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A REVIEW OF THE SCIARIDS SPECIES OF THE GENUS *CAMPTOCHAETA* HIPPA ET VILKAMAA, 1994 (DIPTERA: SCIARIDAE) OF THE ALTAI FAUNA

L. A. Komarova¹⁾, H. Hippa²⁾ and P. Vilkaamaa³⁾

1) Shukshin State Pedagogical University of Biysk, Korolenko Street 53, 659333 Biysk, Russia. E-mail: komar@biysk.net

2) Swedish Museum of Natural History, PO Box 50007, SE-104 05 Stockholm, Sweden. E-mail: heikki.hippa@nrm.se

3) Finnish Museum of Natural History, Zoological Museum, PO Box 17, FI-00014 University of Helsinki, Finland. E-mail: pekka.vilkaamaa@helsinki.fi

Twelve species of *Camptochaeta* are listed and keyed. *C. pentacantha* **sp. n.** (Altai Republic) are described and illustrated. *C. delicata*, *C. consimilis*, *C. propria*, and *C. vivax* are newly recorded from Russia, and six species are newly recorded from Altai.

KEY WORDS: Diptera, Sciaridae, taxonomy, fauna, Altai.

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Даны обзор и определительная таблица 12 видов рода *Camptochaeta*. Описывается *C. pentacantha* **sp. n.** из республики Алтай. *C. delicata*, *C. consimilis*, *C. propria* и *C. vivax* указываются впервые для фауны России, а шесть видов указывается впервые для фауны Алтая.

1) Бийский педагогический университет имени Шукишина, ул. Короленко 53, 659333 Бийск, Россия.

2) Шведский музей естественной истории, п/я 50007, SE-104 05 Стокгольм, Швеция.

3) Финский музей естественной истории, Зоологический музей, п/я 17, FI-00014 Университет Хельсинки, Финляндия.

INTRODUCTION

The genus *Camptochaeta* was separated from the large and polyphyletic *Corynoptera* auct. (Hippon & Vilkkamaa, 1994). It includes the *Corynoptera fulvicollis* group, the *parvula* subgroup of *Corynoptera forcipata* group by Tuomikoski (1960), and many species later referred to these groups by several authors (Mohrig 1985; Mohrig et al. 1983, 1985; Menzel et al. 1990). Hippon and Vilkkamaa (1994) discussed the diagnostic and phylogenetic characters of the genus, and regarded the unique basomesial structures of the gonostylus as a synapomorphy of the species of *Camptochaeta*. In revision of the Palaearctic Sciaridae (Menzel, Mohrig, 2000) the *parvula* group was transferred to *Corynoptera* Winnenrtz, 1867 without any discussion. They also transferred two species, which doubtless belong to *Camptochaeta* (Hippon & Vilkkamaa, 1994, into *Keilbachia* Mohrig, 1987: *C. sasakawai* Mohrig et Menzel, 1992 and *C. ferrata* Hippon et Vilkkamaa, 1994. Subsequently, only one European species has been described in *Camptochaeta* sensu Menzel and Mohrig (2000): *C. gigantostyla* Menzel et Heller, 2004. Only *C. simulator* Hippon et Vilkkamaa, 1994 has been recorded from Altai (Hippon & Vilkkamaa, 1994).

In this paper, we give an overview of the fauna of *Camptochaeta* in Altai, and describe a new species, and give a key to the species of the genus occurring in the area. The work supported by financial research Grants RFBR 06-04-48260a (Russia) and YM 202/5512 (Finland)

MATERIAL AND METHODS

The present material was collected in 1990-2006 during expeditions in different parts of the Altai region and Altai Republic. The specimens were mounted on microscope slides part in Canada balsam, part in Euparal. The methods of study and terminology follow Hippon and Vilkkamaa (1994). The material is deposited in the collection of L.A. Komarova (Biysk). Regarding the *C. parvula* group of authors, we have retained it in *Camptochaeta*. The relationships and status of the *Corynoptera parvula* group as well as the relationships between this group, genera *Camptochaeta* and *Keilbachia* will be treated by us in another context.

Genus *Camptochaeta* Hippon et Vilkkamaa, 1994

Camptochaeta Hippon & Vilkkamaa, 1994: 1 (type species *Corynoptera camptochaeta* Tuomikoski, 1960, by original designation).

Species of the genus *Camptochaeta* are small- to medium-sized Sciaridae, wing length 0,9-2,5 mm. Colouration usually darker brownish, palp and legs paler, wing smoky grayish.

KEY TO THE ALTAI SPECIES (MALES)

1. Gonostylus with an apical tooth 2
 - Gonostylus without an apical tooth 10
2. Gonostylus with one mesial megaseta which is strongly curved, and with one subapical lateral megaseta, maxillary palpus with palpomere 3 exceedingly long, two times longer than palpomere 2 9. *C. tenuipalpalis*
 - Gonostylus with two or more mesial megasetae which are straight or gently arcuate and with two or more subapical lateral megasetae, maxillary palpus with palpomere short/normal, at most slightly longer than palpomere 3 3
3. Gonostylus slender, at least two and a half times longer than broad 4
 - Gonostylus tumid, less than twice longer than broad 7
4. The mesial impression of gonostylus interrupted, or divided into two parts, at the middle by a heel-like transversely corrugated part, the position of the mesial megasetae of gonostylus very apical, the distance of the most apical one of these to the base of the apical tooth less than the length of the megaseta, the apical tooth of gonostylus rather abruptly narrowed at the middle or its mesial margin slightly sigmoid 7. *C. consimilis*
 - The mesial impression of the gonostylus contiguous, the position of the mesial megasetae more basal, the distance from the base of the more apical one of these more than the length of the megaseta, the apical tooth of gonostylus steadily narrowing from base to apex 5
5. The two mesial megasetae of gonostylus close to one another, separated at most by a gap equaling the diameter of one socket 12. *C. pentacantha* sp. n.
 - The two mesial megasetae wide apart, basally separated by a gap equaling the length of the shorter of the megasetae 6
6. The mesial megasetae strongly convergent so that in dorsal or ventral view their tips are crossing or nearly so, the subapical lateral megasetae subequal in size 11. *C. vivax*
 - The mesial megasetae of gonostylus parallel or only slightly convergent, in dorsal or ventral view the tips wide apart, one of the subapical lateral megasetae unusually strong, double the size of the smaller one 1. *C. camptochaeta*
7. The ventral intercoxal area of hypopygium medially sclerotized, unusually long, more than half the length of gonocoxae, tegmen much longer than wide, gonostylus with the dorsal surface much broader than the ventral one, in ventral view the former visible as a large lobe with a prominent postero-mesial angle, the mesial megasetae of gonostylus directed obliquely postero-mesial 8. *C. propria*
 - The ventral intercoxal area of hypopygium medially membranous or with a membranous cleft posteriorly, the length of the intercoxal area normal. Much less than half the length of gonocoxae, tegmen much shorter than broad, the dorsal side of gonostylus at most slightly broader than the ventral side, in ventral view not visible or visible as a narrow stripe paralleling the ventral mesial margin, the gonostylar megasetae perpendicular to the long axis of gonostylus or slightly inclined anterior 8

8. Gonostylus without a very large megaseta exactly on the dorsal side of the apical tooth, if there is a megaseta in that position it is equal in size with the other megasetae at the apical part of gonostylus, the number of megasetae at the apical part of gonostylus 4; the more ventral one of the mesial megasetae of gonostylus much smaller than the more dorsal one 5. *C. simulator*
- Gonostylus with a strong megaseta exactly on the dorsal side of the apical tooth, this megaseta with the socket being nearly as long as the apical tooth and conspicuously deviating from the other megasetae at the apical part of gonostylus, the number of megasetae at the apical part of gonostylus 3 when the mentioned large megasetae is included; the mesial megasetae of gonostylus subequal in size 9
9. Ventral mesial margin of gonostylus abruptly notched at the more basal one of the mesial megasetae, the mesial megasetae perpendicular to the long axis of gonostylus 2. *C. stammeri*
- Ventral mesial margin of gonostylus evenly curved, mesial megasetae of gonostylus inclined basad 10. *C. delicata*
10. Gonostylus with 1 mesial megaseta 6. *C. subdentata*
- Gonostylus with 2 mesial megasetae 11
11. The flat apical part of gonostylus narrow with the most ventral one of the three apical megasetae of gonostylus separated from the other megasetae by a narrow gap which ca. twice the width of its socket 4. *C. subparvula*
- The flat apical part of gonostylus broad, the most ventral one of the three apical megasetae of gonostylus separated from the others by a gap, which is nearly 10 sockets wide 3. *C. obscuripila*

LIST OF THE SPECIES

1. *Camptochaeta camptochaeta* (Tuomikoski, 1960)

Corynoptera camptochaeta Tuomikoski, 1960: 21(4):63 (lectotype – ♂, Vihti, Vihtijärvi [Finland], 25–26.V.1958, leg. Tuomikoski [des. by Hippa & Vilkamaa, 1994].

Camptochaeta camptochaeta Hippa & Vilkamaa, 1994: 27

MATERIAL. ALTAI REPUBLIC: ♂, № 603/2, chern tajga, v. Verkh-Biysk, Turochak district, 22.07.2000 (L. Komarova coll.)

DISTRIBUTION. Russia: Karelia, Altai Republic. Austria, Norway, Finland, Sweden.

2. *Camptochaeta stammeri* (Lengersdorf, 1940)

Neosciara stammeri Lengersdorf, 1940: 25.

Corynoptera stammeri: Tuomikoski, 1960: 67.

Camptochaeta stammeri: Hippa & Vilkamaa, 1994: 39.

MATERIAL. ALTAI REGION: ♂, № 568, chern tajga, r. Aley, v. Novoaleyskoe, Tretjakovsky District, 3.VIII 2000 (L. Komarova coll.). ALTAI REPUBLIC: ♂, № 630, r. Isha, 1 km to r. Katun, 21.V 2000 (L. Komarova coll.); ♂, № 755, chern tajga, 40 km NW Kosh-Agach, 30.VII 2005; ♂, № 1034, chern tajga, 20 km NW Kosh-Agach, 27.VII .2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Tuva, Altai. Finland, Sweden.

3. *Camptochaeta obscuripila* (Tuomikoski, 1960)

Corynoptera obscuripila Tuomikoski, 1960: 66.

MATERIAL. ALTAI REGION: ♂, № 431/1, lake Kanonerskoe, pinus forest, Biysk, 18.VI 1996 (L. Komarova coll.). ALTAI REPUBLIC: ♂, № 629, r. Isha, 1 km to r. Katun, 21.V 2000 (L. Komarova coll.). ♂, № 1054, foot of m. Chike-Taman, chern tajga, 28.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Amur region, Novosibirsk region, Altai, Tuva. Italy, Finland, Sweden.

4. *Camptochaeta subparvula* (Tuomikoski, 1960)

Corynoptera subparvula Tuomikoski, 1960: 66.

Camptochaeta subparvula: Hippa & Vilkamaa, 1994: 77.

MATERIAL. ALTAI REGION: ♂♂, № 271, № 272, relic tilia forest, v. No-voishino, Togul district, 26.V 1993 (L. Komarova coll.).

DISTRIBUTION. Russia: Karelia, Altai. Finland, Romania, Turkmenistan.

5. *Camptochaeta simulator* Hippa et Vilkamaa, 1994

Camptochaeta simulator Hippa & Vilkamaa: 1994: 41

MATERIAL. ALTAI REGION: ♂, № 340, chern tajga, v. Novoalejskoe, Tretjak district, 15.VIII 1993 (L. Komarova coll.). ALTAI REPUBLIC: ♂, № 909, 924, r. Akturu, 20 km from v. Kurai (foot m. M.Ak-Tru), 25.VII 2006; ♂, № 881, ♂, № 882, 10 km NW v. Kurai, 23.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Altai. Finland, USA: Alaska.

6. *Camptochaeta subdentata* (Mohrig, 1985)

Corynoptera subdentata Mohrig, 1985: 234.

Camptochaeta subdentata: Hippa & Vilkamaa, 1994: 63.

MATERIAL. ALTAI REGION: ♂, № 431/2, Lake Kanonerskoe, Biysk, 18.VI 1996. ALTAI REPUBLIC: ♂, № 723, forest near v. Krasnojarka, 50°18' N, 85 °17' E, 21.VII 2005, ♂, № 824, ♂, № 840, distr. V. U.-Ulagan, 50°50' N, 88°06' E, malaise trap, 15-19.VI 2005; ♂, №1045, forest, foot of m. Chike-Taman, 28.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Karelia, Altai. Finland, Sweden.

7. *Camptochaeta consimilis* (Holmgren, 1869)

Sciara consimilis Holmgren, 1869: 54.

Lycoriella consimilis: Steffan, 1966: 52.

Corynoptera consimilis: Tuomikoski, 1967: 46.

Camptochaeta consimilis: Hippa & Vilkamaa, 1994: 12.

MATERIAL. ALTAI REPUBLIC: ♂♂, № 798, № 824, № 830, malaise trap, 45 km E v. U.-Ulagan, 50,5° N, 88,6° E (leg. A. Barkalov) 15–19.VI 2005 (L. Komarova coll.).

NOTES. The specimens № 798 and 830 differ from the description by Hippa and Vilkamaa (1994) in the megasetae of the gonostylus. In the former there are two closely set megasetae on the ventral margin instead of the usual one. Otherwise the specimen is similar to the specimens of *C. consimilis* and quite evidently belongs that species. In the specimen № 830 there are two megasetae on the dorsal margin of the gonostylus instead of the usual one. In this case it is evident that the large seta normally seen posterior to the dorsal megasetae is transformed to a megasetae. The two cases suggest that there may exist individuals of *C. consimilis*, which have two dorsal and two ventral megasetae on the gonostylus and which at first sight could easily be regarded as different species.

DISTRIBUTION. Russia: Altai. Norway, Canada.

8. *Camptochaeta propria* Hippa et Vilkamaa, 1994

Camptochaeta propria Hippa & Vilkamaa, 1994: 46.

MATERIAL. ALTAI REPUBLIC: ♂, № 930, forest, to 20 km NW Kosh-Agach, r. Tujaryk, 27.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Altai. Finland.

9. *Camptochaeta tenuipalpalis* (Mohrig et Antonova, 1978)

Corynoptera tenuipalpalis Mohrig & Antonova, 1978: 546.

Camptochaeta tenuipalpalis: Hippa & Vilkamaa, 1994: 48.

MATERIAL. ALTAI REPUBLIC: ♂, № 888, betula forest, r. B. Yaloman, 22.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Primorskii krai, Altai.

10. *Camptochaeta delicata* (Lengersdorf, 1935)

Neosciara delicata Lengersdorf, 1935: 75.

Bradysia delicata: Frey, 1948: 85.

Corynoptera delicata: Tuomikoski, 1967: 47.

Camptochaeta delicata: Hippa & Vilkamaa, 1994: 36.

MATERIAL. ALTAI REPUBLIC: ♂, № 887, malaise trap. 45 км E U.-Ulagan, 50,5° N, 88,6° E (leg. A. Barkalov) 15–19.VI 2005; ♂, № 1040, r. Chuja, 20 km NW Kosh-Agach, 27.VII 2006; ♂ № 879, forest, 40 km from Kosh-Agach, 27.VII 2006 № 887, 10 km NW Kurai, 23.VII 2006 (L. Komarova coll.).

DISTRIBUTION. Russia: Altai. Austria, Norway, Finland, Germany; Canada, Denmark: Greenland.

11. *Camptochaeta vivax* (Frey, 1948)

Chaetosciara vivax Frey, 1948: 61.

Corynoptera Tuomikoski, 1960: 69.

Camptochaeta vivax Hippa, Vilkamaa, 1994: 25.

MATERIAL. KUZNETSKII ALATAU: ♂ № 15, sanctuary, 9.VII 1998 (leg. Ju. Maximova) (L. Komarova coll.)

DISTRIBUTION. Russia: Kemerovo region. Finland, Sweden.

12. *Camptochaeta pentacantha* Komarova, Hippa et Vilkamaa, sp. n.

Figs 1-5

MATERIAL. Holotype – ♂ (in Zoological Institute, St. Petersburg.): ALTAI REPUBLIC: № 1047, forest, foot of m. Chike-Taman, 28.VII 2006. Paratype (in Swedish Museum of Natural History, Stockholm): ♂, № 1046, the same data as holotype.

DESCRIPTION. COLORATION. Head brown, maxillary palpus and antennal scapus, pedicellus and the basal half of flagellomere 1 yellowish. Scutum brown, paler brown broadly at anterior and lateral margin, with a yellowish brown longitudinal stripe at the dorsocentral setae. Scutellum pale brown. Pleura pale yellowish with diffuse slightly darker patches, anepisternum postero-dorsally dark brown, katepisternum narrowly darker brownish ventrally, metanotum paler brown, gradually darkening posteriad. Legs pale yellowish, middle and hind coxa with a darker brownish patch apically. Abdominal tergites brown, sternites paler brown. Hypopygium yellowish brown, gonostylus darker brownish on about apical fourth.

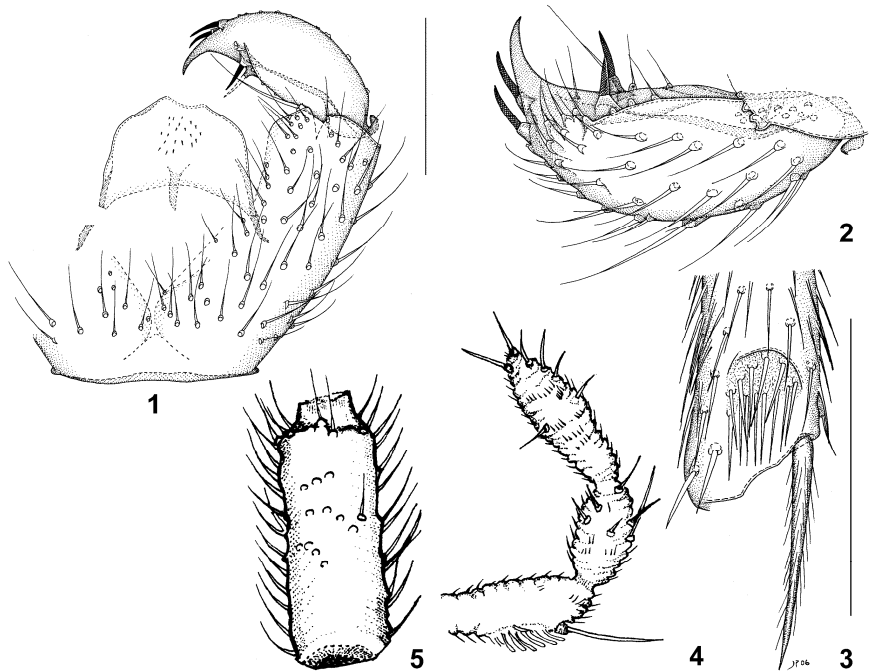
HEAD. Eye bridge ca. 3 facets wide. Face (prefrons) with 10 setae. Clypeus with 1 seta. Maxillary palp – Fig. 4. Palpomere 1 with 1 lateral, with sensory pit. Length/width of antennal flagellomere 4 ca 2.50.

THORAX. Chaetotaxy of scutum and scutellum similar to *C. fulvicollis* (Hippa & Vilkamaa 1994, Fig. 1B). Anterior pronotum with 4 setae. Episternum 1 with 5 setae. Apex of front tibia – Fig. 3. Length of spur/width of tibia: leg 1 1.65; leg 2 1.71; leg 3 2.28. Length of basitarsomere (metatarsus)/length of tibia: leg 1 0.58, leg 2 0.54, leg 3 0.61. Length of t3/length of scutum+scutellum 2.09. Length of t3/length of thorax 1.42.

WING. Length 1.70 mm. Width/ length 0.39.c/w 0.60. R1/R 0.67. r-m (x) longer than bM (y), r-m/bM 1.22. r-m with 5–7 setae, bM nonsetose.

ABDOMEN. Sternite 8 with ca 12 setae. Hypopygium – Fig. 1. Gonostylus (Fig. 2) narrow, ca 2.7 longer than broad, the mesial side impressed with a longitudinal ridge which is a continuation of the mesial margin of the apical tooth. Two very stout mesial megasetae present, both on the apical half of gonostylus and nearly on the same vertical level, the more ventral one of these free from the ventral mesial margin of gonostylus, the more dorsal one on the above mentioned medial ridge. One mesial flagellate seta present, on the dorsal side of the more dorsal megaseta. Two very stout lateral megasetae present. All the four megasetae very stout. The ventral mesial setae of gonostylus short, the longest ones less than half of the width of gonostylus. Tegmen rather simple, without distinct sclerotized lateral shoulders.

DISCUSSION. *C. pentacantha* is similar to *C. aequidens* Hippa et Vilkamaa, 1994 and *C. flagellifera* Hippa et Vilkamaa, 1994, the former known from Quebec, the latter from Ontario, Canada. It is distinguished from both by having the gonostylar megasetae stouter and by having the ventral setae on the mesial side of the gonostylus shorter, shorter than the apical tooth. In *C. pentacantha* sp. n. the gonostylus is narrow with two, not three, apicolateral megasetae as in *C. aequidens*.



Figs 1-5. *Camptochaeta pentacantha* sp. n. 1) hypopygium; 2) gonostylus; 3) apex of tibia 1 (t_1); 4) papli, 5) flagellomere 4.

In *C. pentacantha* and *C. aequidens* the ratio gonostylar width/gonostylar length is ca 0.35, in *C. flagellifera* ca. 0.45. In *C. pentacantha* the two mesial megasetae of gonostylus are equally far from the gonostylar apex and in this respect similar to *C. flagellifera* while in *C. aequidens* the two megasetae are separated by a gap, which equals the length of a megaseta. The exact placement of the mesial megasetae in *C. pentacantha* is also different from the two other species. In *C. pentacantha* the more ventral megaseta lies between the ventral mesial margin of gonostylus and the longitudinal ridge beginning from mesial margin of the apical tooth and the more dorsal megaseta is laying on that ridge, in *C. flagellifera* the more ventral megaseta is on the ridge, the more dorsal megaseta is on the dorsal side of the ridge, in *C. aequidens* the both megasetae are on the ridge. In *C. pentacantha* the tegmen lacks angled lateral shoulders like *C. aequidens*. In *C. aequidens* the basolateral margin of tegmen has a sclerotized stripe turning towards the middle at about apical third of tegmen. In *C. pentacantha* there is scarcely any sclerotization.

C. pentacantha resembles also *C. pellax* Hippa et Vilkamaa, 1994, known from Colorado and Utah, United States. In *C. pellax* the gonostylus is much broader with the width/length ratio ca. 0.50 or higher, the gonostylar megasetae are stout as in *C. pentacantha* but they are conspicuously shorter, the number of apicolateral megasetae is three, not two.

C. pentacantha has a rather superficial similarity even to *C. consimilis* and *C. longicosta* Hippa et Vilkamaa, 1994. It differs from both by having the mesial side impressed through the whole length. In the two other species the impression is interrupted at the middle of gonostylus by a transversely ridged heel-like part. Further, the distance of the mesial megasetae from the gonostylar apex (apex of the apical tooth) is larger, about twice the length of the apical tooth instead of only half of that. *C. pentacantha* differs also from *C. longicosta* by lacking a narrow finger-like apical part of tegmen and from *C. consimilis* by evenly tapering apical tooth of gonostylus which in *C. consimilis* is rather abruptly narrowed at the middle.

DISTRIBUTION. Russia: Altai.

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