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Remarks on the taxonomy of some species of Cylloceriinae and Orthocentrinae (Hymenoptera: Ichneumonidae)

Таксономические замечания по нескольким видам Cylloceriinae и Orthocentrinae (Hymenoptera: Ichneumonidae)

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КЛЮЧЕВЫЕ СЛОВА: Дарвиновские наездники, *Cylloceria*, *Helictes*, *Plectiscidea*, таксономия, лектотип, синонимия.

ABSTRACT. Taxonomic status of several species of *Cylloceria* Schiødte, 1838 (Cylloceriinae), *Helictes* Haliday, 1837 and *Plectiscidea* Viereck, 1914 (Orthocentrinae), described by Humala [2002, 2003] have been revised. Lectotypes of four species are designated: *Cylloceria tenuicornis* Humala 2002 (lectotype female, Russia, Yamalo-Nenets Autonomous Okrug; deposited in ZISP), *Helictes carinata* Humala, 2003 (lectotype male, Russia, Primorsky Terr.; ZISP), *H. karelica* Humala, 2003 (lectotype female, Russia, Karelia; ZISP) and *Plectiscidea fuscifemur* Humala, 2003 (lectotype female, Finland; ZMHU). *Helictes carinalis* Humala, 2007 is a junior synonym of *H. carinata* Humala, 2003 (**syn.n.**); *Plectiscidea aquilonia* Humala, 2008 is a junior synonym and homonym of *P. aquilonia* Humala, 2003 (**syn.n.**); *P. fuscifemur* Humala, 2008 is a junior synonym and homonym of *P. fuscifemur* Humala, 2003 (**syn.n.**). *Plectiscidea helleni* Humala, 2003 is **nomen nudum**; *P. helleni* Humala, 2008 is a valid species. The type of *Plectiscidea koponeni* Humala, 2003 is lost. Colour photographs of type specimens are given.

РЕЗЮМЕ. Ревизован таксономический статус нескольких видов *Cylloceria* Schiødte, 1838 (Cylloceriinae), *Helictes* Haliday, 1837 и *Plectiscidea* Viereck, 1914 (Orthocentrinae), описанных А.Э. Хумала [Humala, 2002, 2003]. Обозначены лектотипы четырех видов: *Cylloceria tenuicornis* Humala 2002 (лектотип, самка, Россия, Ямало-Ненецкий автономный округ; ZISP), *Helictes carinata* Humala, 2003 (лектотип, самец, Россия, Приморский край; ZISP), *H. karelica* Humala, 2003 (лектотип, самка, Россия, Карелия; ZISP) и *Plectiscidea fuscifemur* Humala, 2003 (лектотип, самка, Финляндия; ZMHU). *Helictes carinalis* Humala, 2007 является младшим синонимом *H. carinata* Humala, 2003 (**syn.n.**); *Plectiscidea aquilonia* Humala, 2008 является младшим синонимом и омонимом *P. aquilonia* Humala, 2003 (**syn.n.**); *P. fuscifemur* Humala, 2008 является младшим синонимом и омонимом *P. fuscifemur* Humala, 2003 (**syn.n.**). *Plectiscidea helleni* Humala, 2003 — **nomen nudum**; *P. helleni* Humala, 2008 — валидный вид. Голотип *Plectiscidea koponeni* Humala, 2003 утрачен. Даны цветные фотографии типовых экземпляров.

Introduction

One species of *Cylloceria* Schiødte, 1838 (Cylloceriinae) and several species in the genera *Helictes* Haliday, 1837 and *Plectiscidea* Viereck, 1914 (Orthocentrinae) were described briefly in the key or with unclear designation of the type material [Humala, 2002, 2003]. Subsequently, some of these species were described again as new taxa [Humala, 2007, 2008] that provoked nomenclatural confusions. The aim of this work is to revise the taxonomic status of these taxa, designate lectotypes and provide photographs of type specimens.

Material and methods

Following abbreviations of the European collections are used in this study: "DAZHU" by Humala (misspelling of "DABHU", currently part of the ZMHU), ZISP (Zoological Institute of the Russian Academy of Sciences, St Petersburg,

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Russia), ZMHU (Helsinki University, Helsinki, Finland). All taxa are listed in alphabetical order. Taxonomy follows Khalaim *et al*. [2019]. General distribution mainly follows the catalogue TaxaPad [Yu *et al*., 2016].

Colour photographs of the *Cylloceria tenuicornis* lectotype (Figs 1–3) were taken by A.I. Khalaim in ZISP with an Olympus OM-D E-M1 digital camera attached to an Olympus SZX10 stereomicroscope, and partially focused images were combined using Helicon Focus Pro (ver. 7.6.6) software. Colour photographs of *Helictes carinata* and *H. karelica* lectotypes (Figs 4, 5) were taken by A.E. Humala in Petrozavodsk with a LOMO MC-6.3 digital camera attached to a Leica MZ9.5 stereomicroscope. Photographs of the type specimens of *Plectiscidea* spp. (Figs 6–8) were used from the Finnish Biodiversity Information Facility web-site (https://laji.fi).

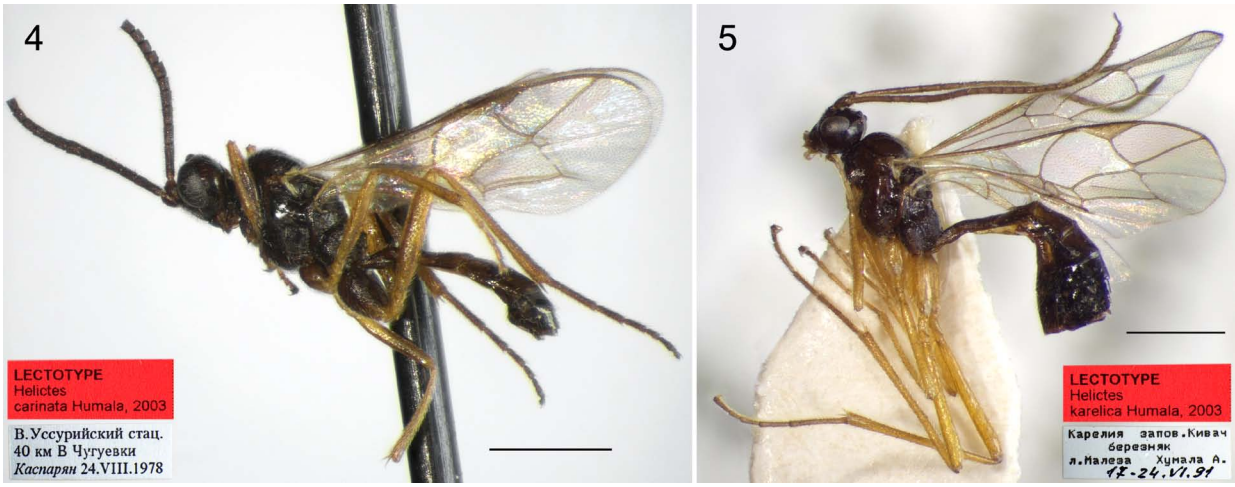
Taxonomic part

Family Ichneumonidae Latreille, 1802
Subfamily Cylloceriinae Wahl, 1990
Cylloceria tenuicornis Humala, 2002
Figs 1–3.

Cylloceria tenuicornis Humala, 2002: 380 (original description).

TYPE MATERIAL. Lectotype (**designated here**): Female, Russia, Yamalo-Nenets Autonomous Okrug, Taz

Figs 1–3. *Cylloceria tenuicornis*, female, lectotype: 1 — habitus, lateral view; 2 — head, frontal view; 3 — head and mesosoma, lateral view. Scale bar: 2.0 mm.
Рис. 1–3. *Cylloceria tenuicornis*, самка, лектотип: 1 — габитус, вид сбоку; 2 — голова, вид спереди; 3 — голова и мезосома, вид сбоку. Масштаб: 2.0 мм.



Figs 4–5. *Helictes* spp., habitus, lateral view: 4 — *H. carinata*, male, lectotype; 5 — *H. karelica*, female, lectotype. Scale bars: 1.0 mm.
Рис. 4–5. *Helictes* spp., габитус, вид сбоку: 4 — *H. carinata*, самец, лектотип; 5 — *H. karelica*, самка, лектотип. Масштаб: 1.0 мм.

River, Krasnoselkup, 14.VIII.1992, coll. D.R. Kasparyan (ZISP).

Paralectotypes. **Russia:** Komi Rep., "Усть-Цыльма Печор. у., Арханг. Журавскій 29.VII-08 [Ust-Tsilma, Pechorsky Uezd, former Arkhangelsk Governorate, 29.VII.1908, coll. Zhuravskiy]", 1 female (ZISP); Sakha Rep., Anabar River, Yuriung-Khaya, swampy lake shore, 4.VIII.1988, coll. K. Gorodkov, 1 female (ZISP). **Finland:** Ab, Karislojo, coll. W. Hellén, 2 females (ZMHU); Li, Ivalo, coll. J. Sahlberg, 1 female, 1 male (ZMHU); Lt, Kola, coll. R. Frey, 1 female, 2 males (ZMHU); Ta, Tavastehus, coll. J. Sahlberg, 1 female (ZMHU).

REMARKS. The species was described based on ten females and five males from Russia (Yamalo-Nenets, Yakutia [= Sakha], Arkhangelsk, Murmansk) and Finland. Specimens from Murmansk Prov. and Finland are deposited in ZMHU; remainder specimens from Russia are in ZISP. The author noted that the holotype is from Krasnoselkup (Yamalo-Nenets Autonomous Okrug), but he did not state its sex. Thus, the holotype was not designated properly and type specimens are syntypes. We designate lectotype here and provide its colour photograph.

Two paralectotype females are also found in the ZISP collection. One paralectotype is actually from Komi Republic (Ust-Tsilma in former Arkhangelsk Governorate), not from Arkhangelsk Prov. Number of female and male syntypes recently revised by A.E. Humala in the ZMHU collection differs from the number stated in the original description.

CURRENT STATUS. Valid species.

DISTRIBUTION. Russia (Komi, Murmansk, Yamalo-Nenets, Sakha), Finland.

Subfamily Orthocentrinae Förster, 1869

Helictes carinata Humala, 2003

Fig. 4.

Helictes carinata Humala, 2003: 122 (in key), 123 (material, distribution). Males (syntypes); Russia (Primorsky), Finland; deposited in ZISP.

Helictes carinalis Humala, 2007: 698 (in key, description). Holotype female, Primorsky Terr., 40 km SE of Chuguevka, 24.VIII.1978, coll. D.R. Kasparyan; deposited in ZISP. **Syn.n.**

TYPE MATERIAL. Lectotype (**designated here**): Male, Russia, Primorsky Terr., 40 km SE of Chuguevka, 24.VIII.1978, coll. D.R. Kasparyan (ZISP).

Paralectotypes. **Russia:** Primorsky Terr., same data as holotype, 2 males (ZISP). **Finland:** N, Åggelby [= Oulunkylä], [date missing], coll. Clayhills, 1 male (ZMHU).

REMARKS. The species was described based on four males from Russia (Primorsky) and Finland without any details. According to the *Introduction* of the book [Humala 2003: 11], the type material is deposited in ZISP. The holotype is not mentioned, therefore four type specimens are syntypes. We designate lectotype here, provide its complete label data and colour photograph.

Subsequently, this species was described again as *H. carinalis* Humala, 2007 based on the same four males from Russia (Primorsky) and Finland. We synonymise the latter species under *H. carinata* Humala, 2003 here (**syn.n.**).

CURRENT STATUS. Valid species.

DISTRIBUTION. Russia (Primorsky), Finland.

Helictes karelica Humala, 2003

Fig. 5.

Helictes karelica Humala, 2003: 122 (in key), 123 (material, distribution). Females and males (syntypes); Russia (Karelia), Finland; deposited in ZISP.

TYPE MATERIAL. Lectotype (**designated here**): Female, Russia, Karelia., Kivach Nature Reserve, 3 km NE of central settlement, birch forest, Malaise trap, 17–24.VI.1991, coll. A.E. Humala (ZISP).

Paralectotypes. **Russia:** Karelia, Kivach Nature Reserve, environs of central settlement, aspen, birch and pine forests, Malaise traps, 17–24.VI, 12–16.VII, 6.IX–15.X.1991, coll. A.E. Humala (ZISP), 8 females, 16 males (ZISP); same data, 2–9.X.1990, 1 male (ZISP).

Finland: Le, Enontekiö, 24.VII.1986, coll. T. Lammes, 5 males (ZMHU).

REMARKS. The species was described based on five females and 26 males from Russia (Karelia) and Finland without any details. According to the *Introduction* of the book [Humala 2003: 11], the type material is deposited in ZISP. The holotype is not mentioned, therefore all type specimens are syntypes. We designate lectotype female here, provide its complete label data and colour photograph. Examined syntype material actually includes nine females and 22 males.

CURRENT STATUS. Junior synonym of *Helictes fabularis* Rossem, 1987. Synonymized by Horstmann, 2004: 57.

Plectiscidea aquilonia Humala, 2003
Fig. 6.

Plectiscidea (*Plectiscidea*) *aquilonia* Humala, 2003: 124 (in key), 130 (material, distribution). Holotype female, Russia, Karelia; deposited in ZISP.

Plectiscidea aquilonia Humala, 2008: 97 (description). Holotype female, Russia, Khabarovsk Terr., Udyl Lake, 9.IX.1970, coll. D.R. Kasparyan; deposited in ZISP. **Syn.n.**

TYPE MATERIAL. Holotype: Female, Russia, Karelia, Kivach Nature Reserve, Malaise trap, 16–19.VIII.1991, coll. A.E. Humala (ZISP).

Paratype. **Finland:** Ab, Turku, Ruissalo, 6712:234, 18.IX.1981, coll. M. Koponen, 1 female (ZMHU).

REMARKS. The species was described based on two specimens – one female (holotype, ZISP) from Russia (Karelia) and another female (paratype, deposited in "DAZHU") from Finland.

Subsequently, this species was described again under the same name [Humala, 2008: 97] based on material from Russia (Khabarovsk, Sakhalin, Karelia) and Finland. In the second description, the holotype of *P. aquilonia* Humala, 2003 from Karelia was included as a paratype. Thus, *P. aquilonia* Humala, 2008 is a junior homonym and synonym of *P. aquilonia* Humala, 2003 (**syn.n.**).

The holotype of this species is not found, therefore we provide photograph of the paratype specimen from the ZMHU (Fig. 6).

CURRENT STATUS. Valid species.

DISTRIBUTION. Russia (Karelia, Khabarovsk, Sakhalin), Great Britain [Broad, 2016: 512], Finland, Norway [Humala, 2015: 5].

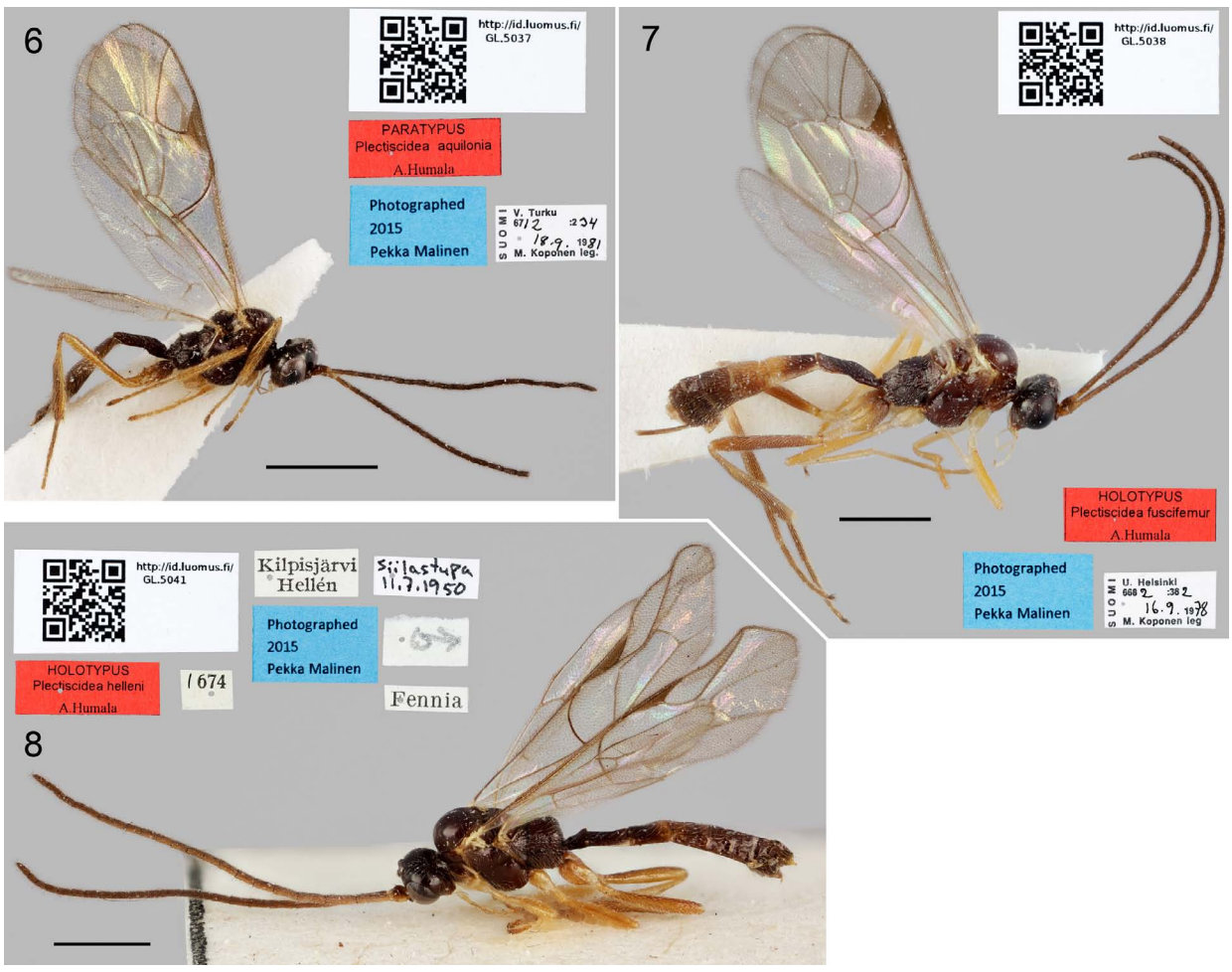
Plectiscidea fuscifemur Humala, 2003
Fig. 7.

Plectiscidea (*Plectiscidea*) *fuscifemur* Humala, 2003: 124 (in key), 131 (material, distribution). Females (syntypes), Finland; deposited in "DAZHU".

Plectiscidea fuscifemur Humala, 2008: 99 (description). Holotype female, Finland, *N*, Helsinki, Kannelmäki, 6682:382, 16.IX.1978; deposited in ZMHU. **Syn.n.**

TYPE MATERIAL. Lectotype (**designated here**): Female, Finland, N, Helsinki, Kannelmäki, 6682:382, 16.IX.1978, coll. M. Koponen (ZMHU).

Paralectotypes. **Finland:** Ab, Vihti, Siikajärvi, 668:36, light trap, 24.IX–1.X.1971, coll. A. Petramaa, 1 female



Figs 4–5. *Helictes* spp., habitus, lateral view: 4 — *H. carinata*, male, lectotype; 5 — *H. karelica*, female, lectotype. Scale bars: 1.0 mm.
Рис. 4–5. *Helictes* spp., габитус, вид сбоку: 4 — *H. carinata*, самец, лектотип; 5 — *H. karelica*, самка, лектотип. Масштаб: 1,0 мм.

(ZMHU); N, Nurmijärvi, 6710:381, 23.IX.1993, coll. M. Koponen, 1 female (ZMHU).

REMARKS. The species was described based on three females from three different localities in Finland; all deposited in "DAZHU". The holotype is not mentioned, therefore all type females are syntypes. We designate lectotype female here and provide its colour photograph.

Subsequently, this species was described again under the same name [Humala, 2008: 99] based on three females (including holotype; all females are in ZMHU) from Finland and one male (deposited in ZISP) from Russia (Karelia). In the first and second descriptions females from Finland are the same. Thus, *P. fuscifemur* Humala, 2008 is a junior homonym and synonym of *P. fuscifemur* Humala, 2003 (**syn.n.**).

CURRENT STATUS. Valid species.

DISTRIBUTION. Russia (Karelia), Finland, Norway [Humala, 2015: 5].

Plectiscidea helleni Humala, 2003

Plectiscidea (*Plectiscidea*) *helleni* Humala, 2003: 131 (material, distribution). Holotype male, Finland; deposited in ZMHU. **Nomen nudum.**

REMARKS. The species was described based on a single male (holotype, by monotypy) from Finland. However, neither diagnosis nor description of this species was provided, therefore this taxon is *nomen nudum*. Subsequently, Humala [2008: 100] described this species under the same name again based on the same male from Finland (ZMHU).

CURRENT STATUS. Nomen nudum.

Plectiscidea helleni Humala, 2008
Fig. 8.

Plectiscidea helleni Humala, 2008: 100 (original description). Holotype male, Finland, Le, Enontekiö, Kilpisjärvi, Siilastupa, 11.VII.1950, coll. W. Hellén; deposited in ZMHU.

TYPE MATERIAL. Holotype: Male, Finland, Le, Enontekiö, Kilpisjärvi, Siilastupa, 11.VII.1950, coll. W. Hellén (ZMHU).

REMARKS. The species was described based on a single holotype male.

CURRENT STATUS. Valid species.

DISTRIBUTION. Finland.

Plectiscidea koponeni Humala, 2003

Plectiscidea (*Plectiscidea*) *koponeni* Humala, 2003: 124 (in key), 132 (material, distribution). Holotype female (by monotypy), Finland, N, Vantaa, 668:39, 26.VIII.1977, coll. M. Koponen; deposited in ZISP (see *Remarks* below).

TYPE MATERIAL. Holotype: Female, Finland, N, Vantaa, 668:39, 26.VIII.1977, coll. M. Koponen (lost).

REMARKS. The species was described based on a single female (holotype, by monotypy) from Finland. According to the *Introduction* of the book [Humala 2003: 11], the holotype is deposited in ZISP. However, actually the type collection was ZMHU. The type is lost [A.E. Humala, pers. obs.].

CURRENT STATUS. Valid species.

DISTRIBUTION. Finland.

Compliance with ethical standards

CONFLICT OF INTEREST: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

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