

# An annotated catalogue of the Auchenorrhyncha of Northern Europe

(Insecta, Hemiptera: Fulgoromorpha et Cicadomorpha)

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**Abstract:** An annotated catalogue of the planthoppers and leafhoppers of Northern Europe, with marked occurrences for each country (Iceland, Norway, Denmark without Greenland, Sweden, Estonia, Latvia, Lithuania) and administrative regions of adjoining Russia (Kaliningrad, Murmansk, Karelia, St. Petersburg and Pskov) is presented. The catalogue includes altogether 513 species with comments on several new species hitherto unrecorded. The recent northward expansion of some Central European species is briefly discussed.

**Zusammenfassung:** *Kommentierte Artenliste der Zikaden Nordeuropas (Insecta, Hemiptera, Fulgoromorpha et Cicadomorpha).* – Es wird eine kommentierte Artenliste der Zikaden Nordeuropas vorgelegt, mit Angaben der Nachweise für die nordischen und baltischen Staaten (Island, Norwegen, Dänemark ohne Grönland, Schweden, Estland, Lettland, Litauen) und die angrenzenden Verwaltungsregionen von Russland (Kaliningrad, Murmansk, Karelien, St. Petersburg und Pskov). Die Liste enthält 513 Arten mit einigen unveröffentlichten Neufunden. Die Nordausbreitung mitteleuropäischer Arten in jüngerer Zeit wird kurz diskutiert.

**Keywords:** faunal checklist, leafhoppers, planthoppers, Nordic and Baltic countries, Northwest Russia

## 1. Introduction

No catalogue of Northern European Auchenorrhyncha (hereafter shortly named “hoppers”) has previously been published. Existing catalogues covering parts of the area (Vilbaste 1974, Ossiannilsson 1983) have become old and new species have been found in more thorough taxonomic research and faunistic inventories. New trap-collecting techniques have increased the material in many of the countries in the 21st century and revealed a northward expanding trend of many species living in central Europe. We here intend to update the knowledge of hopper records of the countries and other administrative areas in Northern Europe and to discuss some of the expanding trends in the fauna.

## 2. Geographic concept

The concept of Northern Europe includes in this work all the Nordic countries, viz. Iceland, Norway, Sweden, Finland and Denmark (except the autonomic area of Greenland), all the Baltic countries, viz. Estonia, Latvia and Lithuania, and the adjacent Russian areas to

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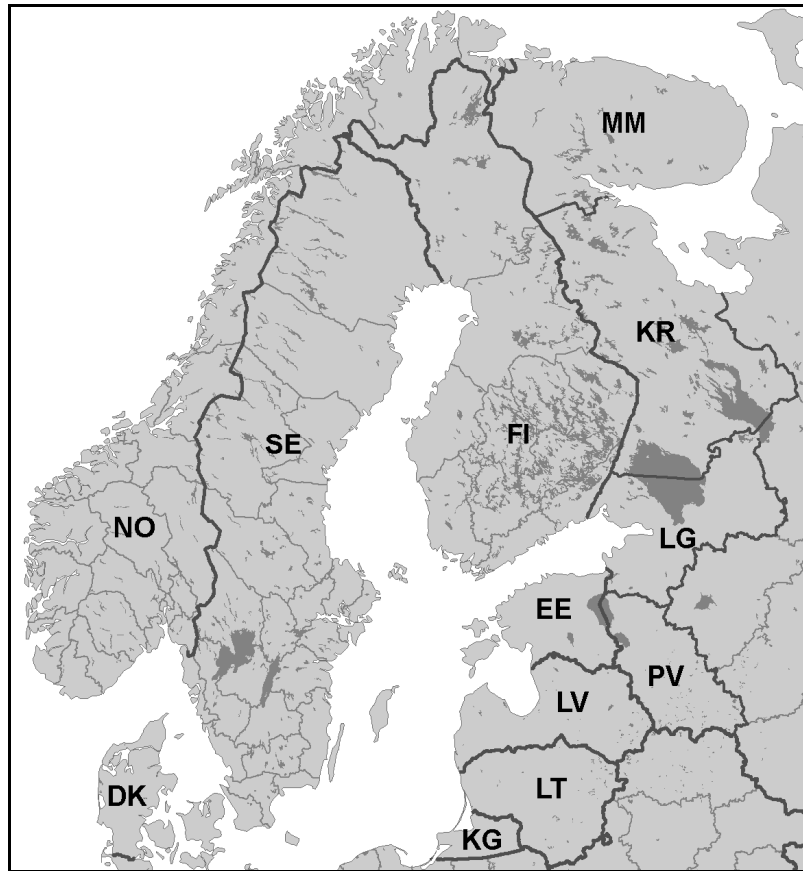


Fig. 1: Administrative areas of the catalogue, Iceland omitted. For abbreviations of geographic regions see chapter 4.1.

these previously mentioned countries, viz. the Murmansk region (oblast), Russian Karelia (autonomous republic), the Leningrad region (incl. St. Petersburg and the Isthmus of Karelia), the Pskov region (oblast) and the enclave of Kaliningrad (see Fig. 1). Byelorussia, bordering in the west to Lithuania, has been left out, because a checklist including 331 hopper species recorded in this country has quite recently been published by Borodin 2004).

### 3. Present knowledgebase

#### Iceland

No national collecting activity of hoppers has developed (Erling Olafsson, pers. comm.). Most data stem from two sources, the collecting of the Swedish entomologist C.H. Lindroth (reported by Ossiannilsson 1947b) and the German entomologist M. v. Tschirnhaus in 2001 (reported by Remane, 2005). The total known species number from Iceland thus sums only to 8.

#### Norway

The bulk of previous hopper information has been compiled by H. Holgersen (1944a, 1944b, 1945, 1946, 1954) and F. Ossiannilsson (1943, 1962, 1974, 1977, 1978, 1981, 1983). Recent collecting activities in Norway are relatively high including collecting with different

trap techniques. Publications of new species have also been frequent (Huldén 1982, Holgersen 1985, 1992, Raatikainen & Ylönen 1988, Hansen & Borgersen 1991, Olsen 1999, Hansen 2000, Endrestöl 2008). As of today 291 hopper species have been recorded.

### **Denmark**

Most hopper recordings in Denmark were made by N.P. Kristensen (1965a, 1965b) and L. Trolle (1966, 1968, 1973, 1974, 1982) and have been compiled in the appendix of Ossiannilsson's book series (1983). The recentmost list of Danish hoppers was given by L. Skipper (2001) and includes no new species since Ossiannilsson's work. Some additional records of expanding species have been published on the web. There is a very modest hopper collecting activity in Denmark at present. The known hopper number for Denmark is now 295.

### **Sweden**

The basis for hopper knowledge in Sweden has been compiled by F. Ossiannilsson (1947a, 1978, 1981, 1983). Afterwards records of new species and regional findings have been published by G. Gillerfors (2002, 2003, 2005, 2008). The recent collecting activity is low, but Swedish trapping projects have produced a substantial amount of new material of which only a part has been analysed yet. Sweden holds the highest number of recorded hoppers in Northern Europe with 417 species.

### **Finland**

Regular lists of hoppers have been produced for more than a century in Finland (Sahlberg 1871, Lindberg 1935, 1947, Linnavuori 1969a, 1969b, Huldén & Heikinheimo 1984). The latest overview was given by G. Söderman (2007). Collecting activity has increased since the establishment of the Expert Group on Hemiptera. Extensive trapping schemes including light-traps (see Söderman 2005), Malaise-traps, color-pans and pitfall-traps (see Söderman 2007) have been used in the faunistic inventories of the 21st century. The number of species recorded now amounts to 401.

### **Estonia**

The Estonian hopper fauna was surveyed for many years by Juhan Vilbaste, who started to publish a national book series of the group (1971). It was, unfortunately, never completed, but records of Estonian species were later given by him in his article on the Latvian and Lithuanian fauna (1974). In the late 20th century and in the beginning of the 21st century some Finnish entomologists have collected a small material of hoppers also from northern Estonia, but this material, located in the Zoological Museum of Helsinki, does not include many new species. Collecting activity in Estonia is nowadays modest. The number of species recorded from Estonia is now 305.

### **Latvia**

The basic knowledge of the hopper fauna was given by Velce & Danka (1970). Later, Vilbaste (1974) revised some old data and added a substantial amount of new species based on his field collecting in the 1960's. Since then only Varzinska (1983) has published on Latvian leafhoppers. The latest list published on the web (Spungis & Kalnins 2002) does not acknowledge Vilbaste's work and is therefore misleading. There is no activity on hopper research in the country. However, hopper records from pitfall trapping of the coastal grey

dunes in 2006 have recently been published (Söderman & Spungis 2008). Presently, 333 species are known from Latvia.

### **Lithuania**

Old knowledge of hoppers is found in Flor (1861) who identified material from the collections of Gimmerthal (1846). Some of Flor's records have been revised by Vilbaste (1973) who also undertook extensive field collections in Lithuania in the 1960's. The results were published much later (Vilbaste 1974). More recent data only stem from light-trapping in the Cepkeliai Nature Reserve in 2007 (Söderman & Dapkus, unpublished) and short field visits in the southeastern part of the country (Söderman & Rintala, unpublished). The species number for Lithuania is now 331.

### **Northwestern Russia**

Old information on hopper records from Northwestern Russia is difficult to find in literature because the former information base only included major subdivisions of the Soviet Union: Northwestern Russia extending east to the Komi Republic, Western Russia including the Baltic countries, and Southwestern Russia including parts of Byelorussia and Ukraine (see e.g. Emeljanov 1964). Records from parts, which in pre-war times belonged to Finland such as Petsamo in the Murmansk region (Lindberg 1932), Karelia proper and the Isthmus of Karelia (Sahlberg 1871, Lindberg 1947) are available for the subdivision used here. Furthermore, the new inventories made by Anufriev (2000a, 2000b) and Dmitriev (2002) in the Murmansk region are very useful. The number of hopper records for other different administrative regions in this catalogue is low, as present collecting interest in these regions has been low. Many of the records in the catalogue have been produced with trapping used in co-operative insect monitoring between Finland and Russia in 1993-2008. The only report of this activity has been presented by Söderman & Goltsova (2005). As of now 104 species are known from Kaliningrad, all recorded by A.P. Shapoval & Söderman in 2007-2008, 108 from the Murmansk area, 192 from Russian Karelia, 171 from the Leningrad region and 109 from the Pskov region.

## **4. The catalogue**

### **4.1 Introductory remarks**

Nomenclature and systematics mainly follow Nast (1987) with some later amendments of Nickel (2003) and others. Species records in the areas have been marked with "X". Countries and regions in column heads are given as internationally accepted abbreviations, viz. IC = Iceland, NO = Norway, DK = Denmark (without Greenland), SE = Sweden, FI = Finland, EE = Estonia, LV = Latvia, LT = Lithuania, KG = Kaliningrad, MM = Murmansk, KR = Karelia, LG = St. Petersburg and the Leningrad region and PV = Pskov. Records of uncertainty have been marked with an additional question mark in the respective columns.



No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
21	<i>Anakelisia perspicillata</i> (Boheman, 1845)	.	.	X	X	X	X	X	.	.	.	.	.	.
	<b>Stenocraninae Wagner, 1963</b>													
22	<i>Stenocranus fuscovittatus</i> (Stål, 1858)	.	.	.	.	X	X	X	.	.	.	.	.	.
23	<i>Stenocranus major</i> (Kirschbaum, 1868)	.	X	X	X	X	.	X	.	.	.	.	X	X
24	<i>Stenocranus minutus</i> (Fabricius, 1787)	.	X	X	X	X	X	X	X	X	.	.	X	X
	<b>Delphacinae Wagner, 1963</b>													
	<b>Delphacini Leach, 1815</b>													
25	<i>Acanthodelphax denticauda</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	X	X	X	.
26	<i>Acanthodelphax spinosa</i> (Fieber, 1866)	.	.	.	X	X	X	X	X	.	.	.	.	X
27	<i>Achorotile albosignata</i> (Dahlbom, 1850)	.	X	X <sup>?</sup>	X	X	.	.	.	.	X	X	X	.
28	<i>Achorotile longicornis</i> (J. Sahlberg, 1871)	.	.	.	.	X	.	.	.	.	.	X	.	.
29	<i>Calligypona reyi</i> (Fieber, 1866)	.	.	X	X	X	X	.	.	.	.	.	.	.
30	<i>Chloriona chinai</i> Ossiannilsson, 1946	.	.	.	X	X	X	X	.	.	.	X	.	.
31	<i>Chloriona dorsata</i> Edwards, 1898	.	.	X	X	.	.	X	X	.	.	.	.	.
32	<i>Chloriona glaucescens</i> Fieber, 1866	.	X	X	X	X	X	X	.	.	.	.	.	.
33	<i>Chloriona smaragdula</i> (Stål, 1853)	.	X	X	X	X	X	X	X	.	X	X	.	.
34	<i>Chloriona stenoptera</i> (Flor, 1861)	.	.	.	.	.	X	X	.	.	.	.	.	.
35	<i>Chloriona vasconica</i> Ribaut, 1934	.	.	X	X	.	.	X	.	.	.	.	.	.
36	<i>Conomelus anceps</i> (Germar, 1821)	.	X	X	X	X	X	X	X	.	.	.	X	.
37	<i>Criomorphus albomarginatus</i> Curtis, 1833	.	X	X	X	X	X	X	X	.	.	X	.	X
38	<i>Criomorphus borealis</i> (J. Sahlberg, 1871)	.	X	.	X	X	X	X	.	.	X	X	X	.
39	<i>Criomorphus moestus</i> (Boheman, 1847)	.	.	.	X	X	X	X	.	.	.	X	X	.
40	<i>Delphacinus mesomelas</i> (Boheman, 1850)	.	.	X	X	X	X	X	X	.	.	.	.	.
41	<i>Delphacodes capnodes</i> (Scott, 1870)	.	.	.	X	X	X	.	.	.	.	.	.	.
42	<i>Delphacodes venosus</i> (Germar, 1830)	.	X	X	X	X	X	X	.	.	.	X	X	.
43	<i>Delphax crassicornis</i> (Panzer, 1796)	.	.	X	X	X	X	X	X	.	.	X	.	X
44	<i>Delphax pulchellus</i> (Curtis, 1833)	.	X	X	X	X	X	.	X	.	.	.	.	.



No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
72	<i>Megadelphax sordidula</i> (Stål, 1853)	.	.	.	X	X	X	X	.	.	.	X	.	.
73	<i>Megamelodes quadrimaculatus</i> (Signoret, 1865)	.	.	X	.	.	.	.	.	.	.	.	.	.
74	<i>Megamelus notula</i> (Germar, 1830)	.	X	X	X	X	X	X	X	.	X	X	X	.
75	<i>Muellerianella brevipennis</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	.	X	X	.
76	<i>Muellerianella extrusa</i> (Scott, 1871)	.	X	X	X	X	.	.	.	.	.	.	.	.
77	<i>Muellerianella fairmairei</i> (Perris, 1857)	.	X	X	X	X	X	X	X	.	.	.	.	.
78	<i>Muirodelphax aubei</i> (Perris, 1857)	.	.	X	X	X	X	X	X	.	.	.	.	.
79	<i>Nothodelphax albocarinata</i> (Stål, 1858)	.	.	.	X	X	X	X	.	.	X	.	.	.
80	<i>Nothodelphax distincta</i> (Flor, 1861)	.	X	X	X	X	X	X	X	.	.	.	.	.
81	<i>Oncodelphax pullula</i> (Boheman, 1852)	.	X	X	X	X	X	X	X	.	.	X	X	.
82	<i>Paradelphacodes litoralis</i> (Reuter, 1880)	.	.	.	.	X	.	.	.	.	.	.	.	.
83	<i>Paradelphacodes paludosa</i> (Flor, 1861)	.	.	X	X	X	X	X	X	.	.	X	.	.
84	<i>Paraliburnia adela</i> (Flor, 1861)	.	.	X	X	X	X	X	X	.	.	.	.	X
85	<i>Paraliburnia chypealis</i> (J. Sahlberg, 1871)	.	.	.	X	X	.	.	.	.	.	.	.	.
86	<i>Ribautodelphax albostriata</i> (Fieber, 1861)	.	X	.	X	X	X	X	X	.	X	X	X	.
87	<i>Ribautodelphax angulosa</i> (Ribaut, 1953)	.	.	X	X	X	.	X	.	.	.	.	.	.
88	<i>Ribautodelphax collina</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	.	X	.	.
89	<i>Ribautodelphax pallens</i> (Stål, 1854)	.	X	.	X	X	X	X	X	X	X	X	.	.
90	<i>Ribautodelphax pungens</i> (Ribaut, 1953)	.	.	.	X	.	.	.	.	.	.	.	.	.
91	<i>Ribautodelphax vinealis</i> Bieman, 1987	.	X	.	.	X	.	.	.	.	.	.	.	.
92	<i>Stiroma affinis</i> Fieber, 1866	.	X	X	X	X	X	X	X	.	X	X	.	.
93	<i>Stiroma bicarinata</i> (Herrich-Schäffer, 1835)	.	X	X	X	X	X	X	X	.	X	X	X	X
94	<i>Stiromella obliqua</i> (Wagner, 1948)	.	.	.	.	.	X	X	.	.	.	.	.	.
95	<i>Stiromoides maculiceps</i> (Horváth, 1903)	.	.	.	.	X	X	.	.	.	.	.	.	.
96	<i>Struebingianella lugubrina</i> (Boheman, 1847)	.	.	X	X	X	X	X	X	.	.	X	X	.
97	<i>Unkanodes excisa</i> (Melichar, 1898)	.	X	X	X	X	X	X	X	X	.	.	X	.
98	<i>Xanthodelphax flaveola</i> (Flor, 1861)	.	X	X	X	X	X	X	X	.	.	X	.	X



No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
99	<i>Xanthodelphax straminea</i> (Stål, 1858)	.	.	X	X	X	X	X	X	.	.	X	X	.
100	<i>Xanthodelphax xantha</i> Vilbaste, 1965	.	.	.	.	X	.	X	.	.	.	.	.	.
<b>ACHILIDAE Stål, 1866</b>														
101	<i>Cixidia confinis</i> (Zetterstedt, 1838)	.	X	.	X	X	X	.	X	.	.	.	.	.
102	<i>Cixidia lapponica</i> (Zetterstedt, 1838)	.	X	.	X	X	.	.	.	.	.	X	.	.
<b>TETTIGOMETRIDAE Germar, 1821</b>														
103	<i>Tettigometra atra</i> Hagenback, 1825	.	.	.	.	.	X	X	X	.	.	.	.	.
<b>CALISCELIDAE Amyot &amp; Serville, 1834</b>														
<b><i>Ommatidiotini</i> Fieber, 1875</b>														
104	<i>Ommatidiotus dissimilis</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	.	X	X	.
105	<i>Ommatidiotus inconspicuus</i> Stål, 1863	.	.	.	.	X	.	.	.	.	.	.	.	.
<b>ISSIDAE Spinola, 1839</b>														
<b><i>Issini</i> Spinola, 1839</b>														
106	<i>Issus muscaeformis</i> (Schrank, 1781)	.	X	X	X	.	.	.	.	.	.	.	.	.
<b>C I C A D O M O R P H A Evans, 1946</b>														
<b>CICADIDAE Latreille, 1802</b>														
<b>Tibicininae Distant, 1905</b>														
107	<i>Cicadetta montana</i> (Scopoli, 1772)	.	X	.	X	X	.	.	.	.	.	X	X	.
<b>APHROPHORIDAE Amyot &amp; Serville, 1843</b>														
108	<i>Aphrophora alni</i> (Fallén, 1805)	.	X	X	X	X	X	X	X	X	.	X	X	X
109	<i>Aphrophora corticea</i> Germar, 1821	.	X	.	X	.	.	.	.	.	.	.	.	.
110	<i>Aphrophora major</i> Uhler, 1896	.	.	.	.	.	.	.	X	.	.	.	X	.
111	<i>Aphrophora pectoralis</i> Matsumura, 1903	.	X	.	X	X	X	X	X	X	.	.	X	X
112	<i>Aphrophora salicina</i> (Goeze, 1778)	.	X	X	X	X	X	X	X	.	.	.	.	X
113	<i>Lepyronia coleoptrata</i> (Linnaeus, 1758)	.	X	X	X	X	X	X	X	.	.	X	.	.
114	<i>Neophilaenus albipennis</i> (Fabricius, 1798)	.	.	.	.	.	X	.	.	.	.	.	.	.

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
115	<i>Neophilaenus campestris</i> (Fallén, 1805)	.	.	X	X	.	X	X	X	.	.	.	X	.
116	<i>Neophilaenus exclamationis</i> (Thunberg, 1784)	.	X	X	X	X	X	X	X	.	X	X	X	.
117	<i>Neophilaenus lineatus</i> (Linnaeus, 1758)	.	X	X	X	X	X	X	X	X	X	X	X	.
118	<i>Neophilaenus minor</i> (Kirschbaum, 1868)	.	.	.	.	X	.	X	X	.	.	.	.	.
119	<i>Peuceptyelus coriaceus</i> (Fallén, 1826)	.	.	.	.	X	X	X	X	.	.	X	X	.
120	<i>Philaenus spumarius</i> (Linnaeus, 1758)	X	X	X	X	X	X	X	X	X	X	X	X	.
<b>MEMBRACIDAE Rafinesque, 1815</b>														
121	<i>Centrotus cornutus</i> (Linnaeus, 1758)	.	X	X	X	X	X	X	X	.	.	X	X	.
122	<i>Gargara genistae</i> (Fabricius, 1775)	.	.	X	.	.	.	X	.	.	.	.	.	.
<b>CICADELLIDAE Latreille, 1825</b>														
<b>Agalliinae Kirkaldy, 1901</b>														
123	<i>Agallia brachyptera</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	.	X	X	.
124	<i>Agallia consobrina</i> Curtis, 1833	.	.	X	X	.	.	.	.	.	.	.	.	.
125	<i>Anaceratagallia estonica</i> Vilbaste, 1959	.	.	.	.	X	X	X	.	.	.	.	.	.
126	<i>Anaceratagallia lithuanica</i> Vilbaste, 1974	.	.	.	.	X	.	X	X	.	.	.	.	X
127	<i>Anaceratagallia ribauti</i> (Ossiannilsson, 1938)	.	X	X	X	X	X	X	X	.	.	.	.	.
128	<i>Anaceratagallia venosa</i> (Fourcroy, 1785)	.	X	X	X	X	X	X	X	X	X	X	X	.
<b>Aphrodinae Haupt, 1927</b>														
129	<i>Anoscopus albifrons</i> (Linnaeus, 1758)	.	X	X	X	X	.	X	.	.	.	X	X	.
130	<i>Anoscopus albiger</i> (Germar, 1821)	.	.	X	X	.	X	X	.	X	.	.	.	.
131	<i>Anoscopus flavostriatus</i> (Donovan, 1799)	.	X	X	X	X	X	X	X	X	.	X	X	.
132	<i>Anoscopus bistrionicus</i> (Fabricius, 1794)	.	X	X	X	X	.	X	X	.	.	.	X	.
133	<i>Anoscopus limicola</i> Edwards, 1908	.	X	.	X	.	.	.	.	.	.	.	.	.
134	<i>Anoscopus serratulae</i> (Fabricius, 1775)	.	.	X	X	.	X	X	X	.	.	.	.	.
135	<i>Aphrodes bicincta</i> (Schrank, 1776)	.	X	X	X	X	X	X	X	X	.	.	.	.
136	<i>Aphrodes diminuta</i> Ribaut, 1952	.	X	.	X	X	X	X?	X	.	.	.	.	.
137	<i>Aphrodes makarovi</i> Zachvatkin, 1948	.	X	X	X	X	X	X	X	X	.	X	X	.



No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
161	<i>Populicerus albicans</i> Kirschbaum, 1868	.	.	X	X	X	.	X	X	.	.	.	.	.
162	<i>Populicerus confusus</i> Flor, 1861	.	X	X	X	X	X	X	X	.	.	X	X	X
163	<i>Populicerus laminatus</i> Flor, 1861	.	X	X	X	X	X	X	.	X	.	X	X	X
164	<i>Populicerus nitidissimus</i> (Herrich-Schäffer, 1835)	.	X	X	X	X	.	.	X	.	X	.	.	.
165	<i>Populicerus populi</i> (Linnaeus, 1761)	.	X	X	X	X	X	X	X	X	X	X	X	X
166	<i>Rhytidodus decimusquartus</i> (Schränk, 1776)	.	X	.	X	.	.	.	X	X	.	.	.	.
167	<i>Sahlbergotettix salicicola</i> (Flor, 1861)	.	.	.	.	X	X	.	.	.	.	.	.	.
168	<i>Stenidiocerus poecilus</i> (Herrich-Schäffer, 1835)	.	X	.	X	X	.	X	X	.	.	.	.	.
169	<i>Tremulicerus distinguendus</i> (Kirschbaum, 1868)	.	.	X	X	X	.	.	X	X	.	.	.	.
170	<i>Tremulicerus fulgidus</i> Fabricius, 1775	.	X	.	X	.	.	.	X	.	.	.	.	.
171	<i>Tremulicerus tremulae</i> (Estlund, 1796)	.	X	X	X	X	.	X	X	.	.	X	X	.
172	<i>Tremulicerus vitreus</i> (Fabricius, 1803) <i>sensu</i> Ribaut	.	.	X	X	.	.	.	.	.	.	.	.	.
173	<i>Viridicerus ustulatus</i> (Mulsant & Rey, 1855)	.	.	.	X	.	.	.	X	.	.	.	.	.
<b>Ledrinae Kirschbaum, 1868</b>														
174	<i>Ledra aurita</i> (Linnaeus, 1758)	.	X	X	X	.	.	.	.	.	.	.	.	.
<b>Macropsinae Evans, 1935</b>														
175	<i>Hephathus achilleae</i> Mitjaev, 1967	.	.	.	.	X	X	X	X	.	.	X	X	.
176	<i>Macropsidius sahlbergi</i> (Flor, 1861)	.	.	.	.	X	X	X	X	.	.	.	.	.
177	<i>Macropsis albae</i> Wagner, 1950	.	.	.	.	X	X	X	X	.	.	.	.	.
178	<i>Macropsis cerea</i> (Germar, 1837)	.	X	X	X	X	X	X	X	.	.	X	X	.
179	<i>Macropsis flavida</i> Vilbaste, 1980	.	.	.	.	X	.	.	.	.	.	.	.	.
180	<i>Macropsis fuscineris</i> (Boheman, 1845)	.	X	X	X	X	X	X	X	.	.	X	.	X
181	<i>Macropsis fuscula</i> (Zetterstedt, 1828)	.	X	X	X	X	X	X	X	.	.	X	X	.
182	<i>Macropsis glandacea</i> (Fieber, 1868)	.	.	.	.	.	.	.	X	.	.	.	.	.
183	<i>Macropsis graminea</i> (Fabricius, 1798)	.	X	.	X	.	.	.	.	.	.	.	.	.
184	<i>Macropsis gravesteini</i> Wagner, 1953	.	.	.	.	X	.	.	.	.	.	.	.	.
185	<i>Macropsis impura</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	X	.	.	.





No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
235	<i>Kybos lindbergi</i> (Linnavuori, 1951)	.	X	.	X	X	X	X	.	.	X	X	X	X
236	<i>Kybos mucronatus</i> (Ribaut, 1933)	.	.	.	.	.	.	X	.	X	.	.	.	.
237	<i>Kybos populi</i> (Edwards, 1908)	.	X	X	X	X	X	X	X	X	.	.	X	X
238	<i>Kybos rufescens</i> Melichar, 1896	.	.	X	X	X	.	.	.	.	.	.	.	X
239	<i>Kybos smaragdula</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	X	X	X	X
240	<i>Kybos sordidulus</i> (Ossiannilsson, 1941)	.	X	.	X	X	.	.	.	.	X	X	.	X
241	<i>Kybos strigilifer</i> (Ossiannilsson, 1941)	.	X	X	X	X	X	X	.	.	.	X	.	.
242	<i>Kybos virgator</i> (Ribaut, 1933)	.	X	X	X	X	.	X	X	.	X	.	.	.
243	<i>Kybos volgensis</i> Vilbaste, 1961	.	.	.	X	X	.	.	.	.	.	.	.	.
<b><i>Erythroneurini Young, 1952</i></b>														
244	<i>Alnetoidia alneti</i> (Dahlbom, 1850)	.	X	X	X	X	X	X	X	X	.	X	X	X
245	<i>Arboridia erecta</i> (Ribaut, 1931)	.	.	.	.	.	.	X	.	.	.	.	.	.
246	<i>Arboridia parvula</i> (Boheman, 1845)	.	X	X	X	X	.	.	.	.	.	X	X	X
247	<i>Arboridia ribauti</i> (Ossiannilsson, 1937)	.	.	.	.	.	.	X	X	.	.	.	.	.
248	<i>Arboridia velata</i> (Ribaut, 1952)	.	.	.	.	.	.	.	X	.	.	.	.	.
249	<i>Hauptidia distinguenda</i> (Kirschbaum, 1868)	.	.	.	X	.	.	.	.	.	.	.	.	.
250	<i>Zygina angusta</i> Lethierry, 1874	.	X	.	X	X	.	.	X	X	.	.	.	.
251	<i>Zygina flammigera</i> (Geoffroy, 1785)	.	X	X	X	X	X	X	X	X	.	X	X	X
252	<i>Zygina hyperici</i> (Herrich-Schäffer, 1836)	.	X	X	X	X	X	X	X	.	.	X	.	X
253	<i>Zygina nigratarsis</i> Remane, 1994	.	.	.	.	X	.	.	.	.	.	.	X	X
254	<i>Zygina ordinaria</i> (Ribaut, 1936)	.	.	X	X	X	X	X	X	.	.	.	X	X
255	<i>Zygina rosea</i> (Flor, 1861)	.	X	.	X	X	X	X	.	.	.	X	X	.
256	<i>Zygina rosincola</i> (Cerutti, 1939)	.	X	X	X	X	.	.	.	.	.	.	.	.
257	<i>Zygina rubrovittata</i> (Lethierry, 1869)	.	X	X	X	X	X	X	X	X	.	.	.	.
258	<i>Zygina salicina</i> Mitjaev, 1975	.	.	X	.	.	.	.	.	.	.	.	.	.
259	<i>Zygina schneideri</i> (Günthart, 1974)	.	X	.	X	X	.	.	.	.	.	.	.	.
260	<i>Zygina suavis</i> Rey, 1891 <i>sensu</i> Ossiannilsson	.	.	.	X	X	X	X	X	.	.	.	.	.

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
261	<i>Zygina tiliae</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	.	.	X	X	X
262	<i>Zyginidia mocsaryi</i> (Horváth, 1910)	.	.	.	X	.	X	X	.	.	.	.	.	.
263	<i>Zyginidia pullula</i> (Boheman, 1845)	.	.	X	X	X	.	.	.	.	.	.	.	.
264	<i>Zyginidia viaduensis</i> (Wagner, 1941)	.	.	.	.	.	X	X	X	.	.	.	.	.
<b><i>Typhlocybini Kirschbaum, 1868</i></b>														
265	<i>Aguriabana pictilis</i> (Stål, 1853)	.	X	X	X	X	X	X	X	.	.	X	.	.
266	<i>Aguriabana stellulata</i> (Burmeister, 1841)	.	X	X	X	X	.	X	X	X	.	X	.	.
267	<i>Edwardsiana alnicola</i> (Edwards, 1924)	.	X	X	X	X	X	X	.	.	.	.	.	X
268	<i>Edwardsiana ampliata</i> (Wagner, 1947)	.	.	.	.	X	.	X	X	.	.	.	.	.
269	<i>Edwardsiana avellanae</i> (Edwards, 1888)	.	.	X	X	X	X	X	X	.	.	.	.	.
270	<i>Edwardsiana bergmani</i> (Tullgren, 1916)	.	X	X	X	X	X	X	X	.	X	X	X	X
271	<i>Edwardsiana candidula</i> (Kirschbaum, 1868)	.	.	.	X	X	.	X	X	.	.	.	.	.
272	<i>Edwardsiana crataegi</i> (Douglas, 1876)	.	X	X	X	X	.	.	.	.	.	.	X	X
273	<i>Edwardsiana diversa</i> (Edwards, 1914)	.	.	.	X	.	.	.	.	.	.	.	.	.
274	<i>Edwardsiana flavescens</i> (Fabricius, 1794)	.	.	X	X	.	.	.	X	.	.	.	.	.
275	<i>Edwardsiana frustator</i> (Edwards, 1908)	.	X	X	X	X	.	.	X	.	.	.	.	.
276	<i>Edwardsiana geometrica</i> (Schränk, 1801)	.	X	X	X	X	X	X	X	X	.	X	X	X
277	<i>Edwardsiana gratiosa</i> (Boheman, 1852)	.	.	X	X	X	X	X	X	.	.	.	.	X
278	<i>Edwardsiana ishidai</i> (Matsumura, 1932)	.	X	X	X	X	.	.	.	.	.	.	.	.
279	<i>Edwardsiana kemneri</i> (Ossiannilsson, 1942)	.	.	.	X	.	.	.	.	.	.	.	.	.
280	<i>Edwardsiana lanternae</i> (Wagner, 1937)	.	.	.	X	X	.	.	.	.	.	.	.	X
281	<i>Edwardsiana lethierryi</i> (Edwards, 1881)	.	X	.	X	X	.	.	X	.	.	.	.	.
282	<i>Edwardsiana menzbieri</i> Zachvatkin, 1948	.	X	.	X	X	.	X	X	.	X	X	.	X
283	<i>Edwardsiana nigriloba</i> (Edwards, 1924)	.	.	.	X	.	.	.	.	.	.	.	.	.
284	<i>Edwardsiana plebeja</i> (Edwards, 1914)	.	X	X	X	X	.	X	X	.	.	.	.	.
285	<i>Edwardsiana plurispinosa</i> (Wagner, 1935)	.	X	.	X	X	.	.	X	.	.	.	.	.
286	<i>Edwardsiana prunicola</i> (Edwards, 1914)	.	X	X	X	X	X	X	X	.	.	.	.	X



No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
287	<i>Edwardsiana rosae</i> (Linnaeus, 1958)	.	X	X	X	X	X	X	X	X	.	.	X	X
288	<i>Edwardsiana salicicola</i> (Edwards, 1885)	.	X	X	X	X	X	X	X	.	.	.	.	.
289	<i>Edwardsiana sociabilis</i> (Ossiannilsson, 1936)	.	X	X	X	X	.	.	.	.	.	.	X	X
290	<i>Edwardsiana soror</i> (Linnavuori, 1950)	.	X	.	X	X	X	X	X	X	.	.	.	X
291	<i>Edwardsiana spinigera</i> (Edwards, 1924)	.	.	.	.	.	X	.	.	.	.	.	.	.
292	<i>Edwardsiana staminata</i> (Ribaut, 1931)	.	X	.	X	.	.	X	X	.	.	.	X	.
293	<i>Edwardsiana stebliki</i> Lauterer, 1958	.	.	.	X	X	.	.	.	.	.	.	.	.
294	<i>Edwardsiana tersa</i> (Edwards, 1914)	.	X	X	X	X	.	.	X	.	.	.	.	.
295	<i>Edwardsiana ulmiphagus</i> Wilson & Claridge, 1999	.	.	X	X	X	.	.	X	.	.	.	.	.
296	<i>Eupterycyba jucunda</i> (Herrich-Schäffer, 1837)	.	X	X	X	X	X	X	X	.	.	.	.	.
297	<i>Eupteryx adspersa</i> (Herrich-Schäffer, 1838)	.	.	X <sup>?</sup>	.	.	.	.	X	.	.	.	.	.
298	<i>Eupteryx artemisiae</i> (Kirschbaum, 1868)	.	.	X	X	.	.	.	.	.	.	.	.	.
299	<i>Eupteryx atropunctata</i> (Goeze, 1778)	.	X	X	X	X	X	X	X	X	.	X	X	X
300	<i>Eupteryx aurata</i> (Linnaeus, 1758)	.	X	X	X	X	X	X	X	.	.	X	.	X
301	<i>Eupteryx calcarata</i> Ossiannilsson, 1936	.	X	X	X	X	X	X	X	X	.	.	X	X
302	<i>Eupteryx collina</i> (Flor, 1861)	.	.	.	.	X	.	X	X	.	.	.	.	.
303	<i>Eupteryx cyclops</i> Matsumura, 1906	.	X	X	X	X	.	X	X	X	X	X	X	X
304	<i>Eupteryx decemnotata</i> Rey, 1891	.	.	X	X	X	.	.	.	.	.	.	.	.
305	<i>Eupteryx florida</i> Ribaut, 1936	.	.	X	X	.	.	.	.	X	.	.	.	.
306	<i>Eupteryx heydenii</i> (Kirschbaum, 1868)	.	.	X	.	.	.	X	.	.	.	.	.	.
307	<i>Eupteryx notata</i> Curtis, 1837	.	X	X	X	X	X	X	X	X	X	X	X	X
308	<i>Eupteryx origani</i> Zachvatkin, 1948	.	.	.	X	X	X	X	X	.	.	.	.	X
309	<i>Eupteryx signatipennis</i> (Boheman, 1847)	.	X	X	X	X	X	X	X	.	.	X	.	X
310	<i>Eupteryx stachydearum</i> (Hardy, 1850)	.	X	X	X	X	X	X	X	.	.	.	.	.
311	<i>Eupteryx tenella</i> (Fallén, 1806)	.	X	.	X	X	X	X	X	X	.	X	X	X
312	<i>Eupteryx thoulessi</i> Edwards, 1926	.	.	X	X	.	.	.	.	.	.	.	.	.
313	<i>Eupteryx urticae</i> (Fabricius, 1803)	.	X	X	X	X	X	X	X	.	.	.	.	X

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
314	<i>Eupteryx vittata</i> (Linnaeus, 1758)	.	X	X	X	X	X	X	X	X	X	X	.	X
315	<i>Eurhadina concinna</i> (Germar, 1831)	.	X	X	X	X	X	X	X	.	.	.	.	.
316	<i>Eurhadina kirschbaumi</i> Wagner, 1837	.	X	.	X	X	.	X	X	.	.	.	.	.
317	<i>Eurhadina loewii</i> (Then, 1886)	.	.	X	X	.	X	.	.	.	.	.	.	.
318	<i>Eurhadina pulchella</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	.	X	X	X
319	<i>Eurhadina ribauti</i> Wagner, 1935	.	X	X	X	X	.	.	.	.	.	.	.	.
320	<i>Eurhadina saageri</i> Wagner, 1937	.	.	.	.	.	.	X	X	.	.	.	.	.
321	<i>Fagocyba carri</i> (Edwards, 1914)	.	X	X	X	X	.	X	X	.	.	.	.	.
322	<i>Fagocyba cruenta</i> (Herrich-Schäffer, 1838)	.	X	X	X	X	X	X	X	X	.	.	.	X
323	<i>Linnavuoriana decempunctata</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	.	X	.	X	X
324	<i>Linnavuoriana intercedens</i> (Linnavuori, 1949)	.	X	.	X	X	.	.	.	.	.	X	X	X
325	<i>Linnavuoriana sexmaculata</i> (Hardy, 1850)	.	X	X	X	X	X	X	X	.	X	X	X	X
326	<i>Ossianilssonola callosa</i> (Then, 1886)	.	.	X	X	.	.	.	.	.	.	.	.	.
327	<i>Ribautiana scalaris</i> (Ribaut, 1931)	.	X	X	X	.	.	.	.	.	.	.	.	.
328	<i>Ribautiana tenerrima</i> (Herrich-Schäffer, 1834)	.	X	X	X	.	.	.	X	X	.	.	.	.
329	<i>Ribautiana ulmi</i> (Linnaeus, 1758)	X	X	X	X	X	X	X	X	X	.	.	X	.
330	<i>Typhlocyba quercus</i> (Fabricius, 1777)	.	X	X	X	X	X	X	X	.	.	.	X	X
331	<i>Wagneripteryx germari</i> (Zetterstedt, 1840)	.	X	X	X	X	X	X	X	X	X	X	X	.
332	<i>Zonocyba bifasciata</i> (Boheman, 1851)	.	.	X	X	X	X	X	X	.	.	.	.	.
333	<i>Zyginella pulchra</i> P. Löw, 1885	.	.	X	X	.	.	.	.	.	.	.	.	.
<b><i>Ulopinæ Le Peletier &amp; Serville, 1825</i></b>														
334	<i>Ulopa reticulata</i> (Fabricius, 1784)	.	X	X	X	X	X	X	X	X	X	X	.	.
335	<i>Utecha trivialis</i> (Germar, 1821)	.	.	.	.	.	.	.	X	.	.	.	.	.
<b><i>Deltocephalinae Fieber, 1869</i></b>														
<b><i>Athysanini Van Duzee, 1892</i></b>														
336	<i>Allygidius commutatus</i> (Fieber, 1872)	.	X	X	X	X	X	X	X	.	.	X	X	.
337	<i>Allygus communis</i> (Ferrari, 1882)	.	X	X	X	.	.	.	X	.	.	.	.	.

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
338	<i>Allygus maculatus</i> Ribaut, 1948	.	.	X	X	.	.	.	.	.	.	.	.	.
339	<i>Allygus mixtus</i> (Fabricius, 1794)	.	X	X	X	X	X	X	X	X	.	X	X	X
340	<i>Allygus modestus</i> Scott, 1876	.	.	X	X	.	.	.	X	.	.	.	.	.
341	<i>Athysanus argentarius</i> Metcalf, 1955	.	X	X	X	X	X	X	X	X	.	.	.	.
342	<i>Athysanus quadrum</i> Boheman, 1845	.	X	X	X	X	X	X	X	.	.	.	X	.
343	<i>Cicadula albingensis</i> Wagner, 1940	.	X	.	.	X	X	.	X	.	.	.	.	.
344	<i>Cicadula ciliata</i> (Osborne, 1898)	.	.	.	.	X	.	.	.	.	.	.	.	.
345	<i>Cicadula flori</i> (J. Sahlberg, 1871)	.	.	X	X	X	X	X	X	.	.	X	X	X
346	<i>Cicadula frontalis</i> (Herrich-Schäffer, 1835)	.	.	X	X	X	X	X	X	X	.	.	.	X
347	<i>Cicadula intermedia</i> (Boheman, 1845)	.	X	.	X	X	X	.	.	.	X	X	.	.
348	<i>Cicadula rubroflava</i> Linnavuori, 1952	.	.	.	.	X	X	X	X	.	.	.	.	X
349	<i>Cicadula nigricornis</i> (J. Sahlberg, 1871)	.	.	.	X	X	X	X	X	.	.	.	X	.
350	<i>Cicadula ornata</i> (Melichar, 1900)	.	X	.	X	X	X	X	.	.	.	.	.	X
351	<i>Cicadula persimilis</i> (Edwards, 1920)	.	X	X	X	X	X	X	X	.	.	X	X	X
352	<i>Cicadula quadrinotata</i> (Fabricius, 1794)	X	X	X	X	X	X	X	X	X	X	X	X	X
353	<i>Cicadula quinquenotata</i> (Boheman, 1845)	.	X	X	X	X	X	X	.	.	.	X	X	.
354	<i>Cicadula saturata</i> (Edwards, 1915)	.	X	X	X	X	X	X	X	.	.	X	.	.
355	<i>Colladonus torneellus</i> (Zetterstedt, 1828)	.	X	X	X	X	X	X	X	.	X	X	.	.
356	<i>Colobotettix morbillosus</i> (Melichar, 1896)	.	.	.	.	X	.	.	.	.	.	.	.	.
357	<i>Conosanus obsoletus</i> (Kirschbaum, 1858)	.	X	X	X	.	X	X	X	.	.	.	.	.
358	<i>Doliotettix lunulatus</i> (Zetterstedt, 1840)	.	X	.	X	X	X	X	X	.	X	X	.	X
359	<i>Ederranus discolor</i> (J. Sahlberg, 1871)	.	.	.	.	X	.	.	.	.	.	X	X	X
360	<i>Ederranus sachalinensis</i> (Matsumura, 1911)	.	.	.	.	X	.	.	.	.	.	.	.	.
361	<i>Elymana kozhevnikovi</i> (Zachvatkin, 1938)	.	.	.	X	X	X	X	X	.	.	.	X	X
362	<i>Elymana sulphurella</i> (Zetterstedt, 1828)	.	X	X	X	X	X	X	X	X	X	X	X	X
363	<i>Euscelidius schenckii</i> (Kirschbaum, 1868)	.	X	X	X	X	X	X	X	.	.	X	X	.
364	<i>Euscelis distinguendus</i> (Kirschbaum, 1858)	.	X	.	X	X	X	X	X	.	.	X	.	.

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
365	<i>Euscelis incisus</i> (Kirschbaum, 1858)	.	.	X	X	.	.	.	X	X	.	.	.	.
366	<i>Euscelis obausi</i> Wagner, 1939	.	.	X	.	.	.	.	.	.	.	.	.	.
367	<i>Euscelis venosus</i> (Kirschbaum, 1868)	.	.	.	.	.	.	X	.	.	.	.	.	.
368	<i>Graphocraerus ventralis</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	.	X	X	.
369	<i>Handianus flavovarius</i> (Herrich-Schäffer, 1835)	.	.	.	.	.	X	X	X	.	.	.	.	.
370	<i>Hardya signifier</i> (Then, 1897)	.	.	.	.	.	.	.	X	.	.	.	.	.
371	<i>Hardya tenuis</i> (Germar, 1821)	.	.	.	X	X	.	X?	X	.	.	X	X	.
372	<i>Hesium domino</i> (Reuter, 1880)	.	X	.	X	X	X	X	X	X	.	X	X	X
373	<i>Idiodonus cruentatus</i> (Panzer, 1799)	.	X	X	X	X	X	X	X	.	X	X	X	.
374	<i>Laburrus impictifrons</i> (Boheman, 1852)	.	.	X	X	X	X	X	X	X	.	.	X	.
375	<i>Lamprotettix nitidulus</i> (Fabricius, 1787)	.	.	X	X	.	X	X	X	X	.	.	.	.
376	<i>Limotettix aviger</i> Emeljanov, 1966	.	.	.	.	.	.	.	.	.	.	.	.	X
377	<i>Limotettix atricapillus</i> (Boheman, 1845)	.	X	.	X	X	X	.	X	.	.	X	.	.
378	<i>Limotettix ochrifrons</i> Vilbaste, 1973	.	.	.	.	X	X	X	X	.	.	.	.	.
379	<i>Limotettix sphagneticus</i> Emeljanov, 1964	.	.	.	.	X	X	X	X	.	.	X	.	.
380	<i>Limotettix striola</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	X	X	X	X
381	<i>Macustus grisescens</i> (Zetterstedt, 1828)	.	X	X	X	X	X	X	X	.	X	X	X	X
382	<i>Mocydiopsis attenuata</i> (Germar, 1821)	.	.	X	X	.	.	.	.	.	.	.	.	.
383	<i>Mocydiopsis parvicauda</i> Ribaut, 1939	.	.	.	X	.	.	.	.	.	.	.	.	.
384	<i>Ophiola cornicula</i> Marshall, 1866	.	.	.	X	X	X	X	X	.	X	X	X	.
385	<i>Ophiola decumana</i> Kontkanen, 1949	.	X	X	X	X	X	X	X	.	.	X	X	.
386	<i>Ophiola identica</i> (Tischechkin, 2003)	.	.	.	.	X	.	X?	X?	.	.	.	.	.
387	<i>Ophiola orichalcea</i> (Thomson, 1869)	.	.	.	X	X	.	.	.	.	.	.	.	.
388	<i>Ophiola russeola</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	.	X	.	.	.
389	<i>Ophiola transversa</i> (Fallén, 1826)	.	X	X	X	X	X	X	X	.	.	X	X	.
390	<i>Ophiolix paludosa</i> (Boheman, 1845)	.	X	.	X	X	X	X	.	.	.	X	X	.
391	<i>Paluda flaveola</i> (Boheman, 1845)	.	X	X	X	X	X	X	X	.	X	X	X	.

No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
392	<i>Perotettix pictus</i> (Lethierry, 1880)	.	.	.	.	X	.	.	.	.	.	.	.	.
393	<i>Perotettix orientalis</i> (Anufriev, 1971)	.	X	.	X	X	.	.	.	.	.	.	.	.
394	<i>Pithyotettix abietinus</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	.	X	X	.	.
395	<i>Platymetopius guttatus</i> Fieber, 1869	.	X	.	X	.	.	.	X	.	.	.	.	.
396	<i>Platymetopius major</i> (Kirschbaum, 1868)	.	.	X	X	.	.	.	.	.	.	.	.	.
397	<i>Platymetopius undatus</i> (De Geer, 1773)	.	X	X	X	X	X	X	X	.	.	X	X	.
398	<i>Rhopalopyx adumbrata</i> (C. Sahlberg, 1842)	.	X	X	X	X	X	X	X	.	.	.	.	.
399	<i>Rhopalopyx preysleri</i> (Herrich-Schäffer, 1838)	.	X	X	X	X	X	X	X	.	.	X	X	.
400	<i>Rhopalopyx vitripennis</i> (Flor, 1861)	.	X?	X	X	X	X	X	X	.	.	X	.	.
401	<i>Rhytistylus proceps</i> (Kirschbaum, 1868)	.	.	X	X	.	.	.	.	.	.	.	.	.
402	<i>Spseudotettix subfuscus</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	X	X	X	X	X
403	<i>Stictocoris picturatus</i> (C. Sahlberg, 1842)	.	.	.	X	X	X	X	X	.	.	X	X	.
404	<i>Streptannus aemulans</i> (Kirschbaum, 1868)	.	X	X	X	X	X	X	X	.	.	.	X	.
405	<i>Streptannus confinis</i> (Reuter, 1880)	.	X	X	X	X	X	X	X	.	.	.	.	.
406	<i>Streptannus marginatus</i> (Kirschbaum, 1858)	.	X	X	X	X	X	X	X	.	X	X	X	.
407	<i>Streptannus okaensis</i> Zachvatkin, 1948	.	.	X	X	X	.	.	.	.	X	.	.	.
408	<i>Streptannus sordidus</i> (Zetterstedt, 1828)	.	X	X	X	X	X	X	X	.	X	X	X	X
409	<i>Thamnotettix confinis</i> Zetterstedt, 1840	.	X	X	X	X	X	X	X	.	X	X	X	.
410	<i>Thamnotettix dilutior</i> (Kirschbaum, 1868)	.	.	X	X	.	.	.	.	.	.	.	.	.
<b><i>Coryphaelini Emeljanov, 1962</i></b>														
411	<i>Coryphaelus gyllenhalii</i> (Fallén, 1826)	.	.	.	X	X	X	X	X	.	.	X	.	X
<b><i>Deltocephalini Fieber, 1869</i></b>														
412	<i>Deltocephalus maculiceps</i> Boheman, 1847	.	.	X	X	.	.	.	.	.	.	.	.	.
413	<i>Deltocephalus pulicaris</i> (Fallén, 1806)	.	X	X	X	X	X	X	X	.	X	X	X	.
414	<i>Endria nebulosa</i> (Ball, 1900)	.	.	X	X	X	X	.	.	.	.	.	.	.
<b><i>Doraturini Ribaut, 1952</i></b>														
415	<i>Doratura exilis</i> Horváth, 1903	.	.	.	X	X	X	X	X	X	.	.	.	.









No.	Taxon	IC	NO	DK	SE	FI	EE	LV	LT	KG	MM	KR	LG	PV
489	<i>Paralimnus zachvatkini</i> Emeljanov, 1964	.	.	.	.	X	.	.	X	.	.	.	.	.
490	<i>Paramesus obtusifrons</i> (Stål, 1853)	.	X	X	X	X	X	X	.	.	.	.	.	.
491	<i>Parapotes reticulatus</i> (Horváth, 1897)	.	.	.	X	X	.	.	.	.	.	.	.	.
492	<i>Pinumius areatus</i> (Stål, 1858)	.	.	.	.	X	X	X	X	.	.	.	X	.
493	<i>Psammotettix albomarginatus</i> Wagner, 1941	.	X?	X	X	X	.	.	.	.	.	.	.	.
494	<i>Psammotettix alienus</i> (Dahlbom, 1850)	.	X	X	X	X	X	X	X	X	.	X	.	.
495	<i>Psammotettix cephalotes</i> (Herrich-Schäffer, 1834)	.	X	X	X	X	X	X	X	.	.	X	.	.
496	<i>Psammotettix confinis</i> (Dahlbom, 1850)	.	X	X	X	X	X	X	X	X	X	.	X	X
497	<i>Psammotettix dubius</i> Ossiannilsson, 1974	.	X	.	X	X	X	.	X	.	.	.	.	.
498	<i>Psammotettix excisus</i> Matsumura, 1906	.	.	X	X	X	X	.	X?	.	.	.	.	.
499	<i>Psammotettix frigidus</i> (Boheman, 1845)	.	X	.	X	X	.	.	.	.	X	.	.	.
500	<i>Psammotettix koeleriae</i> Zachvatkin, 1948	.	.	.	.	.	.	X	X	.	X	.	.	.
501	<i>Psammotettix lapponicus</i> (Ossiannilsson, 1938)	.	X	.	X	X	.	.	.	.	.	.	.	.
502	<i>Psammotettix nodosus</i> (Ribaut, 1925)	.	X	X	X	X	.	X	X	.	X	.	.	.
503	<i>Psammotettix pallidinervis</i> (Dahlbom, 1851)	.	X	.	X	X	X	X	X	X	X	X	.	.
504	<i>Psammotettix poecilus</i> (Flor, 1861)	.	.	.	X	X	X	X	X	.	.	X	X	.
505	<i>Psammotettix putoni</i> (Then, 1898)	.	X	X	X	.	.	.	.	.	.	.	.	.
506	<i>Psammotettix sabulicola</i> (Curtis, 1837)	.	X	X	X	X	.	X	X	X	X	.	X	.
507	<i>Psammotettix slovacus</i> Dlabola, 1948	.	.	.	.	X	X	X	.	.	.	.	.	.
508	<i>Rosenus laciniatus</i> (Then, 1896)	.	X	.	X	X	.	.	.	.	.	.	.	.
509	<i>Sorboanus assimilis</i> (Fallén, 1806)	.	.	X	X	X	X	X	X	.	.	.	X	.
510	<i>Sorboanus xanthoneurus</i> (Fieber, 1869)	.	X	X	X	X	X	X	X	X	X	X	.	.
511	<i>Turrutus socialis</i> (Flor, 1861)	.	.	X	X	X	X	X	X	.	.	.	.	.
512	<i>Verdanus abdominalis</i> (Fabricius, 1803)	.	X	X	X	X	X	X	X	X	X	X	X	.
513	<i>Verdanus limbatellus</i> (Zetterstedt, 1828)	.	X	.	X	X	.	.	.	.	X	.	.	.

## 4.2 Short comments on some species

6. *Cixius stigmaticus* is reported from Latvia by Spungis & Kalnins (2002). The Latvian record is by Vilbaste (1974) believed to be a misidentification of Gimmerthal (1846). However, this species is not uncommon east of Latvia in western Russia (Söderman, in prep.) and we therefore regard it as possible that Gimmerthal's record is acceptable.
9. *Asiraca clavicornis* is reported from Latvia. Nast (1987) considers the record unreliable, because Vilbaste (1974) regards it as being a misidentification made by Gimmerthal (1846). As this planthopper hardly can be misinterpreted for any other species, we consider it possible that Gimmerthal's identification was correct. The species is quite widespread in areas close to Latvia, i.a. Byelorussia (see Borodin 2004) and the Belgorod oblast (Söderman, in prep.).
15. Vilbaste (1974) described *Kelisia nervosa* from Lithuania. This taxon has later (Holzinger *et al.* 2003) been regarded as a junior synonym of *Kelisia confusa*. The species has recently been found in Finland (Söderman 2007) and Sweden (Gillerfors 2008) and may be expanding its range.
23. *Stenocranus major* is recorded new for Norway by Endrestöl in 2007 (unpublished data).
24. *Stenocranus minutus* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
26. *Acanthodelphax spinosa* is recorded new to Estonia by Koponen in 1990 (unpublished data).
27. *Achorotile albosignata* is reported from Denmark by Nast (1987), but is not acknowledged in Ossiannilsson (1978).
33. *Chloriona smaragdula* is recorded new for Norway by Ödegaard in 2005 (unpublished data).
51. *Eurysa lineata* is recorded new to Norway by Ödegaard (unpublished data).
53. *Ditropsis flavipes* is recorded new to Finland by Söderman in 2007 (unpublished data).
54. *Florodelphax leptosoma* is recorded new to Finland by Albrecht in 2007 (unpublished data).
58. *Toya propinqua* is a widespread species in the Ethiopian and Oriental regions and the southern parts of the Holarctic. The specimen from Iceland (Remane 2005) is probably due to long-range migration with jet-streams.
91. *Ribantodelphax vinealis* has recently been described and found to be quite common in Finland (Söderman 2007). It was recently also recorded from Norway by Endrestöl (unpublished data).
97. *Unkanodes excisa* is recorded new to Norway by Ödegaard in 2007 (unpublished data).
101. *Cixidia confinis* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
103. Vilbaste (1974) and Nast (1987) report the taxon *Tettigometra atrata* Fieber, 1872 from all Baltic countries. The taxon appears to be unclear and is regarded as a possible variety of either *T. atra* or *T. impressifrons* by Holzinger *et al.* (2003). As Vilbaste also reports *T. atra* from Estonia, it is likely that the specimens identified as *atrata* belong to this species.

105. The specimens of *Ommatidiotus inconspicuus* from southern Finland are according to Söderman (2007) regarded as long-range migrants.
107. Old European records of *Cicadetta montana* may according to recent investigations belong to three different species. On the basis of song hearings the Nordic populations should belong to *C. montana* s. str. (see Söderman 2007).
110. *Aphrophora major* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
112. *Aphrophora salicina* is recorded new to Finland by Albrecht in 2006 (unpublished data).
125. *Anaceratagallia estonica* is recorded new to Latvia by Söderman & Spungis (2008).
126. *Anaceratagallia lithuanica* is recorded new to Latvia by Söderman & Spungis (2008).
133. *Anoscopus limicola* is recorded new to Norway by Endrestøl in 2008 (unpublished data).
136. The distinction between *Aphrodes diminuta* and *A. bicincta* has not been made in all old collections. The record for Latvia is therefore uncertain.
140. *Planaphrodes nigrita* is recorded new to Norway by Endrestøl in 2008 (unpublished data).
146. *Graphocephala fennabi* is recorded new to Sweden by Gillerfors (2008).
149. *Batracomorphus allionii* is recorded new to Estonia by Tarlap in 2007 (unpublished data).
150. *Batracomorphus irroratus* has been reported from Denmark by Nast (1972), but it is not included for this country by Ossiannilsson (1981) or Nast (1987) in their later works. Recorded new to Latvia in 2006 by Söderman & Spungis (2008).
152. *Acericerus heydenii* has been reported from Denmark by Nast (1972), but later he states the record to be dubious. It is not included by Ossiannilsson (1981) in his books on the Auchenorrhyncha of Denmark and Fennoscandia. Gillerfors (2002) reports *A. vittifrons* (Kirschbaum, 1868) from Sweden, but this record has proved to be a misidentification of *A. heydenii* (see Gillerfors 2008). Recorded new to Norway by Endrestøl in 2007 (unpublished data) and found to be common in Denmark (U.H. Nielsen, pers. comm.)
153. *Acericerus ribauti* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
154. *Balcanocerus larvatus* (Herrich-Schäffer, 1835) has been reported as *Idiocerus notatus* (Fabricius, 1803) from Norway by Strand (1905). This is an obvious misidentification as already stated by Holgersen (1944b). The species is still listed from Norway by Nast (1972), but it is not included by Ossiannilsson (1981) in his books on the Auchenorrhyncha of Denmark and Fennoscandia. Later, Nast (1987) reported it from Denmark, but this has not been confirmed. However, Gillerfors recorded it new to Sweden in 2008 from a Malaise-trap (unpublished data).
157. *Idiocerus similis* is recorded new to Sweden by Gillerfors (2008).
159. *Metidiocerus crassipes* is recorded new to Finland by Söderman in 2006 (unpublished data).
161. *Populicerus albicans* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
163. *Populicerus laminatus* is recorded new to Estonia by Tarlap in 2007 (unpublished data).
164. *Populicerus nitidissimus* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).

166. *Rhytidodus decimusquartus* is recorded new to Kaliningrad by Söderman in 1998 (unpublished data) and Norway in 2007 (Endrestöl 2008).
168. *Stenidiocerus poecilus* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
169. *Tremulicerus distinguendus* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
170. Nast (1987) considers the record of *Tremulicerus fulgidus* from Latvia as dubious, but it still occurs in Spungis & Kalnins list (2002) based on Danka & Velce (1970). Vilbaste (1974) believes it to be a misidentification of Gimmerthal (1846). Recorded new to Norway by Endrestöl (2008).
172. *Tremulicerus vitreus* (Fabricius, 1803) sensu Ribaut 1952 has been reported from Latvia by Nast (1972), but it is not included by Vilbaste (1974) in his catalogue of Latvian Auchenorrhyncha. Vilbaste regards it to be a misidentification made by Gimmerthal (1846). Recorded new to Sweden by Gillerfors (2008).
173. *Viridicerus ustulatus* is recorded new to Sweden by Gillerfors (2008) and new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
175. *Hephathus nanus* is in all older works (Linnavuori 1969, Nast 1972, 1987, Vilbaste 1974, Ossiannilsson 1981) reported from Northern Europe. Söderman (2007) states that at least the Finnish specimens belong to *H. achilleae*, which is an eastern species and not to *H. nanus* occurring in Central Europe.
177. *Macropsis albae* is reported by Nast (1987) under the name *M. ocellata*. Recorded new to Finland by Albrecht in 2007 (unpublished data).
179. *Macropsis flavida* is recorded new to Finland and Europe by Söderman in 2007 (unpublished data).
182. *Macropsis glandacea* is reported from Lithuania by Vilbaste (1974) under the name *M. mendax*, which is regarded as a junior synonym of *M. glandacea*. The record from Norway (Nast 1987) appears to be very dubious (Schulz 1976).
184. *Macropsis gravesteini* is recorded new to Finland by Söderman in 2008 (unpublished data).
186. *Macropsis infuscata* is recorded new to Norway by Ödegaard in 2003 (unpublished data).
191. *Macropsis vicina* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
194. *Oncopsis appendiculata* is recorded new to Norway by Endrestöl in 2007 (unpublished data).
195. *Oncopsis avellanae* might have a larger distribution, since it has only recently been acknowledged to occur in Northern Europe (Söderman 2007).
204. *Alebra neglecta* is recorded new to Sweden by Gillerfors in 2008 (unpublished data).
207. *Dikraneura variata* is recorded new to Sweden by Gillerfors in 2008 (unpublished data).
208. *Liguropia juniperi* is recorded new to Sweden by Gillerfors in 2008 (unpublished data).
213. *Forcipata palustris* has by checking Holgersens series proved to be a good species. It is so far endemic to Norway.
214. *Igutettix oculatus* is recorded new to Estonia by Mannerkoski in 2006 (unpublished data).
220. *Austroasca vittata* is reported by Vilbaste (1974) from Lithuania, but from Latvia by Nast (1987).

224. *Empoasca affinis* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
228. *Empoasca ossiannilsoni* is recorded new to Norway by Endrestöl in 2007 (Endrestöl 2008).
232. Vilbaste (1974) reports *Kybos oshanini* Zachvatkin, 1953 from Latvia and Lithuania. The species is difficult to discern from *Kybos abstrusus* and the specimens seen by Vilbaste are possibly misidentifications. *K. abstrusus* is recorded as a new species to Norway by Endrestöl (2008) and to Lithuania by Söderman & Rintala (unpublished data).
234. *Kybos limpidus* is recorded new to Sweden by Gillerfors in 2008 (unpublished data).
236. Vilbaste (1974) reports *Kybos verbae* Zachvatkin, 1953 from Latvia. The taxon is a junior synonym of *K. mucronatus*. Recorded new to Kaliningrad by Söderman & Shapoval in 2007 (unpublished data).
237. *Kybos populi* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
238. *Kybos rufescens* is recorded new to Finland by Albrecht in 2008 (unpublished data).
250. *Zygina angusta* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
253. *Zygina nigratarsis* has been confused with *Z. flammigera* in the Nordic countries. It is probably much more widespread.
259. *Zygina schneideri* is recorded new to Finland by Söderman in 2007 (unpublished data).
260. *Zygina suavis* is here regarded as the taxon living on *Rhamnus frangula* (ie. sensu Ossiannilsson).
268. *Edwardsiana ampliata* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data)
270. *Edwardsiana bergmani* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
275. *Edwardsiana frustrator* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
279. The specific identity of *Edwardsiana kemneri* can be questioned. Specimens reported belonging to this taxon may be parasitized specimens of *E. tersa* (see Nickel 2003).
281. *Edwardsiana lethierryi* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
285. *Edwardsiana plurispinosa* is recorded new to Norway (Endrestöl, unpublished data) and Lithuania by Söderman & Rintala (unpublished data)
286. Vilbaste (1974) reports *Edwardsiana barbata* from Latvia, which is regarded a form of *E. prunicola*.
292. *Edwardsiana staminata* has by some authors been synonymised with *E. avellanae* on the same basis as *kemneri/avellanae*.
295. Since the synonymisation of *Edwardsiana hippocastani* with *E. lethierryi* (see Wilson & Claridge 1999) previous records of *E. hippocastani* have become unclear as there are two species *E. ulmiphagus* and *E. plurispinosa* that has been mixed before. Revisions of material from Norway, Denmark and Sweden reveal that both species occur in these countries. The Lithuanian record remains unclear as Vilbaste (1974) reports it to have been captured from *Salix*, not being the host plant of either of the species in question.

297. *Eupteryx adspersa* is reported from Denmark by Nast (1987) but not by Ossiannilsson (1983).
300. *Eupteryx aurata* is recorded new to Finland by Söderman in 2008 (unpublished data).
304. *Eupteryx decemnotata* is recorded new to Denmark by U.H. Nielsen on the web in 2007 and new to Finland in 2008 by Söderman (unpublished data) and Sweden in 2008 by Gillerfors (unpublished data).
305. *Eupteryx florida* is recorded new to Denmark by U.H. Nielsen on the web in 2007. The species was recorded new to Kaliningrad in 2007 by Söderman & Shapoval (unpublished data).
306. Nast (1972) reported the taxon *Eupteryx ornata* (Lethierry, 1874) from Denmark and Latvia. This is a junior synonym of *Eupteryx heydenii*. In his catalogue of 1987 he has omitted the species from N-Europe because Vilbaste (1974) regards the Latvian find to be much too far north.
309. *Eupteryx signatipennis* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
317. *Eurhadina loewii* has been reported from Estonia (Vilbaste 1974) and Denmark and Sweden (Ossiannilsson 1982) under the name *E. untica* Dlabola, 1969.
324. *Linnavuoriana intercedens* is regarded a separate species (Lauterer & Novotný 1991, Söderman 2007) from *L. decempunctata*.
328. *Ribautiana tenerrima* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
333. *Zyginella pulchra* is recorded new to Denmark by U.H. Nielsen on the web in 2007. Recorded new to Sweden by Gillerfors in 2008 (unpublished data)
335. *Utecha trivialis* (Germar, 1821) is reported (as a member of the genus *Ulopa*) by Nast (1972, 1987) from Denmark, but the species is not mentioned by Ossiannilsson from this country again (1981). The species was recorded new to Lithuania in 2008 by Söderman & Rintala (unpublished data).
337. *Allygus communis* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
338. *Allygus maculatus* is reported by Nast (1987) from Finland. This is an obvious misprint.
340. *Allygus modestus* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
346. *Cicadula frontalis* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
350. *Cicadula ornata* is recorded new to Norway by Endrestöl in 2006 (unpublished data).
365. *Euscelis plebejus* (Fallén, 1806) is reported from Latvia by Nast (1972). According to Vilbaste (1973) Flor misidentified the Latvian specimen and it should according to him be *E. distinguendus*.
370. The record of *H. signifer* from Northern Europe is somewhat questionable since the revelation of its biology (see Nickel 2003). We have not been able to check the specimen in question.
371. Nast (1987) regards the record of *Hardya tenuis* from Latvia as dubious, as Vilbaste (1974) regards it a misidentification made by Gimmerthal (1846).
386. *Ophiola identica* is probably identical with *Limotettix plutonius* recorded from Latvia and Lithuania by Vilbaste (1974) (see Söderman 2007)

387. *Ophiola orichalcea* is by Söderman (2007) regarded distinct from *O. cornicula*. The taxa have not been separated in the Baltic countries yet.
393. *Perotettix orientalis* is reported from Norway by Nast (1987) based on the record of Holgersen (1985).
395. *Platymetopius guttatus* is recorded new to Lithuania by Söderman & Rintala in 2008 (unpublished data).
400. *Rhopalopyx vitripennis* is reported as a dubious record from Norway by Nast (1987). It is not reported by Ossiannilsson (1983) from this country.
414. Vilbaste (1974) reported the first *Endria nebulosa* records from Estonia under the name *Amphicephalus nebulosa*.
417. *Doratura exilis* is recorded new to Finland by Söderman in 2007 (unpublished data).
418. *Doratura littoralis* is recorded new to Latvia in 2006 by Söderman & Spungis (2008). The specific status of this taxon may be questioned as there are very few reliable characters for identification.
421. *Fieberiella macbiae* is reported from Latvia by Nast (1972). This species was originally described from Israel by Linnavuori (1962). Later Nast (1987) omits it from the European list because Vilbaste (1974) doubts findings of *Fieberiella* this far north. G. Söderman has collected specimens of *Fieberiella* from Carnikava in Latvia which correspond to *F. septentrionalis* and it is obvious that earlier records from the same region belong to this species. Recorded new to Sweden by Gillerfors in 2007 (2008) and to Lithuania in 2008 by Söderman & Rintala (unpublished data).
423. *Balclutha arhenana* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
438. *Macrosteles nubilus* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
443. *Macrosteles pygmaeus* was described from Lithuania by Vilbaste (1974). Based on the description its taxonomic status is critical and the specimen in question may be a parasitized form of *M. sexnotatus*. It seems to the authors that an endemic species from Lithuania is not very probable. *M. sexnotatus* is reported from Iceland by Nast (1987), but is not known to occur there according to Erling Olafsson from the Icelandic Museum of Natural History.
448. Anufriev (2000a, 2000b) reports *Sonronius anderi* from the Kola Peninsula. The findings appear to be far apart from other known sites (locus typicus in southern Sweden and two sites in southern Finland) of the species. We have not been able to confirm Anufriev's identification.
451. Söderman (2007) regards the specimens of *Circulifer haematoceps* from Finland to be long-range migrants.
452. *Neocaliturus guttulatus* is regarded to be a form of *N. fenestratus* (see Nickel 2003).
456. *Arocephalus languidus* is reported from the Petsamo area in Murmansk (Lindberg 1932). This record, far from any other in Europe, must be considered dubious.
461. *Boreotettix bidentatus* is recorded new to Norway by Endrestøl in 2007 (unpublished data).
472. *Erzaleus metrius* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
475. *Jassargus alpinus* has been a much confusing taxon in the Baltic countries. The nominal form lives in the Alps and its subspecies *neglectus* in the Northern Boreal Region of Fennoscandia. *J. neglectus* has been reported from all Baltic countries by Vilbaste

- (1974), all these records are accepted by Ossiannilsson (1983) but neglected by Nast (1987). As the species is known to have several subspecies, the isolated area in the Baltic countries may belong to a separate subspecies “*baltica*”.
477. *Jassargus distinguendus* is reported from many areas by Vilbaste (1974), Ossiannilsson (1983) and Nast (1987). In all these cases *J. distinguendus* corresponds to *J. pseudocellaris*.
483. *Metalimnus obtusus* has recently been identified from Finland and western Russia (Söderman 2007). Recorded from Sweden by Gillerfors already in 2004 but only recently identified (unpublished). Also recorded in light-trap material from Lithuania in 2007 (Söderman & Dapkus, unpublished). It is close to *M. formosus* and the material of the latter has not been revised elsewhere in the eastern parts of Northern Europe.
484. *Metalimnus steini* is recorded new to Lithuania by Söderman & Dapkus in 2007 (unpublished data).
486. *Mongolojassus sibiricus* is reported from Estonia by Nast (1972) and Vilbaste (1974). Later Nast (1987) reports both *M. sibiricus* and *M. bicuspidatus* from Estonia. The Finnish records concerning *M. bicuspidatus* (see Albrecht *et al.* 2003) have in a recent revision turned out to belong to this species.
489. *Paralimnus zachvatkini* has recently been recorded from Finland (Albrecht *et al.* 2006). It is close to *P. phragmitis* and the material of the latter has not been studied intensively elsewhere in Northern Europe. Recorded new to Lithuania in 2007 (Söderman & Dapkus, unpublished data).
490. *Paramesus* in North Europe may consist of two species. *P. major* may occur in the eastern part of the region. So far only specimens from the Baltic coast have been checked and they all belong to *P. obtusifrons*, but extensive inland material from Russia has not been checked yet.
493. *Psammotettix albomarginatus* is reported from Norway as an “unreliable record” by Nast (1987) based on Schulz (1976).
497. *Psammotettix dubius* is in earlier works mentioned as *P. exilis*. However, Söderman (2007) showed that the name *exilis* has caused much confusion and therefore all records referring to *P. exilis* are in need of revision.
498. *Psammotettix excisus* is reported from Latvia by Nast (1987). Due to the confusion with *P. dubius*, the Latvian record is dubious.
499. *Psammotettix frigidus* is reported from Latvia by Spungis & Kalnins (2002) based on the list of Velce & Danko (1970). Vilbaste (1974) regards it as a misidentification of *P. pallidinervis*.
507. *Psammotettix slovacus* is identified from Estonia and Latvia (Vilbaste 1974, Nast 1987, Spungis & Kalnins 2002) as *P. makarovi* Moravskaja, 1952. According to Söderman (2007) this is a junior synonym of *P. slovacus*.

### 4.3 Dubious species records omitted from the catalogue

1. *Cixius simplex* (Herrich-Schäffer, 1835) has been reported from Denmark by Nast (1972), but it is not included in Ossiannilsson (1981) or Nast (1987).
2. *Tettigometra virescens* (Panzer, 1799) is reported to occur in Latvia by Nast (1972), but is not included in his later list (1987). Vilbaste (1974) believes it to be a misidentification by Gimmerthal (1846). The identification of this species is not easy and the specimen in question might be a misidentified *T. atra*.



3. *Cercopis vulnerata* Rossi, 1807 has been reported from Norway by Nast (1972), but it is not included in later works (Ossiannilsson 1981, Nast 1987).
4. *Idiocerus aaliensis* Strand, 1913 has been reported from Norway by Nast (1972), but it is not included by Ossiannilsson (1981) in his books on the Auchenorrhyncha of Denmark and Fennoscandia. It is regarded a taxonomically unclear species. The type specimen may be lost because it has not been found in Oslo, Riga nor Berlin, where Strand's collection is supposed to be. Based on the given description the type is a female, which Ossiannilsson regarded as a possible form of *Metidiocerus elegans*. Hølgersen (1944b) concurs with this and considers *I. aaliensis* a *nomen confusum*.
5. *Idiocerus varius* (Fabricius, 1794) is reported from Latvia by Velce & Danka (1970). It is regarded as distinct from *I. stigmatalis* by Emeljanov (1964), but Vilbaste (1974) regards it to be a junior synonym. Ribaut (1952) mentions *I. varius* as a synonym to *I. similis*.
6. *Metidiocerus impressifrons* (Kirschbaum, 1868) has been reported from Denmark by Nast (1972), but it is not included in later works by Ossiannilsson (1981) or Nast (1987).
7. *Penthimia nigra* (Goeze, 1778) has been reported from Latvia by Nast (1972), but it is not included by Vilbaste (1974) in his catalogue of Latvian and Lithuanian Auchenorrhyncha. Vilbaste regards it to be a misidentification made by Gimmerthal (1846).
8. *Kybos austriacus* W. Wagner, 1949 is reported from Latvia by Spungis & Kalnins (2002), but is evidently a misidentification.
9. *Allygidius atomarius* (Fabricius, 1794) is reported from Denmark by Nast (1972), but is not reported in his later work (1987). The record from Latvia by Flor (1861) is an incorrect naming of *A. commutatus* according to Vilbaste (1973).
10. *Platymetopius henribauti* is a critical taxon (see Nickel 2003, Söderman 2007). The aedagus depicted by Ossiannilsson (1983) corresponds to this species, but it is uncertain if the specimen drawn by him has been collected in Sweden.
11. *Cicadula aurantipes* (Edwards, 1894) is reported from Denmark by Nast (1972). After Ossiannilsson's work (1983) he regards the Danish record unreliable. The taxon itself is quite critical (see Söderman 2007).
12. *Jassargus obtusivalvis* (Kirschbaum, 1868) is reported from Denmark by Nast (1972), but he later (1987), after Ossiannilsson's work (1983) omits the species from this country.
13. *Jassargus repletus* (Fieber, 1869) is reported from Latvia and the Kaliningrad region by Nast (1972, 1987) and Vilbaste (1974). The species is mostly confined to alpine regions in Europe. The records from the eastern parts of the Baltics are probably due to misidentifications.
14. *Psammotettix helvolus* (Kirschbaum, 1868) is reported from Denmark by Nast (1972), but he later (1987), after Ossiannilsson's work (1983) omits the species from this country.
15. *Psammotettix ornaticeps* (Horvath, 1897) is reported from Latvia by Spungis & Kalnins (2002) based on the list of Velce & Danka (1970). Vilbaste (1974) states this is a misidentification of *P. poecilus*.
16. *Deltocephalus ignoscus* Fieber, 1869 is described from Latvia. The status of this taxon is very unclear.

## 5. Discussion

The total number of recorded species in Northern Europe is now 513, which is low if compared to e.g. Germany, holding more than 600 species alone (Nickel & Remane 2002). The number of species decreases with latitude and isolation from cores of Pleistocene glacial refugia (e.g. Iceland). The number of species in Northern Europe is, however, increasing at a fast pace. Thirty-one new species for the region has been recorded in the 21<sup>st</sup> century and for some countries the proportion of new species increases 10-20 percent of the fauna.

There are at least 3 major expansion routes for leafhoppers to Northern Europe. One goes from Northwestern Germany over the Danish islands to the eastern coast of Kattegatt (e.g. *Graphocephala fennabi*, *Acericerus heydenii*, *A. ribauti*, *Tremulicerus fulgidus*, *Eupteryx decemnotata*, *E. florida*, *Zyginella pulchra*, *Acanthodelphax spinosa*, *Eurybregma nigrolineata*), another from western Russia over Pskov and the Leningrad region to southeastern Finland (e.g. *Xanthodelphax xantha*, *Calamotettix taeniatus*, *Psammotettix slovacus*, *Mongolojassus sibiricus*, *Balclutha arbenana*, *Igutettix oculatus*). A third one goes over the Baltic countries reaching the Baltic isles (Gotland, Alandia) and the southwestern Finnish coast (e.g. *Kelisia confusa*, *Acanthodelphax spinosa*, *Acericerus heydenii*, *Fieberiella septentrionalis*, *Idiocerus similis*, *Tremulicerus distinguendus*, *Viridicerus ustulatus*). This route might consist of two different routes, one over Lithuania and Latvia reaching Gotland, and one over Estonia reaching Finland, but the present knowledge of the fauna of the Baltic countries does not allow us to draw any concise conclusion of this, yet.

About one third of the expanding species lives on ornamental bushes and trees not indigenous to Northern Europe. Nevertheless, none of these species can be considered imported to the region. They have adapted to live in anthropogenous habitats and some are showing trends of host plant change to wild species, e.g. *Igutettix oculatus* from *Syringa* to *Fraxinus* and *Tremulicerus distinguendus* from *Populus alba* to *P. tremula*.

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