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O. P. Negrobov^{1*)}, O. O. Maslova²⁾, V. N. Fursov³⁾. NEW DATA ON THE GENUS *CHRYSOTUS* MEIGEN, 1824 (DIPTERA: DOLICHOPODIDAE) FROM JAPAN AND RUSSIA. – *Far Eastern Entomologist*. 2015. N 293: 10-15.

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Summary. Two new species of the genus *Chrysotus* Meigen, 1824 are described, namely *Ch. kumazawai* sp. n. from Japan (Honshu) and Russia (Sakhalin) and *Ch. tagoi* sp. n. from Japan (Honshu). Holotypes of the new species are deposited in the Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia). *Ch. laesus* (Wiedemann, 1817) is recorded from Japan for the first time.

Key words: Diptera, Dolichopodidae, *Chrysotus*, taxonomy, new species, new record, Japan, Russia.

О. П. Негробо́в, О. О. Масло́ва, В. Н. Фу́рсов. Новые данные по роду *Chrysotus* Meigen, 1824 (Diptera: Dolichopodidae) из Японии и России // Дальневосточный энтомолог. 2015. N 293. С. 10-15.

Резюме. Описаны новые для науки виды рода *Chrysotus* Meigen, 1824, а именно *Ch. kumazawai* sp. n. из Японии (Хонсю) и России (Сахалин) и *Ch. tagoi* sp. n. из Японии (Хонсю). Голотипы новых видов хранятся в Зоологическом институте РАН (Санкт-Петербург, Россия). Впервые для фауны Японии указывается *Ch. laesus* (Wiedemann, 1817).

INTRODUCTION

The genus *Chrysotus* Meigen, 1824 (Diptera: Dolichopodidae) comprises more than 365 species distributed all over the world, 91 of which occur in the Palearctic Region (unpublished data of authors). The Palearctic species of *Chrysotus* were revised by Negrobov and his co-workers in a series of publications (Negrobov 1980; Negrobov & Maslova, 1995; Negrobov *et al.*, 2000, 2003). The last key to males of the Palearctic species was published fifteen years ago (Negrobov *et al.*, 2000).

Recently three species of the genus *Chrysotus* were described from Russia, namely *Ch. brooksi* Negrobov, Selivanova et Maslova, 2013 from Primorskii krai (Negrobov *et al.*, 2013) and *Ch. komovi* Negrobov, Barkalov et Selivanova, 2014 and *Ch. tricaudatus* Negrobov, Barkalov et Selivanova, 2014 from Taimyr (Negrobov *et al.*, 2014).

Thirteen Palearctic species of *Chrysotus* were described from China (Wang & Yang, 2006, 2008, 2009; Wei & Yang, 2007; Liu *et al.*, 2013, 2015). The key to males of the known Chinese species was published (Yang *et al.*, 2011).

Masunaga (2014) recorded from Japan only three species of the genus *Chrysotus*: *Ch. cilipes* Meigen, 1824, *Ch. nudisetus* Negrobov et Maslova, 1995 and *Ch. pulchellus* Kowarz, 1874.

In this paper we describe two new species of *Chrysotus* from Japan and Russia. In addition one species is firstly recorded from Japan below. The specimens examined were collected in Japan (Honshu Island) by Dr V.N. Fursov and in Russia (Sakhalin Island) by Dr V.V. Zlobin.

Holotypes of the new species are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia (ZIN). The paratypes are kept in the collections of ZIN, the Schmalhausen Institute of Zoology of National Academy of Sciences Ukraine (IZU), and Voronezh State University, Russia (VSU).

DESCRIPTION OF NEW SPECIES

Chrysotus kumazawai Negrobov, Maslova et Fursov, sp. n.

Figs 1–4

MATERIAL. Holotype – ♂, **Japan**: Honshu, Ibaraki Pref., Tsukuba, Kannondai, Yatabe, rice fields, 20.VII 1997, col. Fursov (ZIN). Paratypes: **Japan**: the same locality as for holotype, 7–10.VII 1997, 20.VII 1997, 23–26.VII 1997, 10 ♂, col. Fursov; **Russia**: Sakhalin, Aniva district, village Urozhainoye, VII 1973, 1 ♂, col. Zlobin (VSU, IZU).

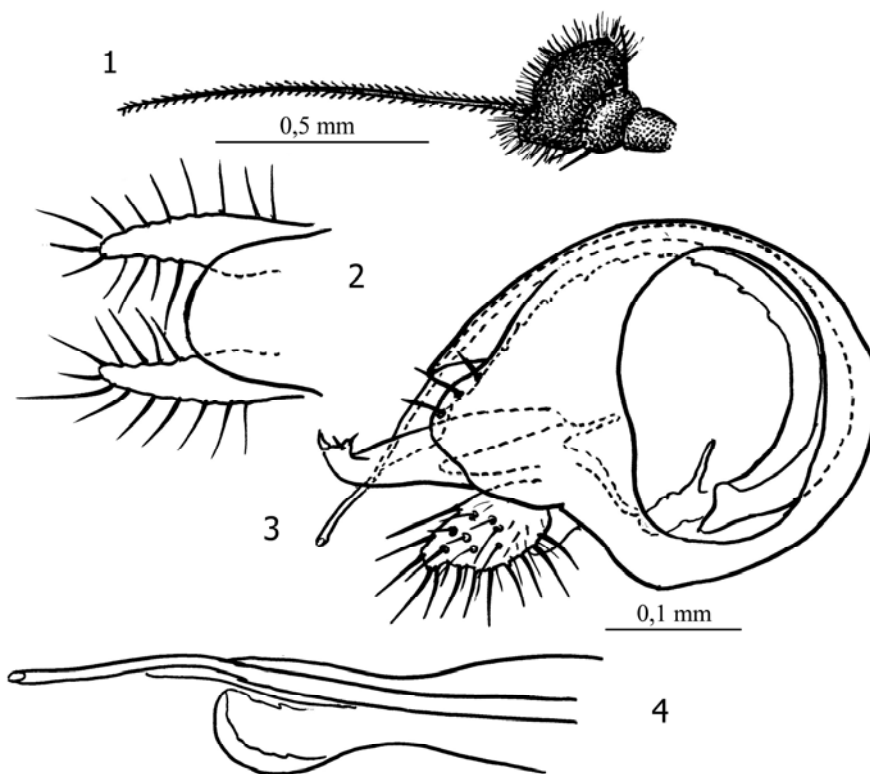
DESCRIPTION. MALE. Head: Frons green without pollinosity. Face green, with brown pollinosity, narrow, lower part several times narrower than distance between ocellars. Antenna black. Postpedicel large, transverse-oval, with rounded apex and long hairs. Arista preapical, with short hairs. Postpedicel 2 times wider than long. Ratio of postpedicel length to width and arista length: 0.8: 1.9: 5.4. Proboscis brown. Palpus light-yellow with white hairs without silver pollinosity. Lower postocular setae white.

Thorax: Metallic green; mesonotum with bronze tinge, bright, without pollinosity, flanks with dense grey pollinosity. Propleuron with 1-2 setae. 5 pairs of strong dorsocentral setae, acrostichal setae long, arranged in two rows. Scutellum hind margin with 2 long and 2 short setae.

Legs: Fore coxa with black hairs, mid and hind coxae with dark hairs. Femora mostly green with yellow tinge, mid and hind coxae in major part, apex of tarsi dark. Femora in apical part, tibia, trochanters and hind tarsi in major part yellowish. Hind tibia darkened at apex. Fore femur without long hairs. Fore tibia with 1 short anterodorsal seta and with short ventral hairs. Fore tarsus without long hairs. Ratio of fore tibia and tarsus (from 1st to 5th): 2.5: 1.4: 1.6: 1.0: 0.3: 0.4. Mid femur with 2 short black preapical setae. Mid tibia with 2 anterodorsal and 2 shorter posterodorsal setae. Ratio of mid tibia and tarsus (from 1st to 5th): 3.4: 1.9: 0.8: 0.6: 0.4: 0.4. Hind femur with 3-4 preapical setae. Hind tibia with 2 anterodorsal, 3 posterodorsal setae and short erect exterior hairs. 1st segment of hind tibia with short erect exterior hairs, length of which equal of femur width. Ratio of hind tibia and tarsus: 3.7: 1.2: 1.0: 0.7: 0.4: 0.3.

Wings: Hyaline, with dark venae. R_{4+5} and M_{1+2} slightly divergent apically. Ratio of costal section between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} 1.3:0.6. *dm-cu* distinctly shorter than apical part of M_{3+4} (0.4:2.6). Halter and cilia of lower calypter yellow.

Abdomen: Green with metallic shiny, grey dusted on sides, covered with black hairs. Epandrium oval, with small dorsal projection. Surstylus curved on apex. Phallus with two lateral processes at apex. Cerci brown, with light hair.



Figs 1–4. *Chrysotus kumazawai* Negrobov, Maslova et Fursov, **sp. n.** 1 – antenna; 2 – cerci, ventral view; 3 – hypopygium, lateral view; 4 – phallus, ventral view.

FEMALE unknown.

MEASUREMENTS. Body length: 1.2–1.3 mm, wing length: 1.2–1.3 mm.

DIAGNOSIS. In the key to Palearctic species of *Chrysotus* (Negrobov *et al.*, 2000), the new species runs to *Ch. gramineus* (Fallén, 1823), and can be distinguished from the latter by following characters:

- | | |
|---|---|
| 1(2) Basal part of the femur dark. Phallus with two dorsal processes at apex | <i>Chrysotus gramineus</i> (Fallén, 1823) |
| 2(1) Basal part of the femur yellow. Phallus with two lateral processes at apex | <i>Chrysotus kumazawai</i> Negrobov, Maslova et Fursov, sp. n. |

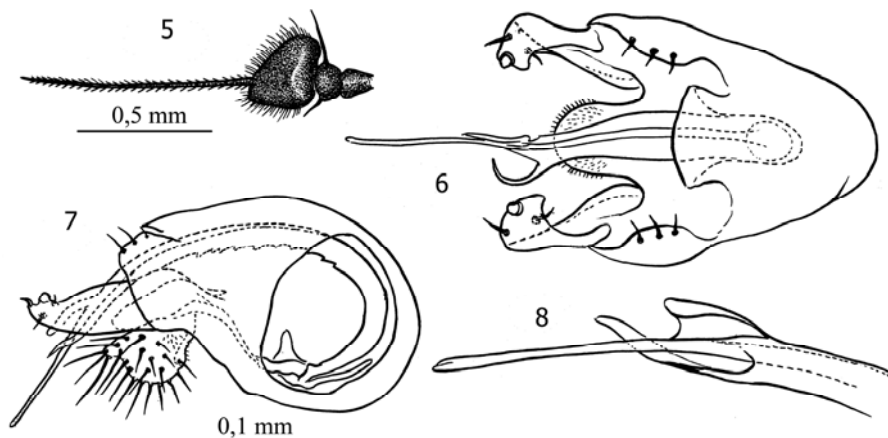
DISTRIBUTION. Japan (Honshu Island), Russia (Sakhalin Island).

ETYMOLOGY. The species is named in the honor of Japanese entomologist Tatsunori Kumazawa.

***Chrysotus tagoi* Negrobov, Maslova et Fursov, sp. n.**

Figs 5–8

MATERIAL. Holotype – ♂, **Japan:** Honshu, Ibaraki Pref., Tsukuba, Yawara, rice fields, 16.VII 1997, col. Fursov (ZIN). Paratypes: **Japan:** the same locality as for holotype, 16.VII 1997, 29 ♂, col. Fursov; Honshu, Ibaraki Pref., Tsukuba, Iida, 27.IV 1997, 1 ♂, col. Fursov; Honshu, Nagoya, Higashiyama Park, 21.VIII 1999, 1 ♂, col. Fursov (VSU, IZU).



Figs 5–8. *Chrysotus tagoi* Negrobov, Maslova et Fursov, sp. n. 5 – antenna; 6 – hypopygium, ventral view; 7 – hypopygium, lateral view; 8 – phallus, ventral view.

DESCRIPTION. MALE. Head: Frons green without pollinosity. Face green, with brown pollinosity, narrow, lower part several times narrower than distance between ocellars. Antenna black. Postpedicel large, triangular in lower part, with rounded apex, with long hairs; arista preapical, with short hairs. Postpedicel wider than long. Ratio of postpedicel length to width and arista length: 1.6:1.9:5.7. Proboscis brown. Palpus brown with black hairs without silver pollinosity. Lower postocular setae white.

Thorax: Metallic green; mesonotum with brown tinge, bright, without pollinosity, flanks with dense grey pollinosity. Propleuron with 2 hairs. 5 pairs of strong dorsocentral setae, acrostichal setae long, arranged in two rows. Scutellum hind margin with 2 long and 2 short setae.

Legs: Fore coxa with white hairs, mid and hind coxae with dark hairs. Femora mostly yellow, mid and hind coxae in major part, apex of hind femora, apex of fore and mid tarsi dark. Apex of hind tibia and hind tarsi in major part yellowish-brown. Fore femur without long hairs. Fore tibia with 1 short anterodorsal and 1 short posterodorsal setae, and with short dorsal hairs. Fore tarsus without long hairs. Ratio of fore tibia and tarsus (from 1st to 5th): 1.8: 0.6: 0.5: 0.3: 0.4. Mid and hind femora with short black preapical hairs setae. Mid tibia with 2 anterodorsal and 2 posterodorsal setae. Ratio of mid tibia and tarsus (from 1st to 5th) 3.1: 1.6: 0.8: 0.5: 0.3: 0.4. Hind tibia with 2 short anterodorsal, 3 posterodorsal setae and short erect exterior hairs. 1st segment of hind tibia with short erect exterior hairs, length of which equal of femur width. Ratio of hind tibia and tarsus: 3.8: 1.3: 0.8: 0.7: 0.4: 0.3.

Wings: Hyaline, with dark venae. R_{4+5} and M_{1+2} slightly divergent apically. Ratio of costal section between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} 1.5:0.6. *dm-cu* distinctly shorter than apical part of M_{3+4} (0.4:2.5). Halter and cilia of lower calypter yellow.

Abdomen: Dark-green with metallic shiny, grey dusted on sides, covered with black hairs. Epandrium oval; surstylus curved on apex. Phallus with two lateral processes at apex. Cerci brown, with light hair.

FEMALE unknown.

MEASUREMENTS. Body length: 1.2–1.3 mm, wing length: 1.2–1.3 mm.

DIAGNOSIS. In the key to Palearctic species of *Chrysotus* (Negrobov *et al.*, 2000), the new species runs to *Ch. neglectus* (Wiedemann, 1817), and can be distinguished from the latter by following characters:

- 1(2) Hind femora yellow. Postpedicel small, oval. Posterior part of wing with lobe
..... *Chrysotus neglectus* (Wiedemann, 1817)
2(1) Hind femora with dark spot at apex. Postpedicel large, triangular in lower part. Posterior part of wing without lobe *Chrysotus tagoi* Negrobov, Maslova et Fursov, sp. n.

DISTRIBUTION. Japan (Honshu Island).

ETYMOLOGY. The species is named in the honor of Japanese entomologist T. Tago

NEW RECORD

Chrysotus laesus (Wiedemann, 1817)

MATERIAL. Japan: Honshu, Aichi Pref., Nagoya, Nagakute-cho Park, 23-30.V 1999, 29 ♂, col. Fursov.

DISTRIBUTION. Western Europe, Armenia, Georgia, Russia (Karelia, Leningrad region, Pskov region, Yaroslavl region, Moscow region, Ryazan region, Bashkiria, Tatarstan, Kursk region, Lipetsk region, Voronezh region, Krasnodar region, Adygea, North Caucasus, Orenburg region, Omsk region, Tomsk region, Altai, Krasnoyarsk region, Irkutsk region, Buryatia, Yakutia, Amur region). Here this species is recorded from Japan for the first time.

ACKNOWLEDGMENTS

This work was supported by the Russian Foundation for Basic Research, grant No 14-04-00264.

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