

## Notes on Dolichopodidae (Diptera) from Ukrainian and Baltic amber

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*Prohercostomus* is discussed as a genus of the subfamily Dolichopodinae (new status).

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The Dolichopodidae are well represented in the fossil record, especially as amber inclusions. Although only Baltic amber material of this family has been described to any extent, the family is present in most other faunas as well (Spahr, 1985; Evenhuis, 1994). Representatives of 22 genera have been described from Eocene/Oligocene amber so far (Evenhuis, 1994).

Paleogene fauna of dolichopodid flies from Baltic amber is quite rich but nevertheless rather poorly studied (Keilbach, 1982; Spahr, 1985). The last monographic treatment of this fauna appeared in the beginning of XX century (Meunier, 1907, 1908a, b). Systematics of the family considerably changed since. Following authors of the second half of the XIX century (Loew, Wheeler, Melander, Kowarz, Mik and Verral), Meunier considered the shape of postpedicel and the position of stylus to be a good character for distinguishing genera. The characters are not sufficient now to separate even subfamilies of the Dolichopodidae (see Robinson, 1970). Very short species descriptions given by Meunier often do not allow to determine even the generic position of those taxa correctly. Some species were probably misplaced by him at generic level, as already supposed by Parent (1936) and Negrobov (1978)

for those which were assigned by Meunier to the genus *Dolichopus* Latreille, 1796. It is worth to note also that more than 200 genera in the family Dolichopodidae are known today, of which only 65 valid genera were described in XVIII – XIX century (Grichanov, 1999). Therefore a revision of this type material is urgently needed. Unfortunately present location of the type collection, which was kept in the former Geologisch-Paläontologisches Institut, Universität Königsberg, is unknown. Baltic amber fauna described badly by Meunier is in need of revision, especially in light of large unworked collections of fossils in many institutions (Evenhuis, 1994). Particular attention must be paid to Meunier's generic concepts and species placements.

The Paleogene dipterous fauna of Ukrainian amber has not been studied so far, although one species of Dolichopodidae has been recently described from Belorussian amber (Nasarav et al., 1994). Ukrainian amber (from the Rivne Region) and Belorussian amber (the Brest Region) are possibly related to each other and to Baltic amber in age (Nasarav et al., 1994; see also Matsui, 1995; Perkovsky, 2000). A small collection of dolichopodid flies of the lower Eocene amber inclusions received by the author

of this paper from the Institute of Zoology (Kyiv) supports the opinion. All samples have been collected from the Klesov and Dubrovitsa open-casts belonging to the Ukrburshtyn® (Ukrainian amber) enterprise.

Species of 8 or 9 genera mentioned by Meunier (1908) have been found in 32 pieces of Rovno amber, including *Rhaphium* Meigen, 1803 (= *Xiphandrium* Loew, 1857), *Hercostomus* Loew, 1857 (= *Gymnopternus* Loew, 1857), *Medetera* Fischer von Waldheim, 1819, *Chrysotus* Meigen, 1824, *Palaeomedeterus* Meunier, 1894 (= *Palaeochrysotus* Meunier, 1908), *Neurigona* Rondani, 1856, et al. Approximately 2/3 of the inclusions belong to genera close to *Chrysotus*. The material examined allows to suppose that the species described by Meunier (1908) in the genera *Chrysotus*, *Diaphorus* Meigen, 1824, *Gheynia* Meunier, 1899, *Prochrysotus* Meunier, 1908 and *Palaeomedeterus* belong to same genus.

At least two species of Rovno amber have been previously described by Meunier from Baltic amber. A careful examination of specimens of the genus *Hercostomus* from Rovno amber has shown that they belong to species of the subgenus *Prohercostomus* Grichanov (1997), i.e., *H. noxialis* (Meunier, 1907) and *H. meunierianus* (Evenhuis, 1994). The species could be included into neither extant genus of Dolichopodinae. They combine the characters diagnostic for some of extant genera with several obvious plesiomorphies, permitting to establish a new genus of Dolichopodinae. The most characteristic of its plesiomorphies are the unusual leg chaetotaxy, elongate  $R_1$  vein, simple massive surstyli and epandrial lobi of males, etc. So, the *Prohercostomus* is discussed here as a genus of the subfamily Dolichopodinae (**new status**). As judged from the habitus, this new genus could be ancestral group to some other genera of the subfamily (H. Ulrich, pers. comm.). The generic diagnosis includes (in addition to description given by Grichanov, 1997) the following characters.

#### *Prohercostomus* Grichanov, new status

= *Prohercostomus* Grichanov, 1997:82 (as subgenus of the genus *Hercostomus*). Type-species: *Dolichopus noxialis* Meunier, 1907; Baltic amber, by original designation.

**Diagnosis.** Frons high; face regularly narrowed towards clypeus; face at least in male relatively narrow; clypeus not convex; palpi small; postpedicel subtriangular, asymmetric; stylus practically bare; notopleural pit without purple spot; hind basitarsus without setae above, without stout ventral bristle; hind coxa with 1 strong external seta; mid and hind femora always with one anterior subapical seta positioned just before apex; tibial bristles poorly developed, scarcely as long as diameter of tibia; ventral bristles undeveloped; dorsal bristles on fore and hind tibiae forming single series along their whole length;  $M_{1+2}$  reaching costa near the tip of wing;  $R_1$  reaching wing midlength; male cerci simple; male surstyli and epandrial lobi massive, simple.

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#### References

- Evenhuis, N. L. 1994. Catalogue of the fossil flies of the world (Insecta: Diptera). I—VIII, + 600 P.; Leiden: Backuys Publ.
- Grichanov, I. Ya. 1997. *Prohercostomus*, a new subgenus of the genus *Hercostomus* Loew (Diptera: Dolichopodidae) from Baltic amber. *Paleontologicheskii zhurnal.*, 5: 82—85. (In Russian). [Engl. transl.: *Paleontol. J.*, 1997, 31(5): 520—522].
- Grichanov, I. Ya. 1999. A check list of genera of the family Dolichopodidae (Diptera). *Studia Dipterologica*, 6(2): 327—332.
- Keilbach, R. 1982. Bibliographie und Liste der Arten tierischer Einschlüsse in fossilen Harzen sowie ihrer Außenahrungsorte. Teil 2, *Dtsch. entomol. Z.*, N. F., 29(4—5): 301—391.
- Matsui, V. M. & V. A. Nesterovskii. 1995. Ukrainian amber (state of the problem). Kyiv: Terra: 1—55. (In Russian).
- Meunier, F. 1907. Monographie des Dolichopodidae de l'ambre de la Baltique, *Naturaliste*,

- Paris, **29**: 197—199, 209—211, 221—222, 233—235, 245—246, 260—262, 269—271, 281—282.
- Meunier, F.** 1908a. Monographie des Dolichopodidae de l'ambre de la Baltique, *Naturaliste*, Paris, **30**: 7—9, 21—23, 29—30, 45—46, 57—59.
- Meunier, F.** 1908b. *Monographie des Dolichopodidae de l'ambre de la Baltique*, Paris: Publications du Journal Le Naturaliste: 1—100.
- Nazarav, U. I., Bagdasarav, A. A. & I. I. Uryev.** 1994. First findings of insects (Diptera, Hymenoptera) in amber from the Belorussian Polesye region. *Vestsy Akademii navuk Belarusi, ser. biyal. n.*, **2**: 104—108. [In Belorussian].
- Negrobov, O. P.** 1978. Flies of the Superfamily Empidoidea (Diptera) from Cretaceous Retinite, *Paleontologicheskii Zhurnal*, **2**: 81—90. (In Russian).
- Parent, O.** 1936. Un Diptère Dolichopodide fossile de l'ambre de Roumanie. *Rev. Française d'Entomologie*, **3**: 211—213.
- Perkovsky, E. E.** 2000. A first finding of the Kalotermitidae (Isoptera) in Rovno amber of the Eocene age. *Dopovidi Natsionalnoi Akademii Nauk Ukrainy*, **2**: 190—192. (In Russian).
- Robinson, H.** 1970: The subfamilies of the family Dolichopodidae in North and South America (Diptera). *Papeis Dep. Zool. S. Paulo*, **23**(6): 53—62.
- Spahr, U.** 1985. Ergänzungen und Berichtigungen zu R. Keilbachs Bibliographie und Liste der Bernsteinfossilien — Ordnung Diptera, *Stuttgarter Beitr. Naturk.*, **B**, **111**: 1—146.

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