

A NEW PECULIAR SPECIES OF *CHRYSOTUS* FROM THE FAR EAST OF RUSSIA (DOLICHOPODIDAE, DIPTERA)

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[Гричанов И.Я. Новый своеобразный вид рода *Chrysotus* с Дальнего Востока России (Dolichopodidae, Diptera)]
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Key words: *Dolichopodidae*, *Chrysotus*, *Chrysotus chukotkensis*, new species, Palearctic, Far East

Ключевые слова: *Dolichopodidae*, *Chrysotus*, *Chrysotus chukotkensis*, новый вид, Палеарктика, Дальний Восток

Summary. A new long-legged fly species *Chrysotus chukotkensis* sp. nov. from the Primorskiy Krai Province of Russia is described and illustrated. A key to species of *Chrysotus albipalpus* and *C. longipalpus* groups is supplied.

Резюме. Приведены описание и иллюстрации для нового вида мух-зеленушек *Chrysotus chukotkensis* sp. nov. из Приморского края России. Составлен определитель видов групп *Chrysotus albipalpus* и *C. longipalpus*.

INTRODUCTION

The genus *Chrysotus* Meigen, 1824, belongs to the subfamily Diaphorinae, comprising ca. 320 species distributed all over the world [Grichanov, 2003-2012]. The Palearctic species of *Chrysotus* were revised by Negrobov and his co-workers in a series of publications: Negrobov [1980], Negrobov, Maslova [1995] and Negrobov *et al.* [2000, 2003]. Wang, Yang [2006, 2008, 2009] and Wei, Yang [2007] described recently 21 East-Palearctic species of *Chrysotus*.

The genus is considered paraphyletic regarding other diaphorine genera, being itself polyphyletic [Capellari, Amorim, 2012]. Nevertheless, *Chrysotus albipalpus* group of species (*sensu* Van Duzee, 1924) appears to be quite distinct in having enlarged white or yellow coloured palps (male secondary sexual character, or MSSC) and dark femora. It comprises four Nearctic and one Neotropical species, being unknown in other zoogeographical regions.

Here I describe a new species *C. chukotkensis* sp. nov. from the Chukotka Peninsula (Russia) representing the first record of the *albipalpus* group in the Palearctic Region, which brings the number of described Palearctic *Chrysotus* species to 60.

Morphological terminology and abbreviations (for wing veins) follows Cumming, Wood [2009]. Body length is measured from the base of the antenna to the posterior tip of epandrium. Wing length is measured from the base to the wing apex. The relative lengths of the tarsomeres should be regarded as representative ratios and not measurements. Male genitalia were macerated in 10% KOH. Figures showing male genitalia in lateral view are oriented as they appear on the intact specimen, with the morphologically ventral surface of the genitalia facing up, dorsal surface

down, anterior end facing right and posterior end facing left. The holotype of a new species is housed at the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN).

SYSTEMATICS

Chrysotus chukotkensis Grichanov, sp. nov.

(Col. pl. I : 1-4, figs 1, 2)

Holotype. ♂, [Russia:] Chukotka, 5 km N Egvekinot, tundra, slope, bush, 24.VII.1963, Gorodkov [ZIN].

Description. Male.

Head (col. pl. I : 2). Frons broad, black, with purple reflections, brownish pollinose; face black, densely grey pollinose, converging ventrally, at the narrowest point as wide as diameter of ocellus (MSSC); palpus shining white, broad, obovate-elongated, two times longer than wide, about half as long as eye height (MSSC); proboscis black, with dark setulae; pair of divergent strong ocellars; pair of small verticals; pair of proclinate long vertical setae; row of white postoculars, 5-6 dorsalmost postoculars black; occiput slightly concave, lower surface with many long scattered pale setae; antennae black, scape conical, short; pedicel short, with crown of setulae at apex, dorsalmost longer; postpedicel ovate, clearly pubescent; stylus apical, bi-articulated at base, pubescent; length ratio of scape to pedicel to postpedicel to stylus (1st and 2nd segments), 5/4/10/4/37.

Thorax. Shining blackish-purple; mesonotum weakly pollinose; pleura grey pollinose; acrostichals biserrate, well developed; 6 pairs of strong dorsocentral bristles; 1 presutural and 1 sutural intraalars; 1 presutural and 2 postsutural supraalars; 1 large postalar; 2 notopleurals; lower surface of proepisternum with 2-3 pale setae, ventralmost longer; upper surface of proepisternum in front of anterior spiracle bare;

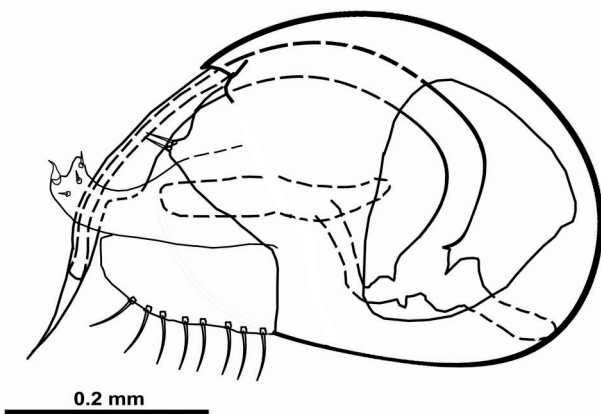


Fig. 1. *Chrysotus chukotkensis* Grichanov, sp. n., hypopygium, left lateral view
Рис. 1. *Chrysotus chukotkensis* Grichanov, sp. n., гипопигий слева

scutellum with 1 pair of strong medial scutellars and 1 pair smaller ones (broken).

Wing (col. pl. I : 3). Membrane hyaline. C ending right before wing apex; R_1 ending on basal third of wing; R_{2+3} not bent anteriorly at distal end; R_{4+5} and M_{1+2} parallel, slightly bent anteriorly; costal section between R_{2+3} and R_{4+5} twice that of costal section between R_{4+5} and M_{1+2} ; ratio of cross-vein dm-cu to distal part of CuA_1 , 13/45; A_1 fold-like; anal lobe absent; lower calypter and cilia yellowish; halter yellow.

Legs. Coxae, trochanters, femora (except extreme tips) black, slightly shining; knees, fore and mid tibiae and basitarsi (except tips) whitish-yellow; hind tibia and tarsomeres 1-4 white; fore and mid tarsi from tip of basitarsus, hind tarsomere 5 brown; fore coxa covered with many pale hairs and setae; anterior surface of mid coxa with dirty white setae; hind coxa with 1 long white lateral basal seta; fore femur with short setulae, somewhat longer at apex; hind femur with 2 conspicuous anteroventral setae at apex and preceding anteroventral row of 6-7 setae, half as long as height of femur; fore tibia with white setulae and setae, 1 short anterodorsal at base, ventral surface with short serration; mid tibia with white setulae and black setae, 1 large anterodorsal at base, 2 short posterodorsals in basal half; hind tibia gradually thickened towards apex, densely covered with long white cilia and setae, longer on anterior and dorsal surface (MSSC); apical tibial setae: 1, 3, 2; hind tarsomeres 1-4 distinctly thickened, covered with white cilia (MSSC); tarsomeres 1-3 posteriorly with numerous microscopic black spikes; tarsomere 5 flattened dorsoventrally; pulvilli slightly developed; claws present on all legs; podomeres (from femur to fifth tarsomere) length ratio: fore leg: 65/57/28/13/7/7/8, mid leg: 84/69/36/14/10/6/9, hind leg (col. pl. I : 4): 93/79/30/18/13/9/9.

Abdomen. Shining dark-blue, covered with short

black bristles, those of distal margins slightly stronger; tergum 6 pubescent; sterna 2-4 covered with short pale hairs; segment 8 with short simple black setae.

Hypopygium (fig. 1). Epandrium rounded; lateral epandrial lobe slightly projected, bearing 2-3 setae, basiventral seta present; surstylus short, 2 strong spines and 1 seta medially at apex, 1 dorsal seta near middle; distal portion of hypandrium constricted after emerging from epandrium; postgonite distinct, bilobed, concealed; phallus (fig. 2) with almost symmetrical flat lateral lobes before apex; aedeagus thin, simple; cercus ovate, brown-black, covered with white cilia.

Female unknown.

Measurements (mm): body length 2.4, antenna length 0.53, wing length/width 1.72/0.63.

Etymology. The species is named for the country of origin.

Diagnosis. The new species belongs to the *Chrysotus albipalpus* group of species (*sensu* Van Duzee, 1924) based on the following features: femora black or green; palpi white, elongated; antenna black; thorax and abdomen metallic; calypters and halteres yellow. The group must be probably united with the *C. longipalpus* group of species (*sensu* Van Duzee, 1924) with enlarged palpi, but with almost completely yellow legs. The latter group comprises three Nearctic and Neotropical species, of which *C. longipalpus* Aldrich, 1896 has been probably introduced from the Neotropics to the tropical Pacific (Hawaiian Is., Guam, French Polynesia), Orient (Diego Garcia), Afrotropics (Mauritius) and to the Palaearctic Region (greenhouses in UK and Finland) [Bickel, 2005; Grichanov, 2011].

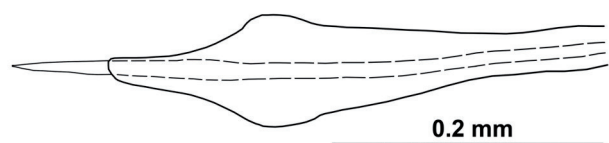


Fig. 2. *Chrysotus chukotkensis* Grichanov, sp. n., phallus, ventral view

Рис. 2. *Chrysotus chukotkensis* Grichanov, sp. n., фаллус вентралью

C. chukotkensis sp. nov. is close to *C. subjectus* Van Duzee, 1924, known from USA (Virginia), strongly differing from the latter in ornamented hind tibia and tarsus. Below is the modified key to species of *C. albipalpus* and *C. longipalpus* groups published by Van Duzee [1924]:

1. Femora black or green 2
- Femora yellow 7
2. Face nearly as wide as frons, sometimes narrowed a little below 3

- Eyes contiguous on the face, or nearly so 4
- 3. Hairs of the abdomen long and snow white
 *albohirtus* Van Duzee
- Hairs of the abdomen brown or black
 *argentatus* Van Duzee
- 4. R_{4+5} and M_{1+2} wing veins nearly straight and parallel behind *dm-cu* *albipalpus* Aldrich
- R_{4+5} and M_{1+2} wing veins distinctly bent but parallel at wing apex 5
- 5. Hind tibia and tarsus white, covered with long white setae *chukotkensis* **sp. nov.**
- Hind tibia yellow or black; hind tarsus black; both covered with black setae 6
- 6. All tibiae yellow; knob of halter yellow
 *subjectus* Van Duzee
- Hind tibia wholly black or green; knob of halter black or yellow *halteralis* Van Duzee
- 7. Antenna wholly black *crosbyi* Van Duzee
- Antenna wholly or partly yellow 8
- 8. Palpus strap-like *longipalpus* Aldrich
- Palpus wide, leaf-like *sagittarius* Van Duzee

ACKNOWLEDGMENTS

The author is sincerely grateful to Dr. E.P. Nartshuk and L.A. Kuznetsova (ZIN) for their kindness in furnishing an opportunity to study the collections of their museum, and to Prof. Oleg P. Negrobov (Voronezh) and Renato Capellari (São Paulo) for their help in any respect. This work was partly supported by the grant of the Russian Foundation for Basic Research N 11-04-01051-a to Oleg P. Negrobov.

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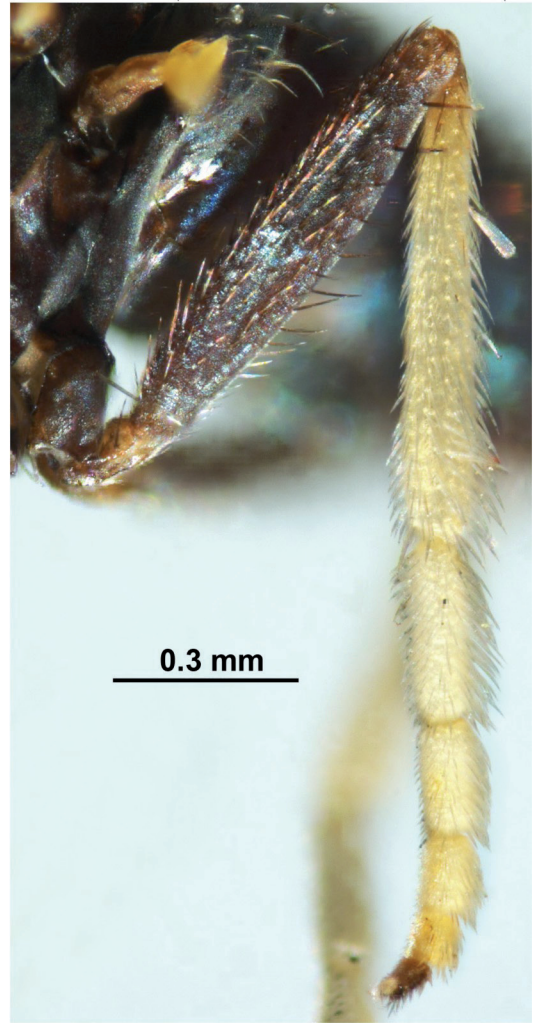
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COLOR PLATE I

ЦВЕТНАЯ ТАБЛИЦА I



1

2

4



3

1 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, male habitus; 2 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, male head; 3 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, male wing; 4 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, male hind leg.

1 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, внешний вид самца; 2 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, голова самца; 3 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, крыло самца; 4 – *Chrysotus chukotkensis* Grichanov, **sp. n.**, задняя нога самца.