

## A Record of Derbidae (Insecta: Homoptera: Fulgoroidea) in the Miocene of the Northern Caucasus

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**Abstract**—The second fossil species of the tribe Otiocerini sensu stricto (Derbidae), *Mysidioides migdisovae* sp. nov. from the Miocene of Stavropol is described. It belongs to a genus now distributed in Palearctic and in the Oriental and Ethiopian Realms.

### INTRODUCTION

Materials on the order Homoptera from the Miocene insect locality Vishnevaya Balka were studied by Becker-Migdisova (1964, 1967). Among the Fulgoroidea (Cicadina), she described only the members of the families Delphacidae and Dictyopharidae. Subsequently, among unidentified material, A.P. Rasnitsyn discovered a wing impression belonging to the Derbidae. Through courtesy and initiative of D.E. Shcherbakov, the specimen was sent to me for description. This fossil could be assigned to the Recent genus *Mysidioides*, now represented in the Palearctic Superregion of the Palearctic Realm and Oriental and Ethiopian Realms. The first fossil derbid described earlier from the Eocene Baltic amber belongs to the same tribe Otiocerini sensu stricto, but to an extinct genus (Emeljanov, 1994a).

The genus *Mysidioides* belongs to a small group of genera in the tribe Otiocerini. The latter is characterized by quite peculiar (and diagnostic for this group) basal anastomosis of the posterior radial branch (RP-RS) with a medial stem in the forewing (Fennah, 1952, p. 155, couplet 71). To determine precisely the generic position of the Recent species, characters of the head and thoracic structure are very important, whereas only the forewing is preserved in the extinct species. Generic allocation of the new species is simplified by its venational similarity to the type species of the oldest genus of the group, *Mysidioides*. The new species is placed into this genus based on the following characters: (1) relatively broad and short forewings; (2) apical section of CuA1 + 2 deviating from the composite submarginal vein closer to CuA1 than to MP; (3) CuA1 + 2, MP, and posterior MA branches flexuous in their apical parts (straight or arched in other genera of the group); and (4) a submarginal vein lacking sharp bend at the posterior MA branch.

The holotype is stored at the Paleontological Institute of the Russian Academy of Sciences (PIN).

### SYSTEMATIC PALEONTOLOGY

**Family Derbidae Spinola, 1839**

**Tribe Otiocerini Muir, 1917**

**Genus *Mysidioides* Matsumura, 1905**

*Mysidioides migdisovae* Emeljanov, sp. nov.

**Etymology.** To the memory of the paleontologist E.E. Becker-Migdisova.

**Holotype.** PIN, no. 254/239, forewing impression with basal part missing; Vishnevaya Balka locality, west of Stavropol; Middle Miocene, Karaganian.

**Description** (Fig. 1). The costal space is lanceolate (widest near the wing midlength); crossed by weak oblique crossveins, one near the midlength and two in the distal part (poorly traceable). The interradial space is broader than the costal space, parallel-sided from the RP-M bifurcation, apically closed by the oblique reclined crossvein *ir*. The medial vein is divided into the MA and MP at the same point as the RP leaves it; the first MP section is directed backwards almost perpendicular to MA, looking like a crossvein (it is often interpreted as such; in this case, MP is considered to be a part of the CuA system, see Emeljanov, 1994b). The MA (in our sense) gives backwards four oblique-longitudinal branches; its anteriormost branch (of decreasing rank according to branching) runs in parallel to the RP; the posterior radial space is of the same width as the interradial space, crossed by the nodal *rm* crossvein after the first RA bifurcation. The CuA forms an island cell; the CuA branches are fused at the composite secondary submarginal vein continuing the open apex of the clavus. The MP2 and CuA1 cross the submarginal vein with dislocation. The wing apex is clearly defined and set between the first and second MA branches (between the fourth and fifth, as counting from the wing base). The terminal parts of the veins near the wing tip are poorly traceable in the specimen.

**Measurements**, mm: forewing length (as preserved), 6 mm.

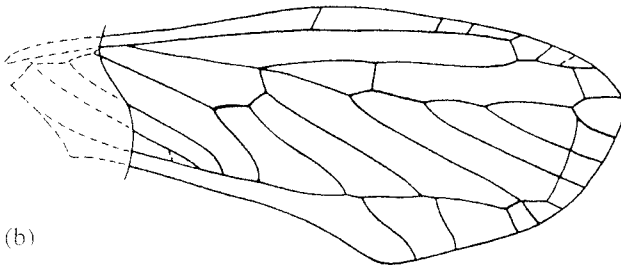


Fig. 1. *Mysidioides migdisovae* sp. nov., holotype PIN. no. 254/239, forewing: (a) general view and (b) scheme of venation (veins of missing basal part are in a dashed line).

**Comparison.** All three African species (Synave, 1973), quite dissimilar to each other, differ from the new species in the numerous crossveins in the costal space and in the straight crossing (without dislocation) of the submarginal vein by the CuA1 and MP2 branches. The new species is closer to the Palearctic *M. sapporoensis* Mats. having the wing apex displaced backwards and set between the second and third MA branches (counting from the wing base).

**Remarks.** The outline of the apical wing part is quite variable in the genus *Mysidioides*. Among the

African species, in *M. ampliata* Syn. the apical wing part is broadly obtusely rounded with the apex at the first (anterior) MA branch; in *M. africana* Muir, the apex is somewhat displaced backwards; and in *M. gillardini* Syn., it is displaced even more and lying between the second and third MA branches (counting from the wing base).

**Material.** Holotype.

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