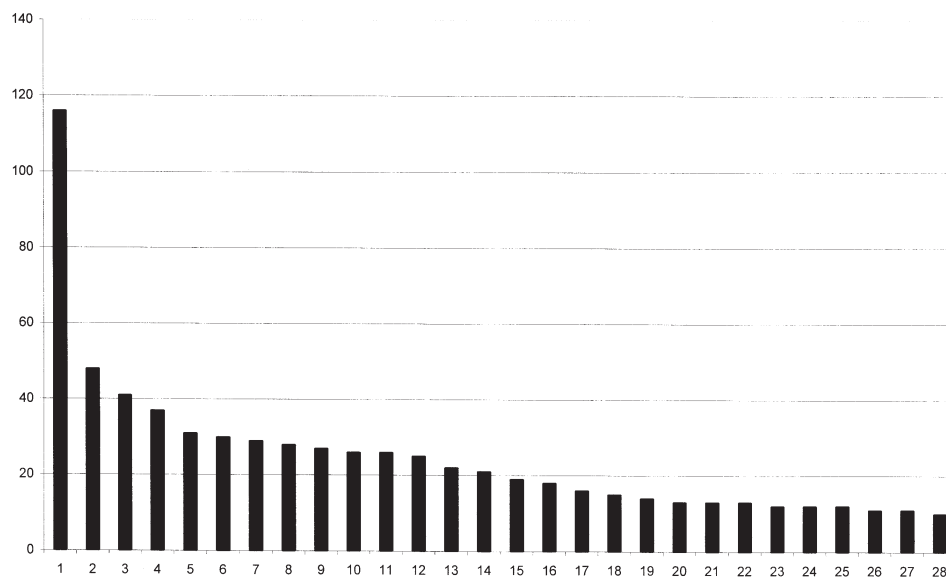


Fig. 1. Number of species per country from which Neuropterida specimens in National Museums of Scotland originate. Countries: 1 = Europe; 2 = Tanzania; 3 = Nigeria; 4 = Saudi Arabia; 5 = Israel; 6 = India; 7 = Zimbabwe; 8 = Turkey; 9 = Kenya; 10 = USA; 11 = S. Africa; 12 = Madagascar; 13 = Oman; 14 = Australia; 15 = W. Pacific Fringe; 16 = Yemen; 17 = Algeria; 18 = Niger; 19 = Malawi; 20 = Ghana; 21 = Pakistan; 22 = Sudan; 23 = China; 24 = Socotra; 25 = Morocco; 26 = UAE; 27 = Zambia; 28 = the rest (37 countries; number of species 10 or fewer)

which there are fewer than 10 species represented, have been accumulated into the last category of Figure 1.

The secondary, but no less important, source of information exists in the form of databases. In a parochial Scottish sense, a database called the Scottish Insect Records Index (SIRI) is highly valuable, but little used outside of Scotland. This is a paper database of the citations for published Scottish Insect records and is a key link to the British literature (SHAW 1987). PERCY GRIMSHAW began this database on cards, which were later transcribed in the files now comprising SIRI. The 628 Neuropterida Records from this Index are now being electronically databased, so as to improve access and make complex searches possible.

A specimen database is being developed as an important part of curation of the collections and also because SIRI is limited to published records, while data from large portions of the collection have not been published. This database presently holds only 228 data records taken from labels accompanying specimens. It does, however, also include the basic list of the species and their geographic provenance (Appendix 1 & 2).

EXPECTED RESULTS

The Neuropterida collections have been largely dormant since RODGER WATERSTON retired in 1977 (SHAW & GIBSON 1997). This project is intended to renew research interest in the Neuropterida collections in the National Museums of Scotland. From these primary and secondary sources of data, we can establish how many specimens exist in which species and from what locations. Thus, apart from supplying informed answers to environmental and conservation questions, we can establish on which species and which geographical areas further research is required. Ultimately a synoptic analysis of the Scottish fauna will be developed, to encapsulate the data into a single document.

National Museums of Scotland has also received requests for lists of the taxa at particular locations for the furtherance of both environmental and taxonomic research, both in Scotland and abroad. Thus, the provision of detailed databases of the material held in the collections will not only facilitate answers to these questions and make it easier to provide them, but it is hoped they will lead to greater awareness of what is in the collections and hence greater international use of them.

*

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APPENDIX 1

Neuropterida present in the National Museums of Scotland. Taxa are arranged alphabetically within each rank and only the ranks Family, Genus (in some cases subgenus) and species have been listed. Taxa and authorities at the species, generic and family levels, follow ASPÖCK *et al.* (1980), ASPÖCK *et al.* (1991), BROOKS and BARNARD (1990), CONTRERAS-RAMOS (1999), LINSLEY and USINGER (1966), MEINANDER (1972), NEW (1996), OSWALD and PENNY (1991) and TILLYARD (1923). Data for the United Kingdom (UK) are further broken down to the constituent countries England (E), Scotland (S) and Wales (W) and those for the United States of America (USA) are divided into the constituent states.

MEGALOPTERA

Corydalidae

- Archichauliodes* VAN DER WEELE, 1909
dubitatus (WALKER, 1853) – New Zealand
Chauliodes LATREILLE, 1796
pectinicornis (LINNAEUS, 1763) – USA: N. Scotia, Virginia
Corydalus LATREILLE, 1802
affinis BURMEISTER, 1839 – Brazil
 sp. – Venezuela
Neochauliodes VAN DER WEELE, 1909
sinenis (WALKER, 1853) – China (Yunnan)
Neurhermes NAVÁS, 1915
macalipennis GRAY, 1832 – Java
selysi (VAN DER WEELE, 1909) – India (Assam)
Nevromus RAMBUR, 1842
intimis MCLACHLAN, 1869 – India (Assam)
latratus MCLACHLAN, 1869 – India (Assam)
testaceus RAMBUR, 1842 – Borneo Sabah
Nigronia BANKS, 1908
fasciata (WALKER, 1853) – USA: Virginia
Parachauliodes VAN DER WEELE, 1909
japonicus (MCLACHLAN, 1867) – Japan

Sialidae

- Sialis* LATREILLE, 1802
fuliginosa PICTET, 1836 – Germany, UK: S
iola ROSS, 1937 – USA: Virginia
lutaria (LINNAEUS, 1758) – France, Norway, UK: E, S
sordida KLINGSTEDT, 1932 – Finland

RAPHIDOPTERA

Inocelliidae

- Fibla* NAVÁS, 1915
 Subgenus *Fibla* NAVÁS, 1915
maclachlani ALBARDA, 1891 – Algeria
Inocellia SCHNEIDER, 1843
crassicornis (SCHUMMEL, 1832) – Sweden

Raphidiidae

- Agulla* NAVÁS, 1914
 Subgenus *Agulla* NAVÁS, 1914
assimilis (ALBARDA, 1891) – USA: Oregon
Atlantoraphidia ASPÖCK et ASPÖCK, 1968
maculicollis STEPHENS, 1836 – France, Holland, UK: E, S
Dichrostigma NAVÁS, 1909
flavipes STEIN, 1836 – Germany
Phaeostigma NAVÁS, 1909
 Subgenus *Phaeostigma* NAVÁS, 1909
notata (FABRICIUS, 1781) – Germany, UK: E
Puncha NAVÁS, 1915
ratzeburgi (BRAUER, 1876) – Germany
Raphidia LINNAEUS, 1758
 Subgenus *Raphidia* LINNAEUS, 1758
ophiosis LINNAEUS, 1758 – Germany
Subilla NAVÁS, 1916
confinis (STEPHENS, 1836) – UK: E, S
Xanthostigma NAVÁS, 1909
xanthostigma SCHUMMEL, 1832 – Norway, UK: E

NEUROPTERA

Ascalaphidae

- Acheron* LEFÈBVRE, 1842
trux (WALKER, 1853) – India (Assam), Taiwan
- Agrionosoma* VAN DER WEELE, 1909
dohrni VAN DER WEELE, 1909 – India
swinhoei VAN DER WEELE, 1909 – India (“Punji”)
- Allocormodes* MCLACHLAN, 1891
intractabilis (WALKER, 1860) – Nigeria
kolbei VAN DER WEELE, 1909 – Tanzania
maculipennis (TASCHENBERG, 1879) – Ghana
- Ameropterus* ESBEN-PETERSEN, 1922
delicatulus (MCLACHLAN, 1871) – Guyana
mortoni ESBEN-PETERSEN, 1933 – Trinidad
- Ascalaphus* FABRICIUS, 1775
abdominalis (KIMMINS, 1949) – W. Pakistan
aethiopicus (KIMMINS, 1949) – Tanzania
dicax WALKER, 1853 – Bengal, Iraq, W. Pakistan
festivus (REMBUR, 1842) – Israel, N. Nigeria, S. Arabia, Tanzania
worthingtoni (KIMMINS, 1949) – Ghana, W. Nigeria
spp. – Ghana, India, Kenya, Niger, Oman, Palestine, S. Africa, S. Arabia, S. Morocco, Socotra, Tanzania, Yemen
- Ascalohybris* SZIRÁKI, 1998
angulatus (WESTWOOD, 1848) – India (Assam)
borneensis (VAN DER WEELE, 1904) – Borneo, Brunei, Sabah
javana (BURMEISTER, 1839) – Java
subjacens (WALKER, 1853) – Japan
- Ascalobyas* PENNY, 1981
microcerus (RAMBUR, 1842) – Trinidad sp. – India
- Ascalorphne* BANKS, 1915
impavidus (WALKER, 1853) – Brazil
- Balanopteryx* KARSCH, 1889
locuples KARSCH, 1889 – Madagascar
- Brevibarbis* TJEDER & HANSSON, 1992
argyopterus (TASCHENBERG, 1879) – Tanzania
- Bubopsis* MCLACHLAN, 1898
agrioides (RAMBUR, 1838) – Portugal, Spain
hamata (KLUG, 1834) – Oman, Palestine
tancrei VAN DER WEELE, 1909 – W. Pakistan
- Cordulecerus* RAMBUR, 1842
alopezinus (BURMEISTER, 1839) – Brazil
elegans VAN DER WEELE, 1909 – French Guyana
surinamensis (FABRICIUS, 1798) – Peru
- Cormodophlebia* VAN DER WEELE, 1909
pulchra VAN DER WEELE, 1909 – Madagascar
- Deleproctophylla* LEFÈBVRE, 1842
australis (FABRICIUS, 1787) – Greece, Sicily, Turkey
dusmeti (NAVÁS, 1914) – Spain, France
gelini (NAVÁS, 1919) – S. Morocco
variegata (KLUG, 1834) – Turkey (“Uardin” + “Kirikhan-Hassa Road”)
- Dicolpus* GERSTAECKER, 1884
volucris GERSTAECKER, 1884 – no data
- Disparomitus* VAN DER WEELE, 1909
citernii NAVÁS, 1915 – Mozambique
horvathi VAN DER WEELE, 1909 – Tanzania
longus NAVÁS, 1911 – Tanzania
transvaaliensis VAN DER WEELE, 1909 – Tanzania
spp. det. TJEDER – Tanzania, Zimbabwe
- Dixonotus* KIMMINS, 1950
vansomereni KIMMINS, 1950 – Kenya
- Encyoposis* MCLACHLAN, 1873
bilineatus KOLBE, 1897 – Tanzania
hemichroa NAVÁS, 1913 – Malawi, Tanzania, Zimbabwe
hemistigma VAN DER WEELE, 1909 – Sudan
- Eremophanes* BANKS, 1924
bicristatus BANKS, 1924 – Zimbabwe
- Glyptobasis* MCLACHLAN, 1873
dentifera (WESTWOOD, 1848) – India
- Idricerus* MCLACHLAN, 1873
sogdianus MCLACHLAN, 1875 – Iran (“Sumarkand”)
- Libelloides* Schäffer, 1763
baeticus (RAMBUR, 1838) – Spain
coccajus (DENIS et SCHIFFERMÜLLER, 1775) – France, Sicily, Spain, Switzerland
hispanicus (RAMBUR, 1842) – Spain

- ictericus* (CHARPENTIER, 1825) – Algeria, Corsica, Morocco, Sicily
italicus (FABRICIUS, 1781) – Italy, (Iraq?)
longicornis (LINNAEUS, 1764) – France, Spain
macaronius (SCOPOLI, 1763) – Bulgaria, Germany Greece, Turkey, Yugoslavia
ottomanus (GERMAR, 1839) – Greece, Turkey
ramburi (MCLACHLAN, 1875) – Japan
rhomboideus (SCHNEIDER, 1845) – Crete, Turkey
Neohaploglenius PENNY, 1982
flavicornis MCLACHLAN, 1871 – French Guyana
Nephoneura MCLACHLAN, 1873
costalis VAN DER WEELE, 1909 – Zimbabwe
Ogcogaster WESTWOOD, 1848
segmentator (WESTWOOD, 1847) – India
tessellata WESTWOOD, 1848 – W. Pakistan
Phalascusa KOLBE, 1897
braueri VAN DER WEELE, 1909 – Zambia
hilderbrandti KOLBE, 1897 – Zambia
Proctarrelabris LEFÈBVRE, 1842
capensis (THUNBERG, 1784) – S. Africa
involvens (WALKER, 1853) – S. Africa
Protidricerus VAN DER WEELE, 1909
exitis (MCLACHLAN, 1894) – China (Yunnan)
Protobubopsis VAN DER WEELE, 1909
braueri VAN DER WEELE, 1909 – Saudi Arabia, W. Pakistan
Ptyngidricerus VAN DER WEELE, 1909
albardanus (MCLACHLAN, 1891) – Oman
venustus TJEDER et WATERSTON, 1976 – Oman
Stephanolasca VAN DER WEELE, 1909
rufopicta (WALKER, 1853) – Niger, Nigeria
Stilbopteryx NEWMAN, 1838
costalis NEWMAN, 1838 – Australia
Suhpalacsa LEFÈBVRE, 1842
abdominalis MCLACHLAN, 1871 – Tanzania
lemoulti LACROIX, 1925 – Oman
principes GERSTAECKER, 1894 – no data
rutila (GERSTAECKER, 1894) – Tanzania sp. – Australia
Suphalomitus VAN DER WEELE, 1909
buyssoni VAN DER WEELE, 1909 – Mozambique, Kenya
cephalotes (MCLACHLAN, 1871) – Madagascar
Tmesibasis MCLACHLAN, 1873
lacerata HAGEN, 1853 – Tanzania, Zambia, Zimbabwe
rothschildii VAN DER WEELE, 1907 – Kenya
 spp. – E. Nigeria, Zimbabwe
Ululodes CURRIE, 1899
hyalinus (LATREILLE, 1811) – Peru
macleayana (GUILDING, 1825) – Trinidad
quadripuctata (BURMEISTER, 1838) – USA: Virginia
 sp. – Columbia?
- Berothidae
- Lomamyia* BANKS, 1904
banksi CARPENTER, 1940 – USA: Virginia
flavicornis (WALKER, 1853) – USA: Virginia
Mucroberotha TJEDER, 1959
nigrescens TJEDER, 1968 – Tanzania
- Chrysopidae
- Atlantochrysa* HÖLZEL, 1970
atlantica (MCLACHLAN, 1882) – Canary Islands
Ceraeochrysa ADAMS, 1982
lineaticornis (FITCH, 1855) – USA: Virginia
Chrysopa LEACH, 1815
abbreviata CURTIS, 1834 – France, Romania, Spain, UK: E
dorsalis BURMEISTER, 1839 – France, UK: E
flaviceps (BRULLÉ, 1840) – Canary Islands
incompleta BANKS, 1911 – USA: Virginia
oculata SAY, 1839 – USA: Virginia
pallens (RAMBUR, 1838) – China, India, Japan, UK: E
perla (LINNAEUS, 1758) – Austria, Belgium, France, Germany, Hungary, Italy, Norway, Switzerland, Turkey, UK: E, S
phyllochroma WESMAEL, 1841 – Finland, Germany, Hungary, Norway
quadripunctata BURMEISTER, 1839 – USA: Virginia
 sp. – Malawi

- Chrysoperla* STEINMANN, 1964
carnea (STEPHENS, 1836) – Canary Islands, Egypt, France, Germany, Hungary, India, Iraq, Italy, Spain, UK: E, S
congrua (WALKER, 1853) – S. Africa
externa externa (HAGEN, 1861) – Guatemala
rufilabris (BURMEISTER, 1839) – USA: Virginia
- Chrysopidia* NAVÁS, 1910
 Subgenus *Chrysotropia* NAVÁS, 1911
ciliata (WESMAEL, 1841) – Belgium, Hungary, Ireland, UK: E, S, W
- Chrysopodes* NAVÁS, 1913
 Subgenus *Neosuarius* ADAMS et PENNY, 1987
nigripilosa (BANKS, 1924) – Galapagos
porterina (NAVÁS, 1910) – Chile
varicosus NAVÁS, 1914 – West Pacific Fringe
- Cunctochrysa* HÖLZEL, 1970
albolineata (KILLINGTON, 1935) – UK: E, S
- Dichochrysa* YANG & YANG, 1990
flavifrons (BRAUER, 1850) – France, Italy, Spain, UK: E, W
genei (RAMBUR, 1842) – Israel
prasina (BURMEISTER, 1839) – France, Hungary, Ireland, Spain, Switzerland, UK: E, W
venosa (RAMBUR, 1842) – France, Israel, Spain, Switzerland
ventralis (CURTIS, 1834) – Czech, France, Hungary, Italy, Norway, Spain, UK: E, S, W
- Glénochrysa* ESBEN-PETERSEN, 1920
typica ESBEN-PETERSEN, 1920 – Ghana
- Gonzaga* NAVÁS, 1913
nigriceps (MCLACHLAN, 1867) – Peru
- Italochrysa* PRINCIPI, 1946
italica (ROSSI, 1790) – France, Italy, Majorca
oberthuri (NAVÁS, 1908) – China
stigmatica (RAMBUR, 1842) – Algeria, Spain
variegata (BURMEISTER, 1839) – Israel
- Lainius* NAVÁS, 1913
constellatus NAVÁS, 1913 – Guatemala
- Leucochrysa* MCLACHLAN, 1868
 Subgenus *Leucochrysa* MCLACHLAN, 1868
clara (MCLACHLAN, 1867) – West Pacific Fringe
insularis (WALKER, 1853) – USA: Virginia
varia (SCHNEIDER, 1851) – West Pacific Fringe
- Subgenus *Nodita* NAVÁS, 1916
azevedoi (NAVÁS, 1913) – Peru
postica (NAVÁS, 1913) – Peru
 sp. – Brazil
- Mallada* NAVÁS, 1925
picteti (MCLACHLAN, 1882) – Monaco, Spain
punctilabris (MCLACHLAN, 1894) – China
subcostalis (MCLACHLAN, 1882) – Canary Islands
- Nineta* NAVÁS, 1912
flava (SCOPOLI, 1763) – Ireland, UK: E, S, W
guardarramensis (PICTET, 1865) – Hungary
vittata (WESMAEL, 1841) – Europe, UK: E, S
- Nothochrysa* MCLACHLAN, 1868
capitata (FABRICIUS, 1793) – UK: E, S
fulviceps (STEPHENS, 1836) – France, Hungary, Spain
 sp. – Yemen
- Retipenna* BROOKS, 1986
dasyphlebia (MCLACHLAN, 1894) – China
notata (NAVÁS, 1910) – China
- Suarius* NAVÁS, 1914
lucasi (NAVÁS, 1910) – Iraq, Israel
tigridis (MORTON, 1921) – Israel
- Coniopterygidae
- Coniopteryx* CURTIS, 1834
 Subgenus *Coniopteryx* CURTIS, 1834
borealis TJEDER, 1930 – UK: S
tineiformis CURTIS, 1834 – UK: S
- Subgenus *Metaconiopteryx* Kis, 1970
esbenpeterseni TJEDER, 1930 – UK: E
- Conwentzia* ENDERLEIN, 1905
pineticola ENDERLEIN, 1905 – UK: E, S
psociformis CURTIS, 1834 – Europe, Ireland, UK: E, S
- Parasemidalis* ENDERLEIN, 1905
fuscipennis (REUTER, 1894) – no data
- Semidalis* ENDERLEIN, 1905
aleyrodiformis (STEPHENS, 1836) – UK: E
vicina (HAGEN, 1861) – USA: Virginia
- Dilaridae
- Dilar* RAMBUR, 1838
meridionalis HAGEN, 1866 – Ireland, Spain

Hemerobiidae

- Drepanacra* TILLYARD, 1916
binocula NEWMAN, 1838 – Sulawesi
- Drepanopteryx* LEACH, 1815
algida (ERICHSON, 1851) – Austria, Switzerland
phalaenoides (LINNAEUS, 1758) – Germany, Norway, Switzerland, UK: E, S
- Hemerobius* LINNAEUS, 1758
 Subgenus *Brauerobius* KRÜGER, 1922
marginatus STEPHENS, 1836 – Ireland, Norway, UK: S
- Subgenus *Hemerobius* LINNAEUS, 1758
atrifrons MCLACHLAN, 1868 – Czech, France, Germany, Norway, UK: S, W
contumax TJEDER, 1932 – France
eatonii MORTON, 1906 – Canary Islands
fenestratus TJEDER, 1932 – Denmark
gilvus STEIN, 1863 – Hungary
humulinus LINNAEUS, 1758 – Austria, Czech, France, Germany, Hungary, Norway, Spain, UK: E, S, USA: Virginia
lutescens FABRICIUS, 1793 – Austria, Czech, France, Hungary, Ireland, UK: E, S
micans OLIVIER, 1792 – France, Hungary, Ireland, Yugoslavia, UK: S, W
nitidulus FABRICIUS, 1777 – Austria, Norway, UK: E, S
perelegans STEPHENS, 1836 – UK: S
pini STEPHENS, 1836 – France, Germany, Norway, Switzerland, UK: E, S
simulans WALKER, 1853 – Norway, Switzerland, UK: E, S
stigma STEPHENS, 1836 – Austria, Czech, France, Germany, Spain, UK: E, S, USA: Virginia
- Megalomus* RAMBUR, 1842
darwinii BANKS, 1924 – Galapagos
fidelis (BANKS, 1897) – USA: Virginia
hirtus (LINNAEUS, 1761) – France, Spain, UK: S
- Micromus* RAMBUR, 1842
angulatus (STEPHENS, 1836) – France, Hungary, Ireland, Israel, Norway, Poland, UK: E
bifasciatus TILLYARD, 1923 – New Zealand
- lanosus* (ZELENÝ, 1962) – Hungary
paganus (LINNAEUS, 1767) – Ireland, Norway, UK: S, W
posticus (WALKER, 1853) – USA: Virginia
tasmaniae (WALKER, 1860) – New Zealand
variegatus (FABRICIUS, 1793) – France, Hungary, Ireland, UK: E, S
- Psectra* HAGEN, 1866
diptera (BURMEISTER, 1839) – UK: E
- Symphorobius* BANKS, 1904
amiculus (FITCH, 1855) – USA: Virginia
elegans (STEPHENS, 1836) – UK: E
fallax NAVÁS, 1908 – France, Israel
fuscescens (WALLENGREN, 1863) – Austria, Czech, Norway, UK: S
klapaleki ZELENÝ, 1963 – UK: E
pellucidus (WALKER, 1853) – UK: E
pygmaeus (RAMBUR, 1842) – Spain, UK: E
- Wesmaelius* KRÜGER, 1922
 Subgenus *Kimmisia* KILLINGTON, 1937
malladai (NAVÁS, 1925) – France, Norway, Sweden, UK: S
nervosus (FABRICIUS, 1793) – France, Ireland, Norway, UK: E, S, W
navasi (ANDRÉU, 1911) – Israel
ravus (WITHYCOMBE, 1923) – UK: E
subnebulosus (STEPHENS, 1836) – France, Norway, UK: E, S, W
- Subgenus *Wesmaelius* KRÜGER, 1922
concinus (STEPHENS, 1836) – Czech, Poland, UK: E, S
quadrifasciatus (REUTER, 1894) – France, Switzerland, UK: E, S, W

Mantispidae

- Mantispa* ILLIGER, 1798
grandis ERICHSON, 1839 – S. Africa
nana (NAVÁS, 1912) – Saudi Arabia
styriaca (PODA, 1761) – Corsica, France
viridis WALKER, 1853 – USA: Virginia
 spp. – India, New Guinea
- Trichoscelia* WESTWOOD, 1852
varia (WALKER, 1853) – no data

Myrmeleontidae

- Acanthaclisis* RAMBUR, 1842
baetica RAMBUR, 1842 – Italy, Spain

- occitanica* (VILLERS, 1789) – France, Hungary, Spain, Turkey
pallida (MCLACHLAN, 1887) – Iraq (“Amara”), Tigris
Ameromyia BANKS, 1913
muralli NAVÁS, 1932 – Brazil
Bankisus NAVÁS, 1912
carinifrons (ESBEN-PETERSEN, 1936) – Tanzania, Zimbabwe
oculatus NAVÁS, 1912 – Tanzania, Zimbabwe
Banyutus NAVÁS, 1912
indicus NAVÁS, 1929 – India
lethalis (WALKER, 1853) – Gabon, S. Africa, Zaïre, Zambia
leucospilos (HAGEN, 1853) – Malawi, Tanzania, Zaïre
roseostigma NAVÁS, 1914 – Tanzania
verendus (WALKER, 1853) – Sri Lanka
Brachynemurus HAGEN, 1888
ferox (WALKER, 1853) – USA: Arizona, Oregon, Utah
mexicanum BANKS, 1895 – USA (New Mexico)
 sp. – Brazil
Callistoleon BANKS, 1910
erythrocephalus (LEACH, 1814) – Australia
Campestretus NAVÁS, 1933
extraneus (NAVÁS, 1912) – Nigeria, Sudan, Tanzania
Centroclisis NAVÁS, 1909
brachygaster (RAMBUR, 1842) – Kenya, Tanzania, Zimbabwe
cervina (GERSTAECKER, 1863) – Egypt, Mauritania, Niger, Saudi Arabia, Yemen
distincta (RAMBUR, 1842) – Tanzania
felina (GERSTAECKER, 1894) – Niger, Tanzania
lineata (KIRBY, 1903) – Tanzania, Zanzibar
lineatipennis (PÉRINGUEY, 1910) – S. Africa
malitiosa (NAVÁS, 1912) – Malawi, Nigeria, Tanzania
punctulata NAVÁS, 1912 – Mauritania, Niger, Sudan, Yemen
rufescens (GERSTAECKER, 1885) – Ghana, Nigeria
vitanda (NAVÁS, 1912) – Saudi Arabia
 spp. – India, S. Africa
Cosina NAVÁS, 1912
maclachlani (VAN DER WEELE, 1904) – Australia
Crambomorphus MCLACHLAN, 1867
grandidieri VAN DER WEELE, 1907 – Madagascar
Creoleon TILLYARD, 1918
aegyptiacus (RAMBUR, 1842) – Corsica, Spain
africanus (RAMBUR, 1842) – Ghana, Nigeria, Zambia
cinerascens (NAVÁS, 1912) – Algeria, Israel, Jordan, Oman, Saudi Arabia, Yemen
decussata NAVÁS, 1914 – Kenya, Tanzania
diana (KOLBE, 1897) – Tanzania, Zimbabwe, Zambia
elegans HÖLZEL, 1968 – Iraq, Oman, Pakistan, UAE
griseus (KLUG, 1834) – Canary Islands, Egypt, Iraq, Israel, Oman, Sudan, UAE
litteratus (NAVÁS, 1908) – Madagascar
lugdunensis (VILLIERS, 1789) – Crete, France, Greece, Israel, Mallorca, Menorca, Morocco, Spain
mortifer (WALKER, 1853) – Kenya, Socotra, Sudan
nigritarsis NAVÁS, 1911 – S. Africa
nubifer (KOLBE, 1897) – Nigeria, Saudi Arabia, Tanzania, Uganda, Madagascar, Yemen
plumbeus (OLIVIER, 1811) – Algeria, France, Greece, Hungary, Iraq, Israel, Italy, Lebanon, Romania, Sardinia, Sicily, Spain, Turkey
 spp. – Algeria, Ghana, Madagascar, Mauritania, Niger, Nigeria, Saudi Arabia
Cueta NAVÁS, 1911
externa NAVÁS, 1914 – Madagascar
klugi (HÖLZEL, 1982) – Kenya, Mauritania, Tanzania, Yemen
lineosa (RAMBUR, 1842) – Algeria, Bahrain, Greece, Israel, Morocco, Palestine,

- Saudi Arabia, Turkey, W. Pakistan, Yemen
minervae HÖLZEL, 1972 – Oman
mysteriosa (GERSTAECKER, 1894) – Tanzania, Kenya
punctatissima (GERSTAECKER, 1894) – Malawi, Tanzania, N. Nigeria, Yemen?, Zambia
rimata (NAVÁS, 1912) – W. Nigeria
 spp. – E. Africa, India, Oman, Saudi Arabia, Socotra
Cymothales GERSTAECKER, 1894
poultoni NAVÁS, 1913 – Malawi
mirabilis GERSTAECKER, 1894 – Tanzania
eccentros (WALKER, 1860) – S. Africa
Delfimeus NAVÁS, 1912
irroratus (OLIVIER, 1811) – Israel, Turkey, Yemen
Dendroleon BRAUER, 1866
pantherinus (FABRICIUS, 1787) – Hungary
obsoletus (SAY, 1839) – USA: Virginia
Dimarella BANKS, 1913
praedator (WALKER, 1853) – Brazil
Distoleon BANKS, 1910
annulatus (KLUG, 1834) – Algeria
bistrigatus (RAMBUR, 1842) – Australia, Bengal
canariensis (TJEDER, 1939) – Canary Islands
crampeli (ESBEN-PETERSEN, 1933) – Nigeria
curdicus HÖLZEL, 1972 – Turkey
ilione (BANKS, 1911) – Kenya
laticollis (NAVÁS, 1913) – Israel
lynx (NAVÁS, 1912) – Nigeria
perlatus GERSTAECKER, 1885 – Kenya, Zimbabwe
pictiventris (NAVÁS, 1914) – Madagascar
quinquemaculatus (HAGEN, 1853) – Malawi, Nigeria, Zimbabwe
sanguinolentus (NAVÁS, 1912) – Nigeria
somnolentus (GERSTAECKER, 1885) – Australia
tetragrammicus (FABRICIUS, 1798) – Crete, France, Greece, Turkey
zonarius (NAVÁS, 1934) – Yemen
 spp. – Kenya, Pakistan
Echthromyrmex MCLACHLAN, 1867
insularis KIMMINS, 1961 – Socotra
Euroleon ESBEN-PETERSEN, 1919
nostras (GEOFFROY, 1785) – Austria, Hungary, Italy, UK: E
Feinerus NAVÁS, 1919
umbratus NAVÁS, 1919 – China (Yunnan)
Froggattisca ESBEN-PETERSEN, 1915
longula (NAVÁS, 1926) – Palestine, Saudi Arabia
pulchella ESBEN-PETERSEN, 1915 – Australia
Galapagoleon STANGE, 1994
darwini STANGE, 1969 – Galápagos
Gandulus NAVÁS, 1912
 sp. – Kenya, Nigeria, Zimbabwe
Ganguilus NAVÁS, 1912
pallescens NAVÁS, 1912 – Mauritania, Sudan
 sp. – Morocco
Gatzara NAVÁS, 1915
jubilaea NAVÁS, 1915 – Darjeeling
Gepella HÖLZEL, 1968
modesta HÖLZEL, 1968 – Oman, Saudi Arabia
Gepus NAVÁS, 1912
buxtoni MORTON, 1921 – Iraq
curvatus NAVÁS, 1914 – Egypt, Oman, Palestine, Saudi Arabia
invisus NAVÁS, 1912 – Oman, Palestine, Saudi Arabia, Trucial States, Yemen
variegatus NAVÁS, 1932 – Saudi Arabia
Geyria ESBEN-PETERSEN, 1920
lepidula (NAVÁS, 1912) – UAE
Glenoleon BANKS, 1913
annulatus ESBEN-PETERSEN, 1918 – Australia
dissolutus (GERSTAECKER, 1885) – Australia
pulchellus (RAMBUR, 1842) – Australia (N.S.W.)
Glenuroides OKAMOTO, 1910
japonicus MACLACHLAN, 1867 – Japan
Glenurus HAGEN, 1866
heteropteryx GERSTAECKER, 1885 – Trinidad
 spp. – China (Yunnan), Philippines
Gymnocnemia SCHNEIDER, 1845
variegata (SCHNEIDER, 1845) – Sicily
Gymnoleon BANKS, 1911

- dentatus* NAVÁS, 1923 – Tanzania, Zambia
exilis BANKS, 1911 – Malawi
 sp. – Algeria
Hagenomyia BANKS, 1911
guttata (NAVÁS, 1914) – Kenya, Tanzania
imperator (NAVÁS, 1914) – Nigeria
punctata (NAVÁS, 1911) – Israel, Kenya
sagax (WALKER, 1853) – Borneo, Hong Kong, Sabah
seyrigi (NAVÁS, 1933) – Madagascar
Heoclisia NAVÁS, 1923
fulvifusa (KIMMINS, 1939) – Australia
fundata (WALKER, 1853) – Australia
louiseae BANKS, 1938 – Philippines
 sp. – India
Jaya NAVÁS, 1912
dasymalla (GERSTAECKER, 1863) – Kenya
Klapalekus NAVÁS, 1912
nubilatus NAVÁS, 1912 – Nigeria
 sp. – Turkey
Lachlathetes NAVÁS, 1926
chiangi BANKS, 1941 – China (Yunnan)
moestus (HAGEN, 1853) – S. Africa, Tanzania, Zimbabwe
Layahima NAVÁS, 1912
nebulosa NAVÁS, 1912 – Darjeeling
Lopezus NAVÁS, 1913
fedtschenkoi MCLACHLAN, 1875 – Israel, Russia
Macroleon BANKS, 1909
lynceus (FABRICIUS, 1787) – Nigeria
polyzonus (GERSTAECKER, 1885) – Ghana
validus (MCLACHLAN, 1894) – Madagascar
Macronemurus A. COSTA, 1855
appendiculatus (LATREILLE, 1807) – Corsica, France, Italy, Malta, Morocco, Spain
bilineatus BRAUER, 1868 – Greece, Turkey
delicatulus MORTON, 1926 – Israel
elegantulus MACLACHLAN, 1898 – Tunisia
euanthe BANKS, 1911 – Tanzania, Uganda
linearis (KLUG, 1834) – Israel, Lebanon
striolus KOLBE, 1897 – Kenya, Tanzania
Maracanda MCLACHLAN, 1875
lineata NAVÁS, 1913 – Saudi Arabia
Megistopus RAMBUR, 1842
flavicornis (ROSSI, 1790) – Hungary, Morocco
Mesonemurus NAVÁS, 1920
harterti NAVÁS, 1920 – Jordan
steineri HÖLZEL, 1972 – Turkey
Mossega NAVÁS, 1914
indecis (BANKS, 1913) – Australia
Myrmecaelurus A. COSTA, 1855
acerbus (WALKER, 1853) – Iraq (“Mesopotamia”)
atomarius (RAMBUR, 1842) – Mauritania, Nigeria
lobatus NAVÁS, 1912 – Saudi Arabia
major MCLACHLAN, 1875 – Turkey
medius NAVÁS, 1913 – Sudan
persicus (NAVÁS, 1929) – Saudi Arabia, Trucial States, Yemen
peterseni KIMMINS, 1943 – Arabia
punctulatus (STEVEN in FISCHER v. WALDHEIM, 1822)
spectabilis NAVÁS, 1912 – N.W. Persia, Turkey
subcostatus BANKS, 1911 – Mauritania, Niger, Nigeria, Sudan
trigrammus (PALLAS, 1771) – Greece, Hungary, India, Italy, Jordan, Lebanon, Moldavia, N.W. Persia, Palestine, Saudi Arabia, Spain, Turkey, W. Pakistan, Yemen
tristis (WALKER, 1853) – Gabon, Kenya, Malawi, Nigeria, Sierra Leone, Tanzania, Zaïre, Zambia, Zimbabwe
varians NAVÁS, 1913 – Palestine
zigan H. ASPÖCK, U. ASPÖCK et HÖLZEL, 1980 – Hungary
 sp. – Bengal
Myrmeleon LINNAEUS, 1767
acer WALKER, 1853 – Australia
alternans BRULLÉ, 1839 – Canary Islands, Socotra
atrox (WALKER, 1853) – Turkey
brasiliensis NAVÁS, 1914 – Brazil
celebensis MACLACHLAN, 1875 – Brunei
circumcinctus TJEDER, 1963 – Palestine
croceicollis GERSTAECKER, 1885 – Australia
crudelis WALKER, 1853 – USA: Virginia

- doralice* BANKS, 1911 – Israel, Kenya, Morocco, Oman (Dhufar), Palestine, Saudi Arabia, S. Africa, Trucial States, Turkey
- formicarius* LINNAEUS, 1767 – Denmark, France, Greece, Netherlands
- hyalinus* OLIVIER, 1811 – Algeria, Canary Islands, Oman
- immaculatus* DEGEER, 1773 – USA: Virginia
- inconspicuus* RAMBUR, 1842 – Austria, France, Hungary, Italy, Persia, Spain, Turkey
- lentus* (WALKER, 1853) – Malaya, Sabah
- lethifer* WALKER, 1853 – Kenya, Malawi, Tanzania, S. Africa, Zanzibar, Zimbabwe
- obscurus* RAMBUR, 1842 – Botswana, Ghana, Kenya, Nigeria, Madagascar, Tanzania
- perpilosus* BANKS, 1924 – Galapagos
- pictifrons* GERSTAECKER, 1885 – Australia
- picturatus* NAVÁS, 1914 – Nigeria
- tenuipennis* (RAMBUR, 1842) – India
- torquatus* NAVÁS, 1914 – Madagascar
- trivialis* GERSTAECKER, 1885 – Darjeeling
- saevus* WALKER, 1853 – S. China
- sp. near *hyalinus* OLIVIER, 1871 – Saudi Arabia, Socotra
- Nadus* NAVÁS, 1935
- sudanensis* NAVÁS, 1935 – Kenya, Zimbabwe
- Nannoleon* ESBEN-PETERSEN, 1928
- michaelseni* ESBEN-PETERSEN, 1928 – S. Africa
- Neleoma* NAVÁS, 1914
- spp. – Australia, Israel, Madagascar, Morocco, Socotra, Tanzania, Yemen
- Nemoleon* NAVÁS, 1909
- alcidice* BANKS, 1911 – S. Africa
- filiformis* (GERSTAECKER, 1885) – Malawi, S. Africa
- latens* NAVÁS, 1911 – India, W. Pakistan
- notatus* (RAMBUR, 1842) – Madagascar, Nigeria
- sp. – Tanzania, Nigeria
- Nesoleon* BANKS, 1909
- boschimanus* (PÉRINGUEY, 1910) – S. Africa, Zimbabwe
- trivirgatus* (GERSTAECKER, 1885) – S. Africa, Zambia, Zimbabwe
- Neuroleon* NAVÁS, 1909
- arenarius* (NAVÁS, 1904) – Spain
- basilineatus* FRASER, 1952 – Madagascar
- canariensis* (NAVÁS, 1906) – Canary Islands, Tenerife
- egenus* (NAVÁS, 1914) – Spain
- junior* (NAVÁS, 1930) – Saudi Arabia
- leptaleus* (NAVÁS, 1912) – Algeria, Saudi Arabia
- limbatellus* NAVÁS, 1913 – Algeria
- longipennis* (ESBEN-PETERSEN, 1931) – Kenya, Oman
- microstenus* (MCLACHLAN, 1898) – Greece
- nemausiensis* (BORKHAUSEN, 1791) – France, Italy
- ocreatus* (NAVÁS, 1904) – France, Spain
- parvus* KIMMINS, 1943 – Saudi Arabia
- taifensis* KIMMINS, 1943 – Saudi Arabia
- tenellus* (KLUG, 1834) – Turkey, Israel, Morocco
- torridus* NAVÁS, 1914 – Tanzania
- spp. – Ghana, Iran, Israel, Oman, Trucial States, Saudi Arabia,
- Nohoveus* NAVÁS, 1918
- atrifrons* (HÖLZEL, 1970) – Spain, Turkey
- lepidus* (KLUG, 1834) – Algeria, India, Saudi Arabia, Yemen, UAE
- spp. – Mauritania, Saudi Arabia
- Nophis* NAVÁS, 1912
- teillardii* NAVÁS, 1912 – Mali, Saudi Arabia
- Nosa* NAVÁS, 1911
- tigris* (DALMAN, 1823) – Niger, Nigeria, Zimbabwe
- tristis* (HAGEN, 1853) – Central Africa, Kenya, Tanzania
- Palpares* RAMBUR, 1842
- amitinus* KOLBE, 1906 – Madagascar
- angustus* MCLACHLAN, 1898 – Mali, Saudi Arabia
- astutus* (WALKER, 1853) – India
- berlandi* NAVÁS, 1914 – Ghana
- caffer* (BURMEISTER, 1838) – S. Africa
- cataractae* PÉRINGUEY, 1910 – Nigeria, Tanzania, Zimbabwe

- cephalotes* (KLUG, 1834) – Niger, Saudi Arabia, Sudan, Trucial States
digitatus GERSTAECKER, 1894 – Nigeria
dispar NAVÁS, 1912 – Oman (Dhufar), Yemen
festivus (GERSTAECKER, 1894) – no data
flavofasciatus (MCLACHLAN, 1867) – Zimbabwe
furfuraceus (RAMBUR, 1842) – Niger, Nigeria
gattatus (NAVÁS, 1933) – Madagascar
geniculata NAVÁS, 1912 – Israel, Lebanon
gigas (DALMAN, 1832) – Sierra Leone
hildebrandti KOLBE, 1906 – Madagascar
inclemens (WALKER, 1853) – Socotra, S. Africa
incommodus (WALKER, 1853) – Nigeria
insularis MCLACHLAN, 1894 – Madagascar
klugi KOLBE, 1898 – Algeria, Niger, Saudi Arabia
latipennis RAMBUR, 1842 – Niger, Nigeria, Sudan
libelloides (LINNAEUS, 1767) – Algeria, Greece, France, Iran, Israel, Lebanon, Morocco, Palestine, Sicily, Spain, Turkey
longicornis (NAVÁS, 1912) – N. Nigeria
nyassanus (NAVÁS, 1911) – Malawi
obscuripennis (SCMIDT, 1907) – Zimbabwe
obsoletus GERSTAECKER, 1888 – Congo, Zaïre, Zimbabwe
papilionoides (KLUG, 1834) – Kenya, Niger, Saudi Arabia, Tanzania, Yemen
pardaloides (VAN DER WEELE, 1907) – Madagascar
pardus (RAMBUR, 1842) – Bengal, India
radiatus RAMBAR, 1842 – Mauritania
sobrinus PÉRINGUEY, 1911 – S. Africa
solidus GERSTAECKER, 1893 – Oman (Dhufar), W. Pakistan
sparsus HAGEN, 1887 – Kenya, Malawi, Tanzania, Zimbabwe
speciosus (LINNAEUS, 1758) – S. Africa
spectrum (RAMBUR, 1842) – Niger, Sudan
tessellatus (RAMBUR, 1842) – Algeria, Mali, Mauritania, Niger, Sudan
torridus NAVÁS, 1912 – Ghana, Zimbabwe
trichogaster NAVÁS, 1913 – India
voeltzkowi (KOLBE, 1906) – Madagascar
walkeri MACLACHLAN, 1894 – Kenya, Saudi Arabia
zebratus RAMBAR, 1842 – W. Pakistan
 sp. – India
Palparidius PÉRINGUEY, 1910
concinus PÉRINGUEY, 1910 – Botswana, S. Africa
Pamexis HAGEN, 1866
luteus (THUNBERG, 1784) – S. Africa
Paraglenurus VAN DER WEELE, 1909
 spp. – China (Yunnan), Rossel Island
Phanoclis BANKS, 1913
longicollis (RAMBUR, 1842) – Mauritania, Nigeria, Saudi Arabia
Pseudoformicaleo VAN DER WEELE, 1909
nubeculus (GERSTAECKER, 1885) – Sabah
Quinemurus KIMMINS, 1943
cinereus KIMMINS, 1943 – Trucial States
Sogra NAVÁS, 1911
alluaudi (VAN DER WEELE, 1909) – Madagascar
Solter NAVÁS, 1912
felderi NAVÁS, 1912 – Israel
hardei HÖLZEL, 1968 – Saudi Arabia
ledereri NAVÁS, 1912 – Israel, Turkey
liber NAVÁS, 1912 – Portugal
virgillii NAVÁS, 1931 – Socotra
 sp. – N. Nigeria
Stenares HAGEN, 1866
harpia (GERSTAECKER, 1863) – India
hyaena (DALMAN, 1823) – Nigeria
improbus (WALKER, 1853) – India
irroratus NAVÁS, 1912 – Oman, Saudi Arabia
 sp. near *irroratus* NAVÁS, 1912 – Israel
Stiphoneura GERSTAECKER, 1885
inclusa (WALKER, 1853) – India, Bengal
Syngenes KOLBE, 1897
arabicus KIMMINS, 1943 – Yemen
dolichocercus NAVÁS, 1914 – Madagascar
longicornis RAMBUR, 1842 – Zimbabwe
 spp. – Nigeria, Socotra
Tomatares HAGEN, 1866
citrinus HAGEN, 1853 – S. Africa, Zimbabwe
clavicornis (LATREILLE, 1829) – Niger, Nigeria
limonius NAVÁS, 1912 – no data

pardalis (FABRICUS, 1781) – Darjeeling, India
striolatus (STITZ, 1912) – Sudan
Vella NAVÁS, 1913
fallax (RAMBUR, 1842) – N. America
Vessa NAVÁS, 1931
guttata NAVÁS, 1931 – Zambia
Voltor NAVÁS, 1935
sylphis (VAN DER WEELE, 1907) – Madagascar
Weeleus NAVÁS, 1912
acutus (WALKER, 1853) – New Zealand

Nemopteridae

Croce MCLACHLAN, 1885
alba (OLIVIER, 1811) – Israel
filipennis (WESTWOOD, 1841) – Bengal sp. – Saudi Arabia
Dielocroce COWLEY, 1941
elegans (MARTYNOVA, 1930) – Oman
persica (MARTYNOVA, 1930) – Iran
Halter RAMBUR, 1842
halteratus (FORSKÅL, 1775) – Iraq (“Baiji”), Oman, Pakistan, Saudi Arabia, Trucial States
Josandrea NAVÁS, 1906
sazi NAVÁS, 1906 – Spain
spuria TJEDER, 1975 – Socotra
Lertha NAVÁS, 1910
barbara (KLUG, 1838) – unknown locality (“Marruecos”)
extensa (OLIVIER, 1811) – Turkey
ledereri (SÉLYS-LONGCHAMPS, 1866) – Turkey
Nemeura NAVÁS, 1915
glauningi (KOLBE, 1901) – Tanzania, Zimbabwe
gracilis (HAGEN, 1886) – S. Africa
Nemopistha NAVÁS, 1910
imperatrix (WESTWOOD, 1867) – Ghana
togonica (KOLBE, 1900) – Nigeria
Nemoptera LATREILLE, 1802
aegyptiaca RAMBUR, 1842 – Israel
bipennis (ILLIGER, 1812) – Spain
coa (LINNAEUS, 1758) – Greece
sinuata OLIVIER, 1811 – Greece, Turkey
Parasicyoptera TJEDER, 1974
guichardi TJEDER, 1974 – Socotra

Nevrorthidae

Nevrorthus A. COSTA, 1863
fallax (RAMBUR, 1842) – Corsica
iridipennis A. COSTA, 1863 – Bulgaria

Nymphidae

Nymphes LEACH, 1814
myrmeleonoides LEACH, 1814 – Australia
Osmylops BANKS, 1913
armatus (MCLACHLAN, 1867) – Australia sp. – New Guinea

Osmylidae

Kempynus NAVÁS, 1912
citrinus (MCLACHLAN, 1873) – New Zealand
incisus (MCLACHLAN, 1863) – New Zealand
Osmylus LATREILLE, 1802
fulvicephalus (SCOPOLI, 1763) – France, Germany, Italy, UK: E, S
Porismus MCLACHLAN, 1867
strigatus (BURMEISTER, 1838) – Australia
Thyridosmylus KRÜGER, 1913
minor KIMMINS, 1942 – Bengal

Polystoechotidae

Polystoechotes BURMEISTER, 1839
punctatus (FABRICIUS, 1793) – N. America

Psychopsidae

Psychopsis NEWMAN, 1842
notabilis NAVÁS, 1912 – Burma
Zygophlebius NAVÁS, 1910
zebra (BRAUER, 1889) – Malawi

Sisyridae

Sisyra BURMEISTER, 1839
brunnea BANKS, 1909 – Australia
dalii MCLACHLAN, 1866 – France, UK: W
fuscata (FABRICIUS, 1793) – France, Norway, UK: E, S
jutlandica ESBEN-PETERSEN, 1915 – Norway
terminalis CURTIS, 1854 – Czech, Hungary, Ireland, UK: E

APPENDIX 2

Countries of origin of the Neuropterida specimens in the National Museums of Scotland. Figures after the country indicate numbers of species per country in the orders Neuroptera+Megaloptera+Raphidioptera with the total for the three Orders in brackets.

Algeria 15+0+1 (16)	Malaya 1+0+0 (1)
Australia 21+0+0 (21)	Mali 3+0+0 (3)
Bahrain 1+0+0 (1)	Mauritania 11+0+0 (11)
Bengal 7+0+0 (7)	Morocco 12+0+0 (12)
Botswana 2+0+0 (2)	Moçambique 2+0+0 (2)
Brazil 7+1+0 (8)	New Zealand 5+1+0 (6)
Canary Islands 10+0+0 (10)	Niger 15+0+0 (15)
Central African Republic 1+0+0 (1)	Nigeria 41+0+0 (41)
Central America 2+0+0 (2)	Oman 22+0+0 (22)
Chile 1+0+0 (1)	Pakistan 13+0+0 (13)
China 11+1+0 (12)	Peru 5+0+0 (5)
Columbia 1+0+0 (1)	S. Africa 26+0+0 (26)
Congo 1+0+0 (1)	Saudi Arabia 37+0+0 (37)
Egypt 5+0+0 (5)	Sierra Leone 2+0+0 (2)
Europe 105+3+8 (116)	Socotra 12+0+0 (12)
French Guyana 2+0+0 (2)	Sri Lanka 1+0+0 (1)
Gabon 2+0+0 (2)	Sudan 13+0+0 (13)
Galapagos 3+0+0 (3)	Taiwan 1+0+0 (1)
Ghana 13+0+0 (13)	Tanzania 48+0+0 (48)
Guatemala 2+0+0 (2)	Trinidad 4+0+0 (4)
Guyana 1+0+0 (1)	Tunisia 1+0+0 (1)
Hong Kong 1+0+0 (1)	Turkey 28+0+0 (28)
India 27+3+0 (30)	UAE 11+0+0 (11)
Iran 4+0+0 (4)	Uganda 2+0+0 (2)
Iraq 11+0+0 (11)	USA 22+3+1 (26)
Israel 31+0+0 (31)	Venezuela 0+1+0 (1)
Japan 4+1+0 (5)	W. Pacific Fringe 17+2+0 (19)
Jordan 3+0+0 (3)	Yemen 18+0+0 (18)
Kenya 27+0+0 (27)	Zaire 4+0+0 (4)
Lebanon 5+0+0 (5)	Zambia 11+0+0 (11)
Madagascar 25+0+0 (25)	Zanzibar 2+0+0 (2)
Malawi 14+0+0 (14)	Zimbabwe 29+0+0 (29)