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## A CHECKLIST OF THE WATER MITES OF FRANCE (ACARI: HYDRACHNIDIA)

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**ABSTRACT** — A review is given of all species reported from France. In total, 420 species and seven subspecies have been found in France. The following synonyms are established: *Atractides vandeli* Angelier, Decamps & Rey as a synonym of *A. phreaticus* Motaş & Tanasachi, *Atractides fonticolus gallicus* Angelier, Decamps & Rey as a synonym of *A. spinipes* Koch and *Barbaxonella pilosa* Angelier, Decamps & Rey as a synonym of *B. angulata* (K. Viets). The following species are reported for the first time: *Atractides orghidani* Motaş & Tanasachi, *Hydrachna goldfeldi* Thor, *Hydrodroma pilosa* Besseling, *Limnesia curvipalpis* Tuzovskij, *Limnesia undulatoides* Davids, *Piona ambigua* (Piersig), *Forelia curvipalpis* K. Viets, *Mideopsis roztoczensis* Biesiadka & Kowalik, *Arrenurus octagonus* Halbert and *Arrenurus tubulator* (Müller). Moreover, *Arrenurus affinis* Koenike is reported for the first time with certainty. For each species, all references are given which contain geographical information about their occurrence in France. Numerous new records are given, especially of species from standing waters.

**KEYWORDS** — Acari; Hydrachnidia; France; checklist; distribution

### INTRODUCTION

Research on water mites from France started as early as the end of the 18<sup>th</sup> century and the beginning of the 19<sup>th</sup> century with publications of Latreille (1762-1833), followed later on by publications of A-L.D. Dugès (1797-1838). The most important publications of Latreille were published in 1796, 1802-1805, 1806-1809 and 1810, the most important publications of Dugès were published 1833 and 1834a,b. Later on, Gervais (1844) published a review of the known water mites, although we do not know if the cited species are from France or refer just a general species list. However, all these publications were not very helpful from a biogeographical point of view, as usually no locations were

mentioned in these papers. Although a few papers were published during the 19<sup>th</sup> century, it was not before the end of this century that Moniez (1852-1936) and Barrois (1857-1920) published the first papers entirely dedicated to the study of water mites. Barrois & Moniez (1887) published their catalogue of the water mites of northern France, which can be considered as of one of the first checklists. Unfortunately, many of their new species must be considered nowadays as *species incertae*.

In the first half of the 20<sup>th</sup> century France knew two acarologists dedicated to the study of water mites. Motaş (1891-1980), born in Rumania, worked from 1925-1928 in Grenoble, resulting in a large number of publications on the water mites of the French Alps. In his most important publications

he summarized all data on French water mites thus far (Motaş 1928f, 1928g). However, Migot (1926b) was the first author to publish a complete review of the water mite of France. Unfortunately for science, he became a monk in 1930. Also C. Angelier (1897-1951) studied water mites in the beginning of the 20<sup>th</sup> century. Many of his studies were made in the French Pyrénées, although other regions of France were studied as well, although to a much lesser extent. His son, E. Angelier succeeded his father, and published his first publication halfway the 20<sup>th</sup> century, many more followed in the second half of that century. Like his father, E. Angelier studied mostly water mites in the French Pyrénées and Corsica. Cassagne-Méjean studied mostly water mites of the genus *Arrenurus*, resulting in her thesis published in 1966 (Cassagne-Méjean 1966a). Santucci studied the water mites of Corsica, resulting in papers published between 1965-1977.

During the 20<sup>th</sup> century more authors published studies on water mites, usually as part of a study of the invertebrate water fauna. Examples of these are Vandel (1919), Hubault (1927), Schodduyn (1904, 1923 and others) and Vaillant (1955).

We can conclude that the water mite fauna of the Pyrénées, the French Alps and Corsica is relatively well known. The rheophilic water mite fauna of the remaining parts of France is poorly known. The water mite fauna of standing waters in France is very poorly known, with an exception of the genus *Arrenurus* in southern France.

## MATERIAL AND METHODS

All publications to which the authors had access, and which contain data on the distribution of water mites in France, are included in the systematic part of this paper. Repetitions of records in other publications (e.g. Salgues 1932) are not included. For each species the French departments are listed where the species has been reported, except for Corsica, where no departments are mentioned. Motaş (1928f) published the localities of Hermann (1804), Dugès (1834a,b) and Thor (1903d), respectively Bas-Rhin, Hérault and Paris. However, *Piona conglobata* and *Arrenurus caudatus* (= *buccinator*) were not men-

tioned by Thor (1903d) as stated by Motaş (1928f). We assumed that when Motaş (1928f) mentioned for occurrence the Dauphiné, it concerns the department Isère. Vandel (1919a) reported species from the Jura, and it is assumed that all localities are located in the department of Doubs. E. Angelier (1954b,c,d) published three papers on the water mites of Corsica. These results were later on repeated in a supplement of Vie & Milieu (E. Angelier 1959,a,b,c), and only the latter paper is included in the systematic part. Species lists without a clear geographical indication are in general not included (e.g. Walckenaer 1802, Girod 1889). For each species the first page in a publication is mentioned (or the first page of the systematic part), unless it concerns a new species description. In that case the first page of the species description is listed. In a few cases, we were not able to ascertain the first page number (e.g. Schachter 1950). *Species incertae* are not included in this paper, they are listed in Table 1. For rare species, and also for more common species of standing waters, new records are given as male/female/deutonymph or adult/deutonymph. The coordinates of locations collected by H. van der Hammen and H. Smit have been ascertained with Google Earth, and are in some cases by approximation.

A few locations in the literature are not very exact, e.g. "between Bordeaux and Angoulême" (Lundblad 1956a, p. 7). In such cases an arbitrary department has been chosen. A question mark before or after a name means that the assignment is uncertain. The spelling of some author names in the literature varies, e.g. Motas/Motaş or Cassagne-Mejean/Cassagne-Méjean. We choose to use only one name in the systematic part, but use the original spelling in the references. The names of the species are in accordance with the most recent literature, e.g. for Hydryphantidae Gerecke (1996a,b) and Di Sabatino et al. 2009 and 2010, for *Atractides* Gerecke (2003) and for *Lebertia* Gerecke (2009). Sequence of the papers in the references chapter is according to K. Viets (1956b) and K.O. Viets (1987). Abbreviations used: MNHN Muséum national d'Histoire naturelle, Paris; alt. altitude; a.s.l. above sea level.

Finally, we want to underline that this checklist

TABLE 1: List of *species incertae* published for France.

## Species – Reference

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<i>Arrenurus abruptus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus angulifer</i>	Viets, 1930 – see Smit <i>et al.</i> 2000
<i>Arrenurus anomalus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus campanulatus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus curvilaminatus</i>	Viets, 1930 – see Smit <i>et al.</i> 2000
<i>Arrenurus decurtator</i>	Moniez, 1889 – see K. Viets 1956
<i>Arrenurus dissimilis</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus emarginator</i>	(Müller, 1776) – see K. Viets 1956
<i>Arrenurus incisus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus notabilis</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus pulchellus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus regulus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus spectabilis</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus spissus</i>	Barrois & Moniez, 1887 – see K. Viets 1956
<i>Arrenurus viridana</i>	(Laboulbène, 1851) – see K. Viets 1956
<i>Arrenurus viridis</i>	Dugès, 1834 – see K. Viets 1956
<i>Atractides nondilatatus</i>	(Sokolov, 1936) – see Gerecke 2003
<i>Eylais akmolinski gracilipalpis</i>	Walter, 1927 – see Viets 1956
<i>Forelia ahumberti</i>	Haller, 1882 – see K. Viets 1956
<i>Hydrachna georgei</i>	Soar, 1908 – see Gledhill and Viets 1976
<i>Hydrachna</i> (= <i>Piona</i> ) <i>lunipes</i>	Hermann, 1804 – see K. Viets 1956
<i>Hydrodroma mendax</i>	(A.-L.D. Dugès, 1834) – see K. Viets 1956
<i>Hygrobates paucidentis</i>	Walter, 1926 – see Gerecke 1991a
<i>Lebertia cylindrata</i>	Bader, 1955 (cited as <i>L. cylindrata</i> Walter, 1927) – see Gerecke 2009
<i>Lebertia monardi</i>	Migot, 1926 – see Gerecke in press
<i>Lebertia papillosa</i>	Piersig, 1898 – see K. Viets 1956a
<i>Lebertia pulchella</i>	K. Viets, 1925 – see Gerecke 2009
<i>Lebertia pyrenaica</i>	Migot, 1926 – see Gerecke 2009
<i>Lebertia rugosa</i>	Piersig, 1897 – see K. Viets 1956a
<i>Lebertia saxonica</i>	Thor, 1911 – see Gerecke 2009
<i>Lebertia walteri</i>	Thor, 1906 – see Gerecke 2009
<i>Litarachna incerta</i>	Walter, 1925 – K. Viets 1956a
<i>Monatractides minutirostris</i>	(E. Angelier, 1954) – see Gerecke and Di Sabatino 1996
<i>Nesaea longicornis</i>	(Müller, 1776) – see Viets 1956
<i>Nesaea phalerata</i>	(Koch, 1836) – see Viets 1956
<i>Oxus halophilus</i>	E. Angelier, 1947 – see Di Sabatino <i>et al.</i> 2009
<i>Piona minuta</i>	(Koch, 1836) – see Viets 1956
<i>Protzia larrieui</i>	Motaş & Şoarec, 1939 – see Gerecke 1996a
<i>Sperchon compactilis depressus</i>	C. Angelier, 1950 – this study
<i>Sperchon ornatus</i>	Halbnert, 1944 – Di Sabatino <i>et al.</i> 2009
<i>Stygothrombium gallicum</i>	André, 1949 – see Davids <i>et al.</i> 2006
<i>Stygothrombium gallicum delphinense</i>	André, 1949 – see Davids <i>et al.</i> 2006
<i>Torrenticola maglioi</i>	(Koenike, 1908) – Di Sabatino <i>et al.</i> 2009
<i>Torrenticola procerivalvata</i>	K. Viets, 1952 – Di Sabatino <i>et al.</i> 2009

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represents the state of the art, as most species listed here, especially the old records, could not be examined.

## SYSTEMATICS

### Family Stygothrombiidae Mullen & Grandjean, 1980

*Stygothrombium angelieri* André, 1949

*Stygothrombium Angelieri* André, 1949: 685.

Distribution in France: Pyrénées (Ariège).

*Stygothrombium chappuisi* Walter, 1947

*Stygothrombium chappuisi* Walter, 1947: Santucci 1977: 84.

Distribution in France: Corsica.

*Stygothrombium minor* André, 1949

*Stygothrombium Angelieri minor* André, 1949: 688.

Distribution in France: Pyrénées (Pyrénées-Atlantiques).

### Family Hydrovolziidae

*Hydrovolzia cancellata* Walter, 1906

*Hydrovolzia cancellata* Walter, 1906: Walter & Motaş 1927: 68; Motaş 1926b: 410, 1927b: 1, 1928e: 4, 1928f: 120, Lundblad 1956a: 2; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Hydrovolzia oscensis* K. Viets, 1930: K. Viets 1954c: 307 (?); Vaillant 1955: 194; E. Angelier 1959: 15.

Distribution in France: Corsica, Gard, Isère, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Hydrovolzia placophora* (Monti, 1905)

*Hydrovolzia placophora* (Monti, 1905): Walter 1922c: 240; Hubault 1927: 87; Motaş 1928e: 5, 1928f: 119; Schwoerbel 1959a: 18; Santucci 1971: 82; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

Distribution in France: Corsica, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques), Hautes-Alpes, Haute-Savoie, Savoie, Vosges.

### Family Acherontacaridae Cook, 1967

*Acherontacarus nicoleiana* Valdecasas, Atheau & Boutin, 2005

*Acherontacarus nicoleiana* Valdecasas, Atheau & Boutin, 2005: 3138.

Distribution in France: Pyrénées-Orientales.

*Acherontacarus rutilans* E. Angelier, 1951

*Acherontacarus rutilans* E. Angelier, 1951b: 508, 1953b: 56, 1959: 15, 1959c: 162; Santucci 1975: 15, 1977: 84; Gerecke & Benfatti 2005: 59.

Distribution in France: Corsica.

*Acherontacarus vietsi* E. Angelier, 1951

*Acherontacarus vietsi* E. Angelier, 1951b: 508, 1953b: 56, 1959: 15, 1959c: 162; Santucci 1975, 1977: 84: 15.

Distribution in France: Corsica.

### Family Hydrachnidae Leach, 1815

*Hydrachna conjecta* Koenike, 1895

*Hydrachna conjecta* Koenike, 1895: Schachter & Conat 1952: 367; Petit & Schachter 1954: 244.

New record. **Indre:** 1/0/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 0/1/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Bouches-du-Rhône, Indre.

*Hydrachna cruenta* Müller, 1776

*Hydrachna cruenta* Müller, 1776: Latreille 1796: 181; Smit & Van der Hammen 1992: 56; Bouzidi et al. 1984: 115.

*Hydrachna scutata* Piersig, 1897: Motaş 1927b: 1, 1928f: 124, 1928g: 5.

New record. **Indre:** 1/4/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Indre, Pas-de-Calais, Var.

*Hydrachna geographica* Muller, 1776

*Hydrarachna geographica* Müller, 1776: Hermann 1804: 54; A.-L.D. Dugès 1834a: 18, 1834b: 161.

*Achlusia dytisci* Audouin 1822a: 12.

Distribution in France: Bas-Rhin, Hérault, Seine-et-Marne.

*Hydrachna globosa* (Geer, 1778)

*Hydrachna globosa* (Geer, 1778): Hermann 1804: 54; A.-L.D. Dugès 1834a: 18, 1834b: 162 (*H. globulus*); Lucas 1866: X; Barrois & Moniez 1887: 36; Barrois 1889b: 433; Moniez 1889b: 8; Schodduyn 1904: 20, 1923: 143, 1925b: 106, 1926a: 312; Derône 1914: 45; Soudan 1920: 2; Migot 1926b: 109 (laps. *Hydrabachna*); Baldensperger 1926: 153 (laps.: *Hydrachne globosa*); Monard 1928a: 224 (as *Hydrachna globulosa*); C. Angelier 1931: 18; Motaş 1928f: 124; C. Angelier 1951b: 77.

*Hydrarachna globosa* (Geer, 1778): Motaş 1926b: 410; Motaş & Şoarec 1939a: Appendix.

*Hydrachna gallica* Thor, 1916: 57; Motaş 1928f: 124.

*Hydrachna uniscutata* Thor, 1897: C. Angelier 1951b: 77; C. Angelier 1953: 209.

*Hydrachna uniscutata paludosa* (laps.: *padulosa*) Thon, 1899: Bouzidi et al. 1984: 115.

Distribution in France: Ain, Bas-Rhin, Côte-d'Or, Haut-Rhin, Hérault, Isère, Moselle, Nord, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Somme, Val-de-Marne, Var.

*Hydrachna goldfeldi* Thor, 1916

New records. **Indre**: 0/2/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 0/4/0, pond near Étang Prieur, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France. Indre. New for the fauna of France.

*Hydrachna inversa* Walter, 1927

*Hydrarachna inversa* Walter, 1927: In: Walter & Motaş 1927: 74; Motaş 1927b: 2, 1928f: 125, 1928g: 6.

New record. **Var**: 1/0/0, La Giscle near Cogolin, Massif des Maures, 43°16.319 N 6°30.171 E, 5 May 2003, leg. H. Smit.

Distribution in France: Var.

*Hydrachna juncta* Walter, 1926

*Hydrachna juncta* Walter, 1926: Motaş 1927b: 1, 1928f: 124, 1928g: 6.

*Hydrachna globosa juncta* Walter, 1926: Walter & Motaş 1927: 77; Lundblad 1956a: 2.

New records. **Var**: 0/2/0, stream Nible (pools), Massif des Maures, 43°21.392 N 6°27.403 E, 14 May 2005, leg. H. Smit; 0/10/0, stream Mourrefrey, E of Les Mayons, Massif des Maures, 43°19.311 N 6°22.463 E, 15 May 2005, leg. H. Smit.

Distribution in France: Pyrénées-Orientales, Var.

*Hydrachna leegei* Koenike, 1895

*Hydrachna leegei* Koenike, 1895: Smit & Van der Hammen 1992: 56.

Distribution in France: Pas-de-Calais.

*Hydrachna processifera* Koenike, 1903

*Hydrachna processifera* Koenike, 1903: Motaş 1927b: 1, 1928f: 124; Brumpt 1929: 290.

Distribution in France: Côte-d'Or, Isère, Manche.

**Family Limnocharidae Grube, 1859**

*Limnochares* (*Limnochares*) *aquatica* (Linnaeus, 1758)

*Limnochares aquatica* (Linnaeus, 1758): Latreille 1796: 181 (*L. aquaticus*); A.-L. D. Dugès 1834a: 18, 1834b: 159 (*L. aquaticus*); Vandel 1919a: 89; Soudan 1920: 1; Motaş 1926b: 410, 1928e: 28; Motaş & C. Angelier 1927d: 5; Motaş & Şoarec 1939a: Appendix; C. Angelier 1951b: 74; C. Angelier 1953: 209; Schwoerbel 1959a: 17; Champeau 1966: 321; Giudicelli 1970: 122; Santucci 1965: 545, 1971: 82; Smit & Van der Hammen 1992: 55; Davids et al 2005: 51.

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*Limnochares holoserica* (Geer, 1778): Barrois & Moniez 1887: 36 (laps. = *holeserica*); Schodduyn 1923: 143 (laps. *Limnocharis*), 1925b: 106, 1926a: 312 (laps. *Limnocharis*); Motaş 1928f: 120, 1928g: 9; C. Angelier 1931:16; Chaudonneret 1947: 2.

*Trombidium aquaticum* (Linnaeus, 1758): Hermann 1804: 35.

New record. **Indre**: 2/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Bas-Rhin, Bouches-du Rhône, Corsica, Côte-d'Or, Doubs, Hérault, Indre, Isère, Landes, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées-Atlantiques, Savoie, Val-de-Marne, Vosges.

*Limnochares (Limnochares) azubi* Gerecke, 2005

*Limnochares azubi* Gerecke, 2005: In Davids et al. 2005: 52.

Distribution in France: Corsica.

#### Family Eylaidae Leach, 1815

*Eylais bisinuosa* Piersig, 1899

*Eylais bisinuosa* Piersig, 1899: Motaş 1928f: 121, 1928g: 6.

Distribution in France: Var.

*Eylais degenerata* Koenike, 1897

*Eylais degenerata* Koenike, 1897: Schachter & Conat 1952b: 8.

Distribution in France: Gard.

*Eylais discreta* Koenike, 1897

*Eylais discreta* Koenike, 1897: Walter & Motaş 1927: 71; Motaş 1927b: 1, Motaş & C. Angelier 1927d: 5; Motaş 1928f: 121, 1928g: 5.

Distribution in France: Ain, Loire, Savoie.

*Eylais extendens* (Müller, 1776)

*Hydrachna extendens* Müller, 1776: De Théis 1832: 61.

*Hydrarachna extendens* (Müller, 1776): Hermann 1804: 54.

*Hydrachna extensa* De Théis, 1832: 60.

*Eylais extendens* (Müller, 1776): Latreille 1796: 182; A.-L. D. Dugès 1834a: 17, 1834b: 156; Barrois & Moniez 1887: 36; Barrois 1889b: 433; Moniez 1889b: 8, 1889e: 7; Soudan 1920: 2; Schodduyn 1926a: 312 (laps. *Eylais*); C. Angelier 1931: 17; Schachter & Conat 1952: 367; Petit & Schachter 1954: 244; E. Angelier 1959: 15.

*Eylais soari* Piersig, 1899: Soudan 1920: 2; Motaş 1926b: 410, 1928f: 121, 1928g: 5.

*Eylais soari valenciana* Viets, 1919: Migot 1926b: 104; Motaş & Şoarec 1939a: Appendix; C. Angelier 1951b: 77; C. Angelier 1953: 210; Lundblad 1956a: 2; E. Angelier 1959a: 65.

*Eylais undulosa* Koenike, 1897: Petit & Schachter 1954: 244.

New record. **Indre**: 0/1/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Aisne, Aude, Bas-Rhin, Bouches-du-Rhône, Corsica, Hérault, Indre, Isère, Jura, Nord, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Savoie, Seine-Maritime, Somme, Val-de-Marne.

*Eylais hamata* Koenike, 1897

*Eylais hamata alpina* Walter, 1922: Migot 1926b: 103; Walter & Motaş: 1927: 70; Motaş 1928e: 30, 1928f: 122, 1928g: 15; Motaş & Şoarec 1939a: Appendix.

*Eylais hamata* Koenike, 1897: Schachter & Conat 1952: 367; Petit & Schachter 1954: 244; Vinçon 1987: 240; Smit & Van der Hammen 1992: 56.

Distribution in France: Bouches-du-Rhône, Isère, Pas-de-Calais, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales).

*Eylais planipons* Walter, 1924

*Eylais planipons* Walter, 1924: Davids et al. 2005: 60.

New record. **Var:** 2/0/0, stream Nible (pools), Massif des Maures, 43°21.392 N 6°27.403 E, 14 May 2005, leg. H. Smit.

Distribution in France: Pyrénées-Atlantiques, Var.

*Eylais rimosa* Piersig, 1899

*Eylais rimosa* Piersig, 1899: Motaş 1927b: 1, 1928f: 121, 1928g: 5; C. Angelier 1931: 17.

Distribution in France: Ain, Isère, Savoie, Val-de-Marne.

*Eylais setosa* Koenike, 1897

*Eylais setosa* Koenike, 1897: Smit & Van der Hammen 1992: 56.

New record. **Indre:** 0/2/0, reedland S of Étang de Bellebouche, La Brenne, 46°46.783 N 1°18.641 E, alt. 108 m, 25 May 2005, leg. H. Smit.

Distribution in France: Indre, Pas-de-Calais.

*Eylais tantilla* Koenike, 1897

*Eylais tantilla* Koenike, 1897: Smit & Van der Hammen 1992: 55.

*Eylais setosa tantilla* Koenike, 1897: Bouzidi et al. 1984: 115.

Distribution in France: Pas-de-Calais, Var.

*Eylais triarcuata* Piersig, 1899

*Eylais triarcuata* Piersig, 1899: Motaş 1926b: 410, 1927b: 1, 1928f: 121, 1928g: 9.

Distribution in France: Isère, Savoie.

#### Family Piersigiidae Oudemans, 1902

*Parawandesia chappuisi* E. Angelier, 1951

*Parawandesia chappuisi* E. Angelier, 1951b: 508, 1953b: 56, 1959: 15, 1959c: 163.

Distribution in France: Corsica.

#### Family Hydryphantidae Piersig, 1896

*Hydryphantes (Hydryphantes) armentarius* Gerecke, 1996

*Hydryphantes armentarius* Gerecke, 1996: Di Sabatino et al. 2009: 12.

Distribution in France: Hautes-Pyrénées.

Remark. Reported by E. Angelier et al. (1985) as *H. pyrenaicus*, a *nomen nudum*.

*Hydryphantes (Hydryphantes) dispar* (Schaub, 1888)

*Hydryphantes dispar* (Schaub, 1888): Motaş 1928f: 129; C. Angelier 1931: 19; Smit & Van der Hammen 1992: 56.

*Hydrodroma dispar* Schaub, 1888: Barrois 1889b: 433; Moniez 1889d: 5.

*Hydryphantes abnormis* Koenike, 1908: Derône 1914: 45.

New records. **Pas-de-Calais:** 1/0, shallow pool, Les Landes de Blendecques, 50°42'20.49" N 2°16'32.82" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 19/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 8/1, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre:** 6/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Côte-d'Or, Essonne, Indre, Pas-de-Calais, Pyrénées-Atlantiques, Val-de-Marne.

*Hydryphantes (Hydryphantes) placionis* Thon, 1899

*Hydryphantes placionis* Thon, 1899: Motaş 1927b: 2, 1928f: 129, 1928g: 12; C. Angelier 1953: 210; E. Angelier 1959: 16, 1959a: 65; Smit & Van der Hammen 1992: 55.

New record. **Indre:** 2/0, reedland S of Étang de Bellebouche, Le Brenne, 46°46.783 N 1°18.641 E, alt. 108 m a.s.l., 25 May 2005, leg. H. Smit.

Distribution in France: Corsica, Indre, Isère, Pas-de-Calais, Savoie.



*Hydryphantes (Hydryphantes) ruber* (Geer, 1778)

*Hydryphantes ruber* (Geer, 1778): Vandel 1919a: 89; Motaş 1928e: 28, 1928f: 128, 1928g: 12; Smit & Van der Hammen 1992: 55.

*Hydryphantes ruber prolongatus* Thon, 1899: Motaş 1927b: 2, Motaş & C. Angelier 1927d: 5; 1928f: 128.

*Hydrodroma rubra* (Geer, 1778): Barrois & Moniez 1887: 36; Barrois 1889b: 433; Moniez 1889e: 7.

*Hydrarachna impressa* Müller, 1781: Hermann 1804: 54.

New records. **Pas-de-Calais:** 1/0, temporary pool, Les Landes de Blendecques, 50°42'11.31" N 2°16'33.37" E, 19 April 1996, leg. H. Smit & H. van der Hammen. **Corsica:** 1/0, marsh near Calvi, 7 May 1997, leg. H. van der Hammen.

Distribution in France: Bas-Rhin, Corsica, Côte-d'Or, Doubs, Isère, Jura, Nord, Pas-de-Calais, Savoie, Seine-Maritime.

*Hydryphantes (Polyhydryphantes) flexuosus* Koenike, 1885

*Hydryphantes flexuosus* Koenike, 1885: Schachter 1950; Schachter & Conat 1952: 367, 1952b: 8; Petit & Schachter 1954: 244.

Distribution in France: Bouches-du-Rhône, Gard.

*Hydryphantes (Polyhydryphantes) octoporus* Koenike, 1896

*Hydryphantes octoporus* Koenike, 1896: Bouzidi et al. 1984: 115.

Distribution in France: Var.

*Georgella helvetica* (Haller, 1882)

*Hydrodroma helvetica* (Haller, 1882): Barrois & Moniez 1887: 36; Barrois 1889b: 433 ; Motaş 1928f: 129.

Distribution in France: Nord, Pas-de-Calais, Savoie.

*Georgella koenikei* (Maglio, 1906)

*Georgella koenikei* (Maglio, 1906): E. Angelier 1959: 16, 1959a: 69.

*Georgella intermedia* Walter, 1927 (homonym of *Hydryphantes intermedius* Daday, 1901, syn. of *G. koenikei*: Di Sabatino et al. 2009): In: Walter & Motaş 1927: 80; Motaş 1927b: 2, 1928f: 129; C. Angelier 1953: 211.

Distribution in France: Corsica, Isère, Savoie.

*Trichothyas (Lundbladia) duplicata* (K. Viets, 1954)

*Trichothyas duplicata* (K. Viets, 1954): Gerecke 1996b: 375.

*Lundbladia petrophila duplicata* K. Viets, 1954c: 305; Vaillant 1956: 194.

Distribution in France: Corsica.

*Trichothyas (Lundbladia) petrophila* (Michael, 1895)

*Lundbladia plumifera* C. Angelier, 1949b: 358, 1950c: 232; E. Angelier 1953b: 61, 1959a: 67; Lundblad 1956a: 2; Vaillant 1956: 192; Motaş & C. Angelier 1967: 17; E. Angelier et al. 1985: 30.

*Lundbladia petrophila* (Michael, 1895): K. Viets 1952c: 245; E. Angelier 1959: 16; E. Angelier et al. 1963: 462.

*Trichothyas petrophila* (Michael, 1895): M.-L. Angelier 1980: 13.

Distribution in France: Alpes-Maritimes, Corsica, Gard, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Tarn.

*Thyopsis cancellata* (Protz, 1896)

*Thyopsis cancellata* (Protz, 1896): Vaillant 1956: 173; Vinçon 1987: 240; Gerecke 1996b: 379.

Distribution in France: Corsica, Puy-de-Dôme, Pyrénées-Atlantiques.

*Paninus michaeli* Koenike, 1896

*Paninus michaeli* Koenike, 1896: Walter 1922c: 241; Hubault 1927: 94; Motaş 1928e: 5; K. Viets 1939a: 2; C. Angelier 1950d: 353; Schwoerbel 1959a: 19; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke 1996b: 380.

*Paninus praealpinus* Walter, 1920: Vandel 1920: 55; Migot 1926b: 109; Motaş & Şoarec 1939a: Appendix (laps.: *prealpinus*).

Distribution in France: Corsica, Doubs, Hautes-Alpes, Isère, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Vosges.

*Paninus torrenticolus* Piersig, 1898

*Paninus torrenticolus* Piersig, 1898: Walter 1907b: 446; Hubault 1927: 94; Motaş 1928f: 140; Schwoerbel 1959a: 15, 1965: 477; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke 1996b: 382.

*Paninus bazettae* Monti, 1908: Walter 1922c: 241; Motaş 1928e: 5, 1928f: 140.

*Paninus clypeolatus* (Maglio, 1909): Walter & Motaş 1927: 83; Motaş & C. Angelier 1927d: 5; Hubault 1927: 94; Motaş 1928e: 4, 1928f: 140; K. Viets 1951: 285, 1952c: 245; Lundblad 1956a: 2; Vaillant 1956: 153.

Distribution in France: Alpes-Maritimes, Corsica, Haut-Rhin, Haute-Loire, Haute-Savoie, Hautes-Alpes, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées), Isère, Savoie, Vosges.

*Panisopsis curvifrons* (Walter, 1907)

*Panisopsis curvifrons* (Walter, 1907): Motaş 1928f: 138; K. Viets 1951d: 285, 1952c: 245; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vaillant 1956: 153; Vinçon 1987: 240.

*Thyas curvifrons* Walter, 1907: Walter 1922c: 241; Hubault 1927: 90; Motaş 1928e: 5.

Distribution in France: Haute-Savoie, Hautes-Alpes, Isère, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques), Savoie.

*Panisopsis setipes* (Viets, 1911)

*Thyas setipes* Viets, 1911: Walter 1922c: 241.

*Panisoides setipes* (Viets, 1911): Motaş 1928e: 5.

Distribution in France: Hautes-Alpes, Isère.

*Panisopsis thori* (Walter, 1907)

*Panisopsis thori thori* (Walter, 1907): Walter 1907b: 446; Motaş & C. Angelier 1927d: 5; Motaş 1928f: 137; Motaş & Şoarec 1939a: Appendix; K. Viets 1951d: 285, Lundblad 1956a: 2; Vaillant 1956: 165; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Thyas thori* Walter, 1907: Walter 1907b: 446; Vandel 1922: 170; Motaş 1926b: 411; Migot 1926b: 105; Hubault 1927: 91.

*Paninus thori* (Walter, 1907): Motaş 1928e: 4.

Distribution in France: Haute-Loire, Haut-Rhin, Haute-Savoie, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Vosges.

*Parathyas barbiger* (Viets, 1908)

*Thyas barbiger* Viets, 1908: Schwoerbel 1959a: 15; Smit & Van der Hammen 1992: 55.

*Thyas barbiger pauciseta* Migot, 1926a: 53, 1926b: 105; Motaş 1928f: 133; Motaş & Şoarec 1939a: Appendix; C. Angelier 1950d: 353.

*Thyas venusta* Koch, 1836: Schodduyn 1926a: 311.

Distribution in France: Isère, Nord, Pas-de-Calais, Pyrénées (Hautes-Pyrénées), Vosges.

*Parathyas dirempta* (Koenike, 1912)

*Thyas dirempta* Koenike, 1912: Motaş 1927b: 2, 1928e: 28, 1928f: 137, 1928g: 12; Smit & Van der Hammen 1992: 55.

New record. **Pas-de-Calais**: 1/0, pool, Les Landes de Blendecques, 50°41'55.87" N 2°14'18.23" E, 19 April 1996, leg. H. Smit & H. van der Hammen

Distribution in France: Isère, Pas-de-Calais.

*Parathyas pachystoma* (Koenike, 1914)

*Thyas pachystoma* Koenike, 1914: Motaş 1928f: 133.

Distribution in France: Côte-d'Or.

*Parathyas palustris* (Koenike, 1912)

*Thyas palustris* (Koenike, 1912): Gerecke 1996b: 396.

*Thyas rivalis* Koenike, 1912: Schwoerbel 1959a: 18.

Distribution in France: Corsica, Vosges.

*Euthyas truncata* (Neuman, 1875)

*Euthyas truncata* (Neuman, 1875): Motaş 1928f: 133 (laps.: *Eutyas truncata*), 1928g: 12; C. Angelier 1953: 210; Smit & Van der Hammen 1992: 55.

*Bradybates truncatus* Neuman, 1875: Barrois & Moniez 1887: 35.

*Thyas truncata* (Neuman, 1875): Motaş 1928e: 28.

New record. **Cantal:** 0/0/1, marshy area N of Le Claux, along road D262, 45°11.296 N 2°42.509 E, alt. 958 m, 18 May 2005, leg. H. Smit.

Distribution in France: Cantal, Isère, Jura, Nord, Pas-de-Calais, Savoie.

*Partnunia steinmanni* Walter, 1906

*Partnunia steinmanni* Walter, 1906: Migot 1926b: 105; Hubault 1927: 90; Motaş 1928e: 12; Motaş & Blaive 1935c: 178; ; Motaş & Şoarec 1939a: Appendix; C. Angelier 1950d: 352, 1951b: 74; Vaillant 1956: 166; Schwoerbel 1959a: 18.

New record. **Puy-de-Dôme:** 0/1/0, helocrene Ruisseaa de Neuffonds, at crossing with road D149, SW of Super-Besse, 45°29.985 N 2°49.960 E, 20 May 2005, leg. H. Smit.

Distribution in France: Isère, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales), Savoie, Vosges.

*Partnunia tabernaculata* Gerecke & Smit, 1993

*Partnunia steinmanni* Walter, 1906: Vinçon 1987: 240.

*Partnunia tabernaculata* Gerecke & Smit, 1993: Gerecke 1996b: 409.

Distribution in France: Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées).

*Protzia brevivalpis* Maglio, 1909

*Calonyx brevivalpis* (Maglio, 1909): Motaş 1927b: 1, 1928e: 4, 1928f: 123, 1928g: 32.

Distribution in France: Hautes-Alpes, Isère.

*Protzia distincta* Walter, 1922

*Protzia distincta* Walter, 1922: Hubault 1927: 87; Motaş 1928f: 12.

Distribution in France: Savoie.

*Protzia eximia* (Protz, 1896)

*Protzia eximia* (Protz, 1896): Vandel 1922: 170; Motaş & C. Angelier 1927d: 5; Motaş 1928e: 4, 1928f: 122; Motaş & Şoarec 1939a: Appendix; Lundblad 1956a: 2; Do 1962: 67; E. Angelier et al. 1963: 464; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

New record. **Cantal:** 0/1/0, hyporheic of Le Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt 1115 m, 18 May 2005, leg. H. Smit.

Distribution in France: Cantal, Gard, Hérault, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Pyrénées-Orientales), Savoie, Tarn.

*Protzia felix* Gerecke, 1996

*Protzia eximia felix* Gerecke, 1996b: 449.

*Protzia felix* Gerecke, 1999: 145.

Distribution in France: Corsica.

*Protzia halberti* (Walter, 1920)

*Protzia halberti* (Walter, 1920): Gerecke 1996a: 309.

*Calonyx halberti* Walter, 1920: Motaş 1927b: 1, 1928e: 4.

Distribution in France: Isère, Savoie.

*Protzia invalvaris* Piersig, 1898

*Protzia invalvaris* Piersig, 1898: Motaş & C. Angelier 1927d: 5; Schwoerbel 1959a: 15, 1965: 477; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke 1996b: 423.

*Protzia invalvaris multispina* Migot, 1926a: 52, 1926b: 100; Motaş 1928f: 123; Motaş & Şoarec 1939a: Appendix; C. Angelier 1950d: 353.

*Protzia walteri pyrenaica* Viets, 1939a: 3.

*Protzia larieui* Motaş & Şoarec 1939a: 2; E. Angelier 1949b: 228; C. Angelier 1951b: 74.

New records. **Cantal:** 1/4/1, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/2/0, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit; 0/4/0, Upper course of unnamed creek S of Super-Lioran, 45°04.084 N 2°45.355 E, alt. 1500 m a.s.l., 17 May 2005, leg. H. Smit; 1/0/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit; 1/8/5, Le Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt. 1115 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 0/1/1, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit. **Hérault:** 1/0/0, Rivière La Vis at Gornières, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin. **Puy-de-Dôme:** 3/6/1, Ruisseau de Chareire, upstream of Chareire, 45°29.069 N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit; 0/1/0, Couze de Chaudfour Rivière, upstream of Vossière, 45°33.219 N 2°52.505 E, alt. 977 m a.s.l., 20 May 2005, leg. H. Smit; 1/10/1, La Planchette at Jassat, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Cantal, Gard, Gers, Haut-Rhin, Hérault, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Pyrénées-Orientales).

*Protzia lata* Walter, 1906

*Protzia lata* Walter, 1906: Gerecke 1996b: 430.

*Calonyx brevipalpis* Maglio, 1909: E. Angelier 1959a: 65; E. Angelier 1959: 15; Giudicelli 1970: 112;

Santucci 1971: 82 (? - all these records could refer also to *P. pycnica*, see Gerecke 1996b).

Distribution in France: Corsica.

*Protzia musculosa* Gerecke, 1996

*Protzia musculosa* Gerecke, 1996b: 443.

*Calonyx rotundus* (Walter, 1908): E. Angelier 1959: 15, 1959a: 66 (see Gerecke 1996b).

Distribution in France: Corsica.

*Protzia octopora* Lundblad, 1954

*Protzia octopora* Lundblad, 1954: Santucci 1971: 82; Gerecke 1996b: 421.

Distribution in France: Corsica.

*Protzia pachygnatha* K. Viets, 1930

*Protzia pachygnatha* K. Viets, 1930: Gerecke 1999: 136.

Distribution in France: Pyrénées (Pyrénées-Atlantiques, Aude).

*Protzia pycnica* Gerecke, 1996

*Protzia pycnica* Gerecke, 1996b: 437.

Distribution in France: Corsica.

*Protzia rotunda* Walter, 1908

*Protzia rotunda* Walter, 1908: M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Calonyx rotundus* (Walter, 1908): Motaş & C. Angelier 1927d: 5; Motaş 1928f: 123.

Distribution in France: Isère, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Protzia rugosa* Walter, 1918

*Protzia rugosa* Walter, 1918: Motaş 1927b: 1, 1928e: 4, 1928f: 122, 1928g: 23; Lundblad 1956a: 2.

*Protzia invalvaris* Piersig, 1898: Motaş 1926b: 411 (erron., see Motaş 1927b).

Distribution in France: Isère, Jura, Savoie, Var.

*Protzia squamosa squamosa* Walter, 1908

Smit H. and Gerecke R.

*Protzia squamosa squamosa* Walter, 1908: M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Calonyx squamosus* (Walter, 1908): Vandel 1920: 56.

*Calonyx intermedius* Motaş, 1932a: 63.

*Sporadoporus inovalvaris* (erron., non Piersig, 1898): Vandel 1919a: 89.

Distribution in France: Doubs, Isère, Pyrénées (Hautes-Pyrénées).

Remarks. According to Gerecke (1996a), the records from the Pyrénées need confirmation.

*Wandesia (Wandesia) thori* Schechtel, 1912

*Wandesia thori* Schechtel, 1912: E. Angelier et al. 1985: 30.

Distribution in France: Hautes-Pyrénées.

*Wandesia (Pseudowandesia) stygophila* Szalay, 1944

*Wandesia stygophila* Szalay, 1944: E. Angelier 1953b: 56; Picard 1962: 485.

Distribution in France: Meurthe-et-Moselle, Pyrénées-Orientales, Vosges.

*Wandesia (Pseudowandesia) vinolenta* Gerecke, 1996

*Wandesia vinolenta* Gerecke, 1996b: 455.

*Wandesia stygophila* Szalay, 1944: E. Angelier 1959: 15, 1959c: 162.

Distribution in France: Corsica.

*Diplodontus scapularis* Dugès, 1834

*Eupatra scapularis* (A.-L.D. Dugès, 1834b): 150; Barrois 1889b: 394; Motaş 1928f: 129, 1928g: 6; Bouzidi et al. 1984: 115.

Distribution in France: Hérault, Pas-de-Calais, Var.

Remark: According to Gerecke (1991a), the specimen reported by Motaş (1928f,g) from Var, possibly belongs to *D. semiperforatus* (Walter, 1925).

## Family Hydrodromidae Viets, 1936

*Hydrodroma despiciens* (Müller, 1776)

*Hydrodroma despiciens* (Müller, 1776): Petit & De-lamare Deboutteville 1950: 474; C. Angelier 1950a: 5, 1953: 214; Lundblad 1956a: 2; E. Angelier 1959: 16, 1959a: 69; Schwoerbel 1959a: 15; Santucci 1965: 546, 1971: 82; Smit & Van der Hammen 1992: 56.

*Diplodontus despiciens* (Müller, 1776): Barrois & Moniez 1887: 22; Barrois 1889b: 433; Moniez 1889b: 8; Thor 1903d: 15; Dyé 1905: 5; Vandel 1919a: 90; Soudan 1920: 2; Schodduyn 1923: 143, 1926a: 311; Motaş 1926b: 410, Motaş & C. Angelier 1927d: 5; Motaş 1928e: 28, 1928f: 141, 1928g: 6; C. Angelier 1931: 20; Chaudonneret 1947: 2.

*Diplodontus filipes* A.-L.D. Dugès, 1834b: 148; Moniez 1889e: 7.

*Hydrachna chrysis* De Théis, 1832: 58, 1835: 614.

New records. **Indre:** 4/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 1/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen. **Vienne:** 9/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen; **Haute-Vienne:** 0/14/0, lake, La Chapelle-Montbrandeix, 45°38'35" N 0°51'27" E, 29 April 2002, leg. G. van Ee. **Cantal:** 1/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, alt. 997 m, 18 May 2005, leg. H. Smit.

Distribution in France: Ain, Aisne, Aude, Cantal, Corsica, Côte-d'Or, Doubs, Essonne, Haute-Vienne, Hérault, Indre, Isère, Jura, Loire, Nord, Paris, Pas-de-Calais, Pyrénées-Orientales, Savoie, Seine-Maritime, Somme, Val-de-Marne, Var, Vienne, Vosges, Yvelines.

*Hydrodroma pilosa* Besseling, 1940

New records. **Pas-de-Calais:** 6/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/0, pool, Les Landes de Blendecques, 50°42'16.59" N 2°16'28.14" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 15/0, pond, Les Landes de

Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 4/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 9/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Landes:** 6/2, Étang Blanc, 27 July 1989, leg. H. van der Hammen. **Indre:** 6/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 40/0, pond near Étang Prieur, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen; 19/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 2/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen; 15/10, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Indre, Landes, Pas-de-Calais. Probably more widespread, as not always separated from *H. despiciens*.

*Hydrodroma reinhardi* Pešić, 2002

*Hydrodroma reinhardi* Pešić, 2002: 318.

Distribution in France: Corsica.

*Hydrodroma torrenticola* (Walter, 1908)

*Hydrodroma motasi* C. Angelier, 1949a: 85.

*Hydrodroma torrenticola* (Walter, 1908): Lundblad 1956a: 2; E. Angelier 1953b: 56, 1959: 16, 1959a: 65, 1959c:164; Santucci 1971: 82; Pesic 2002: 323.

New records. **Ardèche:** 1/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29-iv-2003, leg. H. Smit; 4/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1-v-2003, leg. H. Smit. **Gard:** 3/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Gard, Pyrénées (Pyrénées-Orientales).

**Family Sperchontidae**

*Sperchon (Sperchon) brevirostris* Koenike, 1895

*Sperchon brevirostris* Koenike, 1895: Vandel 1919a: 90, 1920: 56; Hubault 1927: 88; Motaş & C. Angelier 1927d: 5; Motaş 1928e: 4, 1928f: 126 (laps.: *brevirostris*), 1928g: 30; Motaş & Şoarec 1939a: (Appendix); C. Angelier 1950d: 353; Schwoerbel 1959a: 15; 1965: 479; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

New records. **Doubs:** 1/1/0, Doubs, Mouthe, X-UTM 286520 Y-UTM 5176321, 19 October 2008, leg. Richabun. **Jura:** 0/1/0, Les Rousses, X-UTM 272141 Y-UTM 5152462, 17 October 2008, leg. Richabun.

Distribution in France: Doubs, Haut-Rhin, Haute-Loire, Haute-Savoie, Isère, Jura, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques), Savoie, Vosges.

*Sperchon (Sperchon) glandulosus* Koenike, 1886

*Sperchon glandulosus* Koenike, 1886: Walter 1907b: 446; Vandel 1919a: 90, 1920: 56; Walter 1922c: 240; Hubault 1927: 87; Motaş & C. Angelier 1927d: 5; Motaş 1928e: 4, 1928f: 125, 1928g: 25; Motaş & Şoarec 1939a: 1; C. Angelier 1950d: 353; Lundblad 1956a: 2; E. Angelier 1959: 16, 1959a: 69; Schwoerbel 1959a: 15; Picard 1962: 485; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Gerecke 1991a: 75; Smit & Van der Hammen 1992: 55.

New record. **Ardèche :** 9/5, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Doubs, Haut-Rhin, Haute-Loire, Haute-Savoie, Hautes-Alpes, Isère, Jura, Meurthe-et-Moselle, Moselle, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Pyrénées-Orientales), Savoie, Vosges.

*Sperchon (Sperchon) longirostris* Koenike, 1895

*Sperchon longirostris* Koenike, 1895: Hubault 1927: 89; Motaş 1928e: 5, 1928f: 126; E. Angelier 1949b: 229, 1953b; Vinçon 1987: 240.

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Distribution in France: Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales, Pyrénées-Atlantiques), Savoie.

*Sperchon (Sperchon) longissimus* Viets, 1920

*Sperchon longissimus* Viets, 1920: Lundblad 1956a: 2.

Distribution in France: Isère.

*Sperchon (Sperchon) mutilus* Koenike, 1895

*Sperchon mutilus* Koenike, 1895: Walter 1922c: 241; Hubault 1927: 89; Motaş 1928e: 5, 1928f: 126; Schwoerbel 1959a: 17.

*Sperchon montisrosae* Koenike & Monti, 1910: Motaş 1927b: 2, 1928e: 5, 1928f: 126.

Distribution in France: Haute-Savoie, Hautes-Alpes, Isère, Savoie, Vosges.

*Sperchon (Sperchon) resupinus* Viets, 1922

*Sperchon resupinus* Viets, 1922: C. Angelier, 1950c: 234, 1950d: 353; Schwoerbel 1959a: 18.

Distribution in France: Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Vosges.

*Sperchon (Sperchon) squamosus* Kramer, 1879

*Sperchon squamosus* Kramer, 1879: Barrois & Moniez 1887: 35; Motaş & C. Angelier 1927d: 12; Motaş 1928e: 3, 1928f: 126, 1928g: 12; K. Viets 1939a: 2; Schwoerbel 1959a: 18; Vinçon 1987: 240; Smit & Van der Hammen 1992: 55.

New records. **Pas-de-Calais**: 5/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Cantal**: 1/0/0, Source du Goul (helocrenes), E of Thiézac, 45°00.739 N 2°43.351 E, alt. 1465 m a.s.l., leg. H. Smit.

Distribution in France: Cantal, Haute-Saône, Isère, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques), Savoie, Vosges.

*Sperchon (Sperchon) thienemanni* Koenike, 1907

*Sperchon glandulosus thienemanni* Koenike, 1907: Motaş 1927b: 2, 1928e: 4, 1928f: 125, 1928g: 12; Motaş & C. Angelier 1927d: 5.

*Sperchon rugosus* Koenike, 1911: E. Angelier 1957.

New records. **Cantal**: 0/1/0, upper course of unnamed creek S of Super-Lioran, 45°04.084 N 2°45.355 E, alt. 1500 m a.s.l., 17 May 2005, leg. H. Smit; 4/5/1, Source du Goul (helocrenes), E of Thiézac, 45°00.739 N 2°43.351 E, alt. 1465 m a.s.l., leg. H. Smit. **Doubs**: 6/1/0, Doubs, Mouthe, X-UTM 286520 Y-UTM 5176321, 19 October 2008, leg. Richabun; 2/0/0, same location, 8 May 2008, leg. Richabun.

Distribution in France: Cantal, Doubs, Essonne, Isère, Haute-Loire, Puy-de-Dôme.

*Sperchon (Sperchon) turgidus* K. Viets, 1914

*Sperchon turgidus* K. Viets, 1914: E. Angelier 1957: 67.

Distribution in France: Essonne.

*Sperchon (Hispidosperchon) clupeiifer* Piersig, 1896

*Sperchon clupeiifer* Piersig, 1896: C. Angelier 1931: 19; K. Viets 1939a: 2, C. Angelier 1950a: 3, 1950d: 353, 1951b: 75; E. Angelier 1949b: 228, 1953b: 61, 1957: 67; Lundblad 1956a: 2; E. Angelier 1957a: 27, 1959: 16, 1959a: 67; Nicolau-Guillaumet 1959: 237; Schwoerbel 1959a: 15, 1965: 477; E. Angelier et al. 1963: 462; Giudicelli 1970: 112; Santucci 1965: 547; 1971: 82; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Sperchon clupeiifer thori* Koenike, 1900: Motaş & C. Angelier 1967: 17.

*Sperchon elegans* Thor, 1898: Thor 1914a: 11.

*Sperchon koenikei* Walter, 1907: Vandel 1922: 170; Motaş 1928e: 4; 1928f: 127, 1929g: 21; C. Angelier 1931: 19, 1050a: 3; Motaş & Şoarec 1939a: Appendix (laps.: *Spercon*).

New records. **Ardèche**: 0/9/0, La Lande Ruisseau, NW of Chazeaux, 44°36.351 N 4°17.003 E, 30 April 2003, leg. H. Smit. **Puy-de-Dôme**: 1/0, Ruisseau de Chaireire, upstream of Chaireire, 45°29.069

N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Essonne, Gers, Haut-Rhin, Haute-Savoie, Isère, Jura, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées, Ariège), Rhône, Savoie, Tarn, Val-de-Marne, Vosges.

*Sperchon (Hispidosperchon) compactilis* Koenike, 1911

*Sperchon compactilis depressus* C. Angelier, 1950: C. Angelier 1950a: 3.

New record. **Hérault**: 3/3, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Île-de France, Hérault.

Discussion. When Lundblad (1956a) proposed the identity of *S. compactilis* and *S. papillosus*, a change not followed by most later authors, he synonymized also *S. c. depressus* with *S. papillosus*. As the name-giving depression in P-2 is surely an individual misshapening, we accept Lundblad's proposal to not accept this subspecies. Notwithstanding the loss of the holotype, C. Angelier's record can be attributed to *S. compactilis*.

*Sperchon (Hispidosperchon) compactilis discrepans* K. Viets, 1919

*Sperchon compactilis discrepans* K. Viets, 1919: E. Angelier 1957: 67.

Distribution in France: Essonne.

*Sperchon (Hispidosperchon) denticulatus* Koenike, 1895

*Sperchon denticulatus* Koenike, 1895: Walter 1922c: 240; Hubault 1927: 89; Motaş 1926b: 411, 1928e: 3, 1928f: 127, 1928g: 12; Motaş & Şoarec 1939a: 2; Viets 1939a: 2; C. Angelier 1950d: 353, 1953: 214; E. Angelier 1953f: 46, 1957: 67, 1957a: 25; Lundblad 1956a: 2; Do 1962: 67; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

Distribution in France: Alpes-de-Haute-Provence, Corsica, Essonne, Gard, Gers, Haute-Garonne, Hautes-Alpes, Hérault, Isère, Jura, Meurthe-et-Moselle, Pyrénées (Ariège, Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Tarn.

*Sperchon (Hispidosperchon) hibernicus* Halbert, 1944

*Sperchon hibernicus* Halbert, 1944: E. Angelier 1959: 16.

*Sperchon denticulatus hibernicus* Halbert, 1944: E. Angelier 1957a: 25, 1959a: 67; E. Angelier et al. 1963: 462; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 82; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Ariège, Tarn, Corsica, Haute-Garonne, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Pyrénées-Orientales).

*Sperchon (Hispidosperchon) hispidus* Koenike, 1895

*Sperchon hispidus* Koenike, 1895: Schwoerbel 1959a: 16; Vinçon 1987: 240.

*Sperchon plumifer* Thor, 1902: Hubault 1927: 88; Motaş 1927b: 2, 1928e: 4, 1928f: 128, 1928g: 23; E. Angelier 1949b: 228, 1953b: 56, 1957: 67, 1957a: 27, 1959: 16, 1959c: 164; C. Angelier 1951b: 75; E. Angelier et al. 1963: 464; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Hispidosperchon hispidus* (Koenike, 1895): Hubault 1927: 89.

New records. **Ardèche**: 0/2/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit; 1/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit; 0/1/0, Le Lignon Rivière, upstream of La Souche, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit; 9/1, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°3.364 E, 1 May 2003, leg. H. Smit; 2/0, La Drobie Rivière, upstream of Sablières, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit. **Puy-de-Dôme**: 4/1, Ruisseau de Chaireire, upstream of Chaireire, 45°29.069 N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit.



Distribution in France: Ardèche, Corsica, Haut-Rhin, Haute-Savoie, Isère, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Tarn, Vosges.

*Sperchon (Hispidosperchon) papillosus* Thor, 1901

*Sperchon papillosus papillosus* Thor, 1901: C. Angelier 1950c: 236, 1951b: 75; Lundblad 1956a: 2; E. Angelier 1957a: 27; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Pyrénées (Ariège, Pyrénées-Orientales, Pyrénées-Atlantiques, Hautes-Pyrénées).

*Sperchon (Hispidosperchon) setiger* Thor, 1898

*Sperchon setiger* Thor, 1898: Motaş 1928f: 127, 1928g: 21; E. Angelier 1953b: 56, 1959: 16, 1959a: 65; Lundblad 1956a: 2; E. Angelier et al. 1963: 462; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 82; Prevot et al. 1983: 27; Smit & Van der Hammen 1992: 55.

*Sperchon meridianus* E. Angelier, 1954c: 90; E. Angelier 1959: 16, 1959a: 66, 1959c: 164.

Distribution in France: Corsica, Isère, Pas-de-Calais, Savoie, Tarn.

*Sperchon (Hispidosperchon) vaginosus* Thor, 1902

*Sperchon vaginosus* Thor, 1902: Motaş 1927b: 2, 1928e: 3, 1928f: 127, 1928g: 21; C. Angelier 1931: 18; Viets 1939a: 2.

Distribution in France: Hérault, Isère, Pyrénées-Atlantiques, Savoie, Val-de-Marne.

*Sperchon (Hispidosperchon) violaceus* Walter, 1944

*Sperchon denticulatus violaceus* Walter, 1944: E. Angelier 1957a: 25.

New Records. **Jura**: 1/4/0, Les Rousses, X-UTM 272141 Y-UTM 5152462, 17 October 2008, leg. Rich-abun; 0/1/0, same location, 10 May 2008, leg. Rich-abun.

Distribution in France: Ariège, Haute-Garonne, Jura, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Sperchonopsis verrucosa* (Protz, 1896)

*Sperchonopsis verrucosa* (Protz, 1896): C. Angelier 1950d: 353, 1951b: 75; Lundblad 1956a: 2; E. Angelier 1957a: 27, 1959: 16, 1959a: 70; Schwoerbel 1959a: 16; E. Angelier et al. 1963: 462; Santucci 1971: 82; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Pseudosperchon verrucosus* (Protz, 1896): Walter 1922c: 240; Hubault 1927: 90; Motaş 1928e: 4, 1928f: 128, 1928g: 23.

New records. **Ardèche**: 1/0, La Drobie Rivière, upstream of Sablières, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit. **Hérault**: 1/0, Rivière La Vis at Gornières, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ardèche, Corsica, Gers, Haut-Rhin, Hautes-Alpes, Hérault, Isère, Meurthe-et-Moselle, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques, Ariège), Savoie, Var, Vosges, Tarn.

**Family Teutoniidae Koenike, 1910**

*Teutonia cometes* (Koch, 1837)

*Teutonia cometes* (Koch, 1837): C. Angelier 1950d: 353, 1951b: 77; Lundblad 1956a: 2; E. Angelier 1957a: 26, 1959: 16, 1959a: 66; Schwoerbel 1959a: 15; E. Angelier et al. 1963: 463; Santucci 1965: 546, 1971: 82.

*Teutonia primaria* Koenike, 1889: Derône 1914: 46, 1915: 560; Motaş 1926b: 411, 1928e: 3, 1928f: 168, 1928g: 7; Motaş & C. Angelier 1927d: 12.

New records. **Ardèche**: 1/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°3.364 E, 1 May 2003, leg. H. Smit. **Var**: 29/9, stream V'on des Vaudrèche, Massif des Maures, 43°14.657 N 6°20.267 E, 5 May 2003, leg. H. Smit; 3/7, unnamed stream, Massif des Maures, 43°15.312 N, 6°23.954 E, 5 May 2003, leg. H. Smit; 6/8/0, small unnamed stream a crossing with road D14, Massif des Maures, 43°14.637 N 6°22.089 E, 14 May 2005, leg. H. Smit; 2/3/0, stream Mourrefrey, E of Les Mayons, Massif des Maures, 43°19.311 N 6°22.463 E, 15 May 2005, leg. H. Smit. **Hérault**: 6/6/0, Source of La Buèges, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit

& P. Martin; 7/1/3, source of La Buèges, tributary of pool, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin; 0/2/0, Rivière La Vis at Gorniès, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Ardèche, Corsica, Côte-d'Or, Gironde, Haute-Saône, Hérault, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Pyrénées-Orientales, Ariège), Savoie, Tarn, Var, Vosges.

#### Family Anisitsiellidae Koenike, 1910

*Bandakia concreta* Thor, 1913

*Bandakia concreta* Thor, 1913: Motaş 1928f: 146, 1928g: 30; K. Viets 1939a: 2; Schwoerbel 1959a: 19, 1965: 477; Vinçon 1987: 240; Gerecke 1994: 268.

Distribution in France: Corsica, Haut-Rhin, Isère, Pyrénées (Pyrénées-Atlantiques), Vosges.

*Bandakia corsica* E. Angelier, 1951

*Bandakia corsica* E. Angelier, 1951b: 509, 1953b: 57, 1959: 15, 1959c: 161; Santucci 1977: 84; Gerecke 1991b: 140, 1994: 268.

Distribution in France: Corsica.

*Bandakia speciosa* K. Viets, 1953

*Bandakia corsica* (erron., non E. Angelier, 1951): Schwoerbel 1965: 477 (Gerecke 1991b).

Distribution in France: Haut-Rhin.

*Psammotorrenticola gracilis* E. Angelier, 1951

*Psammotorrenticola gracilis* E. Angelier, 1951b: 509, 1953b: 57, 1959: 16, 1959c: 161; Santucci 1977: 83; Gerecke 1994: 274.

*Psammotorrenticola* sp.: Santucci 1970: 193, 1971: 83.

Distribution in France: Corsica.

*Limnolegeria longiseta* Motaş, 1928

*Limnolegeria longiseta* Motaş, 1928b: 325; Léger & Motaş 1928a: 176; Motaş 1928f: 149, 1928g: 7.

Distribution in France: Var.

*Nilotonia (Dartiella) parva* (Walter, 1931

*Dartia parva* Walter, 1931: E. Angelier 1959: 16, 1959a: 71.

*Nilotonia gallica* (Motaş & C. Angelier 1967): 27 - Gerecke & Moreno 2008.

Distribution in France: Corsica, Pyrénées-Orientales.

#### Family Lebertiidae Thor, 1900

*Lebertia (Lebertia) cognata* Koenike, 1902

*Lebertia inversa* Koenike, 1919: Walter & Motaş 1927: 87; Motaş 1927b: 2, 1928e: 5, 1928f: 151.

*Lebertia extrema* Walter, 1922: Motaş 1928f: 152, 1928g: 9.

*Lebertia obesa* Viets, 1925: Smit & Van der Hammen 1992: 55.

Distribution in France: Isère, Pas-de-Calais, Savoie.

*Lebertia (Lebertia) fimbriata* Thor, 1899

*Lebertia fimbriata* Thor, 1899: C. Angelier 1950a: 4; E. Angelier et al. 1963: 462; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Smit & Van der Hammen 1992: 55.

*Lebertia (Lebertia) celtica procera* Viets, 1920: Walter & Motaş 1927: 85; Motaş 1927b: 2, 1928e: 3, 1928f: 152, 1928g: 9; C. Angelier 1953: 215; Lundblad 1956a: 2.

*Lebertia rufipes* Koenike, 1902: Motaş 1926b: 412 (erron., see Motaş 1927b); Motaş & Şoarec 1939a: Appendix.

New records. **Ardèche**: 0/4/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit; 0/5/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal**: 1/0/3, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit. **Doubs**: 6/0/0, Creuse, X-UTM

303653 Y-UTM 5233731, 20 October 2008, leg. Richabun; 1/0/0, same location, 6 May 2008, leg. Richabun; 2/0/0, Consolation, X-UTM 318320 Y-UTM 5225192, 19 October 2008, leg. Richabun. **Gard:** 1/4/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit. **Hérault:** 2/0/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin. **Jura:** 5/0/0, Seille at Ladoye sur Seille, X-UTM 705064 Y-UTM 5182147, 21 October 2008, leg. Richabun; 2/1/0, same location, 4 May 2008; 1/1/0, Cuisance, Arbois-Mesnay, X-UTM 713872 Y-UTM 5195242, 4 May 2008, leg. Richabun; 1/0/0, same location, 21 October 2008, leg. Richabun; 1/0/0, Surans, Gigny, X-UTM 689928 Y-UTM 5150437, 6 May 2008, leg. Richabun; 1/0/0, Les Rousses, X-UTM 272141 Y-UTM 5152462, 17 October 2008, leg. Richabun. **Puy-de-Dôme:** 0/1/0, R'au de Neuffonds, near road D149, 45°29.985 N 2°49.960 E, alt. 1322 m a.s.l., 20 May 2005, leg. H. Smit; 1/1/1, La Planchette at Jassat, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Doubs, Gard, Gers, Hérault, Isère, Jura, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Tarn.

*Lebertia (Lebertia) glabra* Thor, 1897

*Lebertia glabra* Thor, 1897: E. Angelier et al. 1985: 30.

*Lebertia lineata* Thor, 1906: Motaş 1927b: 2, 1928e: 4, 1928f: 157; K. Viets 1952c: 245; E. Angelier 1953b: 68; Vaillant 1956: 156; Schwoerbel 1959a: 16; M.-L. Angelier 1980: 13; Smit & Van der Hammen 1992: 55.

*Pseudolebertia glabra* (Thor, 1897): Hubault 1927: 98.

New record. **Gard:** 0/2/0, Monts du Cantal, rheocrene Buron des Gardes, 45°04'084" N, 2°45'355" E, alt. 1494 m a.s.l., 17.05.2005, leg. H.Smit.

Distribution in France: Gard, Haut-Rhin, Isère, Meurthe-et-Moselle, Pas-de-Calais, Pyrénées (Hautes-Pyrénées).

*Lebertia (Lebertia) guttata* K. Viets, 1952

*Lebertia guttata* K. Viets, 1952c: 246; Vaillant 1956: 158.

Distribution in France: Hautes-Alpes.

*Lebertia (Lebertia) intronata* Gerecke, 2009

*Lebertia intronata* Gerecke, 2009: 72.

Distribution in France: Corsica.

*Lebertia (Lebertia) lusitanica* Lundblad, 1956

*Lebertia lusitanica* Lundblad, 1956: M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Pyrénées (Hautes-Pyrénées).

*Lebertia (Lebertia) maculosa* Koenike, 1902

*Lebertia maculosa* Koenike, 1902: K. Viets 1939a: 2.

*Pseudolebertia oculata* (Koenike, 1919): Migot 1926b: 120; Motaş 1928f: 157.

*Pseudolebertia Zschokkei* (Koenike, 1902): Hubault 1927: 96.

*Lebertia oculata* Koenike, 1919: Walter & Motaş 1927: 93; Motaş 1927b: 2, 1928e: 4, 1928g: 21.

*Lebertia zschokkei* Koenike, 1902: Walter 1922c: 240; Motaş 1928f: 156, 1928g: 15; Lundblad 1956a: 2; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Hautes-Alpes, Haute-Savoie, Isère, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie.

*Lebertia (Lebertia) maglioi* Thor, 1907

*Lebertia maglioi* Thor, 1907: Walter & Motaş 1927: 86; Motaş 1927b: 2, 1928e: 4, 1928f: 151; Lundblad 1956a: 2; E. Angelier 1953b: 56, 1959: 16, 1959a: 65; Giudicelli 1970: 113; Santucci 1965: 546, 1971: 82; M.-L. Angelier 1980: 13 (laps. *maglioi*); E. Angelier et al. 1985: 30; Vinçon 1987: 240 (?); Gerecke 2009: 42.

New records. **Ardèche:** 0/1/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May

2003, leg. H. Smit; 2/0/3, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit; 10/3/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal:** 0/1/1, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/0/4, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit; 5/0/0/, Le Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt 1115 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 1/2/3, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit; 0/0/3, R'au de Neuffonds, near road D149, 45°29.985 N 2°49.960 E, alt. 1322 m a.s.l., 20 May 2005, leg. H. Smit. **Hérault:** 4/3/0, Rivière La Vis at Gorniers, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin; 0/1/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin. **Var:** 1/2/0, stream V'on des Vaudrèche, Massif des Maures, 43°14.657 N 6°20.267 E, 5 May 2003, leg. H. Smit; 0/2/0, unnamed creek, Massif des Maures, 43°15.312 N 6°23.954 E, 5 May 2003, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Corsica, Gard, Gers, Hérault, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques (?)), Var.

*Lebertia (Lebertia) oblonga* Koenike, 1911

*Lebertia oblonga* Koenike, 1911: Lundblad 1956a: 7.

Distribution in France: Gironde.

*Lebertia (Lebertia) pusilla* Koenike, 1911

*Lebertia pusilla* Koenike, 1911: Lundblad 1956a: 2.

Distribution in France: Savoie.

*Lebertia (Lebertia) rivulorum* K. Viets, 1933

*Lebertia rivulorum* K. Viets, 1933: Gerecke 2009: 61.

Distribution in France: Haute Vienne.

*Lebertia (Lebertia) rufipes* Koenike, 1902

*Lebertia rufipes* Koenike, 1902: Motaş 1927b: 2, 1928e: 5, 1928f: 152, 1928g: 15; Motaş & Şoarec 1939a: Appendix; Hubault 1947: 234; C. Angelier 1950d: 353, 1951b: 74; Schwoerbel 1959a: 16.

*Neolebertia rufipes* (Koenike, 1902): Migot 1926b: 119; Despax 1926: 131; Hubault 1927: 95.

Distribution in France: Haut-Rhin, Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie.

*Lebertia (Lebertia) salebrosa* Koenike, 1908

*Lebertia salebrosa* Koenike, 1908: Motaş & C. Angelier 1927d: 5; Motaş 1928f: 158 (?); M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Lebertia sculptata* Walter, 1925b:144; Motaş 1928e: 4, 1928f: 157.

*Pseudolebertia sculptata* (Walter, 1925): Hubault 1927: 98.

New records. **Cantal:** 0/1/0, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit. **Puy-de-Dôme:** 4/3/2, R'au de Chareire upstream of Chareire, 45°29.069 N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Cantal, Isère, Haute-Loire, Meurthe-et-Moselle, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées), Vosges.

*Lebertia (Lebertia) schechteli* Thor, 1913

*Lebertia schechteli* Thor, 1913: Motaş 1928f: 158; Gerecke 2009: 51.

*Lebertia tuberosa* Thor, 1914: Walter 1922c: 240; Motaş & C. Angelier 1927d: 5; Motaş 1928f: 157; Motaş & Şoarec 1939a: 2; K. Viets 1951d: 285, 1952c: 245; C. Angelier 1950d: 353, 1951b: 74; Vaillant 1956: 154; Schwoerbel 1959a: 16.

*Pseudolebertia tuberosa* (Thor, 1914): Migot 1926b: 120; Hubault 1927: 95.

*Pseudolebertia Schechteli* (Thor, 1913): Hubault 1927: 97.

New record. **Cantal**: 1/1/0, Source du Goul (several helocrenes), E of Thiézac, 45°00.739 N 2°43.351 E, alt. 1465 m, 19 May 2005, leg. H. Smit.

Distribution in France: Cantal, Corsica, Haute-Loire, Hautes-Alpes, Haut-Rhin, Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Vosges.

*Lebertia (Lebertia) sparsicapillata* Thor, 1905

*Lebertia sparsicapillata* Thor, 1905d: 59; Motaş 1926b: 412, 1928e: 4, 1928f: 151, 1928g: 21; Motaş & C. Angelier 1927d: 5; Schwoerbel 1959a: 16, 1965: 478; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Gerecke 2009: 38.

*Lebertia corsica* E. Angelier, 1954: E. Angelier 1959: 16, 1959a: 69.

*Neolebertia westfalica* (Koenike, 1919): Hubault 1927: 95.

New records. **Ardèche**: 5/1/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal**: 1/4/7, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/1/0, upper course of unnamed creek S of Superlioran, 45°04.084 N 2°45.355 E, alt. 1500 m a.s.l., 17 May 2005, leg. H. Smit; 0/3/5, Le Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt. 1115 m a.s.l., 18 May 2005, leg. H. Smit; 1/6/4, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit. **Gard**: 1/4/4, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Corsica, Gard, Haut-Rhin, Haute-Savoie, Isère, Meurthe-et-Moselle, Pyrénées (Hautes-Pyrénées), Vosges.

*Lebertia (Eolebertia) elsteri* Schwoerbel, 1958

*Lebertia elsteri* Schwoerbel, 1958: Gerecke 2009: 132.

Distribution in France: Cantal, Corsica.

*Lebertia (Pilolebertia) inaequalis* (Koch, 1837)

*Lebertia inaequalis* (Koch, 1837): Smit & Van der Hammen 1992: 55; Lundblad 1956a: 2.

*Lebertia parallela* Walter, 1925b: 140.

*Lebertia parallela variabilis* Walter, 1927: In: Walter & Motaş 1927: 90; Motaş 1927b: 2, 1928e: 3, 1928f: 150, 1928g: 20.

*Lebertia circularis* Viets, 1908: Motaş & C. Angelier 1967: 17.

*Lebertia exuta* Koenike, 1908: Motaş 1928f: 151, 1928g: 9; Schwoerbel 1959a: 15.

*Lebertia harnischi* Viets, 1926: Walter & Motaş 1927: 89; Motaş 1927b: 2, 1928f: 150.

New records. **Pas-de-Calais**: 10/0, l'Aa at Gondardenne, 50°42'32.19" N 2°14'43.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/0, spring pond, Les Landes de Blendecques, 50°42'30.97" N 2°16'2.51" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 5/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Hérault**: 2/1/3, Source of La Buèges, small tributary of pool, 43°48.852 N 3°35.526 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Isère, Meurthe-et-Moselle, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Savoie, Vosges.

*Lebertia (Pilolebertia) insignis* Neuman, 1880

*Pachygaster tauinsignitus insignis* Neuman, 1880: Barrois & Moniez 1887: 21.

*Lebertia insignis* Neuman, 1880: Le Roux 1907: 271; Soudan 1920: 4 (?); C. Angelier 1931: 23; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

Distribution in France: Gers, Isère, Nord, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques), Haute-Savoie, Val-de-Marne.

*Lebertia (Pilolebertia) longiseta* Bader, 1955

*Lebertia longiseta* Bader, 1955: Motaş 1928f: 150, 1928g: 9.

Distribution in France: Haute-Savoie.

Remark: Initially reported as a *nomen nudum* by Walter (in Obermeyer 1922) and Motaş (1928f), but later on described by Bader (1955).

*Lebertia (Pilolebertia) pilosa* Maglio, 1924

*Lebertia pilosa* Maglio, 1924: Leger & Motaş 1928a: 176; Motaş 1928g: 7; Gerecke 2009: 81.

Distribution in France: Corsica, Var.

*Lebertia (Pilolebertia) porosa* Thor, 1900

*Lebertia (Pilolebertia) porosa* Thor, 1900: Thor 1906a: 761; Vandel 1922: 170; Motaş 1926b: 412, 1928e: 4, 1928f: 149, 1928g: 9; Motaş & C. Angelier 1927d: 5; C. Angelier 1931: 21; Motaş & Şoarec 1939a: Appendix; E. Angelier 1959: 16, 1959a: 69; E. Angelier et al. 1963: 462; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Lebertia insignis porosa* Thor, 1900: Lundblad 1956a: 2.

*Pilolebertia porosa* (Thor, 1900): Migot 1926b: 115; Hubault 1927: 94.

*Lebertia saxonica* Thor, 1911: Motaş & Şoarec 1939a: Appendix; Lundblad 1956a: 2; Do 1962: 67.

*Lebertia seclusa* Koenike, 1914: C. Angelier 1931: 24 (laps. *seclusa*); Schwoerbel 1959a: 16.

*Lebertia (Pilolebertia) violacea* Viets, 1921: Motaş 1927b: 2, 1928e: 5, 1928f: 149, 1928g: 21; K. Viets 1939a: 2; C. Angelier 1953: 215; E. Angelier 1959: 16, 1959a: 65; Schwoerbel 1959a: 16; Motaş & C. Angelier 1967: 17; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 82.

New records. **Ardèche**: 4/4/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit; 1/3/0, Le Lignon Rivière, upstream of La Souche, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit; 0/2/0, La Drobie Rivière, upstream of Sablières, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit. **Cantal**: 0/2/3, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/2/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit; 0/1/3, Petit Rhue Rivière near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, alt. 938 m a.s.l., 18 May 2005, leg. H. Smit. **Doubs**: 1/2/0, Creuse, X-UTM 303653 Y-UTM 5233731, 20 October 2008, leg.

Richabun; 1/0/0, Consolation, X-UTM 318320 Y-UTM 5225192, 19 October 2008, leg. Richabun. **Gard**: 0/1/1, l'Hérault 3 km upstream of Valler-augue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit; 2/4/2, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit. **Jura**: 2/1/0, Hérisson, Ilay, X-UTM 720827 Y-UTM 5165883, 9 May 2008, leg. Richabun. **Pas-de-Calais**: 4/0, l'Aa at Gondardenne, 50°42'32.19" N 2°14'43.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/0/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Puy-de-Dôme**: 0/1/0, R'au de Chaire upstream of Chaire, 45°29.069 N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit. **Vienne**: 1/0/0, Riv. Vienne, at Saint-Martin-de-la-Rivière, 46°30'34.25" N 0°37'57.46" E, 7 July 2000, leg. H. van der Hammen. **Hérault**: 3/0/8, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Ardèche, Cantal, Corsica, Doubs, Gard, Gers, Haut-Rhin, Haute-Loire, Hautes-Alpes, Haute-Savoie, Hérault, Isère, Jura, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Rhône, Savoie, Tarn, Val-de-Marne, Vienne, Vosges.

*Lebertia (Mixolebertia) bisbisetosa* K. Viets, 1930

*Lebertia bisbisetosa* K. Viets, 1930: K. Viets 1939a: 2.

Distribution in France: Pyrénées (Pyrénées-Atlantiques).

*Lebertia (Mixolebertia) crenophila* Viets, 1920

*Lebertia crenophila* Viets, 1920: Schwoerbel 1959a: 19.

Distribution in France: Vosges.

*Lebertia (Mixolebertia) cuneifera* Walter, 1922

*Lebertia cuneifera* Walter, 1922: Motaş 1927b: 2, 1928e: 10, 1928f: 156; Schwoerbel 1959a: 18.

Distribution in France: Isère, Vosges.

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*Lebertia (Mixolebertia) depressostriata* K. Viets, 1952

*Lebertia depressostriata* K. Viets, 1952c: 248; Vailant 1956: 158.

Distribution in France: Hautes-Alpes.

*Lebertia (Mixolebertia) dubia* Thor, 1899

*Lebertia dubia* Thor, 1899: Motaş 1928e: 30, 1928f: 156, 1928g: 15; Motaş & Şoarec 1939a: Appendix; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Lebertia dubia suturata* Viets, 1926: Walter & Motaş 1927: 95; Motaş 1927b: 2, 1928e: 4, 1928f: 156, 1928g: 21; Motaş & C. Angelier 1927d: 5; C. Angelier 1953: 215.

*Hexalebertia dubia* (Thor, 1899): Migot 1926b: 121.

*Lebertia insignis* Neuman, 1880: Motaş 1926b: 412 (erron., see Motaş 1927b).

Distribution in France: Corrèze, Haute-Loire, Haute-Saône, Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie.

*Lebertia (Mixolebertia) fontana* Walter, 1912

*Lebertia extendens* Walter, 1912: Motaş 1928e: 10, 1928f: 155; K. Viets 1956b: 214.

*Hexalebertia extendens* (Walter, 1912): Hubault 1927: 99.

Distribution in France: Haute-Savoie, Isère, Savoie.

*Lebertia (Mixolebertia) holsatica* Viets, 1920

*Hexolebertia holsatica* (Viets, 1920): Migot 1926b: 126; Motaş & Şoarec 1939a: Appendix.

*Lebertia holsatica* Viets, 1920: Gerecke 2009: 102.

New record. **Gard**: 3/0/0, helocrene at campsite Mourétou, N of Valleraugue, 44°05.203 N 3°36.500 E, 418 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Corsica, Gard, Pyrénées (Pyrénées-Orientales).

*Lebertia (Mixolebertia) lativentris* Viets, 1922

*Lebertia lativentris* Viets, 1922: Schwoerbel 1959a: 19.

Distribution in France: Vosges.

*Lebertia (Mixolebertia) mediterranea* Gerecke, 2009

*Lebertia mediterranea* Gerecke, 2009: 124.

Distribution in France: Corsica.

*Lebertia (Mixolebertia) sefvei* Walter, 1911

*Lebertia sefvei* Walter, 1911: Schwoerbel 1959a: 18; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke 2009: 97.

Distribution in France: Corsica, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées), Vosges.

*Lebertia (Mixolebertia) semireticulata* Viets, 1925

*Lebertia semireticulata* Viets, 1925: Motaş 1927b: 2, 1928e: 5, 1928f: 155.

Distribution in France: Isère.

*Lebertia (Mixolebertia) stigmatifera* Thor, 1900

*Lebertia stigmatifera* Thor, 1900: Bornhauser 1912: 47; Motaş 1928e: 10, 1928f: 156, Lundblad 1956a: 2; Schwoerbel 1959a: 16; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

Distribution in France: Haut-Rhin, Isère, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées), Vosges.

#### Family Oxidae Viets, 1926

*Oxus (Oxus) carpenteri* (Halbert, 1911)

*Frontipoda carpenteri* Halbert, 1911: Schwoerbel 1959a: 15.

Distribution in France: Vosges.

*Oxus (Oxus) longisetus* (Berlese, 1885)

*Oxus longisetus* (Berlese, 1885): Lundblad 1956a: 3; E. Angelier 1959: 16, 1959a: 72.

*Oxus koenikei* Thor, 1899: Motaş 1926b: 412, 1927b: 2, 1928f: 148, 1928g: 5; Walter & Motaş 1927: 99; C. Angelier 1953: 216; Picard 1962: 486.

New record. **Indre**: 3/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Corsica, Côte-d'Or, Haute-Saône, Indre, Isère, Meurthe-et-Moselle, Pyrénées-Orientales, Savoie.

*Oxus (Oxus) musculus* (Müller, 1776)

*Marica musculus* Koch, 1837: Moniez 1887a: 162; Barrois & Moniez 1887: 21.

*Frontipoda musculus* (Müller, 1776): Motaş 1928f: 149, 1928g: 5; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Ain, Nord, Pyrénées (Hautes-Pyrénées), Vosges.

*Oxus (Oxus) ovalis* (Müller, 1776)

*Oxus ovalis* (Müller, 1776): Motaş 1927b: 2, 1928f: 148, 1928g: 5.

*Hydracna testudo* Daudebart de Férussac, 1806: 217 (?).

New records. **Var**: 0/1/0, stream Nible (pools), Massif des Maures, 43°21.392 N 6°27.403 E, 14 May 2005, leg. H. Smit. **Cantal**: 16/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, alt. 997 m a.s.l., 18 May 2005, leg. H. Smit.

Distribution in France: Ain, Cantal, Isère, Lot (?), Var.

*Oxus (Oxus) strigatus* (Müller, 1776)

*Oxus strigatus* (Müller, 1776): Motaş 1926b: 412, 1928f: 148, 1928g: 6.

*Oxus oblongus* Kramer, 1879: Giudicelli et al. 1980: 289.

Distribution in France: Bouches-du-Rhône, Isère, Nord, Var.

*Oxus (Gnaphiscus) setosus* (Koenike, 1898)

*Oxus setosus* (Koenike, 1898): C. Angelier 1953: 216.

*Gnaphiscus setosus* Koenike, 1898: Vandel 1919a: 90; Motaş 1926b: 412, 1928e: 3, 1928f: 148, 1928g: 21; Motaş & C. Angelier 1967: 17.

New records. **Isère**: 2/0, stream near Valbonnais, 19 July 1992, leg. H. van der Hammen. **Vienne**: 0/1/0, Riv. Vienne, at Saint-Martin-de-la-Rivière, 46°30'34.25" N 0°37'57.46" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Doubs, Isère, Jura, Pyrénées-Orientales, Savoie, Jura, Vienne.

**Family Pontarachnidae Koenike, 1910**

*Pontarachna punctulum* Philippi, 1840

*Pontarachna punctulum* Philippi, 1840: Moniez 1888: 64; Motaş 1928f: 170; Walter 1925d: 15; Lundblad 1956a: 2.

*Pontarachna lacazei* Moniez, 1888: 64; 1890b: 358; 1890c: 33.

New records. **Alpes-Maritimes**, Agay, 17.09.1951, 1/1/0; Cannes, Zone à Otoplanidae, 16-17 September 1951, 0/3/0 (MNHN); **Pyrénées-Orientales**: Plage d'Argeles, 22 September 1951, 2/0/2; Plage de Banyuls s/mer, 25 September 1951, 6/13/0; Le Racou, 30 September 1951, 2/2/2 (MNHN).

Distribution in France: Alpes-Maritimes, Hérault, Pyrénées-Orientales, Var.

*Litarachna communis* Walter, 1925

*Litarachna communis* Walter, 1925: 33; Motaş 1928f: 170; Lundblad 1956a: 2.

*Pontarachna punctulum* (nec Philippi, 1840): Moniez 1890b: 358.

New records. **Var**: 1/5/0, marine littoral l'Escalet, near Ramatuelle, 43°11.268 N 6°38.803 E, 4 May 2003, leg. H. Smit. **Pyrénées-Orientales**: Plage d'Argeles, 1/0/2, 22 September 1951; Plage de Banyuls-sur-Mer, 23-25 September 1951, 1/2/2; 0/1/0, Le Racou, 30 September 1951 (all MNHN).

Distribution in France: Pyrénées-Orientales, Var.



*Litarachna duboscqi* Walter, 1925

*Litarachna duboscqi* Walter, 1925d: 42.

Distribution in France: Pyrénées-Orientales.

#### Family Torrenticolidae Piersig, 1902

*Torrenticola (Torrenticola) amplexa* (Koenike, 1908)

*Atractides amplexus* Koenike, 1908: Motaş 1927b: 2, 1928e: 3, 1928f: 142, 1928g: 21; C. Angelier 1931: 21.

*Atractides connexus* Koenike, 1908: Migot 1926b: 126; Motaş & Şoarec 1939a: Appendix; E. Angelier 1950a: 91; C. Angelier 1951b: 77.

*Torrenticola connexa* (Koenike, 1908): E. Angelier 1957: 68, 1953b: 91.

*Torrenticola amplexa* (Koenike, 1908): E. Angelier et al. 1963: 462; Motaş & C. Angelier 1967: 17; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Côte-d'Or, Drôme, Gers, Haute-Saône, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Tarn, Val-de-Marne.

*Torrenticola (Torrenticola) anomala* (Koch, 1837)

*Atractides anomalus* Koch, 1837: C. Angelier 1951b: 75.

*Atractides angustirostris* Walter, 1918: Motaş 1928f: 143; C. Angelier 1951b: 77.

*Torrenticola anomala* (Koch, 1837): E. Angelier 1953b: 91; Lundblad 1956a: 2; E. Angelier 1957: 68, 1957a: 27, 1959: 16, 1959a: 65; Schwoerbel 1959a: 15; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 82; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke & Di Sabatino 1996: 295.

*Torrenticola longirostris* (Szalay, 1933): E. Angelier 1959: 16, 1959a: 71.

New records. **Cantal:** 0/5/0, Petit Rhue Rivière near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, alt. 938 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 0/2/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l.,

15 May 2005, leg. H. Smit. **Puy-de-Dôme:** 0/1/0, La Planchette at Jassat, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Corsica, Gard, Gers, Haut-Rhin, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées).

*Torrenticola (Torrenticola) barsica* (Szalay, 1933)

*Torrenticola barsica* (Szalay, 1933): Lundblad 1956a: 2; E. Angelier 1959: 16; Giudicelli 1970: 113; Santucci 1971: 82; Gerecke & Di Sabatino 1996: 296.

New records. **Cantal:** 1/1/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, 927 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 03/1, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, 1115 m a.s.l., 16 May 2005, leg. H. Smit; 2/0/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Cantal, Corsica, Gard, Pyrénées-Orientales.

*Torrenticola (Torrenticola) brevirostris* (Halbert, 1911)

*Atractides brevirostris* Halbert, 1911: E. Angelier 1949b: 228, 1950a: 85; C. Angelier 1951b: 75.

*Torrenticola brevirostris* (Halbert, 1911): Lundblad 1956a: 2; E. Angelier 1953b: 61, 1957: 68, 1957a: 27; E. Angelier et al. 1963: 464; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Gers, Puy-de-Dôme, Pyrénées (Ariège, Hautes-Pyrénées, Pyrénées-Orientales, Pyrénées-Atlantiques), Savoie, Tarn.

*Torrenticola (Torrenticola) cavifrons* E. Angelier, 1954

*Torrenticola cavifrons* E. Angelier, 1954: E. Angelier 1959: 16, 1959a: 65; Giudicelli 1970: 112; Santucci 1971: 83; Gerecke & Di Sabatino 1996: 297.

Distribution in France: Corsica.

*Torrenticola (Torrenticola) diaspora* Gerecke & Di Sabatino, 1996

*Torrenticola diaspora* Gerecke & Di Sabatino, 1996: 301.

*Torrenticola brevirostris* (non Halbert, 1911): Angelier 1959: 16; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 83.

Distribution in France: Corsica.

*Torrenticola (Torrenticola) elliptica* Maglio, 1909

*Atractides ellipticus* (Maglio, 1909): Motaş & C. Angelier 1927d: 5; Motaş 1927b: 2, 1928e: 4, 1928f: 142, 1928g: 9; E. Angelier 1949b: 228, 1950a: 85, 1953b: 106, 1962a: 353; C. Angelier 1950d: 353; Schwoerbel 1965: 477.

*Torrenticola elliptica* (Maglioi, 1909: Di Sabatino et al. 2009: 25.

*Torrenticola anomala* (Koch, 1837): Motaş 1926b: 412 (erron., see Motaş 1927b).

New records. **Cantal:** 1/1/0, Petit Rhue Rivière near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, alt. 938 m a.s.l., 18 May 2005, leg. H. Smit; 4/8/1, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16/05/2005, leg. H. Smit. **Jura:** 0/1/0, Cuisance, Arbois-Mesnay, X-UTM 713872 Y-UTM 5195242, 4 May 2008, leg. Richabun; 0/1/0, same location, 21 October 2008, leg. Richabun. **Puy-de-Dôme:** 0/4/0, R'au de Chareire upstream of Chareire, 45°29.069 N 2°46.947 E, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Cantal, Drôme, Haute-Loire, Haute-Savoie, Haute-Garonne, Haut-Rhin, Isère, Jura, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Orientales, Hautes-Pyrénées), Var, Vosges.

*Torrenticola (Torrenticola) hyporheica* Di Sabatino & Cicolani, 1993

*Torrenticola hyporheica* Di Sabatino & Cicolani, 1993: Gerecke & Di Sabatino 1996: 304.

*Torrenticola ramigera* (Szalay, 1947): E. Angelier 1950a: 88, 1953b: 57, 1959: 16, 1959a: 68 (see Gerecke & Di Sabatino 1996), 1959c: 162 (laps.: *ramiger*).

Distribution in France: Corsica, Pyrénées (Pyrénées-Atlantiques).

*Torrenticola (Torrenticola) ischnophallus* Lundblad, 1956

*Torrenticola ischnophallus* Lundblad, 1956: 167.

Distribution in France: Savoie.

*Torrenticola (Torrenticola) laskai* Di Sabatino, 2009

*Torrenticola lativalvata* (non K. Viets, 1952): E. Angelier 1959: 16, 1959a: 64; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 83; Gerecke & Di Sabatino 1996: 307.

Distribution in France: Corsica.

*Torrenticola (Torrenticola) limula* Gerecke & Di Sabatino, 1996

*Torrenticola limula* Gerecke & Di Sabatino, 1996: 309.

Distribution in France: Corsica.

*Torrenticola (Torrenticola) microphallus* Lundblad, 1956

*Torrenticola microphallus* Lundblad, 1956: 151.

Distribution in France: Pyrénées (Pyrénées-Orientales).

*Torrenticola (Torrenticola) minutivalvata* Lundblad, 1956

*Torrenticola amplexa minutivalvata* Lundblad, 1956a: 166.

New record. **Hérault:** 0/1/0, Rivière La Vis at Gornières, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Pyrénées-Orientales.

*Torrenticola (Torrenticola) similis* (Viets, 1939)

*Atractides elliptica similis* Viets, 1939a: 9; E. Angelier 1950a: 85; C. Angelier 1951b: 75.

*Torrenticola similis* (Viets, 1939): E. Angelier 1957: 68, 1953b: 91, 1957a: 27; E. Angelier et al. 1963: 464; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke & Di Sabatino 1996: 313.

New records. **Gard**: 0/2/0, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit; 3/2/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Corsica, Gard, Gers, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées, Ariège), Tarn.

*Torrenticola (Torrenticola) ungeri* Szalay, 1927

*Torrenticola ungeri* Szalay, 1927: E. Angelier 1957: 68, 1953b: 61, 1959: 16, 1959a: 65; Lundblad 1956a: 3; Santucci 1971: 83; Gerecke & Di Sabatino 1996: 313.

Distribution in France: Corsica, Pyrénées-Orientales.

*Torrenticola (Torrenticola) xylurgella* Gerecke & Di Sabatino, 1996

*Torrenticola xylurgella* Gerecke & Di Sabatino, 1996: 314.

Distribution in France: Corsica.

*Torrenticola (Megalpalpis) fagei* E. Angelier, 1949

*Torrenticola fagei* E. Angelier, 1949a: 88, 1949b: 229, 1950a: 85; C. Angelier 1950d: 353; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

Distribution in France: Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Torrenticola (Megalpalpis) remyi* E. Angelier, 1954

*Torrenticola remyi* E. Angelier, 1954: E. Angelier 1959: 16, 1959a: 66; E. Angelier et al. 1963: 463; Santucci 1977: 84; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Gerecke & Di Sabatino, 1996: 318.

Distribution in France: Corsica, Gers, Pyrénées (Hautes-Pyrénées), Tarn.

*Torrenticola (Megalpalpis) thori* (Halbert, 1944)

*Atractides andrei* E. Angelier, 1950a: 85.

*Torrenticola andrei* (E. Angelier, 1950): E. Angelier 1953b: 57, 1959: 16, 1959a: 65, 1959c: 162; Schwoerbel 1962e: 252, 1965: 479; Santucci 1971: 83, 1977: 84.

Distribution in France: Corsica, Pyrénées (Pyrénées-Atlantiques), Vosges.

*Monatractides (Monatractides) aberratus* (Lundblad, 1941)

*Torrenticola aberrata* (Lundblad, 1941): Lundblad 1956a: 3.

Distribution in France: Pyrénées-Orientales, Gironde.

*Monatractides (Monatractides) lusitanicus* (Lundblad, 1941)

*Monatractides lusitanicus* (Lundblad, 1941): Gerecke & Di Sabatino 1996: 291.

Distribution in France: Corsica.

*Monatractides (Monatractides) madritensis* (Viets, 1930)

*Torrenticola madritensis* Viets, 1930: E. Angelier 1950a: 90, 1953b: 93; Lundblad 1956a: 2; E. Angelier et al. 1963: 462; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

New record. **Gard**: 6/5/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Gers, Isère, Pyrénées (Pyrénées-Orientales, Pyrénées-Atlantiques, Hautes-Pyrénées), Tarn.

*Monatractides (Monatractides) stadleri* (Walter, 1924)

*Atractides stadleri* Walter, 1924: Motaş 1928f: 143; E. Angelier 1949b: 228, 1950a: 90, 1959a: 64, 1959c: 162; C. Angelier 1951b: 77.

*Torrenticola stadleri* Walter, 1924: E. Angelier 1953b: 57, 1959: 16; Lundblad 1956a: 3; E. Angelier et al. 1963: 464; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 83; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30.

*Monatractides stadleri* (Walter, 1924): Gerecke & Di Sabatino 1996: 293.

Distribution in France: Ardèche, Corsica, Drôme, Gers, Gironde, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales), Tarn.

*Monatractides (Pinquicola) adoratus* Di Sabatino & Gerecke, 1996

*Monatractides adoratus* Di Sabatino & Gerecke, 1996: 187; Gerecke & Di Sabatino 1996: 294.

Distribution in France: Corsica.

*Pseudotorrenticola rhyngota* Walter, 1906

*Pseudotorrenticola rhyngota* Walter, 1906: Motaş & C. Angelier 1927d: 5; Motaş 1928e: 31, 1928f: 143; E. Angelier 1953b: 57, 1959: 16, 1959a: 67, 1959c: 162; Schwoerbel 1965: 478; Santucci 1971: 83, 1977: 84; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240; Gerecke & Sabatino 1996: 321.

New record. **Cantal**: 1/0/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit.

Distribution in France: Cantal, Corsica, Haut-Rhin, Isère, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées), Puy-de-Dôme.

#### Family Limnesiidae Thor, 1900

*Limnesia (Limnesia) acuminata* Walter, 1925

*Limnesia acuminata* Walter, 1925: Migot 1926b: 111; Motaş & Şoarec 1939a: Appendix; Dô 1962: 67.

New record. **Hérault**: 0/1/0, Pool in dry river bed, tributary of La Buèges near source, 43°49.180 N 3°35.254 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Pyrénées (Pyrénées-Orientales).

*Limnesia (Limnesia) arevaloi arevaloi* Viets, 1918

*Limnesia arevaloi* Viets, 1918: Migot 1926b: 110; Motaş 1928f: 169, 1928g: 6; Monard 1928a: 224; Motaş & Şoarec 1939a: Appendix.

Distribution in France: Drôme, Pyrénées (Pyrénées-Orientales), Var.

*Limnesia (Limnesia) arevaloi ambulatoria* Gerecke, 1991

*Limnesia arevaloi* Viets, 1918: E. Angelier 1959: 15, 1959a: 73 (laps. *aravei*).

*Limnesia arevaloi ambulatoria* Gerecke, 1991a.

Distribution in France: Corsica.

*Limnesia (Limnesia) curvipalpis* Tuzovskij, 1997

New record. **Pas-de-Calais**: 0/2/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Pas-de-Calais. New for the fauna of France.

*Limnesia (Limnesia) fulgida* Koch, 1836

*Limnesia fulgida* Koch, 1836: Vandel 1919a: 90; Soudan 1920: 3; Motaş 1926b: 411, 1928e: 7, 1928f: 169, 1928g: 5; Motaş & C. Angelier 1927d: 6; Brumpt 1929: 293; C. Angelier 1931: 24; Chaudonneret 1947: 2; Lundblad 1956a: 2; E. Angelier 1959: 15, 1959a: 72; Smit & Van der Hammen 1992: 56.

*Limnesia histrionica* Bruzelius, 1854: Barrois & Moniez 1887 (as *L. histrionica* (Hermann)): 34; Barrois 1889b: 433, 1889d: 5; Moniez 1889b: 8, 1889e: 6; Le Roux 1907: 371; Schodduyn 1923: 143, 1926a: 311.

*Atax histrionicus* A.-L.D. Dugès 1834a: 17, 1834b: 146; Lucas 1880: LIV.

New records. **Pas-de-Calais**: 1/0/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 5/5/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E,

20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/3/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 1/0/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen; 6/3/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen; 0/1/0, Ruisseau de Fosse Noire near Vendroeuves, La Brenne, 46°46'28.14"N 1°21'42.58" E, 9 July 2000, leg. H. van der Hammen. **Cantal**: 1/1/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, alt. 997 m, 18 May 2005, leg. H. Smit.

Distribution in France: Ain, Aisne, Aude, Cantal, Corsica, Côte-d'Or, Doubs, Essonne, Haute-Loire, Haute-Saône, Haute-Savoie, Hérault, Indre, Isère, Manche, Moselle, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées-Atlantiques, Seine-Maritime, Somme, Val-de-Marne.

*Limnesia (Limnesia) koenikei* Piersig, 1894

*Limnesia koenikei* Piersig, 1894: Derône 1914: 46 (laps. *koenikei*); Motaş 1926b: 411, 1928e: 28, 1928f: 169, 1928g: 9; Motaş & C. Angelier 1927d: 6; Chaudonneret 1947: 2 (laps. *Köniki*); C. Angelier 1950a: 4; Do 1962: 67; Smit & Van der Hammen 1992: 55.

New records. **Hérault**: 17/44/0, Source of La Buèges, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin; 1/0/1, same data as previous location, hyporheic; 4/1/1, Pool in dry river bed, tributary of La Buèges near source, 43°49.180 N 3°35.254 E, 23 July 2008, leg. H. Smit & P. Martin; 8/3/7, Source of La Buèges, tributary of pool, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Côte-d'Or, Essonne, Haute-Loire, Hérault, Isère, Pas-de-Calais, Puy-de-Dôme, Savoie.

*Limnesia (Limnesia) maculata* (Müller, 1776)

*Limnesia maculata* (Müller, 1776): Moniez 1887a: 162; Barrois & Moniez 1887: 34; Vandel 1919a: 90; Soudan 1920: 3; Motaş 1926b: 411, 1928f: 169, 1928g: 5; Motaş & C. Angelier 1927d: 6; C. Angelier 1931:

25, 1953: 217; Chaudonneret 1947: 2; Schwoerbel 1959a: 15; Smit & Van der Hammen 1992: 56.

*Limnesia vitellina* (Koch, 1836): Moniez 1887a: 162; Barrois & Moniez 1887: 35.

*Hydrarachna maculata* Müller, 1776: Hermann 1804: 54.

*Hydrachna runica* De Théis, 1832: 60, 1835: 615; A.-L.D. Dugès 1834b: 145.

*Atax runicus* (De Théis, 1832): A.-L.D. Dugès 1834a: 17.

New records. **Pas-de-Calais**: 4/2/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 2/2/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 4/13/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 1/2/1, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Aisne, Bas-Rhin, Côte-d'Or, Doubs, Haute-Loire, Haute-Saône, Hérault, Indre, Isère, Jura, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Val-de-Marne, Vosges.

*Limnesia (Limnesia) undulata* (Müller, 1776)

*Hydrachna undulata* Müller, 1776: De Théis 1832: 61.

*Limnesia undulata* (Müller, 1776): Vandel 1919a: 90; Soudan 1920: 3; Motaş & C. Angelier 1927d: 6; Motaş 1928f: 169, 1928g: 5; C. Angelier 1931: 25, 1950a: 5; Chaudonneret 1947: 2; Smit & Van der Hammen 1992: 56.

*Limnesia pardina* Neuman, 1870: Barrois & Moniez 1887: 35; Moniez 1889e: 6 ; Le Roux 1907: 371.

*Hydrarachna undulata* Müller, 1776: Hermann 1804: 54.

*Hydrarachna erythrophthalma* Hermann, 1804: 57.

New records. **Pas-de-Calais:** 10/9/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H. van der Hammen; 4/14/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Landes:** 10/16/0, Étang Blanc, 27 July 1989, leg. H. van der Hammen. **Indre:** 1/0/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 21/39/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen; 1/0/0, Ruisseau de Fosse Noire near Vendroeuves, La Brenne, 46°46'28.14"N 1°21'42.58" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Aisne, Bas-Rhin, Côte-d'Or, Doubs, Essonne, Haute-Loire, Haute-Savoie, Indre, Isère, Landes, Loire, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Val-de-Marne.

Remarks. Old records, published before Davids (1997), refer either to *L. undulata* or *L. undulatoides*.

*Limnesia (Limnesia) undulatoides* Davids, 1997

New record: **Pas-de-Calais:** 1/2/0, pond dunes near Berck, 30 March 1990, leg. H. Smit.

Distribution in France: Pas-de-Calais. New for the fauna of France.

*Limnesia (Limnesia) walteri* Migot, 1926

*Limnesia walteri* Migot, 1926a: 53, 1926b: 112; Motaş & Şoarec 1939a: Appendix; E. Angelier 1959: 15, 1959a: 65.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales).

#### Family Hygrobatidae Koch, 1842

*Hygrobates (Hygrobates) calliger* Piersig, 1896

*Hygrobates calliger* Piersig, 1896: Walter 1907b: 446; Hubault 1927: 99; Motaş & C. Angelier 1927d: 6; Motaş 1928e: 4, 1928f: 173; C. Angelier 1931: 27, 1951b: 74; K. Viets 1939a: 2; E. Angelier 1949b: 229, 1950c: 187, 1953b: 91, 1957a: 27, 1959: 15, 1959a:

74; Delamare-Deboutteville 1955b: 433; Lundblad 1956a: 3; Schwoerbel 1959a: 15, 1965: 477; Do 1962: 67; E. Angelier et al. 1963: 462; Giudicelli 1970: 112; Santucci 1971: 83; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

*Hygrobates calliger obtusipalpis* Viets, 1930: C. Angelier 1951b: 75.

*Hygrobates (Hygrobates) subterraneus* C. Angelier, 1947: 446.

New records. **Ardèche:** 0/1/1, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal:** 0/1/0, Petit Rhue Rivière, near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, 938 a.s.l., 18 May 2005, leg. H. Smit; 8/9/2, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, 967 m a.s.l., 16 May 2005, leg. H. Smit; 3/1/0, Le Mars Rivière, at crossing with road D12, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, 1115 m a.s.l., 18 May 2005, leg. H. Smit; 0/1/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, 927 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 1/4/1, Le Trèvezet Rivière, between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, 1115 m a.s.l., 16 May 2005, leg. H. Smit. **Puy-de-Dôme:** 6/10/5, La Planchette at Jassat, S of Murol, 45°33.716 N 2°56.339 E, 894 m a.s.l., 20 May 2005, leg. H. Smit; 6/0/0, Ruisseau de Chareire, upstream of Chareire, 45°29.069 N 2°46.947 E, 1263 m a.s.l., 20 May 2005, leg. H. Smit. **Hérault:** 8/8/4, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin; 4/3/0, Rivière La Vis at Gorniers, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ardèche, Cantal, Corsica, Gard, Gers, Gironde, Haute-Loire, Haut-Rhin, Hérault, Isère, Meurthe-et-Moselle, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées, Ariège), Tarn, Val-de-Marne, Vosges.

*Hygrobates (Hygrobates) fluviatilis* (Ström, 1768)

*Hygrobates fluviatilis* (Ström, 1768): C. Angelier 1950a : 5; Lundblad 1956a: 2; E. Angelier 1959: 15,

1959a: 65; Schwoerbel 1959a: 15, 1965: 479; Giudicelli 1970: 112; Santucci 1965: 546, 1971: 83; M.-L. Angelier 1980: 13; Prevot et al. 1983: 27; E. Angelier et al. 1985: 30; Smit & Van der Hammen 1992: 55.

*Hygrobates naicus* (Johnston, 1848): Soudan 1920: 2; Hubault 1927: 100; Motaş & C. Angelier 1927d: 6; Motaş 1928e: 3, 1928f: 173, 1928g: 9; C. Angelier 1931: 27.

*Nesaea reticulata* Kramer, 1879: Richards 1887: 953.

*Hygrobates reticulatus* Koenike, 1892: Motaş 1926b: 411 (erron., see Motaş 1927b).

New records. **Pas-de-Calais:** 3/0/0, l'Aa at Gondardenne, 50°42'32.19" N 2°14'43.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 11/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Ardèche:** 0/1/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit. **Cantal:** 1/0/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/1/0, Le Mars Rivière, at crossing with road D12, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt. 1115 m a.s.l., 18 May 2005, leg. H. Smit. **Gard:** 0/1/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit. **Hérault:** 4/11/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin; 4/3/0, source of La Buèges, tributary of pool, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin; 2/3/0, Rivière La Vis at Gornières, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Alpes-de-Haute-Provence, Ardèche, Cantal, Corsica, Essonne, Gard, Gers, Haut-Rhin, Haut-Saône, Haute-Savoie, Hérault, Isère, Marne, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Val-de-Marne, Var, Vosges.

*Hygrobates (Hygrobates) foreli* (Lebert, 1874)

*Hygrobates titubans* Koenike, 1908: Hubault 1927: 100, 1947: 219; Motaş 1928e: 4, 1928f: 171.

New record. **Ardèche:** 0/3/0, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal:** 0/1/1, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit; 0/1/0, upper course of unnamed creek S of Super-Lioran, 45°04.084 N 2°45.355 E, alt. 1500 m a.s.l., 17 May 2005, leg. H. Smit; 0/4/0, Le Mars Rivière, at crossing with road D12, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt. 1115 m a.s.l., 18 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Isère, Savoie, Vosges.

*Hygrobates (Hygrobates) longipalpis* (Hermann, 1804)

*Hydrarachna longipalpis* Hermann, 1804: 55.

*Hygrobates longipalpis* (Hermann, 1804): Barrois & Moniez 1887: 20; Barrois 1889d: 6; Moniez 1889b: 8, 1889e: 6; Le Roux 1907: 271; K. Viets 1913a: 333; Derône 1914: 45, Vandel 1919a: 90; Soudan 1920: 2; Walter 1922c: 106; Schodduyn 1923: 143; Motaş 1926b: 411, 1928e: 3, 1928f: 171, 1928g: 6; Motaş & C. Angelier 1927d: 6; C. Angelier 1931: 26, 1951b: 77; Chaudonneret 1947: 3; Schachter & Conat 1952: 367; Petit & Schachter 1954: 244; E. Angelier 1959: 15, 1959a: 72; Do 1962: 67; E. Angelier et al. 1963: 465; Smit & Van der Hammen 1992: 56.

*Hygrobates impressus* Neuman, 1880: Barrois & Moniez 1887: 20.

*Hygrobates prosiliens* Koenike, 1915: Chaudonneret 1947: 3; C. Angelier 1950a: 5.

New records. **Pas-de-Calais:** 0/1/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/1/0, pool, Les Landes de Blendecques, 50°42'16.59" N 2°16'28.14" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 11/0, l'Aa at Gondardenne, 50°42'32.19" N 2°14'43.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 12/0, spring pond, Les Landes de Blendecques, 50°42'30.97" N 2°16'2.51" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/6/0, fish

pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 45/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen; 1/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Indre:** 1/0/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/2/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen; 1/2/0, Ruisseau de Fosse Noire near Vendroeuves, La Brenne, 46°46'28.14"N 1°21'42.58" E, 9 July 2000, leg. H. van der Hammen. **Haute-Vienne:** 0/1/0, lake, La Chapelle-Montbrandeix, 45°38'35"N 0°51'27: E, 29 April 2002, leg. G. van Ee. **Hérault:** 1/0/0, source of La Buèges, tributary of pool, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Alpes-Maritimes, Bas-Rhin, Bouches-du-Rhône, Corsica, Côte-d'Or, Doubs, Essonne, Haute-Loire, Haute-Saône, Haute-Savoie, Haute-Vienne, Hérault, Indre, Isère, Marne, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales), Savoie, Seine-Maritime, Somme, Tarn, Val-de-Marne, Var.

*Hygrobates (Hygrobates) longiporus* Thor, 1898

*Hygrobates longiporus* Thor, 1898: Migot 1926b: 127; Monard 1928a: 224; Motaş & Şoarec 1939a: Appendix; Lundblad 1956a: 3; E. Angelier 1953b: 57, 1959: 15, 1959a: 64, 1959c: 162; E. Angelier et al. 1963: 462; Giudicelli 1970: 113; Santucci 1971: 83.

*Hygrobates falcilaminatus* Walter, 1926: Migot 1926b: 127; Motaş 1928f: 173, 1928g: 7; Leger & Motaş 1928a: 176.

*Hygrobates squamifer* Thor, 1898: Motaş 1928f: 172.

New record. **Ardèche:** 1/0/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Pyrénées (Pyrénées-Orientales), Tarn, Var.

*Hygrobates (Hygrobates) nigromaculatus* Lebert, 1879

*Hygrobates nigromaculatus* Lebert, 1879: Vandel 1919a: 90; Soudan 1920: 3; Migot 1926b: 127; Motaş 1926b: 411, 1928e: 3, 1928f: 171, 1928g: 9; Motaş & Şoarec 1939a: Appendix; E. Angelier et al. 1963: 462; M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 30; Vinçon 1987: 240.

New records. **Pas-de-Calais:** 1/0/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 26/0, l'Aa at Gondardenne, 50°42'32.19" N 2°14'43.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 4/0, spring pond, Les Landes de Blendecques, 50°42'30.97" N 2°16'2.51" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 20/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Hérault:** 0/1/0, source of La Buèges, tributary of pool, 43°48.852 N 3°35.526 S, 23 July 2008, leg. H. Smit & P. Martin. **Doubs:** 0/3/0, Creuse, X-UTM 303653 Y-UTM 5233731, 20 October 2008, leg. Richabun; 2/1/0, same location, 6 May 2008, leg. Richabun.

Distribution in France: Doubs, Haute-Saône, Hérault, Isère, Pas-de-Calais, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques), Savoie, Tarn.

*Hygrobates (Hygrobates) trigonicus* Koenike, 1895

*Hygrobates trigonicus* Koenike, 1895: Lundblad 1956a: 3; E. Angelier 1959: 16, 1959a: 72; Santucci 1971: 83; Prevot et al. 1983: 27.

Distribution in France: Alpes-de-Haute-Provence, Corsica, Gironde, Pyrénées-Orientales.

*Hygrobates (Rivobates) norvegicus* (Thor, 1897)

*Hygrobates norvegicus* (Thor, 1897): Bornhauser 1912: 47; Hubault 1927: 100; Motaş 1928e:10; Lundblad 1956a: 10; Schwoerbel 1959a: 17 (laps.: *norvegicus*); M.-L. Angelier 1980: 13; E. Angelier et al. 1985: 31.

*Rivobates norvegicus* Thor, 1897: Motaş 1928f: 174, 1928g: 29.

Distribution in France: Haut-Rhin, Isère, Pyrénées (Hautes-Pyrénées), Vosges.



*Mixobates processifer* (Thor, 1905)

*Mixobates processifer* (Thor, 1905): E. Angelier et al. 1963: 463.

Distribution in France: Tarn.

*Atractides (Atractides) angustiporus* (Viets, 1930)

*Megapus angustiporus* Viets, 1930: C. Angelier 1950d: 354.

Distribution in France: Pyrénées (Hautes-Pyrénées).

*Atractides (Atractides) clavipes* Lundblad, 1954

*Atractides clavipes* Lundblad, 1954: Lundblad 1956a: 11.

New record. **Gard**: 1/2/0, helocrene at campsite Mourétou, N of Valleraugue, 44°05.203 N 3°36.500 E, alt. 418 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Gard, Vosges.

*Atractides (Atractides) corsicus* E. Angelier, 1954

*Atractides nodipalpis corsicus* E. Angelier, 1954: E. Angelier 1959: 16, 1959a: 65.

*Atractides corsicus* E. Angelier, 1954: Gerecke 2003: 274.

*Atractides fonticolus corsicus* (E. Angelier, 1954): Giudicelli 1970: 112; Santucci 1971: 83.

Distribution in France: Corsica.

*Atractides (Atractides) distans* (Viets, 1914)

*Atractides distans* (Viets, 1914): E. Angelier 1953b: 68; Schwoerbel 1959a: 16; E. Angelier et al. 1963: 462.

Distribution in France: Haut-Rhin, Tarn.

Remarks: The presence of this species needs confirmation due to confusion with closely related species (Gerecke 2003).

*Atractides (Atractides) fissus* (Walter, 1927)

*Megapus fissus* Walter, 1927: In: Walter & Motaş 1927: 106; Motaş 1927a: 341, 1927b: 2, 1928e: 4, 1928f: 176.

Distribution in France: Isère.

*Atractides (Atractides) fluviatilis* (Szalay, 1929)

*Atractides nodipalpis fluviatilis* (Szalay, 1929): Lundblad 1956a: 3; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Atractides (Atractides) fonticolus* (Viets, 1920)

*Megapus nodipalpis fonticola* Viets, 1920: Walter & Motaş 1927: 104; Motaş 1927a: 340, 1927b: 2, 1928e: 10, 1928f: 175; Motaş & Şoarec 1939a: 1.

*Atractides nodipalpis fonticolus* (Viets, 1920): Do 1962: 67; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Smit & Van der Hammen 1992: 55.

*Atractides fonticolus* (Viets, 1920): Prevot et al. 1983: 27.

Distribution in France: Hérault, Isère, Pas-de-Calais, Pyrénées (Hautes-Pyrénées).

*Atractides (Atractides) gibberipalpis* Piersig, 1898

*Atractides gibberipalpis* Piersig, 1898: Vandel 1920: 56; K. Viets 1939a: 3; C. Angelier 1950d: 353, 1951b: 74, Lundblad 1956a: 2; Schwoerbel 1959a: 16; Santucci 1971: 83; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

*Megapus gibberipalpis* (Piersig, 1898): Hubault 1927: 101; Motaş 1926b: 411, 1927a: 341, 1928f: 174, 1928g: 30.

New records. **Ardèche**: 2/8/4, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit; 1/1/8, La Borne Ruisseau, W of Col de la Croix de Bauzon, 44°37.770 N 4°09.610 E, 30 April 2003, leg. H. Smit. **Cantal**: 2/5/2, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/1/2, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit; 1/6/17, Le Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt.

1115 m a.s.l., 18 May 2005, leg. H. Smit; 1/0/0, Petit Rhue Rivière near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, alt. 938 m a.s.l., 18 May 2005, leg. H. Smit; 1/0/0, Source du Goul (helocrenes), E of Thiézac, 45°00.739 N 2°43.351 E, alt. 1465 m a.s.l., 19 May 2005, leg. H. Smit. **Puy-de-Dôme**: 1/1/0, Ruisseau de Chareire, upstream of Chareire, 45°29.069 N 2°46.947 S, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit; 2/4/0, La Planchette at Jassat, S of Murol, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit; 0/2/0, R'au de Neuffonds, near road D149, 45°29.985 N 2°49.960 E, alt. 1322 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Corsica, Doubs, Isère, Haut-Rhin, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Vosges.

*Atractides (Atractides) glandulosus* (Walter, 1918)

*Megapus glandulosus* Walter, 1918: C. Angelier 1951b: 75; Lundblad 1956a: 2; E. Angelier 1954f: 46, 1957a: 24.

Distribution in France: Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Ariège), Savoie.

*Atractides (Atractides) gracilipes* (E. Angelier, 1951)

*Megapus gracilipes* E. Angelier, 1951b: 509.

*Atractides gracilipes* (E. Angelier, 1951): E. Angelier 1953b: 57, 1959: 16, 1959c: 164.

Distribution in France: Corsica.

*Atractides (Atractides) inflatipes* Lundblad, 1956

*Atractides distans inflatipes* Lundblad, 1956: 208.

Distribution in France: Pyrénées-Orientales.

*Atractides (Atractides) inflatus* (Walter, 1925)

*Atractides inflatus* (Walter, 1925): Lundblad 1956a: 3.

Distribution in France: Pyrénées-Orientales.

*Atractides (Atractides) latipalpis* Motaş & Tanasachi, 1946

*Atractides latipalpis* Motaş & Tanasachi, 1946: E. Angelier 1953b: 109; Schwoerbel 1965: 477; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New record. **Cantal**: 1/0/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit.

Distribution in France: Cantal, Haut-Rhin, Isère, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées).

*Atractides (Atractides) latipes* (Szalay, 1935)

*Atractides latipes* (Szalay, 1935) : E. Angelier 1953b: 57, 1959: 16, 1959a: 66, 1959c: 164; Santucci 1971: 83.

*Megapus remyi* E. Angelier 1951b: 509.

New record. **Gard**: 0/1/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Corsica, Gard.

*Atractides (Atractides) legeri* (Motaş, 1927)

*Megapus legeri* (Motaş, 1927): In: Walter & Motaş 1927: 114; Motaş 1927a: 341, 1927b: 2, 1928e: 4, 1928f: 176, 1928g: 30.

*Atractides legeri* (Motaş, 1927): Gerecke 2003: 206.

Distribution in France: Isère.

*Atractides (Atractides) loricatus* Piersig, 1898

*Atractides adenophorus* (Viets, 1930): E. Angelier 1949b: 229 (see Gerecke 2003).

*Megapus adenophorus* Viets, 1930: C. Angelier 1950d: 353.

*Megapus loricatus* (Piersig, 1898): Migot 1926b: 128; Motaş & C. Angelier 1927d: 6; Motaş 1928f: 177, 1928g: 30; Monard 1928a: 224; Motaş & Şoarec 1939a: Appendix.

*Atractides loricatus* Piersig, 1898: M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

Distribution in France: Gers, Haute-Loire, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques).

*Atractides (Atractides) lunipes* Lundblad, 1956

*Atractides lunipes* Lundblad, 1956: 211; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New records. **Ardèche**: 2/1/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°3.364 E, 1 May 2003, leg. H. Smit; 1/2/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit.

Distribution in France: Ardèche, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Atractides (Atractides) nodipalpis* (Thor, 1899)

*Megapus nodipalpis* Thor, 1899: Thor 1914a: 1; Hubault 1927: 101, 1934: 63; Motaş 1926b: 411, 1927a: 341, 1928e: 3, 1928f: 175, 1928g: 20; Motaş & C. Angelier 1927d: 6; C. Angelier 1931: 28, 1951b: 74.

*Atractides nodipalpis* (Thor, 1899): Lundblad 1956a: 2; E. Angelier 1953b: 57, 1957a: 27; 1959: 16, 1959a: 64; Schwoerbel 1959a: 15, 1965: 477; E. Angelier et al. 1963: 462; Santucci 1971: 83; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

*Atractides limnicola* Schwoerbel, 1959a: 39.

New records. **Pas-de-Calais**: 0/1/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen. **Hérault**: 28/27/5, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin; 3/1/0, Rivière La Vis at Gorniès, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Charente, Corsica, Gard, Gers, Gironde, Haut-Rhin, Hérault, Isère, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques), Savoie, Tarn, Val-de-Marne, Vosges.

Discussion: As pointed out by Gerecke (2003), most records published under the name *Atractides spinipes* (Koch, 1837) refer to misshaped specimens, mostly of *A. nodipalpis*. The following records, partly published as *Megapus spinipes* (Koch, 1837), not being documented by collection material, their

identity remains unclear: Vandel 1920: 56; Motaş 1928f: 174, 1928g: 9; Motaş & Şoarec 1939a: 2; E. Angelier 1949b: 228; Schwoerbel 1959a: 15; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

In addition to the distributional data given above, these data include records from Doubs and Var.

*Atractides (Atractides) oblongus* (Walter, 1944)

*Atractides longus* (laps., Walter, 1947): E. Angelier 1953b: 109.

Distribution in France: Isère.

*Atractides (Atractides) octoporus* Piersig, 1904

*Megapus octoporus* (Piersig, 1904): Motaş 1926b: 411 (laps. *octopovus*), 1927a: 340, 1927b: 2, 1928e: 4; 1928f: 189, 1928g: 23; Motaş & Angelier 1927d: 9.

*Atractides octoporus* Piersig, 1904: Lundblad 1956a: 2; Schwoerbel 1959a: 16; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New record. **Hérault**: 1/0/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Isère, Haut-Rhin, Hérault, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées), Savoie.

*Atractides (Atractides) ovalis* Koenike, 1883

*Atractides ovalis* Koenike, 1883: Barrois & Moniez 1887: 20.

Distribution in France: Pas-de-Calais.

*Atractides (Atractides) pennatus* (Viets, 1920)

*Atractides nodipalpis pennatus* (Viets, 1920): Lundblad 1956a: 2; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Smit & Van der Hammen 1992: 55.

*Megapus nodipalpis pennata* Viets, 1920: Walter & Motaş 1927: 101; Motaş 1926b: 412, 1927a: 340, 1927b: 2, 1928e: 3, 1928f: 175, 1928g: 21; Motaş & Şoarec 1939a: 2; C. Angelier 1950d: 354.

*Megapus nodipalpis longitibialis* Walter, 1927: In: Walter & Motaş 1927: 104; Motaş 1927a: 340, 1927b: 2, 1928e: 10, 1928f: 176.

*Atractides ovalis* Koenike, 1883: Motaş 1926b: 411 (erron., see Motaş 1927b).

Distribution in France: Gard, Gers, Isère, Pas-de-Calais, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales).

*Atractides (Atractides) phreaticus* Motaş & Tanasachi, 1948

*Atractides vandeli* E. Angelier, Decamps & Rey, 1963: 476. Nov. syn.

Material examined. **Tarn:** *Atractides vandeli*, Holotype MNHN Paris, without author label, only red number inscription "93". *Locus typicus:* France, Massif Central, from a 12 month investigation, no datum; Ruisseau du Céret, Stat.2, en amont du pont de la Route nationale 88.

Discussion. Notwithstanding several contradictions to the original description, and the complete lack of taxonomic or geographic labels, the holotype of *A. vandeli* could be identified because it was conserved in a drawer together with other unique material (specimens of *Nudomideopsis longipalpis*, *Barbaxonella pilosa*, *Torrenticola fagei*, and *Atractides fonticolus gallicus*) globally published in the paper of Angelier et al. (1963). From a revision of this specimen results that Gerecke's (2003) hypothesis was correct, that it belongs to *A. phreaticus*: (1) an unpaired posterior plate (obviously overlooked by Angelier) is present on the dorsum; (2) setae S-1/2 are homoiomorphic - the figure of I-L in the original description, with one blunt and one pointed seta, is not correct. (3) setae at both Dgl-1 are lacking. The figures in the original description show these setae somewhat longer and more slender than in *A. phreaticus*. However, as these figures are generally sketchy in quality, and the setae in question are flattened, thus differing in proportions depending on the angle of view, no taxonomic weight can be given to this difference.

Distribution in France: Tarn.

*Atractides (Atractides) prosiliens* Motaş & Tanasachi, 1948

*Atractides prosiliens* Motaş & Tanasachi, 1948: Giudicelli et al. 1980: 289.

Distribution in France: Bouches-du-Rhône.

*Atractides (Atractides) pumilus* (Szalay, 1946)

*Atractides pumilus* (Szalay, 1946): M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

*Atractides primitivus* Walter, 1947: E. Angelier 1953b: 69; Schwoerbel 1962e: 256, 1965: 478.

Distribution in France: Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales), Vosges.

*Atractides (Atractides) robustus* (Sokolov, 1940)

*Atractides nodipalpis robustus* (Sokolov, 1940): Lundblad 1956a: 2.

New records. **Ardèche:** 1/0/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°3.364 E, 1 May 2003, leg. H. Smit. **Hérault:** 1/0/0, Rivière La Vis at Gorniès, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ardèche, Hérault, Isère, Pyrénées-Orientales.

*Atractides (Atractides) similis* (E. Angelier, 1949)

*Megapus similis* E. Angelier, 1949a: 89.

*Atractides similis* (E. Angelier, 1949b): 235; Gerecke 2003: 264.

*Atractides simillimus* E. Angelier, 1953: E. Angelier 1953b: 93.

Distribution in France: Isère, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales).

*Atractides (Atractides) spinipes* Koch, 1837

*Atractides fonticolus gallicus* E. Angelier, Decamps & Rey, 1963: 472. Nov. syn.

New records and material examined. **Ardèche:** 0/1/0, Le Lignon Rivière, upstream of La Souche, 44°37.770 N 4°9.610 E, 30 April 2003, leg. H. Smit. **Cantal:** 0/1/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 1/0/0, Ruisseau de Delbarat, St. Jacques-des-Blats, 45°03.968 N 2°44.641 E, alt. 1350 m a.s.l., 17 May 2005, leg. H. Smit; 0/2/0, Le

Mars Rivière, upstream of Le Falgoux, 45°07.616 N 2°38.623 E, alt 1115 m a.s.l., 18 May 2005, leg. H. Smit. **Puy-de-Dôme**: 1/1/0, Ruisseau de Chareire, upstream of Chareire, 45°29.069 N 2°46.947 S, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit. **Tarn**: *Atractides fonticolus gallicus*, syntypes, MNHN Paris, without author label, only red number inscriptions "10" 1/0/0, "32" 1/0/0, "33" 1/1/0; "94" 1/0/0, "108" 1/0/0, "111" 3/0/0, 1/1/0, "206" 1/1/0. *Loci typici* (1958/1959, from a 12-month investigation, neither datum, nor specimen number specified in original publication): France, Massif Central, ruisseau Céret. Stat.2: En amont de la Route nationale 88; Stat.5: Entre les barrages des Farguettes et de la Roucarié; Stat.6: En amont du barrage de la Roucarié, près du pont d'Almayac; Stat.8: Près du pont de la route de Trévien.

Discussion. As explained above in the discussion of *A. phreaticus*, also of this species, syntypes (Angelier et al. mention numerous specimens, but without giving collecting site and date details) could be identified by their location in coll. Angelier together with other typical material from the study of Angelier et al. (1963). From a revision of measurements and proportions results that they obviously represent populations of *A. spinipes* in the sense of Gerecke (2003). No significant differences could be found that would justify considering *A. fonticolus gallicus* as a separate species.

Distribution in France: Ardèche, Cantal, Puy-de-Dôme, Tarn.

*Atractides (Atractides) subasper* Koenike, 1902

*Atractides subasper* Koenike, 1902: E. Angelier 1953b: 61, 1953f: 46, 1957a: 24, 1959: 16, 1959a: 66; Lundblad 1956a: 3; Nicolau-Guillaumet 1959: 237; E. Angelier et al. 1963: 462; Motaş & C. Angelier 1967: 17; Santucci 1971: 83; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Corsica, Gers, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales), Tarn.

*Atractides (Atractides) subterraneus* (K. Viets, 1932)

*Atractides subterraneus* (K. Viets, 1932): E. Angelier 1953b: 106.

Distribution in France: Pyrénées-Orientales.

*Atractides (Atractides) tener* (Thor, 1899)

*Megapus tener* Thor, 1899: Vandel 1920: 56; Hubault 1927: 101; Motaş 1927a: 340, 1928e: 4, 1928f: 174, 1928g: 6; Motaş & C. Angelier 1927d: 8; Schwoerbel 1959a: 16; E. Angelier et al. 1963: 465; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New records. **Cantal**: 0/1/1, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit; 0/3/1, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit; 0/2/1, Petit Rhue Rivière near Cascade du Sartre, N of Le Claux, 45°11.392 N 2°42.353 E, alt. 938 m a.s.l., 18 May 2005, leg. H. Smit.

Distribution in France: Cantal, Doubs, Isère, Tarn, Haut-Rhin, Haute-Loire, Loire, Meurthe-et-Moselle, Pyrénées (Hautes-Pyrénées), Var.

*Atractides (Atractides) vaginalis* (Koenike, 1905)

*Atractides vaginalis* (Koenike, 1905): K. Viets 1951d: 285, Lundblad 1956a: 2; Vaillant 1956: 154; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

*Megapus vaginalis* Koenike, 1905: Walter 1922c: 241; Hubault 1927: 102; Motaş 1927a: 341, 1928f: 177 (laps. *waginalis*).

Distribution in France: Haute-Savoie, Hautes-Alpes, Isère, Pyrénées (Hautes-Pyrénées), Savoie.

Remarks. According to Gerecke (2003) old records of this species need confirmation.

*Atractides (Atractides) walteri* (K. Viets, 1925)

*Megapus walteri* K. Viets, 1925: Walter & Motaş 1927: 110; Motaş 1927b: 2, 1928e: 4, 1928f: 177; Motaş & Şoarec 1939a: Appendix.

*Megapus borceai* Motaş 1928f: 181.

Distribution in France: Isère.

*Atractides (Polymegapus) orghidani* Motaş & Tanasachi, 1960

New records. **Var:** 0/1/0, unnamed creek Massif des Maures, 43°15.312 N 6°23.954 E, 5 May 2003, leg. H. Smit; 0/1/0, small unnamed stream a crossing with road D14, Massif des Maures, 43°14.637 N 6°22.089 E, 14 May 2005, leg. H. Smit.

Distribution in France: Var.

Remark. New for the fauna of France.

*Atractides (Polymegapus) polyporus* (Viets, 1922)

*Megapus polyporus* Viets, 1922: Migot 1926b: 129; Motaş & Şoarec 1939a: Appendix.

New record. **Gard:** 1/3/0, helocrene at campsite Mourétou, N of Valleraugue, 44°05.203 N 3°36.500 E, alt. 418 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Gard, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Atractides (Tympanomegapus) acutirostris* (Motaş & C. Angelier, 1927)

*Megapus acutirostris* Motaş & C. Angelier, 1927: 8; Motaş 1928f: 185.

*Atractides pavesii* Maglio, 1905: Lundblad 1956a: 3; E. Angelier 1959: 16, 1959a: 65 (see Gerecke 2003); Picard 1962: 486; Santucci 1971: 83; E. Angelier et al. 1985: 31.

*Atractides acutirostris* (Motaş & C. Angelier, 1927): M.-L. Angelier 1980: 14; Gerecke 2003: 336.

New records. **Ardèche:** 0/1/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°3.364 E, 1 May 2003, leg. H. Smit; 0/1/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit.

Distribution in France: Ardèche, Corrèze, Corsica, Gers, Meurthe-et-Moselle, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales).

*Atractides (Tympanomegapus) moniezi* (Motaş, 1927)

*Atractides moniezi* (Motaş, 1927); In: Walter & Motaş 1927d: 122; Motaş 1927a: 340, 1927b: 2, 1928f: 185; C. Angelier 1953: 217.

Distribution in France: Savoie.

## Family Unionicolidae

*Unionicola (Pentatax) bonzi* (Claparède, 1869)

*Atax Bonzi* Claparède, 1869: Barrois & Moniez 1887: 5.

Distribution in France: Nord.

*Unionicola (Pentatax) intermedia* (Koenike, 1882)

*Unionicola intermedia* (Koenike, 1882): Soudan 1920: 3.

Distribution in France: Isère.

*Unionicola (Hexatax) crassipes* (Müller, 1776)

*Atax crassipes* (Müller, 1776): Moniez 1887a: 162; Richards 1887: 953; Barrois & Moniez 1897: 5; Moniez 1889b: 8, 1889e: 6; Bruyant & Eusébio 1904: 60; Schodduyn 1904: 20, 1923: 143, 1925b: 106, 1926a: 311; Le Roux 1907: 271; Vandel 1919a: 90; Baldensperger 1926: 153; Motaş & C. Angelier 1927d: 9; Motaş 1928f: 189, 1928g: 5; C. Angelier 1931: 28, 1950a: 5; Chaudonneret 1947: 3.

*Unionicola crassipes* (Müller, 1776): Soudan 1920: 3; Motaş 1926b: 412, 1928e: 17; K. Viets 1913a: 335; C. Angelier 1953: 217; Smit & Van der Hammen 1992: 57.

New records. **Indre:** 0/1/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen. **Puy-de-Dôme:** 0/10/0, Lac Pavin, 45°29.952 N 2°53.204 E, alt. 1197 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ain, Côte-d'Or, Doubs, Essonne, Haut-Rhin, Haute-Saône, Haute-Savoie, Indre, Isère, Jura, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Somme, Val-de-Marne, Vosges.

*Unionicola (Hexatax) figuralis* (Koch, 1836)

*Pentatax figuralis* (Koch, 1836): Soudan 1920: 3; Motaş 1928f: 190, 1928g: 12.

Distribution in France: Isère, Savoie.

*Unionicola (Hexatax) gracilipalpis* (K. Viets, 1908)

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*Atax gracilipalpis* K. Viets, 1908: Motaş 1928f: 190, 1928g: 12.

Distribution in France: Isère, Savoie.

*Unionicola (Hexatax) minor* (Soar, 1900)

*Unionicola crassipes minor* (Soar, 1900): E. Angelier 1959: 16, 1959a: 66; Schwoerbel 1959a: 15; Dô 1962: 67; E. Angelier et al. 1963: 465.

New record. **Pas-de-Calais**: 0/1/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Corsica, Haut-Rhin, Hérault, Pas-de-Calais, Tarn, Vosges.

*Unionicola (Hexatax) parvula* Lundblad, 1954

*Unionicola parvula* Lundblad, 1954b: 156, 1956a: 2.

Distribution in France: Hérault.

*Unionicola (Unionicola) ypsilophora* (Bonz, 1783)

*Atax ypsilophorus* (Bonz, 1783): Barrois & Moniez 1887: 5; Bruyant & Eusébio 1904: 60.

*Unionicola ypsilophora* (Bonz, 1783): Soudan 1920: 3; Motaş 1926b: 412, 1928f: 189, 1928g: 9; Chaudonneret 1947: 3.

Distribution in France: Ain, Côte-d'Or, Isère, Nord, Puy-de-Dôme, Savoie.

*Neumania (Neumania) callosa* (Koenike, 1895)

*Neumania callosa* (Koenike, 1895): Motaş 1927b: 2, 1928f: 191.

*Neumania imitata* (err., non Koenike, 1908): C. Angelier 1931: 29.

Distribution in France: Haute-Saône, Val-de-Marne.

*Neumania (Neumania) deltoides* (Piersig, 1894)

*Neumania deltoides* (Piersig, 1894): Chaudonneret 1947: 3; C. Angelier 1950a: 5, 1953: 218; E. Angelier et al. 1963: 464.

*Neumania triangularis* (Piersig, 1893): Motaş 1926b: 412, 1928f: 191, 1928g: 5; C. Angelier 1931: 29.

New records. **Pas-de-Calais**: 3/8/0, pond, Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pool, Landes de Blendecques, 50°42'16.59" N 2°16'28.14" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/3/0, fish pond, Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 1/1/1, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Côte-d'Or, Essonne, Indre, Isère, Pas-de-Calais, Seine-Maritime, Savoie, Tarn, Val-de-Marne.

*Neumania (Neumania) elliptica* Walter, 1925

*Neumania elliptica* Walter, 1925: Pešić et al. 2007: 189.

*Neumania vietsi* Husiatinschi, 1937: E. Angelier 1959: 16, 1959a: 134.

Distribution in France: Corsica.

Remarks. *Neumania vietsi* is considered by Pešić et al. (2007) as a *species incerta*. All material of Angelier collected in Corsica belonged to *N. elliptica*.

*Neumania (Neumania) limosa* (Koch, 1836)

*Neumania limosa* (Koch, 1836): Derône 1914: 45, 1915: 560; Vandel 1919a: 90; Motaş 1926b: 412, 1928f: 191, 1928g: 7; C. Angelier 1931: 29, 1953: 218; Chaudonneret 1947: 3; Schwoerbel 1959a: 17; Motaş & C. Angelier 1967: 17; Smit & Van der Hammen 1992: 56; Pešić et al. 2007: 191.

New records. **Pas-de-Calais**: 0/9/0, pond, Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/5/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H.

van der Hammen. **Indre**: 10/11/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen. **Hérault**: 0/1/0, Pool in dry river bed, tributary of La Buèges near source, 43°49.180 N 3°35.254 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Côte-d'Or, Doubs, Haut-Rhin, Hérault, Indre, Isère, Jura, Landes, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Savoie, Seine-Maritime, Val-de-Marne, Var.

*Neumania (Neumania) phreaticola* Motaş & Tanasachi, 1948

*Neumania phreaticola* Motaş & Tanasachi, 1948: E. Angelier 1953b: 57, 1959: 16, 1959c: 161; Santucci 1970: 193, 1971: 83; Pešić et al. 2007: 192.

Distribution in France: Corsica.

*Neumania (Neumania) spinipes* (Müller, 1776)

*Hydrarachna spinipes* Müller, 1776: Hermann 1804: 54.

*Neumania spinipes* (Müller, 1776): Vandel 1919a: 90; Motaş 1928e: 28; 1928f: 191, 1928g: 6; Chaudonneret 1947: 3.

*Nesaea mirabilis* Neuman, 1880: Moniez 1887a: 162; Barrois & Moniez 1887: 7; Moniez 1889b: 8.

*Cochleophorus spinipes* (Müller, 1776): Schodduyn 1923: 143.

Distribution in France: Bas-Rhin, Côte-d'Or, Doubs, Isère, Nord, Pas-de-Calais, Somme, Var, Vosges.

Remark. K. Viets (1956) listed *Nesaea mirabilis* under *N. vernalis*, but according to K.O. Viets (1987) this species is a synonym of *N. spinipes*.

*Neumania (Neumania) uncinata* Walter, 1927

*Neumania uncinata* Walter, 1927: In: Walter & Motaş 1927: 127; Motaş 1927b: 2, 1928f: 192, 1928g: 6; Motaş & C. Angelier 1967: 18; Pešić et al. 2007: 195.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales), Var.

*Neumania (Neumania) vernalis* (Müller, 1776)

*Neumania vernalis vernalis* (Müller, 1776): Vandel 1919a: 90; Soudan 1920: 4; Motaş 1926b: 412, 1928f: 190, 1928g: 5; Motaş & C. Angelier 1927d: 9; Chaudonneret 1947: 3; C. Angelier 1953: 218; Lundblad 1956a: 2; Smit & Van der Hammen 1992: 56.

*Atax spinipes* (Müller, 1776): Barrois & Moniez 1887: 5; Moniez 1889b: 8.

*Atax vernalis* (Müller, 1776): Barrois & Moniez 1887: 5.

New records. **Pas-de-Calais**: 0/4/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/2/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Côte-d'Or, Doubs, Hérault, Indre, Isère, Jura, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Somme.

#### Family Feltriidae Viets, 1926

*Feltria (Feltria) armata* Koenike, 1902

*Feltria armata* Koenike, 1902: Walter 1907b: 446; Hubault 1927: 102; Motaş & C. Angelier 1927d: 9; Motaş 1928e: 4, 1928f: 193; K. Viets 1939a: 2; C. Angelier 1950d: 354, 1951b: 74, Lundblad 1956a: 2; Nicolau-Guillaumet 1959: 237; Schwoerbel 1959a: 16; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

Distribution in France: Haute-Loire, Haut-Rhin, Isère, Meurthe-et-Moselle, Puy-de-Dôme, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Vosges.

*Feltria (Feltria) brevipes* Walter, 1907

*Feltria brevipes* Walter, 1907: Hubault 1927: 102; Motaş 1928e: 17, 1928f: 194.

*Feltria brevipes alpina* Motaş & Şoarec, 1939 (see Bader 1973): Motaş 1928e: 4, 1928f: 194; C. Angelier 1950c: 354, 1951b: 74; E. Angelier 1953b: 97.



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*Feltria armata alpina* (= *F. brevipes alpina* Motaş & Şoarec, 1939): E. Angelier et al. 1963: 465.

Distribution in France: Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales), Savoie, Tarn.

*Feltria (Feltria) conjuncta* K.O. Viets, 1955

*Feltria rouxi* (erron., non Walter 1907): Walter & Motaş 1927: 137.

Distribution in France: Isère.

*Feltria (Feltria) cornuta cornuta* Walter, 1927

*Feltria cornuta* Walter, 1927: In: Walter & Motaş 1927: 141; Motaş 1927b: 3, 1928e: 17; 1928f: 195; Schwoerbel 1965: 478.

New record. **Gard**: 1/0/0, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit.

Distribution in France: Gard, Isère, Vosges.

*Feltria (Feltria) cornuta longispina* Motaş & C. Angelier, 1927

*Feltria cornuta longispina* Motaş & C. Angelier, 1927: 9; Motaş 1928f: 195.

Distribution in France: Haute-Loire.

*Feltria (Feltria) cornuta paucipora* Szalay, 1946

*Feltria cornuta paucipora* Szalay, 1946: E. Angelier 1953b: 69.

New record. **Hérault**: 1/0/0, Rivière La Vis at Gorniès, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Pyrénées-Orientales.

*Feltria (Feltria) denticulata* E. Angelier, 1949

*Feltria denticulata* E. Angelier, 1949a: 89, 1949b: 238; Gledhill 1983: 426.

Distribution in France: Ariège, Pyrénées (Pyrénées-Orientales).

*Feltria (Feltria) minuta* Koenike, 1892

*Feltria minuta* Koenike, 1892: Walter 1922c: 241; Hubault 1927: 103; Motaş 1926b: 411, 1928e: 4, 1928f: 193, 1928g: 30; Motaş & C. Angelier 1927d: 9; C. Angelier 1951b: 74; Schwoerbel 1959a: 16; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

*Feltria composita* Thor, 1897: Vandel 1920: 56.

*Feltria kulczynskii* Schechtel, 1910: K. Viets 1913a: 333.

Distribution in France: Doubs, Haut-Rhin, Haute-Loire, Hautes-Alpes, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques), Vosges.

*Feltria (Feltria) oedipoda* Viets, 1922

*Feltria oedipoda* Viets, 1922: Schwoerbel 1959a: 20.

Distribution in France: Vosges.

*Feltria (Feltria) rouxi* Walter, 1907

*Feltria rouxi* Walter, 1907: Motaş 1927b: 3, 1928e: 4, 1928f: 195, 1928g: 23; E. Angelier 1949b: 229; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

*Feltria bispinosa* C. Angelier 1950d: 354; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

*Feltria romijni* Besseling, 1930: E. Angelier et al. 1963: 462.

Distribution in France: Alpes-de-Haute-Provence, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques), Savoie, Tarn.

*Feltria (Feltria) setigera* Koenike, 1896

*Feltria setigera* Koenike, 1896: Walter 1922c: 240; Hubault 1927: 102; Walter & Motaş 1927: 130; Motaş 1928e: 4, 1928f: 193, 1928g: 30.

*Feltria nusbaumi* Schechtel, 1910: Walter 1922c: 240.

*Feltria georgei* Piersig, 1899: Hubault 1927: 103; Walter & Motaş 1927: 133; Motaş & C. Angelier 1927d: 9; Motaş 1928e: 4, 1928f: 192, 1928g: 30.

Distribution in France: Haute-Loire, Haute-Savoie, Hautes-Alpes, Isère, Savoie.

*Feltria (Feltria) zschokkei zschokkei* Koenike, 1896

*Feltria zschokkei zschokkei* Koenike, 1896: Motaş 1927b: 2, 1928e: 4, 1928f: 194.

Distribution in France: Isère.

*Feltria (Feltria) zschokkei brevidentata* Lundblad, 1956

*Feltria zschokkei brevidentata* Lundblad, 1956a: 242.

Distribution in France: Isère.

*Feltria (Feltriella) menzeli* Walter, 1922

*Feltria menzeli* Walter, 1922: K. Viets 1951d: 285, 1954c: 308; E. Angelier 1959: 16; Vaillant 1956: 158.

Distribution in France: Corsica, Hautes-Alpes, Isère.

*Feltria (Feltriella) rubra* Piersig, 1898

*Feltria rubra* Piersig, 1898: Hubault 1927: 103; Motaş 1926b: 411, 1927b: 3, 1928e: 4, 1928f: 192, 1928g: 30; K. Viets 1939a: 2; C. Angelier 1950d: 357, 1951b: 74; Lundblad 1928e: 2; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

Distribution in France: Haute-Savoie, Isère, Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées), Savoie.

#### Family Pionidae Thor, 1900

*Piona alpicola* (Neuman, 1880)

*Piona alpicola* (Neuman, 1880): Smit & Van der Hammen 1992: 56.

*Piona uncata* (Koenike, 1888): Motaş 1928f: 203; Chaudonneret 1947: 3.

*Piona uncata controversiosa* (Piersig, 1896): Motaş 1927b: 3 (as *controversiosa uncata*), 1928f: 204; C. Angelier 1953: 220; Petit & Schachter 1954: 244.

*Nesaea viridis* Koch, 1836: Barrois & Moniez 1887: 7; Barrois 1889b: 433; Moniez 1889e: 6.

New records. **Corsica**: 1/0/0, marsh near Calvi, 7 May 1997, leg. H. van der Hammen. **Haute-Vienne**: 0/1/0, lake, La Chapelle-Montbrandeix,

45°38'35"N 0°51'27": E, 29 April 2002, leg. G. van Ee. **Indre**: 1/0/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Bouches-du-Rhône, Corsica, Côte-d'Or, Haute-Vienne, Indre, Isère, Nord, Pas-de-Calais, Savoie, Seine-Maritime.

*Piona ambigua* (Piersig, 1894)

New records. **Pas-de-Calais**: 0/5/0, temporary pool, Les Landes de Blendecques, 50°42'11.31" N 2°16'33.37" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/3/0, pool with Culicidae, Les Landes de Blendecques, 50°42'32.19" N 2°14'32.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/2/0, forest pool, Les Landes de Blendecques, 50°42'12.57" N 2°14'17.64' E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/0/0, spring pond, Les Landes de Blendecques, 50°42'30.97" N 2°16'2.51" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/3/0, pool, Les Landes de Blendecques, 50°42'16.47" N 2°16'27.82" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 2/25/0, pool, Les Landes de Blendecques, 50°41'55.87" N 2°14'18.23" E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Pas-de-Calais. New for the fauna of France.

*Piona carnea* (Koch, 1836)

*Piona carnea* (Koch, 1836): K. Viets 1913a: 333; Soudan 1920: 4; Motaş 1928e: 30, 1928f: 203, 1928g: 7; C. Angelier 1950d: 358; Smit & Van der Hammen 1992: 55; Peyrusse et al. 2005: 324.

New records. **Haute-Vienne**: 1/6/0, lake, La Chapelle-Montbrandeix, 45°38'35"N 0°51'27": E, 29 April 2002, leg. G. van Ee. **Hérault**: 8/11/4, Pool at crossing of roads D9 and D130, S of la Vacquerie-et-St.Martin-de-Castries, 43°46.499 N 3°28.101 E, alt. 677 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Haute-Saône, Haute-Vienne, Hérault, Isère, Pas-de-Calais, Pyrénées (Hautes-Pyrénées), Var.

*Piona clavicornis* (Müller, 1776)

*Piona clavicornis* (Müller, 1776): Motaş 1928e: 28, 1928f: 199, 1928g: 13; Hubault 1947: 217; Smit & Van der Hammen 1992: 55.

*Nesaea clavicornis* (Müller, 1776): Barrois & Moniez 1887: 7.

Distribution in France: Isère, Nord, Pas-de-Calais, Vosges.

*Piona coccinea* (Koch, 1836)

*Piona coccinea* (Koch, 1836): Motaş & C. Angelier 1927d: 10; Motaş 1928f: 202, 1928g: 5; C. Angelier 1931: 37, 1950a: 5, 1953: 220; Smit & Van der Hammen 1992: 56.

*Nesaea nodata* (err., non Müller, 1776): Barrois & Moniez 1887: 6; Moniez 1889b: 8.

*Nesaea binotata* Kramer, 1879: Barrois & Moniez 1887: 6; Moniez 1887a: 162.

*Piona longicornis* (Koch, 1836): Motaş 1926b: 412.

Distribution in France: Ain, Essonne, Isère, Jura, Loire, Nord, Pas-de-Calais, Savoie, Seine-Maritime, Val-de-Marne, Vosges.

*Piona conglobata conglobata* (Koch, 1836)

*Piona conglobata* (Koch, 1836): Soudan 1920: 4; Motaş 1926b: 412, 1928e:17, 1928f: 199, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 35; Lundblad 1956a: 7; E. Angelier et al. 1963: 465; Smit & Van der Hammen 1992: 56.

*Piona conglobata punctata* (Neuman, 1875): Schwoerbel 1959a: 15.

*Piona conglobata conjugula* Koenike, 1909: Motaş 1927b: 3, 1928f: 200, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 36.

*Piona communis* (Kramer, 1875): Barrois & Moniez 1887: 16; Moniez 1889e: 6.

*Dispersipiona conglobata* (Koch, 1836): Chaudonneret 1947: 3.

*Nesaea communis* Kramer, 1875: Moniez 1889b: 8.

*Nesaea luteola* Koch, 1836: Barrois & Moniez 1887: 5; Moniez 1889b: 8.

*Nesaea pachydermis* Kramer, 1879: Barrois & Moniez 1887: 6.

New records. **Pas-de-Calais**: 0/1/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/3/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/9/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen. **Cantal**: 1/0/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, 997 a.s.l., 18 May 2005, leg H. Smit.

Distribution in France: Ain, Cantal, Charente, Côte-d'Or, Haute-Loire, Haute-Savoie, Indre, Isère, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Somme, Tarn, Val-de-Marne, Vosges.

*Piona discrepans* (Koenike, 1895)

*Piona discrepans* (Koenike, 1895): Motaş & C. Angelier 1927d: 10; Motaş 1928f: 201, 1928g: 13; Smit & Van der Hammen 1992: 55.

Distribution in France: Haute-Loire, Pas-de-Calais, Puy-de-Dôme.

*Piona disparilis* (Koenike, 1895)

*Piona disparilis* (Koenike, 1895): Motaş 1926b: 412, 1927b: 3, 1928e: 3, 1928f: 202, 1928g: 9; Léger & Motaş 1928d: 13, 1928b: 1239; Walter & Motaş 1927: 144; Chaudonneret 1947: 3; Smit & Van der Hammen 1992: 55.

Distribution in France: Ain, Côte-d'Or, Isère, Pas-de-Calais, Savoie.

*Piona imminuta* (Piersig, 1897)

*Piona coccinea confertipora* Walter, 1927: In Walter & Motaş 1927: 146; Motaş 1927b: 3, 1928f: 203, 1928g: 5; C. Angelier 1950a: 5; Lundblad 1956a: 7.

*Piona longicornis imminuta* (Piersig, 1897): Motaş 1926b: 412 (see Motaş 1927b).

Distribution in France: Ain, Charente, Essonne, Indre-et-Loire, Isère.

*Piona longipalpis* (Krendowsky, 1878)

*Piona longipalpis* (Krendowsky, 1878): Derône 1914: 46; Vandel 1919a: 90; Motaş 1926b: 412, 1928f: 203, 1928g: 9; C. Angelier 1931: 38, 1953: 220.

*Nesaea coccinea* Bruzelius, 1854: Moniez 1887a: 162; Barrois & Moniez 1887: 6.

*Curvipes longipalpis* (Krendowsky, 1878): Schodduyn 1925a: 190, 1926a: 311.

Distribution in France: Ain, Côte-d'Or, Doubs, Isère, Hautes-Pyrénées, Jura, Nord, Pas-de-Calais, Savoie, Seine-Maritime, Val-de-Marne, Vosges.

*Piona neumani* (Koenike, 1883)

*Piona circularis* (Piersig, 1896): Motaş 1927b: 3, 1928f: 200, 1928g: 5.

*Tetrapiona Neumani* (Koenike, 1883): Chaudonneret 1947: 3.

*Tetrapiona circularis* (Piersig, 1896): Chaudonneret 1947: 3.

New record. **Indre**: 1/0/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Côte-d'Or, Indre.

*Piona nodata nodata* (Müller, 1776)

*Piona nodata nodata* (Müller, 1776): Moniez 1889e: 6; Soudan 1920: 4; Motaş 1926b: 412, 1928e: 28, 1928f: 201; Motaş & C. Angelier 1927d: 10; Chaudonneret 1947: 3; Schachter 1950; C. Angelier 1953: 221; Petit & Schachter 1954: 244; Lundblad 1956a: 2; Smit & Van der Hammen 1992: 56; Peyrusse et al. 2005: 324.

? *Nesaea fuscata* Hermann, 1804: Barrois & Moniez 1887: 7; Moniez 1889b: 8.

*Nesaea nodata* Müller, 1776: Moniez 1889b: 8.

*Hydrarachna histrionica* Hermann, 1804: 54; De Théis 1832: 61.

New records. **Pas-de-Calais**: 1/9/0, temporary pool, Les Landes de Blendecques, 50°42'11.31" N 2°16'33.37" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 2/9/0, shallow pool, Les Landes de Blendecques, 50°42'20.49" N 2°16'32.82" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 16/23/0,

pool with Culicidae, Les Landes de Blendecques, 50°42'32.19" N 2°14'32.07" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 10/19/0, pool, Les Landes de Blendecques, 50°42'16.47" N 2°16'27.82" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 9/16/0, pool, Les Landes de Blendecques, 50°42'15.56" N 2°16'22.70" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/1/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Aisne, Aude, Bas-Rhin, Bouches-du-Rhône, Côte-d'Or, Haute-Loire, Haute-Saône, Hérault, Isère, Loire, Nord, Pas-de-Calais, Savoie, Seine-Maritime, Somme.

Remark. According to Koenike (1908a) *Hydrarachna histrionica* Hermann, 1804 refers to *P. nodata* and, not, as stated by Motaş (1928f), to *Limnesia histrionica* Bruzelius, 1854 (= *L. fulgida*).

*Piona obturbans* (Piersig, 1896)

*Piona obturbans* (Piersig, 1896): Soudan 1920: 4; Motaş 1926b: 412, 1928e: 28, 1928f: 201, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 37, 1953: 221; Chaudonneret 1947: 3; Smit & Van der Hammen 1992: 56.

New records. **Pas-de-Calais**: 0/1/0, temporary pool, Les Landes de Blendecques, 50°42'11.31" N 2°16'33.37" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 5/2/0, shallow pool, Les Landes de Blendecques, 50°42'20.49" N 2°16'32.82" E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Ain, Ardèche, Côte-d'Or, Haute-Saône, Haute-Savoie, Isère, Pas-de-Calais, Puy-de-Dôme, Savoie, Val-de-Marne.

*Piona paucipora* (Thor, 1897)

*Piona paucipora* (Thor, 1897): Motaş 1927b: 3, 1928f: 200; C. Angelier 1953: 221; E. Angelier et al. 1963: 465.

Distribution in France: Savoie, Tarn.

*Piona pusilla* (Neuman, 1875)

*Piona pusilla* (Neuman, 1875): Smit & Van der Hammen 1992: 56.

*Piona rotunda* (Kramer, 1879): Moniez 1889e: 6; Derône 1914: 46; Soudan 1920: 4; Motaş 1928e: 28, 1928f: 201, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 36; Chaudonneret 1947: 3; E. Angelier et al. 1963: 465.

*Nesaea rotunda* Kramer, 1879: Moniez 1887a: 162; Barrois & Moniez 1887: 6; Richards 1887: 953.

*Curvipes rotundus* (Kramer, 1879): Thor 1903d: 16; Schodduyn 1926a: 311.

New records. **Corsica**: 5/1/0, marsh near Calvi, 7 May 1997, leg. H. van der Hammen. **Indre**: 0/2/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 1/0/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen; 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 1/0/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen. **Vienne**: 1/1/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Corsica, Côte-d'Or, Indre, Isère, Nord, Paris, Pas-de-Calais, Puy-de-Dôme, Seine-Maritime, Tarn, Val-de-Marne, Vienne, Vosges.

*Piona rotundoides* (Thor, 1897)

*Piona rotundoides* (Thor, 1897): E. Angelier et al. 1963: 465; Smit & Van der Hammen 1992: 57.

New record. **Pas-de-Calais**: 0/7/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Pas-de-Calais, Tarn.

*Piona stjoerdalensis* (Thor, 1897)

*Piona coccinea stjoerdalensis* (Thor, 1897): E. Angelier et al. 1963: 464.

*Piona coccinea oculata* Koenike, 1914: Motaş 1927b: 3, 1928f: 202; C. Angelier 1931: 37.

New record. **Indre**: 0/1/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Indre, Savoie, Tarn, Val-de-Marne.

*Piona tuberifera* Viets, 1910

*Piona tuberifera* Viets, 1910: Chaudonneret 1947: 3.

Distribution in France: Côte-d'Or.

*Piona variabilis* (Koch, 1836)

? *Hydrarachna fuscata* Hermann, 1804 (non Müller, 1776): 58.

*Piona variabilis* (Koch, 1836): Motaş 1926b: 412, 1928f: 200, 1928g: 5; Motaş & C. Angelier 1927d: 10; E. Angelier 1959: 16, 1959a: 69; Smit & Van der Hammen 1992: 56.

*Nesaea variabilis* Koch, 1836: Moniez 1887a: 162; Barrois & Moniez 1887: 6; Moniez 1889b: 8, 1889e: 6.

? *Nesaea rufa* (Koch, 1836): Barrois & Moniez 1887: 7.

New records. **Pas-de-Calais**: 2/0/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Cantal**: 26/0/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, 997 a.s.l., 18 May 2005, leg. H. Smit.

Distribution in France: Ain, Bas-Rhin (?), Cantal, Corsica, Isère, Nord, Pas-de-Calais, Puy-de-Dôme, Seine-Maritime, Somme, Vosges.

*Nautarachna asperrima* Moniez, 1888

*Nautarachna asperrimum* Moniez, 1888: 64; Walter 1925d: 46.

Distribution in France: Somme.

*Nautarachna crassa* (Koenike, 1908)

*Nautarachna crassa* (Koenike, 1908): Viets 1936d: 312; E. Angelier et al. 1985: 31.

Distribution in France: Hautes-Pyrénées, Savoie.

*Hydrochoreutes krameri* Piersig, 1896

*Hydrochoreutes krameri* Piersig, 1896: Vandel 1919a: 90; Soudan 1920: 4; Motaş 1926b: 412, 1928e: 28, 1928f: 204, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 38, 1953: 219; Chaudonneret 1947: 4; E. Angelier et al. 1963: 465; Smit & Van der Hammen 1992: 56.

New records: **Landes**: 0/1/0, Étang Blanc, 27 July 1989, leg. H. van der Hammen. **Indre**: 0/1/0, reedland S of Étang de Bellebouche, Le Brenne, 46°46.783 N 1°18.641 E, alt. 108 m a.s.l., 25 May 2005, leg. H. Smit.

Distribution in France: Ain, Côte-d'Or, Doubs, Haute-Loire, Haute-Savoie, Indre, Indre-et-Loire, Isère, Jura, Landes, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Tarn, Val-de-Marne.

*Hydrochoreutes ungulatus* (Koch, 1836)

*Hydrochoreutes ungulatus* (Koch, 1836): Barrois & Moniez 1887: 20; Smit & Van der Hammen 1992: 57.

*Hydrochoreutes filipes* Koch, 1837: Barrois & Moniez 1887: 19.

*Hydrochoreutes cruciger* Koch, 1837: Barrois & Moniez 1887: 20.

*Nesaea brachiata* Kramer, 1875: Barrois & Moniez 1887: 10.

Distribution in France: Nord, Pas-de-Calais.

*Tiphys (Tiphys) lapponicus* (Neuman, 1880)

*Tiphys lapponicus* (Neuman, 1880): Schwoerbel 1959a: 15.

Distribution in France: Vosges.

*Tiphys (Tiphys) latipes* (Müller, 1776)

*Piona latipes* (Müller, 1776): Barrois & Moniez 1887: 17; Schwoerbel 1959a: 17.

New records. **Pas-de-Calais**: 0/3/0, temporary pool, Les Landes de Blendecques, 50°42'11.31" N 2°16'33.37" E, 19 April 1996, leg. H. Smit & H. van der Hammen. **Cantal**: 1/0/0/, marshy area N of Le Claux, along road D262, 45°11.296 N 2°42.509 E,

alt. 958 m a.s.l., 18 May 2005, leg. H. Smit; 0/2/0, Source du Goul (helocrenes), E of Thiézac, 45°00.739 N 2°43.351 E, alt. 1465 m a.s.l., 19 May 2005, leg. H. Smit.

Distribution in France: Cantal, Nord, Pas-de-Calais, Vosges.

*Tiphys (Tiphys) ornatus* Koch, 1836

*Acercus ornatus* (Koch, 1836): Soudan 1920: 4; Motaş 1926b: 412, 1928f: 205, 1928g: 5; Motaş & C. Angelier 1927d: 10.

*Tiphys ornatus* Koch, 1836: Smit & Van der Hammen 1992: 57.

*Piona ornata* (Koch, 1836): Barrois & Moniez 1887: 16.

*Piona loricata* Barrois & Moniez, 1887: 18.

New record. **Puy-de-Dôme**: 0/5/0, Lac Estivadoux, SE of Lac Pavin, 45°29.436 N 2°54.136 E, alt. 1326 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ain, Isère, Loire, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie.

*Tiphys (Tiphys) scaurus* (Koenike, 1892)

*Tiphys scaurus* (Koenike, 1892): Motaş 1928f: 207; Schwoerbel 1959a: 15.

Distribution in France: Isère, Vosges.

*Tiphys (Tiphys) torris* (O.F.Müller, 1776)

*Acercus torris* (O.F.Müller, 1776): Motaş 1928f: 263.

Distribution in France: Isère.

*Tiphys (Aceropsis) pistillifer* (Koenike, 1908)

*Aceropsis pistillifer stylatus* (Lundblad, 1924): Motaş 1927b: 3, 1928f: 209.

Distribution in France: Isère.

*Tiphys (Pionides) ensifer* (Koenike, 1895)

*Pionides ensifer* (Koenike, 1895): Motaş 1928f: 208; Chaudonneret 1947: 4; C. Angelier 1953: 219.

Distribution in France: Côte-d'Or, Isère, Savoie.

*Pionopsis lutescens lutescens* (Hermann, 1804)

*Hydrarachna lutescens* Hermann, 1804: 57; De Théis 1832: 61 (laps. *lutescens*).

*Acercus lutescens* (Hermann, 1804): Motaş 1926b: 412.

*Pionopsis lutescens* (Hermann, 1804): Schodduyn 1926a: 311; Motaş 1928f: 209, 1928g: 5; Chaudon-neret 1947: 4; C. Angelier 1953: 219; Schachter 1950; Petit & Schachter 1954: 217; Smit & Van der Hammen 1992: 57.

*Piona lutescens* (Hermann, 1804): Barrois & Moniez 1887: 15.

*Hydracna lutescens* Daudebart de Férussac, 1806: 217.

*Atax lutescens* (Hermann, 1804): A.-L.D. Dugès 1834a: 17, 1834b: 145.

*Piona flavescens* Neuman, 1875: Moniez 1887a: 162.

Distribution in France: Ain, Aisne, Bas-Rhin, Bouches-du-Rhône, Côte-d'Or, Hérault, Isère, Loire, Lot, Nord, Pas-de-Calais, Savoie, Vosges.

*Pionacercus (Pionacercus) leuckarti* Piersig, 1894

*Pionacercus scutatus* Thor, 1898: C. Angelier 1950d: 357, 1951b: 74.

*Pionacercus leuckarti* Piersig, 1894: Vandel 1919a: 90; Motaş & C. Angelier 1927d: 10; Motaş 1928e: 30, 1928f: 210, 1928g: 13.

Distribution in France: Doubs, Haute-Loire, Loire, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie.

*Pionacercus (Pionacercus) uncinatus* (Koenike, 1885)

*Pionacercus uncinatus* (Koenike, 1885): Motaş 1927b: 3, 1928e: 28, 1928f: 209, 1928g: 13; C. Angelier 1953: 220.

Distribution in France: Isère, Savoie.

*Pionacercus (Pionacercopsis) vatrax* (Koch, 1837)

*Acercus vatrax* (Koch, 1837): Barrois & Moniez 1887: 10.

*Pionacercus vatrax* (Koch, 1837): Hubault 1931: 153.

Distribution in France: Marne, Nord.

*Forelia (Forelia) brevipes* (Neuman, 1880)

*Forelia ligulifera* (Piersig, 1897): Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 32; Motaş 1927b: 3, 1928e: 28, 1928f: 198, 1928g: 9.

*Nesaea brevipes* Neuman, 1880: Barrois & Moniez 1887: 6.

*Forelia triangularis* (Piersig, 1896): Motaş 1926b: 412.

Distribution in France: Ain, Isère, Nord, Puy-de-Dôme, Savoie, Val-de-Marne.

*Forelia (Forelia) cetrata* (Koenike, 1895)

*Forelia cetrata* (Koenike, 1895): Motaş 1926b: 412, 1927b: 3, 1928e: 3, 1928f: 198, 1928g: 9; C. Angelier 1931: 33, 1953: 221.

Distribution in France: Ain, Isère, Jura, Savoie, Val-de-Marne.

*Forelia (Forelia) curvipalpis* K. Viets, 1930

New records. **Pas-de-Calais:** 0/1/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/7/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre:** 0/1/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/2/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2' E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Indre, Pas-de-Calais. New for the fauna of France.

*Forelia (Forelia) koenikei* Barrois & Moniez, 1887

*Acercus koenikei* Barrois & Moniez, 1887: 13.

Distribution in France: Nord.

*Forelia (Forelia) liliacea* (Müller, 1776)

*Hydrarachna liliacea* Müller, 1776: Hermann 1804: 54.

*Forelia liliacea* (Müller, 1776): Vandel 1919a: 90; Motaş & C. Angelier 1927d: 10;

Motaş 1928f: 197, 1928g: 9; C. Angelier 1931: 32; Chaudonneret 1947: 3; E. Angelier 1953b: 68; Schwoerbel 1959a: 15; Smit & Van der Hammen 1992: 55.

Distribution in France: Bas-Rhin, Côte-d'Or, Doubs, Haute-Loire, Haute-Savoie, Pas-de-Calais, Puy-de-Dôme, Pyrénées-Orientales, Savoie, Val-de-Marne, Vosges.

*Forelia (Forelia) spatulifera* (Marucci, 1907)

*Forelia ligulifera obtusata* Lundblad, 1924: Motaş 1928f: 198, 1928g: 12.

Distribution in France: Puy-de-Dôme.

*Forelia (Forelia) variegator variegator* (Koch, 1837)

*Forelia variegator* (Koch, 1837): C. Angelier 1951b: 77, 1953: 222; Schwoerbel 1959a: 17; Motaş & C. Angelier 1967: 17; Vinçon 1987: 240.

*Forelia parmata* Koenike, 1906: Migot 1926b: 129; Motaş & C. Angelier 1927d: 10; Motaş 1928e: 28, 1928f: 199, 1928g: 7; C. Angelier 1931: 33; Motaş & Şoarec 1939a: Appendix.

New record. **Indre**: 0/1/0, Ruisseau de Fosse Noire near Vendroeuves, La Brenne, 46°46'28.14"N 1°21'42.58" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Corrèze, Haut-Rhin, Indre, Isère, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Pyrénées-Atlantiques), Savoie, Val-de-Marne, Var.

*Pseudofeltria scourfieldi* Soar, 1904

*Pseudofeltria scutigera* Walter, 1922: Schwoerbel 1959a: 20.

Distribution in France: Vosges.

## Family Wettinidae Cook, 1956

*Wettina podagrica* (Koch, 1837)

*Wettina podagrica* (Koch, 1837): Motaş 1926b: 412, 1927b: 3, 1928e: 3, 1928f: 204, 1928g: 7; Motaş & C. Angelier 1927d: 10; C. Angelier 1953: 219.

Distribution in France: Corrèze, Haute-Loire, Isère, Puy-de-Dôme, Savoie, Var.

## Family Frontipodopsidae Viets, 1931

*Frontipodopsis reticulatifrons reticulatifrons* Szalay, 1945

*Frontipodopsis reticulatifrons* Szalay, 1945: Schwoerbel 1962e: 256, 1965: 477.

*Frontipodopsella subterranea* Walter, 1947: E. Angelier 1949b: 228.

*Frontipodopsis subterranea* (Walter, 1947): E. Angelier 1953b: 106 (laps. *Frontipoda*), 1959: 16, 1959c: 164; Santucci 1970: 193, 1971: 83, 1977: 83.

Distribution in France: Corsica, Haut-Rhin, Pyrénées (Pyrénées-Orientales).

## Family Aturidae Thor, 1900

*Barbaxonella angulata* (K. Viets, 1955)

*Barbaxonella pilosa* Angelier, Decamps & Rey, 1963: 480. Nov. syn.

Material examined: MNHN Paris, Tarn Céret (?), uncertain sites, (red inscription, only numbers): 72, 1/0/0; 76, 1/0/0; 83, 1/0/0; 100, 0/1/0; 128, 0/5/0; 160, 0/1/0; 161, 2/0/0; 196, 1/3/0; (14 further, unstudied specimens numbered 95, 107, 141, 151, 152, 157, 177, 186).

Discussion: Short time after the first description of *B. pilosa*, Gledhill (1964) discovered that the species described as *Axonopsalbia angulata* K. Viets, 1955 in reality was a representative of the genus *Barbaxonella* and gave the first description of a male of this species. *Barbaxonella pilosa*, in the original description compared only with *B. ovalis* Lundblad, 1954, was not treated again since then. A revision of 30 syntypes recently discovered at MNHN



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Paris (for details concerning the material see discussion of *Atractides phreaticus*) does not reveal any remarkable differences to *B. angulata* of which *B. pilosa* is consequently a junior synonym. In France, it is known exclusively from the seven sites in the Cevennes published by Angelier et al. (1963).

Distribution in France: Tarn.

*Barbaxonella reverendissima* Gerecke, 1994

*Barbaxonella reverendissima* Gerecke, 1994: 277.

Distribution in France: Corsica.

*Hexaxonopsalbia lautieni* (Motaş, 1928)

*Axonopsalbia lautieni* Motaş, 1928f: 252, 1928g: 7.

*Sumatralbia lautieni* (Motaş, 1928): E. Angelier 1953b: 68.

Distribution in France: Pyrénées-Orientales, Var.

*Albaxona (Vietsaxona) lundbladi* Motaş & Tanasachi, 1947

*Vietsaxona lundbladi* Motaş & Tanasachi, 1947: E. Angelier et al. 1963: 463.

*Albaxona elegans* Walter, 1947: E. Angelier 1953b: 109 (see Schwoerbel 1962b).

Distribution in France: Isère, Tarn.

*Prymnopsella bucculata* Gerecke, 1991

*Prymnopsella bucculata* Gerecke, 1991: Gerecke 1994: 279.

Distribution in France: Corsica.

*Brachypoda (Brachypoda) versicolor* (Müller, 1776)

*Brachypoda versicolor* (Müller, 1776): Moniez 1889b: 8, 1889e: 6; Derône 1914: 46; Vandel 1919a: 90; Soudan 1920: 5. Schodduyn 1926a: 311; Motaş 1926b: 411, 1928f: 230, 1928g: 5; Motaş & C. Angelier 1927d: 10; C. Angelier 1931: 39, 1953: 222; Chaudonneret 1947: 4; Smit & Van der Hammen 1992: 56.

*Axonopsis versicolor* (Müller, 1776): Moniez 1887a: 162; Richards 1887: 953; Barrois & Moniez 1887: 22.

*Hydrarachna versicolor* Müller, 1776: Hermann 1804: 54.

New record: **Pas-de-Calais:** 0/2/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Ain, Bas-Rhin, Côte-d'Or, Doubs, Isère, Jura, Nord, Pas-de-Calais, Puy-de-Dôme, Savoie, Seine-Maritime, Somme, Val-de-Marne, Vosges.

*Brachypoda (Hemibrachypoda) modesta* Koenike, 1911

*Brachypoda modesta* Koenike, 1911: Lundblad 1956a: 7.

Distribution in France: Gironde.

*Albia stationis* Thor, 1899

*Albia stationis* Thor, 1899: Motaş 1928f: 250, 1928g: 9.

Distribution in France: Haute-Savoie, Savoie.

*Aturus asserculatus asserculatus* Walter, 1906

*Aturus asserculatus* Walter, 1906: Motaş 1926b: 411, 1927b: 3, 1928e: 4, 1928f: 232, 1928g: 23; K. Viets 1951d: 285, 1952c: 245; Vaillant 1956: 178.

Distribution in France: Isère, Savoie, Var.

*Aturus barbatulus* Viets, 1936

*Aturus barbatulus* Viets, 1936: C. Angelier 1949d: 697, 1951b: 75; E. Angelier 1953b: 61, 1957a: 27, 1959: 16, 1959a: 67, 1965: 106; Motaş & C. Angelier 1967: 17.

Distribution in France: Corsica, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Ariège).

*Aturus brachypus* Viets, 1936

*Aturus brachypus* Viets, 1936: E. Angelier et al. 1963: 464; E. Angelier 1965: 106.

*Aturus paucisetus* Motaş & Tanasachi, 1946: E. Angelier 1953b: 93.

Distribution in France: Pyrénées (Pyrénées-Orientales), Tarn.

*Aturus crinitus* Thor, 1902

*Aturus crinitus* Thor, 1902: Motaş 1926b: 411, 1927b: 3, 1928e: 4, 1928f: 233, 1928g: 23; Motaş & C. Angelier 1927d: 14; C. Angelier 1931: 41; K. Viets 1939a: 2; 1951d: 285, Lundblad 1956a: 2; E. Angelier 1965: 105; Giudicelli 1970: 112; Santucci 1971: 83; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Ain, Corsica, Isère, Haute-Savoie, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Atlantiques, Hautes-Pyrénées), Savoie, Val-de-Marne.

*Aturus elongatus elongatus* Walter, 1927

*Aturus elongatus* Walter, 1927: In Walter & Motaş 1927: 148; Motaş 1927b: 3, 1928e: 17, 1928f: 237, 1928g: 30.

Distribution in France: Isère.

*Aturus elongatus processiger* Lundblad, 1956

*Aturus elongatus processiger* Lundblad, 1956: E. Angelier 1965: 105; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Pyrénées (Ariège, Hautes-Pyrénées).

*Aturus gallicus* K. Viets, 1939

*Aturus gallicus* K. Viets, 1939a: 12; E. Angelier 1965: 105; Vinçon 1987: 240.

Distribution in France: Pyrénées (Pyrénées-Atlantiques, Hautes-Pyrénées, Ariège).

*Aturus intermedius* Protz, 1900

*Aturus intermedius* Protz, 1900: Motaş 1927b: 3, 1928e: 4, 1928f: 232, 1928g: 23; C. Angelier 1951b: 77; Nicolau-Guillaumet 1959: 237; E. Angelier et al. 1963: 463; E. Angelier 1965: 106; Motaş & C. Angelier 1967: 17.

New record. **Hérault**: 1/5/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Isère, Pyrénées (Pyrénées-Orientales), Savoie, Tarn.

*Aturus karamani* K. Viets, 1936

*Aturus karamani* K. Viets, 1936: E. Angelier 1953b: 109.

*Aturus pauciporus* Walter, 1947: E. Angelier 1965: 106.

Distribution in France: Isère, Pyrénées-Orientales.

*Aturus natangensis* Protz, 1900

*Aturus natangensis* Protz, 1900: Motaş 1928f: 233, 1928g: 23; C. Angelier 1931: 41.

Distribution in France: Savoie, Val-de-Marne.

*Aturus prenanti* E. Angelier, 1965

*Aturus prenanti* E. Angelier, 1965: 103; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Pyrénées (Ariège, Hautes-Pyrénées).

*Aturus protzi* Piersig, 1901

*Aturus scitulus* C. Angelier, 1950b: 81, 1951b: 75; E. Angelier 1953b: 61, 1957a: 27, 1959: 16, 1959a: 67; Santucci 1971: 83.

*Aturus protzi* Piersig, 1901: E. Angelier et al. 1963: 462; E. Angelier 1965: 105; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New record. **Ardèche**: 1/0/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Pyrénées (Ariège, Pyrénées-Orientales, Pyrénées-Atlantiques, Hautes-Pyrénées), Tarn.

*Aturus scaber scaber* Kramer, 1875

*Aturus scaber* Kramer, 1875: Hubault 1927: 104; Motaş 1926b: 411, 1927b: 3, 1928e: 4, 1928f: 230; Motaş & C. Angelier 1927d: 12; C. Angelier 1931: 40, 1951b: 74; K. Viets 1939a: 2; Lundblad 1956a: 2; E. Angelier 1957a: 27, 196: 105; Nicolau-Guillaumet 1959: 237; Schwoerbel 1959a: 15, 1965: 477; E. Angelier et al. 1963: 464; Motaş & C. Angelier 1967: 17; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

New recordss. **Ardèche**: 0/1/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit; 1/2/0, La Drobie Rivière, NW of Ribes, 44°32.256 N 4°03.364 E, 1 May 2003, leg. H. Smit. **Gard**: 0/2/0, Le Trèvezet Rivière, between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit. **Cantal**: 0/1/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit. **Puy-de-Dôme**: 0/1/0, La Planchette at Jassat, S of Murol, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Gard, Gers, Haut-Rhin, Isère, Loire, Meurthe-et-Moselle, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Tarn, Val-de-Marne.

*Aturus scaber rotundus* Romijn, 1921

*Aturus scaber rotundus* Romijn, 1921: Motaş 1928f: 231, 1928g: 23 (*rotunda*).

Distribution in France: Savoie.

*Aturus serratus* Viets, 1922

*Aturus serratus* Viets, 1922: Lundblad 1956a: 2.

Distribution in France: Isère.

*Aturus spatulifer* Piersig, 1904

*Aturus spatulifer* Piersig, 1904: M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

Distribution in France: Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Aturus villosus* Motaş & Şoarec, 1939

*Aturus villosus* Motaş & Şoarec, 1939a: 8; E. Angelier 1949b: 228, 1965: 105; C. Angelier 1950d: 358; Motaş & C. Angelier 1967: 17; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

Distribution in France: Pyrénées (Ariège, Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques).

*Kongsbergia (Kongsbergia) alata* Szalay, 1945

*Kongsbergia alata* Szalay, 1945: E. Angelier 1949b: 229, 1950b: 244, 1953b: 91, 1959: 16, 1959c: 164; Santucci: 1977: 84.

Distribution in France: Corsica, Drôme, Haute-Savoie, Isère, Pyrénées (Pyrénées-Orientales), Savoie.

*Kongsbergia (Kongsbergia) angusta* Walter, 1947

*Kongsbergia (Kongsbergia) angusta* Walter, 1947: E. Angelier 1950b: 238, 1953b: 109.

Distribution in France: Isère, Savoie.

*Kongsbergia (Kongsbergia) arenaria* E. Angelier, 1951

*Kongsbergia arenaria* E. Angelier, 1951b: 509; E. Angelier 1959: 16, 1959c: 164; Santucci: 1977: 84.

Distribution in France: Corsica.

*Kongsbergia (Kongsbergia) clypeata* Szalay, 1945

*Kongsbergia clypeata* Szalay, 1945: E. Angelier 1949b: 229, 1950b: 240, 1953b: 93, 1953c: 478; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

Distribution in France: Pyrénées (Pyrénées-Orientales, Pyrénées-Atlantiques, Hautes-Pyrénées).

*Kongsbergia (Kongsbergia) dentata* Walter, 1947

*Kongsbergia dentata* Walter, 1947: E. Angelier 1950b: 243, 1953b: 91, 1953c: 478; Schwoerbel 1965: 478; Santucci: 1977: 84.

Distribution in France: Corsica, Haut-Rhin, Haute-Savoie, Isère, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales), Savoie.

*Kongsbergia (Kongsbergia) elliptica* E. Angelier, 1950

*Kongsbergia elliptica* E. Angelier, 1950b: 242.

Distribution in France: Pyrénées (Pyrénées-Atlantiques, Ariège).

*Kongsbergia (Kongsbergia) largaiollii* (Maglio, 1909)

*Kongsbergia largaiollii* (Maglio, 1909): Motaş 1927b: 3, 1928e: 4, 1928f: 242, 1928g: 23; Lundblad 1956a: 2; E. Angelier 1953b: 61, 1959: 16, 1959a: 67.

Distribution in France: Corsica, Isère, Savoie.

*Kongsbergia (Kongsbergia) materna* Thor, 1899

*Kongsbergia materna* Thor, 1899: Motaş & C. Angelier 1927d: 14; Motaş 1927b: 3, 1928e: 4, 1928f: 242; Lundblad 1956a: 2; E. Angelier 1957a: 27; E. Angelier et al. 1963: 463; Santucci 1977: 84; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31; Vinçon 1987: 240 (?).

*Hjartdalia runcinata* Thor, 1901: Motaş 1926b: 411.

Distribution in France: Corsica, Isère, Puy-de-Dôme, Pyrénées (Ariège, Pyrénées-Atlantiques, Hautes-Pyrénées), Tarn.

*Kongsbergia (Kongsbergia) pectinigera* Motaş & Tanasachi, 1946

*Kongsbergia pectinigera* Motaş & Tanasachi, 1946: Schwoerbel 1962e: 256, 1965: 477.

Distribution in France: Haut-Rhin, Vosges.

*Kongsbergia (Kongsbergia) ruttneri* Walter, 1930

*Kongsbergia ruttneri* Walter, 1930: Motaş 1928e: 31, 1928f: 243 (as *nomen nudum*); Schwoerbel 1962e: 256, 1965: 477; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New record: **Puy-de-Dôme**: 1/0/0, La Planchette at Jassat, 45°33.716 N 2°56.339 E, alt. 894 m a.s.l., 20 May 2005, leg. H. Smit.

Distribution in France: Haut-Rhin, Isère, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées), Vosges.

*Kongsbergia (Kongsbergia) simillima* Viets, 1949

*Kongsbergia simillima* Viets, 1949: E. Angelier 1950b: 240 (?), 1953b: 109.

Distribution in France: Haute-Savoie, Isère.

*Kongsbergia (Kongsbergia) walteri* Motaş, 1928

*Kongsbergia walteri* Motaş, 1928: Motaş 1928e: 31 (as *nomen nudum*), 1928f: 243.

Distribution in France: Isère.

*Axonopsis (Brachypodopsis) gracilis* (Piersig, 1903)

*Axonopsis gracilis* (Piersig, 1903): E. Angelier 1949b: 228; E. Angelier et al. 1963: 462.

New record. **Hérault**: 4/5/0, Rivière La Vis at Gorniès, 43°53.591 N 3°37.200 E, alt. 708 m a.s.l., 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Hérault, Pyrénées (Pyrénées-Orientales), Tarn.

*Axonopsis (Brachypodopsis) inferorum* Motaş & Tanasachi, 1947

*Axonopsis inferorum* (Motaş & Tanasachi, 1947): E. Angelier 1949b: 244, 1953b: 93; Pesic & Gerecke 2003: 568.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales).

*Axonopsis (Hexaxonopsis) armata* Chaudonneret & Angelier, 1949

*Axonopsis armata* Chaudonneret & C. Angelier, 1949: 542.

Distribution in France: Jura.

*Axonopsis (Hexaxonopsis) romijni* Viets, 1923

*Axonopsis romijni* Viets, 1923: Léger & Motaş 1928a: 176; Motaş 1928f: 226, 1928g: 7; Motaş & C. Angelier 1967: 17.

Distribution in France: Ardèche, Pyrénées (Pyrénées-Orientales), Var.

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*Axonopsis (Paraxonopsis) vietsi* Motaş & Tanasachi, 1947

*Axonopsis vietsi* (Motaş & Tanasachi, 1947): E. Angelier 1949b: 243, 1959: 16, 1959a: 67; Pesic & Gerecke 2003: 568.

*Paraxonopsis vietsi* (Motaş & Tanasachi, 1947): E. Angelier 1953b: 61.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales).

*Woolastookia rotundifrons* (Viets, 1922)

*Axonopsis rotundifrons* Viets, 1922: E. Angelier 1953b: 57, 1959: 16, 1959a: 65; Santucci 1971: 83; E. Angelier et al. 1985: 31; Vinçon 1987: 240.

*Hexaxonopsis rotundifrons* (K. Viets, 1922): M.-L. Angelier 1980: 14.

New records. **Cantal**: 2/5/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 18 May 2005, leg. H. Smit; 1/1/0, La Cère at St. Jacques-des-Blats, 45°03.159 N 2°42.777 E, alt. 967 m a.s.l., 16 May 2005, leg. H. Smit. **Gard**: 0/1/0, Le Trèvezet Rivière between l'Esperou and Meyrueis, 44°06.497 N 3°29.049 E, alt. 1115 m a.s.l., 16 May 2005, leg. H. Smit; 3/10/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Cantal, Corsica, Gard, Gers, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées, Pyrénées-Atlantiques).

*Ljanina bipapillata* Thor, 1898

*Ljanina bipapillata* Thor, 1898: Vandel 1920: 56; E. Angelier 1949b: 229, 1959: 16, 1959a: 67, 1959c: 164; Schwoerbel 1959a: 16; E. Angelier et al. 1963: 462; Santucci 1965: 546, 1971: 83; M.-L. Angelier 1980: 14; E. Angelier et al. 1985: 31.

New records. **Ardèche**: 1/0/0, La Lande Ruisseau, NW of Chazeaux, 44°36.351 N 4°17.003 E, 30 April 2003, leg. H. Smit. **Gard**: 0/1/0, helocrene at campsite Mourétou, N of Valleraugue, 44°05.203 N 3°36.500 E, alt. 418 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Corsica, Gard, Doubs, Haut-Rhin, Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Tarn.

*Ljanina macilenta* Koenike, 1908

*Ljanina macilenta* Koenike, 1908: Motaş 1927b: 3, 1928e: 17, 1928f: 225, 1928g: 30.

New records. **Ardèche**: 0/1/0, La Drobie Rivière, upstream of Sablières, 44°32.256 N 4°03.364 S, leg. H. Smit. **Cantal**: 0/1/0, Jordanne Rivière at Mandailles-Saint Julien, 45°04.225 N 2°39.510 E, alt. 927 m a.s.l., 927 m a.s.l., leg. H. Smit. **Gard**: 0/1/0, l'Hérault 3 km upstream of Valleraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Cantal, Gard, Isère, Puy-de-Dôme.

**Family Lethaxonidae Cook, I.M. Smith & Harvey, 2000**

*Lethaxona (Lethaxona) cavifrons* Szalay, 1943

*Lethaxona cavifrons* Szalay, 1943: E. Angelier 1953b: 106; Schwoerbel 1962e: 257, 1965: 477.

Distribution in France: Haut-Rhin, Pyrénées-Orientales.

*Lethaxona (Lethaxona) gallica* E. Angelier, 1949

*Lethaxona gallica* E. Angelier, 1949a: 89, 1949b: 240.

Distribution in France: Pyrénées (Pyrénées-Orientales).

*Lethaxona (Lethaxona) pygmaea* Viets, 1932

*Lethaxona pygmaea* Viets, 1932: E. Angelier 1953b: 106; Schwoerbel 1962e: 257, 1965: 477.

Distribution in France: Haut-Rhin, Isère, Pyrénées-Orientales.

**Family Mideidae Thor, 1911***Midea orbiculata* (Müller, 1776)

*Midea elliptica* Koenike, 1881: Barrois & Moniez 1887: 21; Moniez 1889b: 8; Vandel 1919a: 90; Schodduyn 1923: 143, 1926a: 311; Motaş 1928f: 225, 1928g: 13;

*Midea orbiculata* (Müller, 1776): Motaş & C. Angelier 1927d: 10; Giudicelli et al. 1980: 289.

Distribution in France: Bouches-du-Rhône, Doubs, Nord, Puy-de-Dôme, Somme.

**Family Momoniidae Viets, 1926***Momonias falcipalpis* Halbert, 1911

*Momonias falcipalpis* Halbert, 1911: Léger & Motaş 1928a: 176; Motaş 1927f: 321, 1928f: 211, 1928g: 7; Smit et al. 2000: 203.

Distribution in France: Pyrénées-Atlantiques, Var.

*Momonides lundbladi* E. Angelier, 1951

*Momonides lundbladi* E. Angelier, 1951b: 509, 1953b: 58, 1959: 16, 1959c: 161; Santucci 1970: 193, 1971: 83, 1977: 83; Gerecke 1994: 279.

Distribution in France: Corsica.

*Momoniasia phreatica* Petrova, 1974

*Momoniasia phreatica* Petrova, 1974: Gerecke 1994: 280.

Distribution in France: Corsica.

*Stygomomonias (Stygomomonias) latipes latipes* Szalay, 1943

*Stygomomonias latipes* Szalay, 1943: E. Angelier 1953b: 91, 1953c: 478, 1959: 16, 1959c: 162; Schworerbel 1965: 477; Santucci 1977: 84; Smit et al. 2000: 205.

*Stygomomonias gracilis* Walter, 1947: E. Angelier 1949b: 228.

Distribution in France: Corsica, Haut-Rhin, Isère, Pyrénées (Pyrénées-Orientales), Vosges.

**Family Mideopsidae Koenike, 1910***Mideopsis (Mideopsis) crassipes* Soar, 1904

*Mideopsis crassipes* Soar, 1904: Motaş 1927b: 3, 1928f: 224, 1928g: 21; C. Angelier 1953: 222.

Distribution in France: Côte-d'Or, Haute-Saône, Isère, Savoie, Var.

*Mideopsis (Mideopsis) orbicularis* (Müller, 1776)

*Mideopsis orbicularis* (Müller, 1776): Vandel 1919a: 90; Motaş 1928e: 17, 1928f: 224, 1928g: 6; C. Angelier 1931: 39, 1953: 222; Chaudonneret 1947: 4; E. Angelier 1953b: 93, 1959: 16, 1959a: 70, 1959c: 162; Lundblad 1956a: 3; E. Angelier et al. 1963: 463; Schworerbel 1965: 479; Motaş & C. Angelier 1967: 17; Santucci 1965: 546, 1971: 83; E. Angelier et al. 1985: 31; Smit et al. 2000: 206.

*Mideopsis depressa* Neuman, 1880: Moniez 1887a: 162; Barrois & Moniez 1887: 21.

New records. **Pas-de-Calais:** 0/4/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pond, Landes de Blendecques, 50°42'13.21" N 2°16'53.08"E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/2/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre:** 0/1/0, Ruisseau de Fosse Noire near Vendroeuves, La Brenne, 46°46'28.14"N 1°21'42.58" E, 9 July 2000, leg. H. van der Hammen. **Hérault:** 0/1/0, La Buèges, upstream of St. Jean-de-Buèges, 43°49.549 N 3°37.076 E, 23 July 2008, leg. H. Smit & P. Martin.

Distribution in France: Ain, Corsica, Côte-d'Or, Doubs, Gironde, Hérault, Indre, Isère, Jura, Nord, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Seine-Maritime, Tarn, Val-de-Marne, Var, Vosges. See remark under *M. roztozcensis*.

*Mideopsis (Mideopsis) roztozcensis* Biesiadka & Kowalik, 1979

New records. **Indre:** 2/11/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen. **Vienne:** 2/4/0, Riv. Vienne, at Saint-Martin-de-la-Rivière, 46°30'34.25" N 0°37'57.46" E, 7 July 2000, leg. H. van der Hammen. **Puy-de-Dôme:** 0/1/0, Ruisseau de Chareire, upstream of Chareire, 45°29.069 N 2°46.947 S, alt. 1263 m a.s.l., 20 May 2005, leg. H. Smit. **Ardèche:** 0/1/0, l'Ardèche Rivière at Balazuc, 44°30.692 N 4°22.869 E, 29 April 2003, leg. H. Smit; 0/1/0, Le Lignon Rivière, upstream of La Souche, 44°37.770 N 4°9.610 E, 30 April 2003, leg. H. Smit. **Gard:** 0/1/0, l'Hérault, 3 km upstream of Villeraugue, 44°05.190 N 3°36.475 E, alt. 405 m a.s.l., 15 May 2005, leg. H. Smit.

Distribution in France: Ardèche, Gard, Indre, Puy-de-Dôme, Vienne. New for the fauna of France.

Remark. Many of the old records of *M. orbicularis* might refer to this species, especially those from streams.

#### **Family Nudomideopsidae I.M. Smith, 1990**

*Nudomideopsis (Nudomideopsis) latipalpis* Angelier, Decamps & Rey, 1963

*Mideopsis latipalpis* E. Angelier, Decamps & Rey, 1963: 487.

Material examined. **Tarn:** Syntypes, MNHN Paris, Céret (? - slides only with numbers, see under *Atractides phreaticus*); 16, 1/0/0; 164, 0/3/0.

Distribution in France: Tarn.

#### **Family Neoacaridae Motaş & Tanasachi, 1947**

*Neoacarus hibernicus* Halbert, 1944

*Neoacarus hibernicus* Halbert, 1944: E. Angelier et al. 1963: 462; Schwoerbel 1962e: 256, 1965: 477.

New record. **Var:** 1/0/0, unnamed creek, Massif des Maures, 43°15.312 N 6°23.954 E, 5 May 2003, leg. H. Smit.

Distribution in France: Haut-Rhin, Tarn, Var.

#### **Family Chappuisididae Motaş & Tanasachi, 1946**

*Chappuisides (Chappuisides) hungaricus* Szalay, 1943

*Chappuisides hungaricus* Szalay, 1943: E. Angelier 1953b: 109; Schwoerbel 1961a: 275.

New record. **Corsica:** 1/0/0, Murato (Bastia, 2B), Bevinco downstream Cinquerue, 50 m, 09°24'E, 42°36'N, 3 October 1991, interstitial, F 39 I, leg. R. Gerecke.

Distribution in France: Corsica, Pyrénées-Orientales, Vosges.

#### **Family Athienemanniidae Viets, 1922**

*Mundamella germanica* K. Viets, 1913

*Mundamella germanica* K. Viets, 1913: Motaş 1928f: 262, 1928g: 7.

Distribution in France: Var.

#### **Family Hungarohydracaridae Motaş & Tanasachi, 1959**

*Hungarohydracarus subterraneus* Szalay, 1943

*Hungarohydracarus subterraneus* Szalay, 1943: E. Angelier 1953b: 58, 1959: 16, 1959a: 73; Santucci 1970: 193, 1971: 83; Smit et al. 2000: 212.

*Hungarohydracarus subterraneus multiporus* E. Angelier, 1949a: 90, 1949b: 252.

Distribution in France: Corsica, Isère, Pyrénées (Pyrénées-Orientales).

#### **Family Krendowskiidae Viets, 1926**

*Krendowskia (Krendowskia) latissima* Piersig, 1895

*Krendowskia latissima* Piersig, 1895: Prevot et al. 1983: 27.

Distribution in France: Bouches-du Rhône.

#### **Family Arrenuridae Thor, 1900**

*Arrenurus (Arrenurus) abbreviator* Berlese, 1888

*Arrenurus abbreviator* Berlese, 1888: Motaş 1927b: 3, 1928f: 279; C. & E. Angelier 1953a: 69; E. Angelier 1959: 16, 1959a: 69; Cassagne-Méjean 1966a: 30.

*Petiolorus abbreviator* (Berlese, 1888): Chaudon-neret 1947: 4.

Distribution in France: Corsica, Côte-d'Or, Essonne, Isère, Pyrénées (Hautes-Pyrénées).

*Arrenurus (Arrenurus) affinis* Koenike, 1887

*Arrenurus affinis* Koenike, 1887: Motaş 1927b: 3, 1928f: 281 (?).

New record. **Vienne**: 1/0/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31' E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Savoie (?), Vienne.

Remarks. The previously published records of France must be considered as doubtful. According to Smit et al. (2000) the record of C. Angelier (1953) refers to *A. pyrenaicus* (see under the latter species).

*Arrenurus (Arrenurus) albator* (Müller, 1776)

*Arrenurus albator* (Müller, 1776): A.-L.D. Dugès 1834a: 17, 1834b: 154; Vandel 1919a: 91; Migot 1926b: 130; Motaş 1926b: 411, 1928f: 278, 1928g: 7; C. Angelier 1931: 44, 1953: 223; Motaş & Şoarec 1939a: Appendix; C. & E. Angelier 1953a: 223; Do 1962: 67; Motaş & C. Angelier 1967: 17; Smit & Van der Hammen 1992: 55.

*Micrarrenurus albator* (Müller, 1776): Cassagne-Méjean 1966a: 79.

*Petiolurus albator* (Müller, 1776): Chaudonneret 1947: 4 (laps. *albater*).

New records. **Pas-de-Calais**: 0/4/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/3/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 1/15/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/4/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/17/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2'E, 7 July 2000, leg. H. van der Hammen. **Haute-Vienne**: 0/14/0, lake, La Chapelle-Montbrandeix, 45°38'35"N 0°51'27: E, 29 April 2002, leg. G. van Ee.

Distribution in France: Ain, Doubs, Haute-Saône, Haute-Savoie, Haute-Vienne, Hérault, Indre, Isère, Jura, Landes, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Savoie, Seine-Maritime, Val-de-Marne, Var.

*Arrenurus (Arrenurus) angelieri* Cassagne-Méjean, 1966

*Arrenurus angelieri* Cassagne-Méjean, 1966a: 37.

Distribution in France: Hérault.

*Arrenurus (Arrenurus) batillifer* Koenike, 1896

*Arrenurus batillifer* Koenike, 1896: Motaş 1927b: 3, 1928f: 280, 1928g: 6; C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 43; Smit & Van der Hammen 1992: 55.

*Petiolurus batillifer* (Koenike, 1896): Chaudonneret 1947: 4.

Distribution in France: Ain, Cantal, Côte-d'Or, Isère, Pas-de-Calais, Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Arrenurus (Arrenurus) bicuspidator* Berlese, 1885

*Arrenurus bicuspidator* Berlese, 1885: Motaş 1927b: 3, 1928f: 283; C. Angelier 1931: 44; Cassagne-Méjean 1966a: 36; Smit & Van der Hammen 1992: 55.

*Petiolurus bicuspidator* (Berlese, 1885): Chaudonneret 1947: 4.

New records. **Pas-de-Calais**: 1/3/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/2/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/1/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Côte-d'Or, Indre, Isère, Pas-de-Calais, Val-de-Marne.

*Arrenurus (Arrenurus) bruzelii* Koenike, 1885

*Arrenurus bruzelii* Koenike, 1885: Barrois & Moniez 1887: 25; Derône 1914: 46, 1915: 560; Vandel 1919a: 91; Soudan 1920: 5; Motaş 1926b: 411, 1928f: 280, 1928g: 6; C. Angelier 1950a: 6, 1953: 223; Do 1962: 67; Cassagne-Méjean 1966a: 69.



*Petiolurus Bruzelii* (Koenike, 1885): Chaudon-neret 1947: 4.

New record. **Indre**: 1/0/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Cantal, Côte-d'Or, Doubs, Essonne, Haute-Saône, Hérault, Indre, Isère, Jura, Nord, Pas-de-Calais, Savoie, Var.

*Arrenurus (Arrenurus) claviger* Koenike, 1885

*Arrenurus claviger* Koenike, 1885: Barrois & Moniez 1887: 25; Vandel 1919a: 91; Motaş 1926b: 412, 1928f: 282, 1928g: 13; C. Angelier 1953: 225; C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 34; Smit & Van der Hammen 1992: 55; Smit et al. 2000: 216.

New records. **Indre**: 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen. **Haute-Vienne**: 1/0/0, lake, La Chapelle-Montbrandeix, 45°38'35" N 0°51'27" E, 29 April 2002, leg. G. van Ee. **Vienne**: 0/1/0, pool, Réserve naturelle du Pinail, 46°42' N 0°31' E, 8 July 2000, leg. H. van der Hammen; 3/21/0, pool, Réserve naturelle du Pinail, 46°42' N 0°31' E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Corsica, Côte-d'Or, Doubs, Haute-Vienne, Indre, Isère, Landes, Nord, Pas-de-Calais, Pyrénées (Hautes-Pyrénées), Savoie, Var, Vienne.

*Arrenurus (Arrenurus) compactus* Piersig, 1894

*Arrenurus compactus* Piersig, 1894: Vandel 1919a: 91; Motaş 1928e: 28, 1928f: 280, 1928g: 13; C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 53.

Distribution in France: Doubs, Haute-Saône, Isère, Pyrénées (Hautes-Pyrénées).

*Arrenurus (Arrenurus) crassicaudatus* Kramer, 1875

*Arrenurus crassicaudatus* Kramer, 1875: Vandel 1919a: 91; Motaş & C. Angelier 1927d: 14; Motaş 1928e: 28, 1928f: 278, 1928g: 9; C. Angelier 1953:

226; E. Angelier et al. 1963: 465; Smit & Van der Hammen 1992: 55.

*Micrarrenurus crassicaudatus* (Kramer, 1875): Cassagne-Méjean 1966a: 83.

New records. **Pas-de-Calais**: 0/1/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/4/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 3/11/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40" E, 7 July 2000, leg. H. van der Hammen; 1/0/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Doubs, Haute-Loire, Haute-Savoie, Indre, Isère, Jura, Pas-de-Calais, Puy-de-Dôme, Savoie, Tarn.

*Arrenurus (Arrenurus) crenatus* Koenike, 1896

*Arrenurus crenatus* Koenike, 1896: Motaş 1927b: 3, 1928f: 279, 1928g: 6.

Distribution in France: Ain.

*Arrenurus (Arrenurus) cuspidator* (Müller, 1776)

*Arrenurus cuspidator* (Müller, 1776): A.-L.D. Dugès 1834b: 154; Soudan 1920: 5; Motaş 1927b: 3, 1928e: 7, 1928f: 281; Brumpt 1929: 293; C. Angelier 1950a: 6, 1953: 224; C. & E. Angelier 1953a; Cassagne-Méjean 1966a: 45; Smit & Van der Hammen 1992: 55.

*Petiolurus cuspidator* (Müller, 1776): Chaudon-neret 1947: 4.

Distribution in France: Côte-d'Or, Essonne, Indre-et-Loire, Hérault, Isère, Manche, Pas-de-Calais, Pyrénées (Hautes-Pyrénées), Savoie.

*Arrenurus (Arrenurus) cuspidifer* Piersig, 1894

*Arrenurus cuspidifer* Piersig, 1894: Motaş 1927b: 3, 1928f: 282, 1928g: 6; C. Angelier 1953: 225; C. & E. Angelier 1953a: 70; E. Angelier 1959: 16, 1959a: 69; Cassagne-Méjean 1966a: 58; Smit & Van der Hammen 1992: 56.

Distribution in France: Bouches-du-Rhône, Corsica, Hérault, Isère, Pas-de-Calais, Landes, Rhône, Savoie, Var.

*Arrenurus (Arrenurus) denticulatus* Motaş, 1927

*Arrenurus (Arrenurus) denticulatus* Motaş, 1927: In Walter & Motaş 1927: 157; Motaş 1928f: 283; Cassagne-Méjean 1966a: 75.

*Arrenurus walteri* (non Koenike, 1911): Motaş 1927b: 3.

New records. **Pas-de-Calais**: 2/0/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/1/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Isère, Pas-de-Calais.

*Arrenurus (Arrenurus) distans* Walter, 1927

*Arrenurus (Arrenurus) distans* Walter, 1927: In Walter & Motaş 1927: 152; Motaş 1927b: 3, 1928f: 281.

Distribution in France: Isère.

*Arrenurus (Arrenurus) fimbriatus* Koenike, 1885

*Arrenurus sica* Barrois & Moniez 1887: 30.

*Micrarrenurus fimbriatus* (Koenike, 1885): Cassagne-Méjean 1966a: 78.

New record. **Indre**: 6/2/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Indre, Nord, Pas-de-Calais.

*Arrenurus (Arrenurus) furcillatus* Viets, 1930

*Arrenurus (Arrenurus) furcillatus* Viets, 1930: Cassagne-Méjean 1966: 194, 1966a: 32.

Distribution in France: Hérault.

*Arrenurus (Arrenurus) latus* Barrois & Moniez, 1887

*Arrenurus (Arrenurus) latus* Barrois & Moniez, 1887: 30; Motaş 1928f: 278, 1928g: 6; C. & E. Angelier 1953a: 73; E. Angelier et al. 1963: 465.

*Arrenurus (Micruracarus) sinuator commutatus* Viets, 1930: C. & E. Angelier 1953a: 74 (see Smit 1996).

*Micrarrenurus latus latus* (Barrois & Moniez, 1887): Cassagne-Méjean 1966a: 81.

*Arrenurus latus ligulator* Koenike, 1905: C. Angelier 1950a: 6.

New records. **Indre**: 1/1/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40" E, 7 July 2000, leg. H. van der Hammen; 1/1/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Essonne, Indre, Landes, Nord, Pas-de-Calais, Pyrénées (Pyrénées-Orientales, Pyrénées-Atlantiques), Tarn, Var.

*Arrenurus (Arrenurus) leuckarti* Piersig, 1894

*Arrenurus (Arrenurus) leuckarti* Piersig, 1894: Motaş 1927b: 3, 1928f: 283; Cassagne-Méjean 1966a: 59, 1971: 152; Smit & Van der Hammen 1992: 55.

New records. **Vienne**: 4/5/0, pool, Réserve naturelle du Pinail, 46°42' N 0°31' E, 8 July 2000, leg. H. van der Hammen; 10/14/0, pool, Réserve naturelle du Pinail, 46°42' N 0°31' E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Hérault, Indre-et-Loire, Pas-de-Calais, Vienne.

*Arrenurus (Arrenurus) maculator* (Müller, 1776)

*Hydrarachna maculator* Müller, 1776: Hermann 1804: 54.

*Arrenurus (Arrenurus) maculator* (Müller, 1776): Barrois & Moniez 1887: 26 (?; see K. Viets 1956); Vandel 1919a: 91; Motaş 1928f: 281, 1928g: 6; Brumpt 1929: 293 (?); C. Angelier 1953: 224; Cassagne-Méjean 1966a: 48; Smit & Van der Hammen 1992: 55.

*Petiolurus maculator* (Müller, 1776): Chaudonneret 1947: 4.

New record. **Indre**: 1/0/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Bas-Rhin, Côte-d'Or, Doubs, Hérault, Indre, Isère, Jura, Manche (?), Nord, Pas-de-Calais, Savoie, Seine-Maritime.

*Arrenurus (Arrenurus) mathiasi* Cassagne-Méjean, 1966

*Arrenurus (Arrenurus) mathiasi* Cassagne-Méjean, 1966a: 39.

Distribution in France: Hérault.

*Arrenurus (Arrenurus) muenchbergi* K.O. Viets, 1964

*Arrenurus (Arrenurus) muenchbergi* K.O. Viets, 1964: In: K.O. Viets & Cassagne-Méjean 1964: 499, 1966a: 41.

Distribution in France: Hérault.

*Arrenurus (Arrenurus) neumani* Piersig, 1895

*Arrenurus neumani* Piersig, 1895: Vandel 1919a: 91; Motaş 1928e: 28, 1928f: 282, 1928g: 7; C. Angelier 1951: 74; C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 63.

New record. **Indre**: 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Cantal, Côte-d'Or, Doubs, Hautes-Alpes, Haute-Saône, Indre, Isère, Pyrénées (Pyrénées-Atlantiques, Pyrénées-Orientales, Hautes-Pyrénées), Var.

*Arrenurus (Arrenurus) ornatus* George, 1900

*Arrenurus ornatus* George, 1900: C. Angelier 1951: 77; C. & E. Angelier 1953a; Cassagne-Méjean 1961: 2403, 1963: 1589, 1963a: 357, 1966: 51; Do 1962: 67; Motaş & C. Angelier 1967: 17; Smit & Van der Hammen 1992: 55.

New records. **Indre**: 1/0/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen. **Vienne**: 1/0/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen; 0/1/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Hérault, Indre, Pas-de-Calais, Pyrénées (Pyrénées-Orientales), Vienne.

*Arrenurus (Arrenurus) papillator* (Müller, 1776)

*Arrenurus (Arrenurus) papillator* (Müller, 1776): Schachter 1950; Petit & Schachter 1954: 217; Cassagne-Méjean 1963b: 1964, 1966a: 24.

*Hydrachna abstergens* Müller, 1781: De Théis 1832: 61.

Distribution in France: Aisne, Bouches-du-Rhône, Cantal, Hérault.

*Arrenurus (Arrenurus) pustulator* (Müller, 1776)

*Arrenurus (Arrenurus) pustulator* (Müller, 1776): Vandel 1919a: 91; Motaş 1926b: 411, 1928e: 28, 1928f: 279, 1928g: 13; C. & E. Angelier 1953a: 69; Cassagne-Méjean 1966a: 26.

Distribution in France: Doubs, Hérault, Isère, Pyrénées (Pyrénées-Orientales).

*Arrenurus (Arrenurus) pyrenaeus* C. & E. Angelier, 1953

*Arrenurus (Arrenurus) pyrenaeus* C. & E. Angelier, 1953a: 70; C. Angelier 1953: 224 (as *A. affinis*); Cassagne-Méjean 1966a: 62; Smit et al. 2000: 226.

Distribution in France: Pyrénées (Hautes-Pyrénées), Savoie.

*Arrenurus (Arrenurus) radiatus* Piersig, 1894

*Arrenurus (Arrenurus) radiatus* Piersig, 1894: Motaş 1927b: 3, 1928f: 281, 1928g: 6; C. Angelier 1953: 225; E. Angelier 1959: 16, 1959a: 69; Cassagne-Méjean 1966a: 60; Bouzidi et al. 1984: 115.

Distribution in France: Corsica, Hérault, Savoie, Var.

*Arrenurus (Arrenurus) robustus* Koenike, 1894

*Arrenurus (Arrenurus) robustus* Koenike, 1894: Vandel 1919a: 91; Motaş 1928f: 279, 1928g: 13; C. Angelier 1953: 225 C. & E. Angelier 1953a; 1959: 16, 1959a: 69; Cassagne-Méjean 1966a: 73; Smit & Van der Hammen 1992: 55.

Distribution in France: Corsica, Doubs, Isère, Jura, Landes, Pas-de-Calais, Pyrénées (Hautes-Pyrénées), Savoie.

*Arrenurus (Arrenurus) rodrigensis* Lundblad, 1954

*Arrenurus (Arrenurus) rodrigensis* Lundblad, 1954: Cassagne-Méjean 1966: 193; 1966a: 65.

Distribution in France: Hérault.

*Arrenurus (Arrenurus) securifer* Viets, 1930

*Arrenurus securifer* Viets, 1930: C. Angelier 1951: 77; C. & E. Angelier 1953a: 73; Cassagne-Méjean 1966a: 71; Motaş & C. Angelier 1967: 17.

Distribution in France: Landes, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Arrenurus (Arrenurus) suecicus* Lundblad, 1917

*Arrenurus (Arrenurus) suecicus* Lundblad, 1917: C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 29.

Distribution in France: Pyrénées (Hautes-Pyrénées, Pyrénées-Atlantiques).

*Arrenurus (Arrenurus) tetracyphus* Piersig, 1894

*Arrenurus (Arrenurus) tetracyphus* Piersig, 1894: Vandel 1919a: 91; Cassagne-Méjean 1966a: 50.

*Petiolurus tetracyphus* (Piersig, 1894): Chaudonneret 1947: 4.

Distribution in France: Côte-d'Or, Doubs.

*Arrenurus (Arrenurus) tricuspikator* (Müller, 1776)

*Arrenurus (Arrenurus) tricuspikator* (Müller, 1776): Moniez 1887a: 162; Derône 1914: 46; Do 1962: 67; Vandel 1919a: 91; Motaş 1928g: 13; C. Angelier 1931: 45; C. & E. Angelier 1953a: 70; Cassagne-Méjean 1966a: 55; Smit & Van der Hammen 1992: 55.

*Petiolurus tricuspikator* (Müller, 1776): Chaudonneret 1947: 4.

New records. **Pas-de-Calais:** 0/3/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen. **Indre:** 2/0/0, pond near Étang Prieur, La Brenne,

46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen.

Distribution in France: Côte-d'Or, Doubs, Hérault, Indre, Isère, Landes, Pas-de-Calais, Val-de-Marne, Vosges.

*Arrenurus (Arrenurus) virens* Neuman, 1880

*Arrenurus virens* Neuman, 1880: C. Angelier 1950a: 6.

*Arrenurus crassipetiolatus* Koenike, 1885: Barrois & Moniez 1887: 26; Moniez 1889e: 6; Vandel 1919a: 91; Motaş 1928f: 282; Cassagne-Méjean 1966a: 67.

*Petiolurus crassipetiolatus* (Koenike, 1885): Chaudonneret 1947: 4.

Distribution in France: Côte-d'Or, Doubs, Essonne, Nord, Haute-Saône, Seine-Maritime.

*Arrenurus (Megaluracarus) buccinator* (Müller, 1776)

*Arrenurus caudatus* (Geer, 1778): Moniez 1887a: 162; Barrois & Moniez 1887: 24; Barrois 1889d: 6; K. Viets 1913a: 335; Vandel 1919a: 91; Soudan 1920: 5; Motaş 1928e: 28, 1928f: 268, 1928g: 13.

*Megaluracarus caudatus* (Geer, 1778): Chaudonneret 1947: 5.

*Arrenurus buccinator* (Müller, 1776): Hubault 1947: 217; Smit & Van der Hammen 1992: 56.

*Hydrachna elliptica* Müller, 1781: De Théis 1832: 61.

Distribution in France: Aisne, Alpes-Maritimes, Côte-d'Or, Doubs, Haute-Saône, Isère, Nord, Pas-de-Calais, Vosges.

*Arrenurus (Megaluracarus) conicus* Piersig, 1894

*Arrenurus conicus* Piersig, 1894: Motaş 1927b: 3, 1928e: 29, 1928f: 267, 1928g: 15; C. Angelier 1950d: 358, 1951b: 74; C. & E. Angelier 1953a: 73.

Distribution in France: Isère, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées).

*Arrenurus (Megaluracarus) cylindratus* Piersig, 1896

*Arrenurus (Megaluracarus) cylindratus* Piersig, 1896: Vandel 1919a: 91; Soudan 1920: 5; Motaş 1926b: 411, 1928e: 3, Motaş 1928f: 326, 1928g: 6; Motaş & C. Angelier 1927d: 14; C. Angelier, 1953a: 74; C. & E. Angelier 1953a: 74; Schwoerbel 1959a: 15; Smit & Van der Hammen 1992: 55; Smit et al. 2000: 234.

New record: **Pas-de-Calais**: 1/0/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen.

Distribution in France: Corsica, Doubs, Haute-Loire, Haute-Savoie, Isère, Jura, Loire, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Hautes-Pyrénées, Pyrénées-Orientales), Savoie, Var, Vosges.

*Arrenurus (Megaluracarus) globator* (Müller, 1776)

*Arrenurus globator* (Müller, 1776): Barrois & Moniez 1887: 24; Moniez 1889b: 8; Moniez 1889e: 6; Schodduyn 1904: 18, 1923: 143, 1926a: 311; Vandel 1919a: 91; Soudan 1920: 5; Motaş 1926b: 411, 1928f: 267, 1928g: 6; Motaş & C. Angelier 1927d: 14; Brumpt 1929: 293; C. Angelier 1931: 42, 1950a: 6, 1951b: 77, 1953: 227; C. & E. Angelier 1953a: 74; Cassagne-Mejean 1966a: 23; Smit & Van der Hammen 1992: 56; Smit et al. 2000: 235.

*Megaluracarus globator* (Müller, 1776): Chaudon-neret 1947: 4.

New records. **Pas-de-Calais**: 0/5/0, fish pond, Les Landes de Blendecques, 50°41'59.32" N 2°14'32.55"E, 20 April 1996, leg. H. Smit & H. van der Hammen; 0/10/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 3/10/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre**: 0/4/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/1/0, Riv. Anglin near Roche, S of Le Blanc, 46°35'N 1°2' E, 7 July 2000, leg. H. van der Hammen; 5/6/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen. **Vienne**: 0/1/0, pool, Réserve

naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Bouches-du-Rhône, Calvados, Côte-d'Or, Doubs, Essonne, Haute-Loire, Hérault, Indre, Isère, Jura, Landes, Manche, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Seine-Maritime, Somme, Val-de-Marne, Var, Vienne.

*Arrenurus (Megaluracarus) latigenitalis* Lundblad, 1956

*Arrenurus (Megaluracarus) cylindratus latigenitalis* Lundblad, 1956: Schwoerbel 1959a: 21.

Distribution in France: Vosges.

*Arrenurus (Megaluracarus) mediorotundatus* Thor, 1898

*Arrenurus mediorotundatus* Thor, 1898: Motaş 1928f: 268.

New record. **Pas-de-Calais**: 1/2/0, stream near Quiestède, 50°40'52.73" N 2°18'57.90" E, 20 April 1996, leg. H. van der Hammen.

Distribution in France: Isère, Pas-de-Calais.

*Arrenurus (Megaluracarus) securiformis* Piersig, 1894

*Arrenurus (Megaluracarus) securiformis* Piersig, 1894: Vandel 1919a: 91; Motaş 1928f: 268; C. Angelier 1953: 226.

New records. **Pas-de-Calais**: 3/0/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 0/1/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Doubs, Jura, Pas-de-Calais, Savoie.

*Arrenurus (Megaluracarus) stjoerdalensis* Thor, 1899

*Arrenurus adnatus* Koenike, 1902: Vandel 1919a: 90; Hubault 1947: 217.

Distribution in France: Doubs, Vosges.

*Arrenurus (Megaluracarus) tubulator* (Müller, 1776)

New record. **Cantal:** 2/11/0, Lac Cascades, N of Le Claux, 45°11.228 N 2°42.361 E, alt. 997 m a.s.l., 18 May 2005, leg. H. Smit.

Distribution in France: Cantal.

Remark: This is the first record for France.

*Arrenurus (Megaluracarus) zachariae* Koenike, 1886

*Arrenurus (Megaluracarus) zachariae* Koenike, 1886: Motaş & Şoarec 1939a: 1 (Appendix); C. Angelier 1950d: 358; C. & E. Angelier 1953a: 73.

*Arrenurus (Megaluracarus) Zachariasii* (laps.): Migot 1926b: 130; Motaş & Şoarec 1939a: Appendix.

Distribution in France: Pyrénées (Hautes-Pyrénées).

*Arrenurus (Micruracarus) bifidicodulus* Piersig, 1897

*Arrenurus (Micruracarus) bifidicodulus* Piersig, 1897: K. Viets 1913a: 335; Soudan 1920: 5; Motaş 1928f: 270; Brumpt 1929: 293; C. Angelier 1953: 229.

*Micruracarus bifidicodulus* (Piersig, 1897): Chaudonneret 1947: 5 (laps. *bifidicadulus*).

Distribution in France: Côte-d'Or, Isère, Manche, Savoie.

*Arrenurus (Micruracarus) bipapillosus* Halbert, 1911

*Arrenurus bipapillosus* Halbert, 1911: Walter & Motaş 1927: 155; Motaş 1927b: 3, 1928f: 277, 1928g: 7; Léger & Motaş 1928a: 176; C. Angelier 1951b: 77; 1953: 229; C. & E. Angelier 1953a: 74; Smit et al. 2000: 239.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales), Savoie, Var.

*Arrenurus (Micruracarus) biscissus* Lebert, 1879

*Arrenurus biscissus* Lebert, 1879: Motaş 1928f: 277; C. & E. Angelier 1950a: 6, 1953a: 74.

*Arrenurus fissus* Viets, 1908: Motaş 1927b: 3.

Distribution in France: Essonne, Landes, Pyrénées (Hautes-Pyrénées), Savoie.

*Arrenurus (Micruracarus) detruncatus* C. & E. Angelier, 1953

*Arrenurus (Micruracarus) detruncatus* C. & E. Angelier, 1953a: 74; E. Angelier 1959: 16, 1959a: 67; Motaş & C. Angelier 1967: 17.

Distribution in France: Corsica, Pyrénées (Pyrénées-Orientales).

*Arrenurus (Micruracarus) dorieri* Motaş & C. Angelier, 1967

*Arrenurus (Micruracarus) dorieri* Motaş & C. Angelier, 1967: 41.

Distribution in France: Pyrénées (Pyrénées-Orientales).

*Arrenurus (Micruracarus) forcipatus* Neuman, 1880

*Arrenurus (Micruracarus) forcipatus* Neuman, 1880: Vandel 1919a: 91 (laps. *forcipatus*); Motaş 1928f: 278; C. Angelier 1953: 227; C. & E. Angelier 1953a: 74.

Distribution in France: Doubs, Jura, Pyrénées (Pyrénées-Orientales), Savoie.

*Arrenurus (Micruracarus) integrator* (Müller, 1776)

*Arrenurus (Micruracarus) integrator* (Müller, 1776): Barrois & Moniez 1887: 25 (?), possibly *A. bifidicodulus*, see K. Viets 1956); Motaş 1928f: 270; C. Angelier 1953: 229.

*Micruracarus integrator* (Müller, 1776): Chaudonneret 1947: 5.

Distribution in France: Côte-d'Or, Nord, Savoie.

*Arrenurus (Micruracarus) novus* George, 1884

*Arrenurus (Micruracarus) novus* George, 1884: Lundblad 1956a: 7.

New record. **Haute-Vienne:** 0/7/0, lake, La Chapelle-Montbrandeix, 45°38'35"N 0°51'27": E, 29 April 2002, leg. G. van Ee.

Distribution in France: Charente, Haute-Vienne.

*Arrenurus (Micruracarus) octagonus* Halbert, 1906

Smit H. and Gerecke R.

New record. **Indre:** 0/1/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Indre. New for the fauna of France.

*Arrenurus (Micruracarus) perforatus* George, 1881

*Arrenurus (Micruracarus) perforatus* George, 1881: Smit & Van der Hammen 1992: 55.

New records. **Vienne:** 0/7/0, pool, Réserve naturelle du Pinail, 46°42'N 0°31'E, 8 July 2000, leg. H. van der Hammen. **Pas-de-Calais:** 1/0/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 1/0/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen.

Distribution in France: Pas-de-Calais, Vienne.

*Arrenurus (Micruracarus) pygmaeus* E. Angelier, 1959

*Arrenurus (Micruracarus) pygmaeus* E. Angelier, 1959: 136.

Distribution in France: Corsica.

*Arrenurus (Micruracarus) sculptus* Halbert, 1903

*Arrenurus (Micruracarus) sculptus* Halbert, 1903: Motaş 1928e: 28, 1928f: 270, 1928g: 13.

*Arrenurus pugionifer* Koenike, 1908: Motaş 1927b: 3 (erron.).

Distribution in France: Isère.

*Arrenurus (Micruracarus) sinuator* (Müller, 1776)

*Arrenurus sinuator* (Müller, 1776): Barrois & Moniez 1887: 25; Motaş 1928f: 277, 1928g: 13; C. Angelier 1931: 42, 1950a: 6, 1951b: 77; 1953: 228; C. & E. Angelier 1953a: 74.

New records. **Pas-de-Calais:** 0/5/0, pond, Les Landes de Blendecques, 50°42'13.21" N 2°16'53.08" E, 19 April 1996, leg. H. Smit & H. van der Hammen; 9/0, pond, Les Landes de Blendecques, 50°42'1.46" N 2°14'10.91" E, 19 April 1996, leg. H.

Smit & H. van der Hammen; 1/3/0, fish pond, Les Landes de Blendecques, 50°42'13.72" N 2°16'53.52" E, 20 April 1996, leg. H. Smit & H. van der Hammen; 0/2/0, pool with seepage, Les Landes de Blendecques, 50°42'2.67" N 2°14'30.76" E, 20 April 1996, leg. H. Smit & H. van der Hammen. **Indre:** 1/6/0, Étang Prieur, SW of Méobecq, 46°42'48.18" N, 1°23'40.40"E, 7 July 2000, leg. H. van der Hammen; 0/1/0, pond near Étang Prieur, La Brenne, 46°34'54.00" N 1°9'0.79" E, 7 July 2000, leg. H. van der Hammen; 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Essonne, Indre, Isère, Nord, Pas-de-Calais, Puy-de-Dôme, Pyrénées (Pyrénées-Orientales, Hautes-Pyrénées), Savoie, Val-de-Marne.

*Arrenurus (Micruracarus) walkanoffi* Viets, 1926

*Arrenurus walkanoffi* Viets, 1926: C. Angelier 1951b: 77; C. & E. Angelier 1953a: 74 (laps.: *A. walkanoffi*).

Distribution in France: Pyrénées (Pyrénées-Orientales).

*Arrenurus (Truncaturus) corsicus* (E. Angelier, 1951)

*Balcanohydracarus corsicus* E. Angelier, 1951b: 510, 1953b: 58, 1959: 16, 1959c: 164; Santucci 1970: 193, 1971: 83, 1977: 83.

Distribution in France: Corsica.

*Arrenurus (Truncaturus) fontinalis* Viets, 1920

*Truncaturacarus fontinalis* (Viets, 1920): Chaudonneret 1947: 5 (laps. *fantinalis*).

Distribution in France: Côte-d'Or.

*Arrenurus (Truncaturus) nodosus* Koenike, 1896

*Arrenurus (Truncaturus) nodosus* Koenike, 1896: Soudan 1920: 5; Motaş 1927b: 3, 1928f: 269; Smit & Van der Hammen 1992: 55.

*Truncaturacarus nodosus* (Koenike, 1896): Chaudonneret 1947: 4.

Distribution in France: Côte-d'Or, Isère, Pas-de-Calais.

*Arrenurus (Truncaturus) stecki* Koenike, 1894

*Arrenurus stecki* Koenike, 1894: Motaş 1926b: 411, 1927b: 3, 1928e: 28, 1928f: 269, 1928g: 6.

New records. **Indre:** 0/1/0, pond in meadow near Étang Pied du Tour, La Brenne, 46°44'41.39" N 1°14'55.40" E, 9 July 2000, leg. H. van der Hammen; 0/2/0, Étang Nuret, La Brenne, 46°47'30.57" N 1°12'35.98" E, 9 July 2000, leg. H. van der Hammen.

Distribution in France: Ain, Côte-d'Or, Indre, Isère.

*Arrenurus (Truncaturus) troglobius* E. Angelier, 1951

*Arrenurus (Truncaturus) troglobius* E. Angelier, 1951b: 510, 1953b: 58, 1959: 16, 1959c: 162; Santucci 1970: 193, 1971: 83; 1977: 83.

Distribution in France: Corsica.

*Arrenurus (Truncaturus) truncatellus* (Müller, 1776)

*Arrenurus (Truncaturus) truncatellus* (Müller, 1776): Motaş & C. Angelier 1927d: 14; Motaş 1928f: 269, 1928g: 6; C. Angelier 1953: 230; C. & E. Angelier 1953a: 77.

*Truncaturacarus truncatellus* (Müller, 1776): Chaudonneret 1947: 4.

New record. **Corsica:** 0/11/0, marsh near Calvi, 7 May 1997, leg. H. van der Hammen.

Distribution in France: Ain, Corsica, Côte-d'Or, Loire, Pyrénées (Pyrénées-Atlantiques), Savoie.

## DISCUSSION

**Water mites in limnologic research: a neglected resource**

Kurt Otto Viets (1978) listed 931 species for Europe, but Gerecke & Lehmann (2005) come to a total of 1235 species. This figure undoubtedly will change with more research, and also with more revisions. The high total species number, as well as the generally high diversity in most types of naturally-conserved habitats (e.g. Schwoerbel 1967, Wiggins et al. 1980, Gerecke 2002, Di Sabatino et al.

2003), suggest that mites are of outstanding importance for understanding the ecology of inland water invertebrate communities. In fact, in a large-scale study directed to the identification of indicator taxa best suited for stream types and environmental conditions in Luxembourg, water mites resulted at first place, outnumbering also Diptera in the number of significant characteristic species (Dohet et al. 2008). Also in spring habitats, where they are represented by a high percentage of species strictly bound to habitats of this type, water mites resulted in a comparative survey as exceptionally suited for observation of environmental change (Cantonati & Ortler 1998), and a particular significance as water quality indicators was documented also in standing waters (Pieczyński 1976 and bibliography cited there).

A big share of their particular sensitivity to habitat quality (Schwoerbel 1964, Gerecke & Schwoerbel 1991, Van der Hammen & Smit 1996) may be explained by the particular life cycle of water mites: Individual development includes a larval stage parasitic on selected insect hosts, two pupa-like quiescent stages, a predatory nymphal stage and adults again being predators of microcrustaceans, eggs and early larval instars of insects (Martin 2005).

On this background, it is deplorable that a group of invertebrates with an outstanding potential for ecological research was excluded from the European water framework directive. The only explanation for the neglect of water mites in water quality research (Resh & McElravy 1993) may be found in the widely scattered bibliography, with a lack of comprehensive check lists and determination keys (Dohet et al. 2008). Our contribution aims at filling a gap for the french fauna. The publication of updated taxonomic keys for Northern and Central Europe (including continental France) is on the way (Gerecke ed, 2007, 2010).

**State of knowledge**

At present state of knowledge, with 420 species and seven subspecies, France has about 34 % of the European water mite species, but the fauna is still not well known. A number of biotopes have hardly been examined, e.g. temporary habitats like terrestrializing waters, temporary pools and reed-



TABLE 2: Numbers of water mite species and subspecies per French department.

Department	Nb of species	Department	Nb of species	Department	Nb of species
Ain	50	Gironde	9	Meurthe-et-Moselle	14
Aisne	9	Haut-Loire	30	Moselle	3
Alpes-de-Haute-Provence	4	Haut-Rhin	45	Nord	50
Alpes-Maritimes	5	Haute-Garonne	4	Paris	2
Ardèche	28	Haute-Saône	22	Pas-de-Calais	91
Ariège	26	Haute-Savoie	41	Puy-de-Dôme	66
Aude	5	Haute-Vienne	8	Pyrénées-Atlantiques	76
Bas-Rhin	15	Hautes-Alpes	20	Pyrénées-Orientales	127
Bouches-du-Rhône	16	Hautes-Pyrénées	110	Rhône	3
Calvados	1	Hérault	58	Savoie	127
Cantal	37	Indre	44	Seine-Maritime	24
Charente	4	Indre-et-Loire	4	Seine-et-Marne	1
Corrèze	4	Isère	187	Somme	15
Corsica	121	Jura	36	Tarn	52
Côte-d'Or	56	Landes	14	Val-de-Marne	43
Doubs	51	Loire	12	Var	51
Drôme	5	Lot	2	Vienne	11
Essonne	23	Manche	6	Vosges	73
Gard	31	Marne	3	Yvelines	1
Gers	24				

lands. Moreover, the distribution of research on water mites in France is askew. The French Alps, Corsica and the Pyrénées are better examined, including hyporheic habitats, but central, northern and western are very incompletely known. France has 95 departments, but only of 59 departments water mites have been reported (Table 2). Only from four departments more than 100 species are known. From Isère and Savoie (French Alps) 187 and 127 species have been reported respectively, and from the Hautes-Pyrénées and the Pyrénées-Orientales (Pyrénées) 110 and 128 species are known respectively. Moreover, from the two departments of Corsica combined 114 species have been reported. Ten departments have species numbers between 50 and 100, from the remaining 47 departments less than 50 species are known. The water mite faunas of central, northern and western parts of France are incompletely known. In these areas especially water mites of standing waters can be found. More research on the water mites of these parts of France will undoubtedly increase the number of water mite species.

Although quite a few hyporheic water mites are known from France, recent studies (Valdecasas et al. 2005, own observations) indicate that also the hyporheic water mite fauna is more speciose than currently known. The species reported here for the first time from France derive mostly from stagnant waters: *Atractides orghidani* Motaş & Tanasachi, *Hydrachna goldfeldi* Thor, *Hydrodroma pilosa* Besseling, *Limnesia curvialpis* Tuzovskij, *Limnesia undulatoidea* Davids, *Piona ambigua* (Piersig), *Forelia curvialpis* K. Viets, *Mideopsis roztozensis* Biesiadka & Kowalik, *Arrenurus octagonus* Halbert and *Arrenurus tubulator* (Müller). Moreover, *Arrenurus affinis* Koenike is reported for the first time with certainty. These species derive mostly from casual collections or revision of material formerly published under a different name. The publication of this checklist should help to understand the major gaps in our knowledge and attract appropriate attention to this important, but underinvestigated group of invertebrates.

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