Russian Entomol. J. 32(2): 187–193

Faunistic notes on the Diapriidae family (Hymenoptera) of Karelia

Фаунистические заметки о семействе Diapriidae (Hymenoptera) Карелии

Vasilisa G. Chemyreva[1], Andrei E. Humala[2], Victor A. Kolyada[3]
В.Г. Чемырева[1], А.Э. Хумала[2], В.А. Коляда[3]

[1] Zoological Institute Russian Academy of Sciences, Universitetskaya Emb. 1, St Petersburg 199034, Russia. E-mail: diapriidas.vas@gmail.com
[2] Forest Research Institute Russian Academy of Sciences, Pushkinskaya St. 11, Petrozavodsk 185910, Russia.
E-mail: andrei.humala@krc.karelia.ru
[3] Paleontological Institute Russian Academy of Sciences, 123 Profsoyuznaya St., Moscow 117647, Russia. E-mail: proctos@gmail.com
[1] Зоологический институт Российской академии наук, Университетская наб. 1, С. Петербург, 199034, Россия.
[2] Институт леса Карельского научного центра Российской академии наук, ул. Пушкинская 11, Петрозаводск, 185910, Россия.
[3] Палеонтологический институт Российской академии наук, ул. Профсоюзная 123, Москва, 117647, Россия.

KEY WORDS: Diapriidae, Russia, Karelia, new records, fauna.
КЛЮЧЕВЫЕ СЛОВА: Diapriidae, Россия, Карелия, фауна.

ABSTRACT. A list of 84 species of the family Diapriidae (Hymenoptera) from Karelia is given. Of them, 48 species were recorded recently resulting from a study of the original material and 36 species are known from this region according to already published data. Two diapriid genera, *Pamis* Nixon, 1957, *Synbelyta* Hellén, 1964, and 10 species are recorded for the territory of Russia for the first time. Additionally two genera (*Entomacis* Förster, 1856 and *Idiotypa* Förster, 1856) and 21 species are reported for the first time for Karelia.

РЕЗЮМЕ. Составлен список из 84 видов семейства Diapriidae (Hymenoptera) фауны Карелии. Из них 48 видов были обнаружены здесь в результате изучения оригинальных материалов, а 36 видов приведены для этого региона на основе литературных данных. Два рода (*Pamis* Nixon, 1957 и *Synbelyta* Hellén, 1964) и 10 видов впервые приводятся для территории России. Помимо этого, два рода (*Entomacis* Förster, 1856 и *Idiotypa* Förster, 1856) и 21 вид впервые указываются для фауны Карелии.

Introduction

Diapriidae is a relatively poorly studied family of parasitoid wasps (Hymenoptera, Diaprioidea) with worldwide distribution and more than 2100 described species [Johnson, 1992; Chemyreva, 2019]. Only two tribes of diapriids, Pantolytini (Belytinae) and Spilomicrini (Diapriinae), were extensively studied in the Europe and Russia in the last time [Chemyreva, 2014, 2021a, b; Chemyreva, Kolyada, 2018, 2020, 2021] and most of genera of the tribe Belytini (Belytinae) were revised in Central Europe by Jan Macek [Macek, 1995, 1996a, b, 1997]. Revisions by Macek [1995, 1996b, 1997] revealed a large number of synonyms and misinterpretations in all studied genera. These facts lead us to avoid the analysis of unrevised diapriid taxa here. Thus, the present research was limited to the study of genera belonging to the tribes Belytini and Pantolytini (Belytinae) (except for large and previously unrevised genus *Pantoclis* Förster, 1856) and the genera of the tribe Spilomicrini (Diapriinae). Moreover, we summarize here all available records of Diapriidae species from the modern territory of Karelia, including some records that were missed by Chemyreva [2019, 2021a] and by Chemyreva and Kolyada [2018, 2020, 2021a, b].

Material and methods

All materials used in the present study were collected by the second author, Andrei Humala (AH) in different localities of Karelia by netting and with using of Malaise and yellow pan traps. Location coordinates are given according to the WGS84 coordinate reference system (EPSG:4326). The division of East Fennoscandia into biogeographical provinces and corresponding abbreviations followed the proposals by Heikinheimo, Raatikainen [1971] with minor changes regarding the Russian territory introduced by Kravchenko, Kuznetsov [2001] and Ahti, Boichuk [2006]: *Kl* — Karelia ladogensis, *Kol* — Karelia olonetsensis, *Kon* — Karelia onegensis, *Kb* — Karelia borealis, *Kpoc* — Karelia pomorica occidentalis, *Kk* — Karelia keretica, *Ks* — Regio kuusamoensis, *Kp* — Karelia pudogensis. The following abbreviations are used in the text: NP — National Park; NR — Nature Reserve; MT —

How to cite this article: Chemyreva V.G., Humala A.E., Kolyada V.A. 2023. Faunistic notes on the Diapriidae family (Hymenoptera) of Karelia // Russian Entomol. J. Vol.32. No.2. P.187–193. doi: 10.15298/rusentj.32.2.08

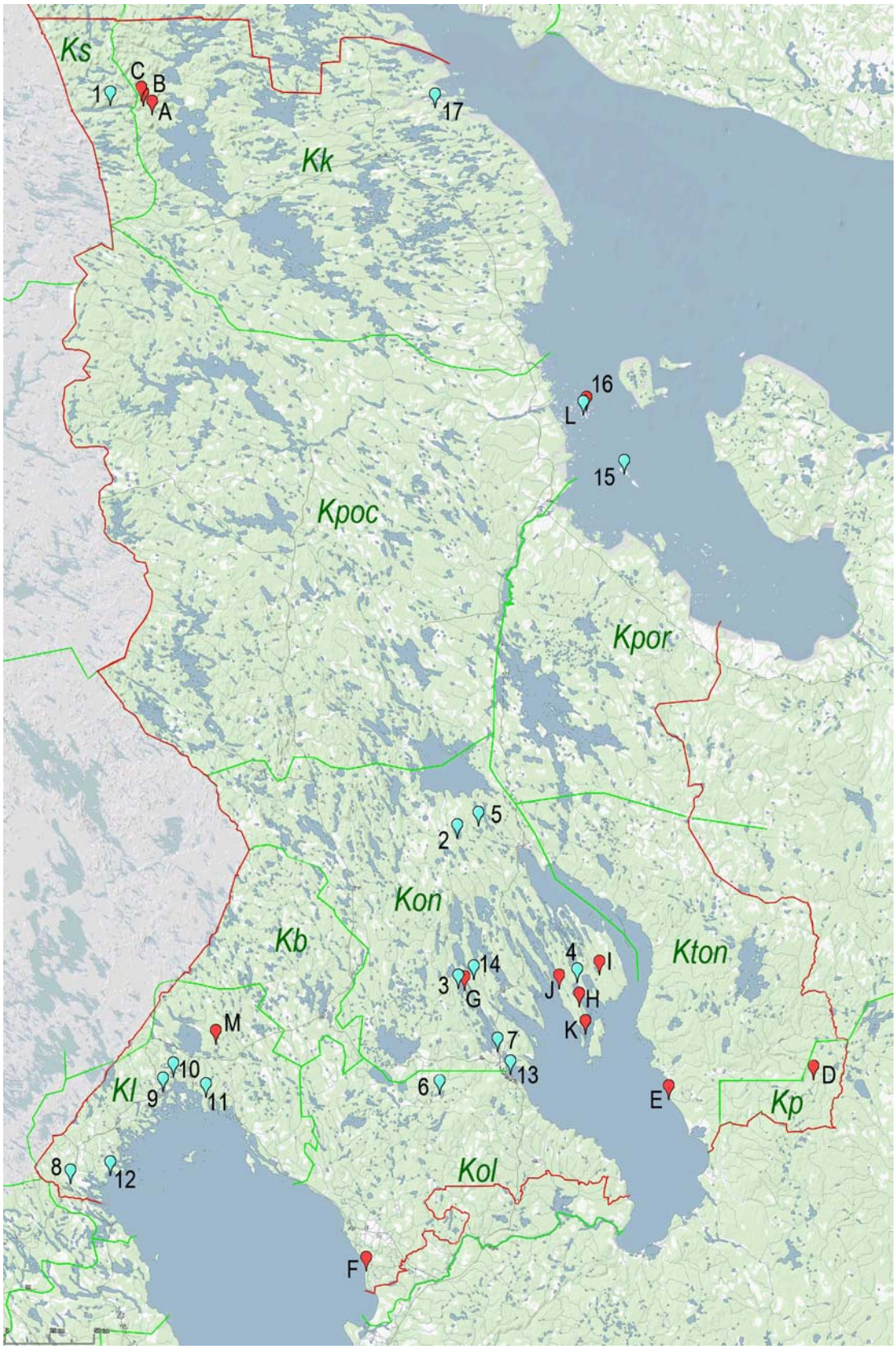

Figure 1. Collecting localities in Karelia: red signs — original data; blue signs — literature data. Abbreviations — see Material and methods.

Рисунок 1. Точки сбора материала в Карелии: красные значки — оригинальные данные; голубые значки — литературные данные. Сокращения — см. Материалы и методы.

Malaise trap; YPT — yellow pan trap. The localities of material collecting (Fig. 1) are encoded as below.

A1: *Kk*: "Paanayarvi" NP, Vartiolampi, 66.2464°N 30.5556°E, MT, 27.VI–28.VII.2021, leg. AH.
A2: The same place, but date, 28.VII–24.IX.2021.
B1: *Kk*: "Paanayarvi" NP, Siltayoki River, 66.2835°N 30.4622°E, MT, 2–27.VI.2021, leg. AH.
B2: The same place, but date 27.VI–28.VII.2021.
B3: The same place, but date 28.VII–29.IX.2021.
C1: *Kk*: "Paanayarvi" NP, Verkhniy Neris Lake, 66.3055°N 30.4339°E, MT, 27.VI–28.VII.2021, leg. AH.
C2: The same place, but date 28.VII–29.IX.2021.
D: *Kp*: Pudozh Distr., 3 km SSW of Prirechny, 61.7717°N, 37.5747°E, MT, 24.VI–13.VIII.2009, leg. AH.
E: *Kton*: Besov Nos, cape Kladovets, 61.667°N, 36.046°E, YPT, 3–6.VII.2018, leg. AH.
F: *Kol*: Olonets Distr., Mayachino surr., 60.783°N, 32.817°E, MT, 4–9.VII.2013, leg. AH.
G: *Kon*: near Tereki Vill., 62.2134°N, 33.8748°E, MT, 21.VII–16.VIII.2017, leg. AH.
H: *Kon*: 3 km NE of Lipovitsy, 62.1313°N, 33.0933°E, MT, 25.VI–21.VIII.2013, leg. AH.
I: *Kon*: 2 km S of Polya Vill., 62.2906°N, 35.3091°E, MT, 26.VI–25.VIII.2013, leg. AH.
J: *Kon*: Zaonezh'ye, Vegoruksa surr., 62.2206°N, 34.8786°E, YPT, 25–29.VI.2013, leg. AH.
K: *Kon*: Kizhskiy Reserve, Ernitskiy Is., 61.994°N, 35.159°E, YPT, 28–30.VII.2018, leg. AH.
L: *Kpoc*: Russkiy Kuzov Is., 64.93° N, 35.13° E, 18.VII.2001, leg. AH.
M: *Kl*: Koyton'yarvi Lake, 61.945°N, 31.233°E, 9.IX.2020, leg. AH.

Localities mentioned in the literature sources [Hellén, 1963, 1964; Humala, 1997, 2003; Humala, Polevoi, 2009; Chemyreva, 2021a, 2021b]: 1 — Paanajärvi = Paanayarvi; 2 — Kumsjärvi = Kumchezero; 3 — Munjärvi = Munozero; 4 — Velikaya Guba; 5 — Ahvenjärvi = Osterozero; 6 — Teru = Pryazha, 7 — Suoju = Shuya; 8 — Hiitola; 9 — Sortavala; 10 — Kirjavalahti; 11 — Impilahti; 12 — Koyonsari Is.; 13 — Petrozavodsk; 14 — NR "Kivach"; 15 — Bol'shoy Zhuzhmuy Is.; 16 — Nemetskiy Kuzov Is.; 17 — Keret'.

The genera and species are listed in alphabetic order according to the recent Catalogue of Hymenoptera of Russia [Chemyreva, 2019]. New distribution records are marked by the following marks: * — for the taxa new to Russia and # — new to Karelia. The sign $ was used for the species missed in the annotated catalogue of the Hymenoptera of Russia [Chemyreva, 2019].

List of species

Subfamily Belytinae

Tribe Belytini

Genus *Belyta* Jurine, 1807

Belyta abrupta Thomson, 1858

MATERIAL. C1: 1♂.
DISTRIBUTION. Western Palaearctic [Macek, 1996; Chemyreva, 2019].

* *Belyta bicolor* Jurine, 1807

MATERIAL. B2: 4♂♂; C2: 2♀♀, 6♂♂.
DISTRIBUTION. Western Palaearctic [Macek, 1996].

Belyta depressa Thomson, 1858

MATERIAL. B2: 1♀, 15♂♂; B3: 2♀♀, 9♂♂; C2: 4♀♀, 11♂♂.
DISTRIBUTION. Western Palaearctic [Macek, 1996; Chemyreva, 2019]. This species was already reported from NR "Kivach" as *B. pedestris* Kieffer and *B. depressa* [Humala, 1997].

Belyta elongata Thomson, 1858

MATERIAL. B2: 7♂♂; C1: 1♂; C2: 2♀♀.
DISTRIBUTION. Western Palaearctic [Macek, 1996; Chemyreva, 2019].

Belyta sanguinolenta Nees, 1834

MATERIAL. A2: 1♀; B2: 21♂♂; B3: 1♂; C1: 2♂♂; C2: 8♀♀, 12♂♂.
DISTRIBUTION. Palaearctic and Oriental regions [Macek, 1996; Chemyreva, 2019]. This species was already reported in Karelia from Pryazha [Teru], Kumchezero [Kumsjärvi] and Paanajärvi as *B. sanguinolenta* and *B. brachyptera* Thomson [Hellén, 1964], and from NR "Kivach" [Humala, 1997].

Belyta validicornis Thomson, 1858

MATERIAL. A1: 4♂♂; A2: 1♀; B2: 5♂♂; B3: 4♀♀, 2♂♂; C2: 3♀♀, 7♂♂.
DISTRIBUTION. Western Palaearctic [Macek, 1996; Chemyreva, 2019].
REMARK. Previously recorded from NR "Kivach" by Humala [1997] the species *Belyta elegans* Kieffer, 1909 and *B. pelias* Nixon, 1957 belong actually to *Aclista* and *Pantoclis* genera, respectively.

Genus *Lyteba* Thomson, 1858

Lyteba bisulca (Nees, 1834)

MATERIAL. A2: 1♂; B2: 3♀♀; B3: 1♀; C2: 6♂♂.
DISTRIBUTION. Holarctic region [Macek, 1995; Chemyreva, 2019]. The species was already reported in Karelia from Kirjavalahti as *Oxylabis bisulca* (Nees) [Hellén, 1964] and from NR "Kivach" as *Oxylabis bisulca* (Nees) and *O. thomsoni* Kieffer [Humala, 1997].

* *Lyteba carinifrons* (Kieffer, 1909)

MATERIAL. B2: 5♂♂; C1: 1♂; C2: 1♂.
DISTRIBUTION. Western Palaearctic [Macek, 1995].

Genus **Pamis* Nixon, 1957

* *Pamis ione* Nixon, 1957

MATERIAL. A2: 1♂; C1: 7♂♂; C2: 4♂♂; H: 1♂.
DISTRIBUTION. Western Palaearctic [Nixon, 1957].

Genus *Pantoclis* Förster, 1856

$ *Pantoclis breviceps* Hellén, 1964

DISTRIBUTION. Western Palaearctic [Hellén, 1964]. It was reported in Karelia from Paanajärvi [Hellén, 1964].

* *Pantoclis leviventris* (Kieffer, 1907)

MATERIAL. A1: 1♂; C1: 1♀; D: 3♂♂.
DISTRIBUTION. Western Palaearctic [Nixon, 1957].

$ *Pantoclis longipennis* (Thomson, 1858)

DISTRIBUTION. Palaearctic region [Hellén, 1964]. It was reported in Karelia from Paanajärvi [Hellén, 1964].

$ *Pantoclis merope* Nixon, 1957

DISTRIBUTION. Western Palaearctic (Sweden only) [Nixon, 1957]. The species was reported from NR "Kivach" [Humala, 1997].

Pantoclis numen Nixon, 1957

DISTRIBUTION. Western Palaearctic [Nixon, 1957]. The species was reported from NR "Kivach" [Humala, 1997].

$ *Pantoclis opaca* (Thomson, 1858)

DISTRIBUTION. Palaearctic region [Hellén, 1964]. It was reported in Karelia from Paanajärvi [Hellén, 1964].

Pantoclis similis (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. It was reported in Karelia from Sortavala [Hellén, 1964].

$ *Pantoclis striola* (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Nixon, 1957]. The species was reported from NR "Kivach" [Humala, 1997].

Genus *Paroxylabis* Kieffer, 1907

Paroxylabis laticeps Hellén, 1964

DISTRIBUTION. Western Palaearctic [Hellén, 1964]. The species was reported from Prirechny surrounds [Humala, Polevoi, 2009].

* Genus *Synbelyta* Hellén, 1964

* *Synbelyta fuscipennis* (Thomson, 1858)

MATERIAL. A2: 1♂; C1: 1♂; E: 4♀♀, 3♂♂.
DISTRIBUTION. Nearctic and Western Palaearctic regions [Macek, 1996].

Genus *Zygota* Förster, 1856

* *Zygota abdominalis* (Nees, 1834)

MATERIAL. B1: 1♂ 1♀
DISTRIBUTION. Western Palaearctic [Macek, 1997].

* *Zygota bensoni* Nixon, 1957

MATERIAL. B1: 1♂, 1♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997].

Zygota breviuscula (Thomson, 1858)

MATERIAL. C2: 3♀♀.
DISTRIBUTION. Palaearctic region [Macek, 1997; Chemyreva, 2019]. The species was already reported from NR "Kivach" [Humala, 1997].

Zygota claviscapa (Thomson, 1858)

MATERIAL. A2: 10♂♂, 7♀♀; B1: 39♂♂, 18♀♀; B2: 22♂♂, 8♀♀; C2: 61♂♂, 10♀♀
DISTRIBUTION. Western Palaearctic [Macek, 1997; Chemyreva, 2019]. The species was already reported from Petrozavodsk [Hellén, 1964] and from NR "Kivach" [Humala, 1997].

* *Zygota congener* (Zetterstedt, 1840)

MATERIAL. B1: 3♂♂, 1♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997].

* *Zygota croton* Nixon, 1957

MATERIAL. A2: 2♀♀; C2: 4♀♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997].

Zygota excisor (Zetterstedt, 1840)

MATERIAL. A2: 15♀♀; B1: 5♂♂, 15♀; B2: 3♀♀; C2: 5♂♂, 9♀♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997; Chemyreva, 2019].

Zygota fossulata (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Nixon, 1957; Chemyreva, 2019]. The species was reported from Paanajärvi [Hellén, 1964].

$ *Zygota hemiptera* (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Nixon, 1957]. The species was reported from NR "Kivach" [Humala, 1997].

Zygota nigra (Thomson, 1859)

MATERIAL. B1: 1♂, 1♀; C2: 5♂♂.
DISTRIBUTION. Palaearctic region [Macek, 1997; Chemyreva, 2019]. The species was already reported from Munozero [Munjärvi] and Velikaya Guba [Hellén, 1964].

* *Zygota pubescens* (Kieffer, 1909)

MATERIAL. B1: 5♂♂,1♀; B2: 1♀
DISTRIBUTION. Western Palaearctic [Macek, 1997].

Zygota ruficornis (Curtis, 1831)

MATERIAL. A2: 8♂♂; B1: 25♂♂, 22♀♀; B2: 1♀; C2: 30♂♂, 4♀♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997; Chemyreva, 2019]. The species was already reported from Paanajärvi [Hellén, 1964].

Zygota spinosipes (Kieffer, 1908)

MATERIAL. A2: 2♂♂, 2♀♀; B1: 52♂♂, 1♀; C2: 22♂♂, 1♀.
DISTRIBUTION. Western Palaearctic [Macek, 1997; Chemyreva, 2019]. The species was already reported from NR "Kivach" [Humala, 1997].

Zygota subaptera (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Nixon, 1957; Kozlov, 1978]. The species was reported from NR "Kivach" [Humala, 1997].

Tribe Cinetini

Genus *Aclista* Förster, 1856

Aclista acuta (Kieffer, 1909)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported from NR "Kivach" [Humala, 1997].

Aclista alticollis (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. It was reported in Karelia from Paanajärvi [Hellén, 1964].

Aclista dubia (Kieffer, 1909)

DISTRIBUTION. Western Palaearctic [Macek, 2005]. It was reported in Karelia from Paanajärvi [Hellén, 1964].

$Aclista insolita Nixon, 1957

DISTRIBUTION. Western Palaearctic [Macek, 2005]. The species was reported from NR "Kivach" [Humala, 1997].

Aclista marshalli (Kieffer, 1910)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. It was reported in Karelia from Sortavala [Hellén, 1964].

$ *Aclista rufipes* (Kieffer, 1907)

DISTRIBUTION. Western Palaearctic [Nixon, 1957; Hellén, 1964]. It was reported in Karelia from Sortavala and Paanajärvi [Hellén, 1964].

Genus *Cinetus* Jurine, 1807

Cinetus fuscipes (Kieffer, 1910)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported from NR "Kivach" [Humala, 1997].

Cinetus iridipennis Lepeletier et Serville, 1825

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported earlier in Karelia from Impilahti [Hellén, 1964] and from NR "Kivach" [Humala, 1997].

Cinetus piceus Thomson, 1858

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported from NR "Kivach" [Humala, 1997].

$ *Cinetus princeps* Nixon, 1957

DISTRIBUTION. Western Palaearctic (Ireland only) [Nixon, 1957]. The species was reported from NR "Kivach" [Humala, 1997].

Cinetus sequester Nixon, 1957

DISTRIBUTION. Western Palaearctic [Hellén, 1964]. The species was reported from NR "Kivach" [Humala, 1997].

Cinetus simulans Nixon, 1957

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported from NR "Kivach" [Humala, 1997].

Genus *Miota* Förster, 1856

Miota macrocera (Kieffer, 1910)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from Sortavala as *Leptorhaptus macrocerus* (Kieffer) [Hellén, 1964].

REMARK The specimens recorded from NR "Kivach" by Humala [1997] as *Eumiota compressa* (Kieffer, 1910) and *E. longipetiolata* (Thomson, 1858) belong actually to the genera *Aclista* and *Cinetus* respectively and cannot be determinate in this study.

Tribe Pantolytini

Genus *Acanosema* Kieffer, 1908

Acanosema nervosum (Òhîmsîn, 1858)

MATERIAL. A2: 1♀; B2: 1♂; B3: 3♀♀, 1♂; C1: 1♀; D: 1♀, 2♂♂.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021a]. The species was already reported from NR "Kivach" [Humala, 1997].

Genus *Anommatium* Förster, 1856

Anommatium ashmeadi Mayr, 1904

MATERIAL. E: 6♂♂; H: 1♂; I: 1♂; J: 1♂.

DISTRIBUTION. Palaearctic region [Chemyreva, Kolyada, 2021b]. The species was already reported from NR "Kivach" [Humala, 1997] and Koyonsari Island [Chemyreva, Kolyada, 2021b].

Genus *Opazon* Haliday, 1857

Opazon frigidum Macek, 1995

MATERIAL. B1: 2♂♂; B2: 3♂♂; C1: 1♀; C2: 1♂; D: 14♂♂; E: 1♂; F: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, 2021b].

Opazon parvulum (Haliday, 1857)

MATERIAL. F: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, 2021b]. The species was already reported in Karelia from Keret' Village [Chemyreva, 2021b].

Genus *Pantolyta* Förster, 1856

Pantolyta dichromia Chemyreva et Kolyada, 2021

MATERIAL. G: 1♀, 1♂; I: 1♀.

DISTRIBUTION. Palaearctic region [Chemyreva, Kolyada, 2021b].

Pantolyta flaviventris (Thomson, 1858)

MATERIAL. C1: 1♀; C2: 1♀; E: 3♂♂; H: 1♂; I: 1♂; K: 6♂♂; L: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b]. It was already reported in Karelia from Kirjavalahti as *Acropiesta flaviventris* Thomson [Hellén, 1964].

Pantolyta flexinervis (Macek, 1998)

MATERIAL. C1: 1♀; G: 2♀,♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b].

Pantolyta hadrosoma Macek, 1993

MATERIAL. B2: 1♀; B3: 1♂; C2: 4♀,♀; D: 2♀,♀; E: 2♂♂.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2019].

Pantolyta marginalis (Kieffer, 1909)

MATERIAL. C2: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2019].

Pantolyta micans (Macek, 1998)

MATERIAL. B2: 2♀,♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b].

Pantolyta nitida (Thomson, 1858)

MATERIAL. B1: 1♀, 2♂♂; D: 2♂♂; I: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b].

Pantolyta nixoni Macek, 1993

MATERIAL. F: 1♀.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2019].

Pantolyta rufiventris (Kieffer, 1909)

MATERIAL. B2: 4♀,♀, 33♂♂; B3: 1♀; C1: 3♂♂; D: 4♀,♀, 19♂♂.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b]. It was already reported in Karelia from Kirjavalahti as *Acropiesta rufiventris* Kieffer [Hellén, 1964].

Pantolyta sciarivora (Kieffer, 1907)

MATERIAL. B2: 1♀; C1: 2♀♀, 4♂♂; D: 2♀♀, 2♂; E: 2♀♀, 16♂♂.

DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2021b]. The species was already reported from NR "Kivach" as *Acropiesta flavipes* Kieffer [Humala, 1997].

Pantolyta semirufa Kieffer, 1908

MATERIAL. B2: 1♀.

DISTRIBUTION. Palaearctic region [Chemyreva, Kolyada, 2019]. It was already reported in Karelia from Paanajärvi [Hellén, 1964].

Genus *Psilomma* Förster, 1856

Psilomma dubia Kieffer, 1908

MATERIAL. D: 2♂♂; I: 1♂.

DISTRIBUTION. Western Palaearctic region [Chemyreva, Kolyada, 2021a]. It was already reported in Karelia from Hiitola [Hellén, 1964].

Genus *Synacra* Förster, 1856

Synacra atrata Macek, 1995

MATERIAL. B2: 2♀♀; B3: 12♀♀; C2: 23♀♀.
DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2020].

Synacra holconota Kieffer, 1910

MATERIAL. A1: 1♀; I: 1♀, 2♂♂.
DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2020].

Synacra sociabilis (Kieffer, 1904)

MATERIAL. B2: 1♀.
DISTRIBUTION. Western Palaearctic [Chemyreva, Kolyada, 2020]. The species was already reported from NR "Kivach" [Humala, 1997].

Subfamily Diapriinae

Tribe Diapriini

Genus *Basalys* Westwood, 1833

Basalys abrupta (Thomson, 1858)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from Osterozero [Ahvenjärvi] and Paanajärvi [Hellén, 1963].

Basalys crassiclava (Kieffer, 1906)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

Basalys fumipennis Westwood, 1833

DISTRIBUTION. Nearctic and Western Palaearctic regions [Nixon, 1980; Kozlov, 1978]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

Basalys longipennis (Kieffer, 1911)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

\$ *Basalys macroptera* (Kieffer, 1911)

DISTRIBUTION. Western Palaearctic (Scotland only) [Nixon, 1980]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

\$ *Basalys pedisequa* (Kieffer, 1911)

DISTRIBUTION. Western Palaearctic [Nixon, 1980]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

Genus *Monelata* Förster, 1856

Monelata parvula (Nees, 1834)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from Paanajärvi as *Trichopria parvula* Nees [Hellén, 1963].

\$ *Monelata rufipes* Kieffer, 1909

DISTRIBUTION. Western Palaearctic [Hellén, 1963]. The species was reported in Karelia from Kumchezero [Kumsjärvi] as *Corynopria rufipes* (Kieffer) [Hellén, 1963] and NR "Kivach" [Humala, 1997].

Genus *Trichopria* Ashmead, 1893

\$ *Trichopria verticillata* (Latreille, 1805)

DISTRIBUTION. Western Palaearctic [Nixon, 1980]. The species was reported in Karelia from Shuya [Suoju] [Hellén, 1963].

Tribe Psilini

Genus *Coptera* Say, 1836

Coptera depressa (Kieffer, 1911)

DISTRIBUTION. Western Palaearctic [Chemyreva, 2019]. The species was reported in Karelia from NR "Kivach" [Humala, 1997].

Genus *Psilus* Panzer, 1801

\$ *Psilus cornutus* Panzer, 1801

DISTRIBUTION. Western Palaearctic [Nixon, 1980]. The species was reported in Karelia from Paanajärvi, Sortavala and Kumchezero [Kumsjärvi] [Hellén, 1963], from White sea islands (Kuzova Archipelago, Bolshoi Zhuzhmuy Is.) [Humala, 2003] and from Prirechny surrounds [Humala, Polevoi, 2009].

Tribe Spilomicrini

Genus *Entomacis* Förster, 1856

Entomacis graeffei Kieffer, 1909

MATERIAL. A2: 1♀; I: 1♂.
DISTRIBUTION. Palaearctic and Oriental regions [Chemyreva, 2014; Chemyreva, Xu, 2018].

Entomacis perplexa (Haliday, 1857)

MATERIAL. E: 3♀♀, 3♂♂; I: 3♂♂.
DISTRIBUTION. Palaearctic and Oriental regions [Chemyreva, 2014; Chemyreva, Xu, 2018].

Entomacis platyptera (Haliday, 1857)

MATERIAL. B1: 1♀; E: 1♂.
DISTRIBUTION. Palaearctic and Oriental regions [Chemyreva, 2014; Chemyreva, Xu, 2018].

Genus *Idiotypa* Förster, 1856

Idiotypa maritima (Haliday, 1833)

MATERIAL. D: 1♂; G: 2♀♀; H: 1♀.
DISTRIBUTION. Palaearctic region [Chemyreva et al. 2021].

Genus *Paramesius* Förster, 1856

Paramesius belytoides Marshall, 1867

DISTRIBUTION. Palaearctic region [Chemyreva, Kolyada, 2018]. The species was reported in Karelia from Hiitola and Kumchezero [Kumsjärvi] as *Paramesius rufipes* Westwood [Hellén, 1963].

Genus *Spilomicrus* Westwood, 1832

Spilomicrus flavipes Thomson, 1858

MATERIAL. B1: 2♀♀.
DISTRIBUTION. Western Palaearctic [Chemyreva, 2021a].

Spilomicrus formosus Jansson, 1942

MATERIAL. G: 1♂.
DISTRIBUTION. Holarctic region [Notton, 1999].

Spilomicrus stigmaticalis Westwood, 1832

MATERIAL. M: 1♂.
DISTRIBUTION. Holarctic region [Chemyreva, 2021a].

Acknowledgements. The study of V. Chemyreva was supported by the Russian state research project no. 121031000151-3. The study of A. Humala was carried out under state order to the Karelian Research Centre of the Russian Academy of Sciences (Forest Research Institute).

Competing interests. The authors declare no competing interests.

References

Ahti T., Boychuk M.A. 2006. The botanical journeys of A.K. Cajander and J.I. Lindroth to Karelia and Onega River in 1898 and 1899, with a list of their bryophyte and lichen collections // Norrlinia. Vol.14. P.1–65.

Chemyreva V.G. 2014. Genus *Entomacis* Foerster, 1856 (Hymenoptera: Diapriidae) in the fauna of Russia, with description of two new species // Proceedings of the Russian Entomological Society. Vol.85. No.1. P.191–198.

Chemyreva V.G. 2019. Family Diapriidae // Belokobylskij S.A., Samartsev K.G., Il'inskaya A.S. (eds). Annotated catalogue of the Hymenoptera of Russia. Volume II. Apocrita: Parasitica. Proceedings of the Zoological Institute of the Russian Academy of Sciences. Supplement 8. Zoological Institute RAS, St Petersburg. P.35–40.

Chemyreva V.G. 2021a. Review of European *Spilomicrus* Westwood (Hymenoptera, Diapriidae: Spilomicrini) except for Species of the *formosus* group // Entomological Review. Vol.101. No.3. P.378–425.

Chemyreva V.G. 2021b. Review of the genus *Opazon* Haliday (Diapriidae, Belytinae) in the fauna of Russia // Russian Entomological Journal. Vol.30. No.1. P.78–83.

Chemyreva V.G., Kolyada V.A. 2018. Review of the genus *Paramesius* Westwood, 1832 (Hymenoptera: Diapriidae, Spilomicrini) from Russia, with description of four new species // Zootaxa. Vol.4524. No.4. P.453–472.

Chemyreva V.G., Kolyada V.A. 2019. Review of the genus *Pantolyta* Förster, 1857 (Hymenoptera: Diapriidae, Pantolytini) from Russia, with description of three new species // Zoosystematica Rossica. Vol.28. No.1. P.163–176.

Chemyreva V.G., Kolyada V.A. 2020[2019]. Review of the genus *Synacra* Foerster (Hymenoptera, Diapriidae: Pantolytini) in the Palaearctic region, with description of new species // Entomological Review. Vol.99. No.9. P.1339–1358.

Chemyreva V.G., Kolyada V.A. 2021a. Review of the subtribe Psilommina (Hymenoptera: Diapriidae, Belytinae), from Russian fauna // Far Eastern Entomologist. No.436. P.1–34.

Chemyreva V.G., Kolyada V.A. 2021b. Taxonomy of the genera *Acropiesta*, *Anommatium*, *Erasikea* and *Pantolyta* (Diapriidae: Belytinae) with review of species occurring in Russia // Zoosystematica Rossica. Vol.30. No.1. P.137–162.

Chemyreva V.G., Notton D.G., Zaldívar-Riverón A. 2021. Revision of Palaearctic *Idiotypa* (Hymenoptera, Diapriidae, Diapriinae, Spilomicrini) // Zootaxa. Vol.4966. No.2. P.127–144.

Chemyreva V.G., Xu Z.-F. 2018. The genus *Entomacis* Foerster, 1856 (Hymenoptera, Diapriidae) in South China // Far Eastern Entomologist. No.351. P.116.

Heikinheimo O., Raatikainen M. 1971. The recording of locations of biological finds in Finland // Annales Entomologici Fennici. Vol.37. No.1a. P.1–27.

Hellén W. 1963. Die Diapriinen Finnlands (Hymenoptera: Proctotrupoidea) // Fauna Fennica. Bd.14. S.1–35.

Hellén W. 1964. Die Ismarinen und Belytinen Finnlands (Hymenoptera: Proctotrupoidea) // Fauna Fennica. Bd.18. S.1–68.

Humala A.E. 1997. [On the fauna of Hymenoptera Apocrita of Nature Reserve "Kivach"] // Kravchenko A.V. (ed.). Flora i fauna okhranyaemykh prirodnykh territoriy Karelii]. Petrozavodsk: Karel'skiy nauchnyi tsentr RAN. P.50–72 [in Russian, with English summary].

Humala A.E. 2003. [Insects of the White Sea islands (Kuzova archipelago, Bolshoi Zhuzhmui and Malyi Zhuzhmui islands)] // Kul'turnoe i prirodnoe nasledie ostrovov Belogo morya. Zhivotnyi mir. Petrozavodsk. P.134–137 [in Russian].

Humala A.E., Polevoi A.V. 2009. [On the insects fauna of south-east Karelia] // Trudy Karel'skogo nauchnogo tsentra RAN. Biogeografia Karelii. Vol.4. P.53–75 [in Russian with English summary].

Johnson N.F. 1992. Catalog of World species of Proctotrupoidea, exclusive of Platygastridae (Hymenoptera) // Memoirs of the American Entomological Institute. Vol.51. P.1–825.

Kravchenko A.V., Kuznetsov O.L. 2001. [Peculiarities of biogeographical provinces of the Republic of Karelia on the basis of analysis of vascular plant flora] // Trudy Karel'skogo nauchnogo tsentra RAN. Biogeografia Karelii. No.2. P.59–64 [in Russian, with English summary].

Macek J. 1995. Revision of the West Palaearctic *Lyteba* Th. (*Oxylabis* auct.) (Hymenoptera: Proctotrupoidea, Diapriidae) // Folia Heyrovskyana. Vol.3. No.3. P.29–39.

Macek J. 1996a. Description of new species of *Synbelyta* Hellén (Hymenoptera, Diapriidae) with taxonomical remarks on the genus // Řada přírodovědná. Vol.165. P.63–74.

Macek J. 1996b. Revision of the European species of *Belyta* Jurine // Acta musei Nationalis Pragae, Series B, Historia Naturalis. Vol.51. P.1–22.

Macek J. 1997. Revision of Central European species of *Zygota* (Hymenoptera: Diapriidae) // Folia Heyrovskyana. Vol.5. No.1. P.31–57.

Macek J. 2005. Revision of Central European species of *Aclista* (Diapriidae, Hymenoptera). Part II. *Aclista insolita* Nixon, 1957, *Aclista dubia* Kieffer, 1909 and similar species // Acta Entomologica Musei Nationalis Pragae. Vol.45. P.183–197.

Masner L. 1991. Revision of *Spilomicrus* Westwood in America North of Mexico (Hymenoptera: Proctotrupoidea, Diapriidae) // The Canadian Entomologist. Vol.123. P.107–177.

Nixon G.E.J. 1957. Hymenoptera, Diapriidae, subfamily Belytinae // Handbooks for Identification of British Insects. Vol.8. Pt.3(diii). P.1107.

Nixon G.E.J. 1980. Diapriidae (Diapriinae). Hymenoptera, Proctotrupoidea // Handbooks for Identification of British Insects. Vol.8. Pt.3(di). P.55.

Notton D.G. 1999. A revision of the north-west European species of the *formosus* species group of *Spilomicrus* (Hymenoptera, Diapriidae) // Bulletin of the Natural History Museum (Entomology). Vol.68. P.129–144.