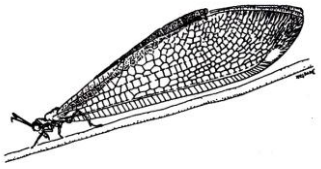

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Maribor, Slovenia, 2010. Pp. 83–87.

A review of the Neuropterida of Liguria (North–West Italy)

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Abstract. Liguria is a small region of Northern Italy; despite its great environmental diversity, this area was never subjected to a thorough research on Neuropterida, so there were only few isolated records, included in papers concerning the whole Italian fauna of these insects. In the last three years specific samplings allowed to double the number of known species, from 42 to 85 belonging to 10 families. The aim of this contribution is to provide a provisional checklist of the Ligurian Neuropterida.

Key words: Neuropterida, checklist, faunistics, Liguria, Italy

Introduction

The state of knowledge of the distribution of the Italian Neuropterida is characterized by heterogeneity: some areas are relatively well known (the Alps, Romagna, Sardinia and some national parks of peninsular Italy) while others have never been examined thoroughly (Letardi, 1998, 2006); Liguria, a small region of North–West Italy (Fig. 1), stands up from the last ones (Badano, 2008). This district is located between the Ligurian Sea, the Alps and the Apennines and despite the small territorial extent is of remarkable naturalistic value because it comprises a great variety of environments from dry Mediterranean habitats to Alpine ones. Moreover the western portion of region, where the thermo–xeric influence is more widespread, is interesting from a biogeographical point of view due to presence of Ibero–French taxa absent from the rest of Italy. This implies the possibility that Liguria comprises an interesting and rich Neuropterofauna but, unfortunately, it has never been investigated in detail. In fact, most of data for the area are isolated reports in papers concerning the whole Italian Neuropterida or even papers about other insects. The whole bibliographical references allow to list only 42 species for this area (Letardi, 2006).

To resolve the situation, in the last three years specific samplings, performed mainly in the western part of the region, allowed to obtain new information about their distribution; preliminary results of these studies are reported in Badano (2008).

Material and methods

The aim of this work is to provide a checklist of Ligurian Neuroptera, which integrated bibliographical data with results of recent surveys. Investigations have been conducted in the two years 2007 and 2008, in different environmental typologies in several localities, collecting specimens especially with sweeping net but also with the aid of a light trap and by rearing immature stages. The systematic order used derives from the checklist of Italian Neuropterida (Bernardi Iori *et al*., 1995) with few modifications; symbol "*" indicates new species for Liguria found in the two years 2007–2008; "**" indicates species collected for the first time in 2006 and quoted in Badano (2008); "?" indicates doubtful species. Numeric codes for genera and species have been derived from the project of the checklist of the Italian Fauna
(http://www.faunaitalia.it/checklist/introduction.html, see also Bernardi Iori *et al.*, 1995).

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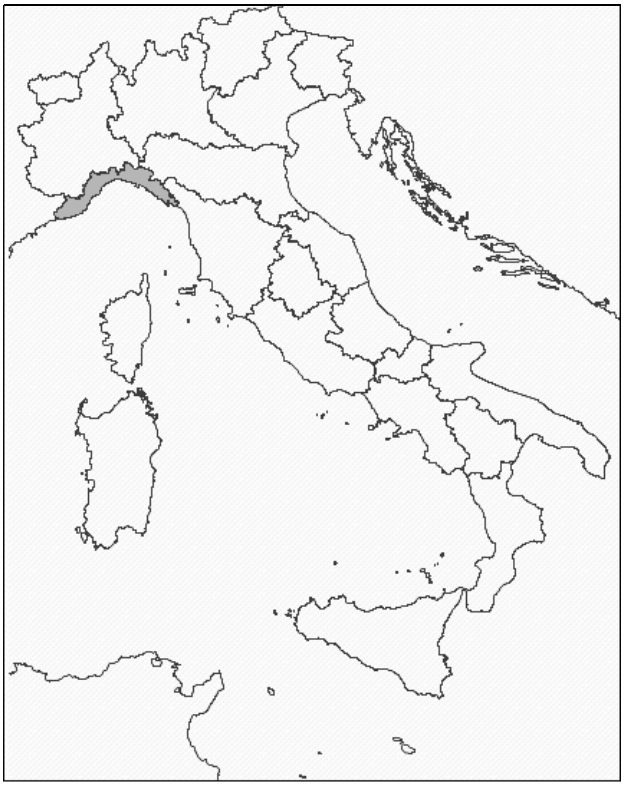

Fig.1. Map of Italy with boundaries of the administrative regions: Liguria is the underlined.

Results

Checklist of the Neuropterida of Liguria

Megaloptera
- Sialidae
  - 001.0.001.0 *Sialis fuliginosa* Pictet, 1836

Raphidioptera
- Raphidiidae
  - 004.0.001.0 *Dichrostigma flavipes* (Stein, 1863)
  - 007.0.001.0 *Ornatoraphidia flavilabris* (Costa, 1855) **
  - 008.0.001.0 *Xanthostigma aloysiana* (Costa, 1855) **
  - 008.0.002.0 *Xanthostigma corsica* (Hagen, 1867) *
  - 009.0.001.0 *Raphidia ligurica* Albarda, 1891 ?
  - 011.0.001.0 *Puncha ratzeburgi* (Brauer, 1876) *
- Inocelliidae
  - 014.0.001.0 *Parainocellia bicolor* (Costa, 1855)

Neuroptera
- Coniopterygidae
  - 015.0.001.0 *Aleuropteryx juniperi* Ohm, 1965 *
  - 016.0.001.0 *Helicoconis (Helicoconis) hirtinervis* Tjeder, 1960 *
  - 017.0.001.0 *Helicoconis (Ohmopteryx) pseudolutea* Ohm, 1965 *
  - 018.0.001.0 *Coniopteryx (Coniopteryx) borealis* Tjeder, 1930 *
  - 018.0.002.0 *Coniopteryx (Coniopteryx) pygmaea* Enderlein, 1906 *
  - 018.0.003.0 *Coniopteryx (Coniopteryx) tineiformis* Curtis, 1834 **
  - 019.0.002.0 *Coniopteryx (Holoconiopteryx) haematica* McLachlan, 1868 *
  - 020.0.001.0 *Coniopteryx (Metaconiopteryx) arcuata* H. Aspock & U. Aspock, 1964 *
  - 020.0.002.0 *Coniopteryx (Metaconiopteryx) esbenpeterseni* Tjeder, 1930 **
  - 020.0.003.0 *Coniopteryx (Metaconiopteryx) lentiae* Kis, 1965 *
  - 021.0.001.0 *Parasemidalis fuscipennis* (Reuter, 1894) *
  - 023.0.002.0 *Conwentzia psociformis* (Curtis, 1834)
  - 024.0.001.0 *Semidalis aleyrodiformis* (Stephens, 1836) **

024.0.002.0 *Semidalis pseudouncinata* Meinander, 1963 *
024.0.003.0 *Semidalis vicina* (Hagen, 1861) *
Osmylidae
025.0.001.0 *Osmylus fulvicephalus* (Scopoli, 1763)
Mantispidae
029.0.001.0 *Mantispa styriaca* (Poda, 1761)
Hemerobiidae
032.0.002.0 *Hemerobius (Hemerobius) contumax* Tjeder, 1932 *
032.0.004.0 *Hemerobius (Hemerobius) gilvus* Stein, 1863
032.0.005.0 *Hemerobius (Hemerobius) handschini* Tjeder, 1957
032.0.006.0 *Hemerobius (Hemerobius) humulinus* Linnaeus, 1758
032.0.007.0 *Hemerobius (Hemerobius) lutescens* Fabricus, 1793 *
032.0.009.0 *Hemerobius (Hemerobius) micans* Olivier, 1792
032.0.010.0 *Hemerobius (Hemerobius) nitidulus* Fabricius, 1711
032.0.014.0 *Hemerobius (Hemerobius) simulans* Walker, 1853
032.0.015.0 *Hemerobius (Hemerobius) stigma* Stephens, 1836
032.0.008.0 *Hemerobius (Brauerobius) marginatus* Stephens, 1836 *
033.0.008.0 *Wesmaelius (Wesmaelius) quadrifasciatus* (Reuter, 1894) **
033.0.010.0 *Wesmaelius (Kimminsia) subnebulosus* (Stephens, 1836)
034.0.001.0 *Sympherobius (Sympherobius) elegans* (Stephens, 1836)
034.0.002.0 *Sympherobius (Sympherobius) fallax* Navás, 1908
034.0.007.0 *Sympherobius (Sympherobius) pygmaeus* (Rambur, 1842)
034.0.004.0 *Sympherobius (Niremberge) klapaleki* Zeleny, 1963 *
034.0.006.0 *Sympherobius (Niremberge) pellucidus* (Walker, 1853) *
034.0.00X.0 *Sympherobius (Niremberge) riudori* Navás, 1915 *
038.0.001.0 *Micromus (Nesomicromus) angulatus* (Stephens, 1836)
038.0.002.0 *Micromus (Nesomicromus) lanosus* (Zeleny, 1962) *
038.0.004.0 *Micromus (Micromus) variegatus* (Fabricius, 1793)
Chrysopidae
039.0.001.0 *Italochrysa italica* (Rossi, 1790)
041.0.001.0 *Chrysopa abbreviata* Curtis, 1834
041.0.003.0 *Chrysopa formosa* (Brauer, 1850) **
041.0.005.0 *Chrysopa pallens* (Rambur, 1838)
041.0.006.0 *Chrysopa perla* (Linné) sensu Schneider, 1851
041.0.008.0 *Chrysopa viridana* Schneider, 1845
041.0.009.0 *Chrysopa walkeri* McLachlan, 1893 *
042.0.000.0 *Chrysoperla carnea* complex (Stephens, 1836)
042.0.003.0 *Chrysoperla mediterranea* (Hölzel, 1972)
044.0.002.0 *Cunctochrysa baetica* (Hölzel, 1972) *
045.0.00X.0 *Dichochrysa abdominalis* (Brauer, 1850) *
045.0.001.0 *Dichochrysa clathrata* (Schneider, 1845)
045.0.002.0 *Dichochrysa flavifrons* (Brauer, 1850)
045.0.003.0 *Dichochrysa genei* (Rambur, 1842)
045.0.004.0 *Dichochrysa iberica* (Navás, 1903)
045.0.00Y.0 *Dichochrysa mariana* (Navás, 1905) *
045.0.00Z.0 *Dichochrysa picteti* (McLachlan, 1880) ?
045.0.007.0 *Dichochrysa* sp. pr. *picteti* (McLachlan, 1880)
045.0.008.0 *Dichochrysa prasina* (Burmeister, 1839)
045.0.009.0 *Dichochrysa ventralis* (Curtis, 1834)
045.0.010.0 *Dichochrysa venusta* (Hölzel, 1974)
045.0.011.0 *Dichochrysa zelleri* (Schneider, 1851) **
046.0.001.0 *Nineta flava* (Scopoli, 1763)
046.0.004.0 *Nineta pallida* (Schneider, 1845) *
047.0.001.0 *Peyerimhoffina gracilis* (Schneider, 1851) *
049.0.001.0 *Hypochrysa elegans* (Burmeister, 1839) *
050.0.002.0 *Nothochrysa capitata* (Fabricius, 1793) *
Myrmeleontidae
051.0.001.0 *Palpares libelluloides* (Linné, 1764)
052.0.001.0 *Dendroleon pantherinus* (Fabricius, 1787)
056.0.001.0 *Myrmeleon (Myrmeleon) formicarius* Linné, 1767 *

056.0.002.0 *Myrmeleon (Myrmeleon) gerlindae* Hölzel, 1974 *
057.0.003.0 *Myrmeleon (Morter) inconspicuus* Rambur, 1842 **
059.0.001.0 *Macronemurus appendiculatus* (Latreille, 1807)
060.0.002.0 *Neuroleon egenus* (Navás, 1915) *
060.0.003.0 *Neuroleon microstenus* (McLachlan, 1898) **
060.0.004.0 *Neuroleon nemausiensis* (Borkhausen, 1791)
061.0.002.0 *Distoleon tetragrammicus* (Fabricius, 1798)

Ascalaphidae

069.0.001.0 *Libelloides coccajus* (Denis et Schiffermüller, 1775)
069.0.003.0 *Libelloides latinus* (Lefebvre, 1842)
069.0.004.0 *Libelloides longicornis* (Linné, 1764)

Discussion

The present study allows to rise the number of Ligurian Neuropterida to 85 species belonging to 10 families, a comparable diversity with that of other Italian regions. Nevertheless this list is destined to increase in the future, in fact there are other species which need further controls, for example because they have been collected only as immature stages. It is also likely that new investigations carried out in other localities will provide new taxa. As evidence of the previous scarce state of knowledge of Ligurian neuropteridofauna is worth of note that many of the new species for the region show a wide distribution in Italy and their presence in this area could be considered really probable. In any case, it is possible to underline the finding of rare or interesting ones as follows:

Sympherobius riudori, once thought an Iberian element, is new for Italy considerably extending to East his area of distribution (Badano, 2010).
Myrmeleon gerlindae, a Western-Mediterranean element, is new for the Italian mainland; in fact for this country it was previously reported only from Sardinia (Pantaleoni, 1994; Bernardi Iori *et al*., 1995; Molinu *et al*., 2007).
Helicoconis hirtinervis is recorded for the second time for Italy; the only other certain data come from Basilicata, in the Southern part of the Peninsula (Aspöck *et al*., 1980).
Aleuropteryx juniperi, *Semidalis vicina* and *Neuroleon egenus* are new for Northern Italy; all these species were previously known for Southern France (Aspöck *et al*., 1980).
On the other hand, *Helicoconis pseudolutea*, *Parasemidalis fuscipennis* and *Sympherobius klapaleki* are interesting because they are quite rare in Italy.
From a zoogeographical point of view, the fauna of Western Liguria comprises four taxa which reach there limits of distribution: *Sympherobius riudori*, *Dichochrysa iberica*, *Myrmeleon gerlindae* and *Libelloides latinus*; the three former species have in this territory their North–East boundary of distribution, while the Ascalaphid the Western one; *L. latinus* is also the only (at present) Italian endemism found in Liguria.

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