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## REVIEW OF THE GENUS *PEODES* LOEW, 1857 (DIPTERA: DOLICHOPODIDAE, HYDROPHORINAE)

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The Palaearctic genus *Peodes* Loew, 1857 (Dolichopodidae: Hydrophorinae, Epithalassiini) is reviewed. Till now the genus includes two European species, *P. forcipatus* Loew, 1857 and *P. petsamoensis* Frey, 1930. Third species, *P. yeniseiensis* Grichanov, **sp. n.**, is described from Siberia (Krasnoyarsk Territory). Diagnosis of *Peodes* and key to species are given.

KEY WORDS: Diptera, Dolichopodidae, *Peodes*, taxonomy, key, new species, Russia.

**И. Я. Гричанов. Обзор рода *Peodes* Loew, 1857 (Diptera: Dolichopodidae, Hydrophorinae) // Дальневосточный энтомолог. 2012. N 245. С. 1-8.**

Дается обзор мух-зеленушек палеарктического рода *Peodes* Loew, 1857 (Dolichopodidae: Hydrophorinae, Epithalassiini). До сих пор род включал два европейских вида – *P. forcipatus* Loew, 1857 и *P. petsamoensis* Frey, 1930. Из Сибири (Красноярский край) описывается новый вид *P. yeniseiensis* Grichanov, **sp. n.** Приводятся диагноз рода и определительная таблица видов.

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### INTRODUCTION

The long-legged fly genus *Peodes* was erected by Loew (1857) for the newly described by him species *P. forcipatus* from “Schlesien”. This species was rarely

collected, but nevertheless it was found in many European countries (but some old records must be confirmed). Subsequently Frey (1930) described *P. petsamoensis* from the Murmansk Region of Russia. Negrobov (1977-1979) redescribed *Peodes* along with two known Palaearctic species and illustrated the male genitalia of those species. It was correctly associated with the subfamily Hydrophorinae. Three more species were originally described in the genus from Chile, India and China (Schiner, 1868; Bigot, 1890; Wei & Zheng, 1998), of which two species were later removed from the genus. Chilean *Peodes dichromatus* Bigot was transferred to *Chrysotimus* Loew, 1857 (Van Duzee, 1930). Chinese *Peodes penichrotes* Wei et Zheng was transferred to *Thinophilus* Wahlberg, 1844 (Yang et al., 2006). An unrecognized "*Peodes*" *nicobarensis* Schiner from the Nicobar Islands is considered here as a member of Sympycninae or Peloropeodinae. The description of a new species, diagnosis of the genus *Peodes* and key to species are given below.

## MATERIAL AND METHODS

Specimens of *Peodes* was studied and illustrated with a ZEISS Discovery V-12 stereomicroscope and an AxioCam MRc5 camera. Morphological terminology and abbreviations follow Grichanov (2007) and Cumming & Wood (2009). The relative lengths of the podomeres should be regarded as representative ratios and not measurements. Body length is measured from the base of the antenna to the tip of abdominal segment 7. Wing length is measured from the base to the wing apex. Male genitalia were macerated in 10% KOH. Figures showing the 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 new species is kept in the Finnish Museum of Natural History, Helsinki, Finland (MZH).

## FAMILY DOLICHOPODIDAE

### Subfamily Hydrophorinae

#### Genus *Peodes* Loew, 1857

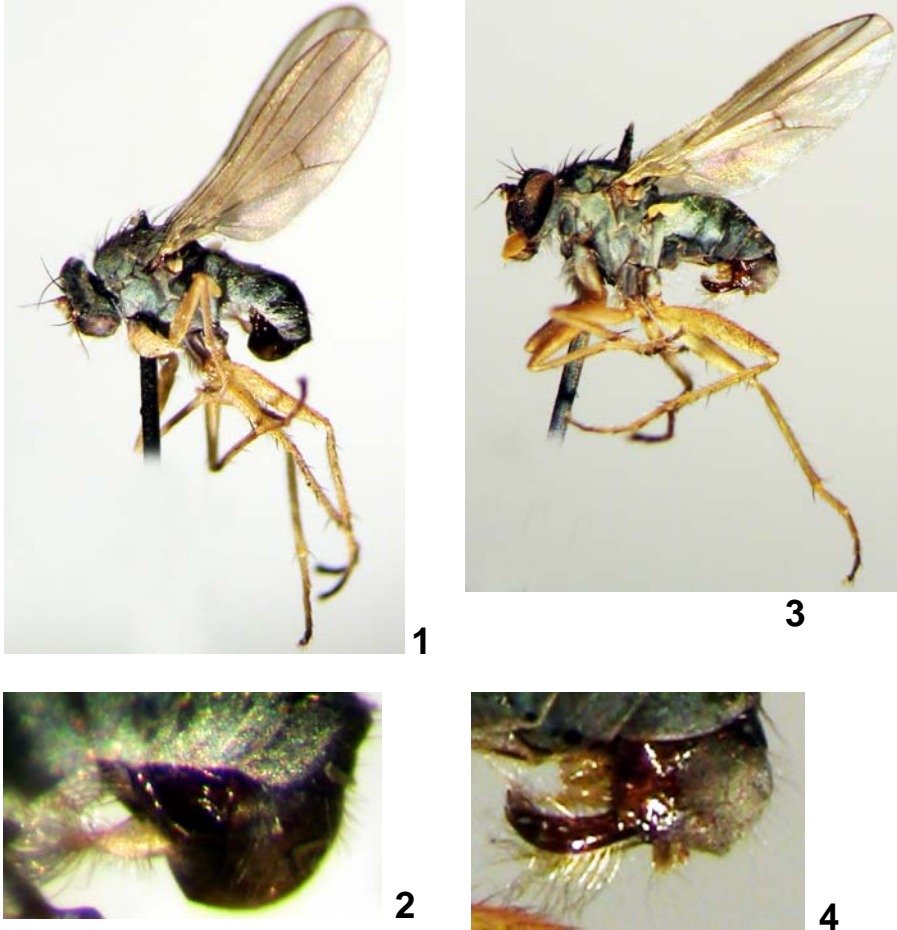
*Peodes* Loew, 1857: 29; Negrobov, 1979: 420; Grichanov et al., 2011: 24.

Type species: *Peodes forcipatus* Loew, 1857, by original designation.

DIAGNOSIS: *Peodes* is distinguished from other genera of Hydrophorinae by the following combination of characters: Body medium-sized. Face narrow, not wider than ocellar tubercle, divided into epistome and clypeus by transversal suture; antennal postpedicel without bristles, with dorsal to dorsoapical arista-like stylus; prescutellar depression developed; acrostichal setae irregularly uni- or biseriata; scutellum with 1 pair of strong bristles; fore femur and tibia without strong spiniform ventral bristles; posterior crossvein *dm-cu* shorter than distal part of *CuA*<sub>1</sub>;

hypopygium globular, free, with undivided surstylus; hypopygial foramen left lateral and positioned in basal half of epandrium; cercus bilobate, with species diagnostic shape and setae (Grichanov et al., 2011).

COMPOSITION. Three species in Palaearctic region. The redescriptions of two European species are given by Negrobov (1977-1979). One new species is described below.



Figs. 1-4. *Peodes* spp.: 1, 2 – *P. forcipatus*: 1 – habitus; 2 – postabdomen; 3, 4 – *P. petsamoensis*: 3 – habitus; 4 – postabdomen.

#### Key to species

- 1. Palpus black, subtriangular, smaller than clypeus; antenna entirely black; body 3.1-3.2 mm ..... *P. yeniseiensis* sp. n.
- Palpus yellow, suboval, larger than clypeus; antenna brownish-yellow ..... 2

2. Acrostichal setae irregularly biseriate; basoventral cercal lobe massive, relatively broad, with long dense hairs dorsally and ventrally; body 2.5-3.0 mm ..... *P. petsamoensis*  
 – Acrostichals uniseriate or absent; basoventral cercal lobe narrow, band-like, almost bare dorsally; body 2.5-3.0 mm ..... *P. forcipatus*

***Peodes forcipatus* Loew, 1857**

Figs 1–2

*Peodes forcipatus* Loew, 1857: 29 (type locality – “Schlesien”); Negrobov, 1977-1979: 421.

DISTRIBUTION: Austria, Czech, France, Germany, Hungary, Italy, Norway, Poland, Romania, Russia (Krasnodar, St. Petersburg, Ural), Slovakia, Sweden, Switzerland. Records from the Krasnoyarsk Territory (Pogonin & Negrobov, 2008) probably belong to a new species described below.

***Peodes petsamoensis* Frey, 1930**

Figs 3–4

*Peodes petsamoensis* Frey, 1930: 82 (type locality – Russia: “Petsamo” [=Pechenega]); Negrobov, 1977-1979: 422.

DISTRIBUTION: Czech, Russia (Murmansk Territory). This species was erroneously recorded from Finland by Negrobov (1991). Records from the Krasnoyarsk Territory (Negrobov, 1991) may belong to a new species described below.

***Peodes yeniseiensis* Grichanov, sp. n.**

Figs 5–11

TYPE MATERIAL. Holotype – ♂, **Russia**: “Ins. Nikandr. / J. Sahlb. / 243” [Krasnoyarsk Territory, Taymyrskiy Dolgano-Nenetskiy District, Dudinka env., Nikandrovskiy Island / J. Sahlberg; MZH].

DESCRIPTION. MALE. Length (mm): body without antennae 3.1 antenna 0.85, wing 3.2/1.2, hypopygium 0.7.

*Head*: with well developed vertical (broken) and postvertical bristles; frons black, grey-white pollinose; face silvery-white, nearly parallel-sided, 1.5 times wider than height of postpedicel; antenna black, scape bare, pedicel with ring of short setae and 1 long dorsoapical bristle; postpedicel shortly haired; flattened laterally, rounded, as long as high at base; arista-like stylus dorsoapical and microscopically haired; length ratio of antennal segments and stylus (1st and 2nd segments), 5: 4: 7: 3: 48; palpus small, black, subtriangular, with short cilia and 1 black seta; proboscis black; 6 upper postocular bristles black, uniseriate; lateral and lower postoculars white, biseriate.



Fig. 5. *Peodes yeniseiensis* sp. n., habitus.

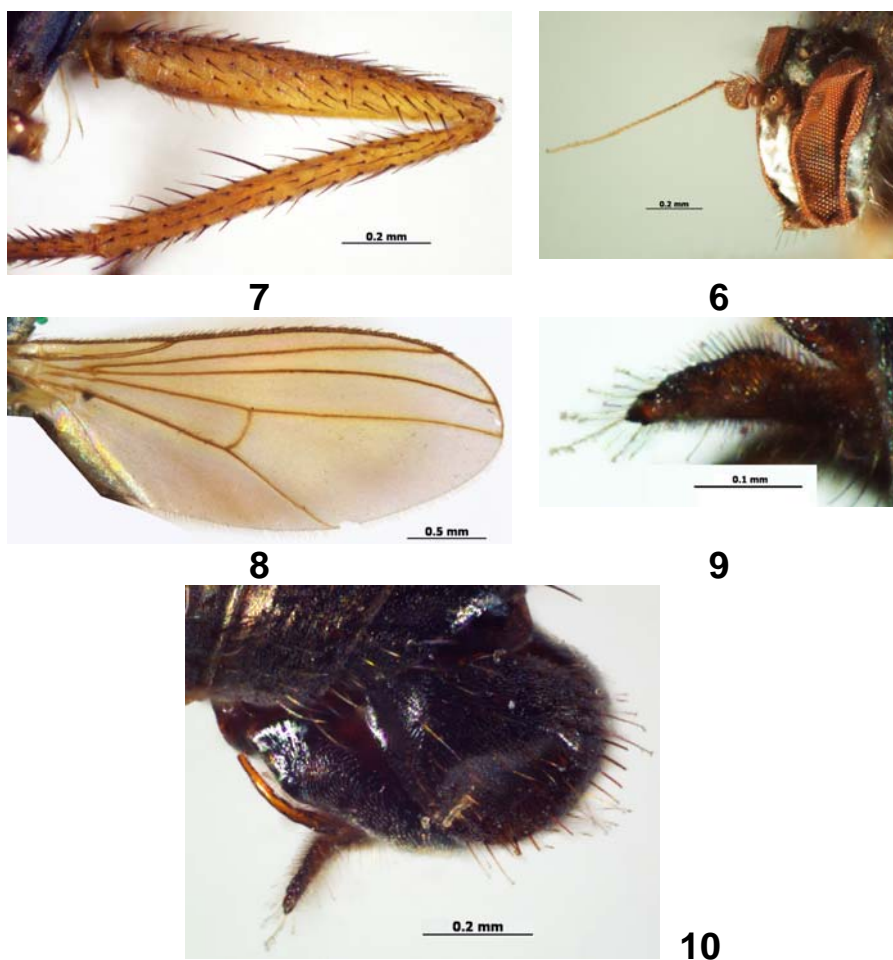
*Thorax*: bluish-black, weakly pollinose, with black bristles; upper part of proepisternum with white hairs; lower part of proepisternum with strong white seta in addition to few cilia; acrostichals in 2 irregular rows; 5 or 6 pairs of dorsocentrals (mostly broken); scutellum with 1 pairs of strong bristles and 1 pair of lateral setae.

*Legs*: mainly yellow (mid legs broken), with black bristles and cilia; fore coxa brown at base, mid and hind coxae black-brown, grey pollinose; hind femur brown at base; distal tarsomeres brown; tarsi with weak brown claws and well developed yellow pulvilli; fore and mid coxae with yellow anterior cilia and apical setae; hind coxa with 1 strong brown bristle at middle and few yellow cilia; fore femur without remarkable setation; fore tibia with ventral row of elongate cilia along entire length, with 1 strong midventral bristle, 1-2 small anterodorsal, 1-2 short posterodorsal, 1-2 short apical setae; length ratio of fore tibia to tarsal segments (from 1st to 5th) – 68: 32: 16: 13: 10: 10; hind femur with strictly subapical anteroventral and 2 subapical posteroventral setae; hind tibia with 2 anterodorsal, 2 posterodorsal, 1 posteroventral and 3-4 apical bristles; length ratio of hind tibia to tarsal segments (from 1st to 5th) – 85: 45: 20: 15: 11: 12.

*Wing*: evenly brownish, with brown veins; length ratio of costal sections between  $R_{4+5}$  and  $M_{1+2}$  – 35: 15;  $R_{4+5}$  and  $M_{1+2}$  weakly converging to the apex;  $M_{1+2}$  nearly straight; length ratio of apical section of  $CuA_1$  and  $dm-cu$  – 60: 25; halter yellow; lower calypter yellow with white cilia.

*Abdomen*: shining black, weakly pollinose, with black setae dorsally, white hairs at base and laterally; 8th segment densely covered with brown hairs; hypopygium black, weakly pollinose; epandrium globular; hypandrium short and broad; phallus simple, narrow; surstylus broad, pointed at apex, with narrow basal process, with bundle of dense hairs at middle and 2 short thick setae at apex; cercus brown, bilobate; basoventral cercal lobe long and narrow, almost glabrous, with 2 strong and long apical setae; dorsal lobe band-like, shortly haired.

FEMALE. Unknown.



Figs. 6-11. *Peodes yeniseiensis* sp. n.: 6 – head, 7 – fore femur and tibia, 8 – wing, 9 – cercus, 10 – dry postabdomen, lateral aspect.

**DISTRIBUTION.** Russia (Krasnoyarsk Territory).

**ETYMOLOGY.** The species is named after the Yenisei River.

**DIAGNOSIS.** The new species is very distinct in having small black subtriangular palpus, black antenna, dorsoapical arista-like stylus, remarkable ventral ciliation on fore tibia, in hypopygium morphology (see Figs 5–11 and key above). The other two species have large suboval yellow palpus, brownish-yellow antenna, simple fore tibia, but remarkably ciliated hind femur. All three species have differently shaped and setose cercus and surstylus.

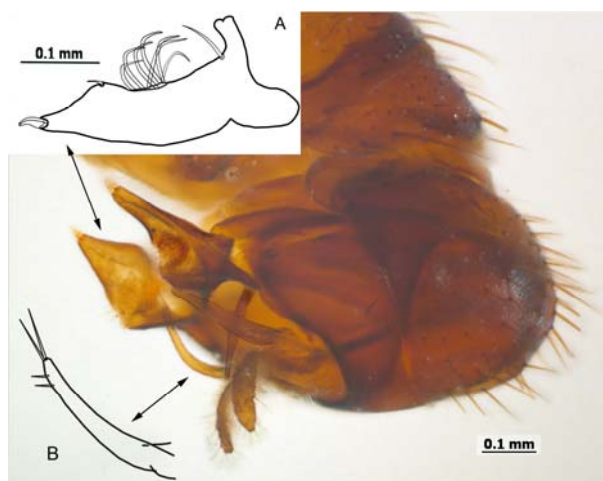


Fig. 11. *Peodes yeniseiensis* sp. n.: macerated postabdomen, dorsolateral aspect (A – surstylus; B – basoventral cercal lobe).

## DISCUSSION

*Peodes* appears related to the Palaearctic genus *Epithalassius* Mik, 1891 on the basis of a vertical bristle presence, not strictly apical arista-like stylus, normal in lateral view labellae without long protruding hypopharynx, irregular acrostichal setae, wing crossvein *dm-cu* being shorter than distal section of *CuA*<sub>1</sub>, developed prescutellar depression, large sessile hypopygium; thus both genera form quite distinct tribe Epithalassiini originally created by the author of this paper for the single genus *Epithalassius* (Grichanov 2008). Nevertheless, *Epithalassius* differs from *Peodes* in elongated bisegmented postpedicel of antenna with drawn-out apex (plesiomorphy), face lacking transverse division, distinctly convergent wing veins *R*<sub>4+5</sub> and *M*<sub>1+2</sub>, slightly curved to moderately bent vein *M*, morphology of hypopygial appendages (Grichanov, 2008). In addition, *Epithalassius* is mainly Mediterranean genus, commonly occurring on sand beaches near the sea coast, while *Peodes* species seem to inhabit banks of fresh water reservoirs in boreal and mountain parts of Palaearctic. Small black subtriangular palpus in *P. yeniseiensis* sp. n. is quite unusual for both *Peodes* and *Epithalassius* generic concepts. Nevertheless, its male genitalia (i.e. globular epandrium and bilobate cercus) are typical for *Peodes*. Unfortunately only one *P. yeniseiensis* specimen is reported in this paper (collected more than a century ago). Increased sampling effort should provide specimens that are appropriate for future studies of these rarely collected flies.

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