

## Parasitoid wasps (Hymenoptera) reared from two polypore fungi on aspen in Kivach, the Karelian Republic of Russia

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A sample of two polypore species (*Trametes ochracea* and *Bjerkandera adusta*) on aspen was taken on 21.5.1998 in Kivach, Karelia, Russia for rearing. Seven species of Coleoptera (*Agathidium pisanum* [Leiodidae], *Orthoperus punctatus* [Corylophidae], *Cis boleti*, *C. submicans*, *C. fissicornis*, *Octotemnus glabriculus* and *Sulcaxis fronticornis* [Ciidae]) were obtained, and in addition seven species of small parasitoid wasps also emerged: two braconid species (*Meteorus cis* and *Aphaereta scaptomyzae*), two pteromalid species (*Janssoniella* sp. and *Plutothrix* sp.), one euderine eulophid species (*As-tichus* sp.) and two mymarids (*Camptoptera foersteri* and *Cleruchus* sp.). All parasitoid wasps, except *Aphaereta scaptomyzae*, are previously known to be parasitoids on species of Ciidae.

Keväällä 1998 otettiin kasvatusta varten Kivatsun luonnonsuojelualueella Venäjän Karjalassa pinovyökääpä (*Trametes ochracea*)- ja tuhkakääpänyyte (*Bjerkandera adusta*) haavan rungolta. Kasvatuksessa syntyi seitsemän kovakuoriaislajia: *Agathidium pisanum* (Leiodidae), *Orthoperus punctatus* (Corylophidae) ja viisi kääpiäislajia: *Cis boleti*, *C. submicans*, *C. fissicornis*, *Octotemnus glabriculus* ja *Sulcaxis fronticornis* (Ciidae) ja niiden ohella seitsemän loispistiäislajia: kaksi vainokaislajia (*Meteorus cis* ja *Aphaereta scaptomyzae*), kaksi pteromalidia (*Janssoniella* sp. ja *Plutothrix* sp.), yksi euderini (*As-tichus* sp.) ja kaksi hiukepistiäistä (*Camptoptera foersteri* and *Cleruchus* sp.). Näistä 6 lajia on aiemmin todettu olevan kääpiäisten loisia ja yksi laji (*Aphaereta scaptomyzae*) elää pienten kärpästen toukissa.

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### Introduction

The Nature Reserve of Kivach is located 65 km to the North of Petrozavodsk in the Karelian Republic of Russia. A large part of the area is covered by forest in which pine, spruce, and birch dominate. Large aspen trees (*Populus tremula* L.) are common in the forests and they harbour interesting beetle fauna (e.g., Siitonen et al. 1996). Author PM visited the area of Kivach in May 1998 to study the fauna of

Coleoptera of the nature reserve. On 21 May 1998 he took samples of two polypore fungi on aspen. The species were *Trametes ochracea* (Pers.) Gilb. & Ryvarden and *Bjerkandera adusta* (Willd.: Fr.) P. Karsten. They were put in the same vehicle in order to rear beetles living in them. Later numerous individuals of five species of Ciidae (nomenclature according to Silfverberg 2010) were obtained from the samples: *Cis submicans* Abeille de Perrin,

1874, *Cis boleti* (Scopoli, 1763), *Cis fissicornis* Mellié, 1848, *Octotemnus glabriculus* (Gyllenhal, 1827) and *Sulcaxis fronticornis* (Panzer, 1809). Possibly *Cis micans* (Fabricius, 1792) was also present. Furthermore, one specimen of *Agathidium pisanum* Brisout de Barneville, 1872 (Leiodidae) and two specimens of *Orthoperus punctatus* Wankowicz, 1865 (Corylophidae) were obtained. PM observed that the sample contained in addition some small specimens of parasitoid wasps. The rest of the sample was given after some months to author VV who looked through the sample, sorted the collected parasitoids, and prepared them for study. The specimens are deposited in CVV= private collection of Veli Vikberg, Turenki, Finland.

#### **Parasitoid wasp species found in the polypores on *Populus tremula* in Kivach**

The sample contained 131 specimens of parasitoid wasps belonging to seven species which represent four families: Braconidae (Ichneumonoidea), and three families of Chalcidoidea. All species are small or very small. The species were identified, as follows:

*Meteorus cis* (Bouché, 1834) = *M. profligator* (Haliday, 1835) (Ichneumonoidea, Braconidae, Euphorinae), 4 females. The largest species: body length 2.4-2.9 mm, fore wing length 2.5-2.9 mm, antenna with 19-20 flagellomeres.

These two species were synonymized by Belokobylskij *et al.* (2003). The species is known as a parasitoid of *Cis boleti* (Scopoli) (Coleoptera: Ciidae) (Huddleston 1980) and *Epuraea distincta* Grimmer (Coleoptera: Nitidulidae) (Belokobylskij 2000). It is not recorded from the European part of Russia but occurs in the Russian Far East (Tobias 1986a, Belokobylskij 2000).

*Aphaereta scaptomyzae* Fischer, 1966 (Ichneumonoidea, Braconidae, Alysiniinae), 3 females 3 males. Females: body length 1.3-1.9 mm, fore wing length 1.6-2.2 mm, antenna with 16-19

flagellomeres. Males: body length 1.8-2.0 mm, fore wing length 1.8-2.3 mm, antenna with 19-20 flagellomeres.

The species is a parasitoid of *Scaptomyza ?pallida* (Zetterstedt, 1847) (Diptera: Drosophilidae) and is known from the northwestern part of European Russia (Tobias 1986b).

*Janssoniella* sp. (Chalcidoidea, Pteromalidae), 4 males. Body length 1.3-2.0 mm.

Two European species of *Janssoniella* Kerich, 1957 have earlier been reared from *Polyporus* species (Graham 1969).

*Plutothrix* sp. (Chalcidoidea, Pteromalidae), 1 male. Body length 2.6 mm.

One European species, *Plutothrix cisae* Hedqvist, 1966, was reared probably as a parasitoid of *Cis boleti* in *Polyporus* sp. in Finland (Hedqvist 1966).

*Astichus* sp. (Chalcidoidea, Eulophidae, Euderinae), 7 females, 2 males.

Three females (body length 1.95-2.1 mm, fore wing length 1.35-1.43) have funicular segment 3 pale and segment 4 blackish, the maculation of fore wing is somewhere between as in fig. 1B: *Astichus intermedius* Hedqvist, 1969 or fig. 2A: *A. polyporicola* Hedqvist, 1969 in Hedqvist (1969) but more like in the former (Fig. 1). The structure of the propodeum is almost as in fig. 4C: *A. polyporicola* in Hedqvist (1969).

Three females (body length 1.70-2.05 mm, fore wing length 1.23-1.42) have both funicular segments 3 and 4 more or less pale brownish, segment 4 can be slightly infusate. The maculation of fore wing and the structure of the propodeum are rather similar as in the three former specimens with differently coloured funicular segments.

One female (body length 1.94 mm) has not developed properly, its wings are coiled, without maculae and flagella are still inside the pupal skin. Its funicular segments 3 and 4 are pale yellow.

Two males (body length 0.75-0.90 mm, forewing length 0.77-0.85) do not fit any male in Hedqvist (1969). They could represent the male of *Astichus intermedius* which is unknown.

According to the key of females in Hedqvist (1969) there could be two species of *Astichus* from Kivach but it is possible that only one is present and the colour of its funicular segments can vary. The species could be *A. intermedius* or *Astichus polyporicola* Hedqvist, 1969, or a new species close to them. A further study on the genus is needed.

***Camptoptera foersteri*** Girault, 1909; = *Camptoptera aula* Debauche, 1948 (Chalcidoidea, Mymaridae), 5 females, 2 males. Body length of female 0.49 mm (Fig. 2), of male 0.42.

The two species were synonymized recently (Huber 2011). The species was reared from the polypore fungi in the Netherlands (Triapitsyn & Moraal 2008). *Camptoptera foersteri* (= *aula*) has not previously been recorded from Russia.

***Cleruchus* sp.** (Chalcidoidea, Mymaridae), 48 brachypterous females, 32 macropterous females, 20 almost apterous males. Body length of female 0.42 mm, of male 0.40.

Author VV observed that the specimens of this small mymarid differed slightly from specimens of the earlier described congeneric species. Some specimens of *Cleruchus* sp. were sent to Serguei V. Triapitsyn (Entomology Research Museum, University of California, Riverside, California, USA), and this species is treated in a separate article in the same issue of this journal (Triapitsyn, Vikberg & Martikainen 2011).

Also five specimens of a small species of Cecidomyiidae and one female and one male specimen of a small fly (Diptera) were found among remains of the sample. This fly species could be the host species of *Aphaereta scaptomyzae* in bracket fungi on aspen.

## Figures

**Fig. 1.** Female of *Astichus* sp. reared from polypore fungi on *Populus tremula* in Kivach

**Kuva 1.** Haavan käävistä Kivatsusta kasvatetun *Astichus* -lajin naaras

**Fig. 2.** Female of *Camptoptera foersteri* reared from polypore fungi on *Populus tremula* in Kivach (on slide in polyviol 17)

**Kuva 2.** Haavan käävistä Kivatsusta kasvatettu *Camptoptera foersteri* -naaras (polyviol 17 -aluslasivalmiste)



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