

A new genus and species of giant achilid from Madagascar (Hemiptera: Fulgoromorpha)

Новый род и вид гигантской ахилиды с Мадагаскара (Hemiptera: Fulgoromorpha)

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КЛЮЧЕВЫЕ СЛОВА: Hemiptera, Fulgoromorpha, Achilidae, *Emeljanocarinus gargantua*, новый род и вид, Мадагаскар.

ABSTRACT. A new Achilidae (Hemiptera, Fulgoromorpha) — *Emeljanocarinus gargantua* **gen. et sp.n.** from Madagascar is described; it is probably the largest achilid ever described.

РЕЗЮМЕ. Новый род и новый вид семейства Achilidae (Hemiptera, Fulgoromorpha) — *Emeljanocarinus gargantua* **gen. et sp.n.** описан с Мадагаскара; вероятно, это крупнейшая из известных ахилид.

Introduction

Within the Fulgoromorpha, achilids appear to be a very distinguishable family not only because of some unusual morphological particularities (wings overlapping or male genitalia conformation for instance in most of them) but also because of several etho-ecological characteristics as their fungi diet during nymph stages or their closer association with gymnosperms [Wilson et al., 1994]. However these promising characteristics has never attracted too much researches and this de-saffectation is probably the result of a false uniform general appearance of the different species of the family. Indeed, after the recognition of the family by Stål in 1866, a major revision was only provided in 1950 by Fennah. Fortunately, interest in achilid systematics and etho-ecology have come back in the recent years thanks to the works of O'Brien [1971] and more recently by Alexander Emeljanov in various papers.

In two of them [Emeljanov, 1991, 1992], the first madagascarian achilids were described and grouped in a new tribe: Mycarini, within the supertribe Myconites. However, these two suprageneric taxa were proposed without autapomorphic characters [Emeljanov, 1992: fig. 29] and were only isolated by elimination, as all other

major taxa were characterized with at least one autapomorphy. Moreover Mycarini — restricted to Madagascar — were placed in a very basal position within the achilid phylogeny [Emeljanov, 1992]. Phylogenetically, Achilidae are always placed in a relative basal position within the Fulgoromorpha [Bourgoïn & al., 1997] and convincing fossils records appear in the Lower Cretaceous [Szwedo et al., 2005].

Altogether, these observations suggest an interesting hypothesis of a vicariance event within the achilids, some 120 millions years ago when Madagascar begun to separate from Africa. It also suggests some new investigations on the Asian material looking for the Mycarini sister-group and the position of the Vietnamese Amphignomini [the closer taxa according to Emeljanov, 1992] within the achilid phylogeny. In order to test these hypothesis and to take advantage of the important undescribed madagascarian material preserved in Paris Museum, a revision of achilid fauna of Madagascar has been undertaken [in prep.].

As part of this work, we are very please to dedicate to Prof. Alexander Emeljanov at the occasion of his 70th birthday, the larger species of achilid ever described, in recognition his major contributions in exploring and describing planthoppers biodiversity.

Tribe Mycarini

Mycarini Emeljanov, 1991: 382.

[Emeljanov, 1992: 577; 1993: 10]

Type genus: *Mycarus* Emeljanov, 1991.

GENERA INCLUDED. *Mycarus* Emeljanov, 1991; *Mycarinus* Emeljanov, 1991; *Acocarinus* Emeljanov, 1991; *Emeljanocarinus* **gen.n.**

Three new monospecific genera were described by Emeljanov [1991] in the Mycarini: *Mycarus*, *Mycarinus*



Fig. 1. *Emeljanocarinus gargantua* gen. et sp.n., habitus.
Рис. 1. *Emeljanocarinus gargantua* gen. et sp.n., внешний вид.

and *Acocarinus*, for which only females were known. The following new taxa is also described only from females. However male are now known for the other Mycarini taxa and will be described in the Achilidae Fauna of Madagascar in preparation.

Emeljanocarinus Bourgoïn & Soulier-Perkins gen.n.

Type species: *Emeljanocarinus gargantua* sp.n.

DESCRIPTION. Large, moderately dorsoventrally flattened. Head relatively elongate. Vertex narrower than transverse eye diameter, deeply groove like, apically roundly truncate. Posterior emargination of vertex very acute angled, with apex protruding forward to the anterior level of the eyes. Median carina absent but in place a thick calus not reaching the anterior margin of the vertex; this calus isolating

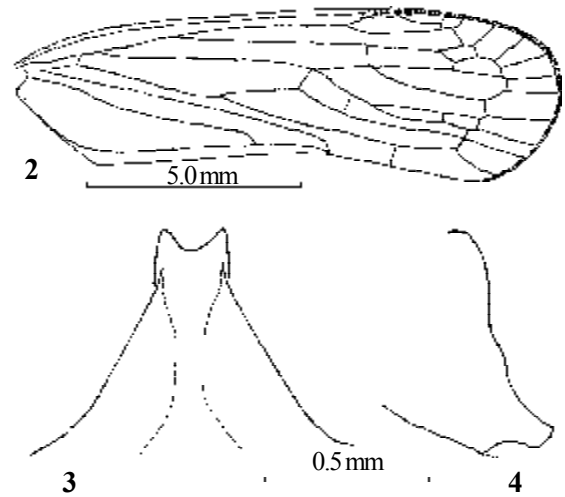


Fig. 2-4. *Emeljanocarinus gargantua* gen. et sp.n.: 2 — fore wing; 3-4 — female genitalia: 3 — medioventral process; 4 — gonapophysis VIII.

Рис. 2-4. *Emeljanocarinus gargantua* gen. et sp.n.: 2 — переднее крыло; 3-4 — гениталии самки: 3 — медиио-вентральный вырост; 4 — гонапофиз VIII.

with the lateral margins of the vertex a pair of strongly excavated longitudinal areas. Vertex in lateral view slightly convex dorsally. Frons and postclypeus in profile slightly convex, in anterior view elongate cuneate, with strong lateral carinae and elevated middle carina, intervals between carinae sloping groove like, lines of their maximal depth continuing parallel to lateral carinae. Postclypeus with 3 carinae, rather cuneately narrowing to anteclypeus, lateral carinae continuing to anteclypeus, converging cuneately in middle part of anteclypeus. Labium long, extending posteriorly beyond metacoxae. Pronotum stout, with elevated disc and 2 parallel humeral carinae; all carinae including middle carina of disc, strong. Disc arrow-like, with convex lateral margins protruding into emargination of vertex; lateral carinae slightly diverging posteriorly; three obsolete short and isolated ridges on each dorsal side of pronotum posterior to eyes. Posterior margin of disc concave at obtuse angle. Length of sides of pronotum posterior of eyes slightly shorter than longitudinal eye diameter. Scutellum moderately convex, with strong longitudinal carinae; the lateral ones slightly diverging. In lateral view median and lateral carinae well separated all over, parallel. Tegmina relatively narrow. Veins stout roundly carinate. Common stem Sc+R+M; Sc+R diverging before CuA; CuA2 almost straight not bending anteriorly after the nodal line; M four branched. Legs of moderate proportions. Hindtibia with 3 lateral teeth, including knee tooth.

DISTRIBUTION. Endemic from Madagascar.

SPECIES INCLUDED. Monospecific.

Emeljanocarinus gargantua
Bourgoïn & Soulier-Perkins sp.n.

Figs 1-4.

MATERIAL: Holotype, ♀, Madagascar Est, distr. Mananara-N., Antanambe VII, Vadon et Peyrieras / Muséum Paris. Paratype, ♀, Madagascar /144/ Muséum Paris, Coll. G. Fallou, 259-95. All specimens deposited in the entomological collections of the Muséum national d'Histoire naturelle of Paris, France (MNHN).

DESCRIPTION. Clear brown, lateral carinae of vertex and lateral carinae of disc of pronotum yellowish. Just below

eyes, one yellowish spot between the 2 lateral carinae of pronotum on each dorsal side. Frons and clypeus brown, lines of maximal depth of intervals between carinae are dark and one yellow spot on each interval at level of epistomal suture. Lateral parts of head, at level of metopa pale. Antennae brown yellowish. The ridges on dorsal side of pronotum are yellowish pale. Mesonotum brown with yellowish spots, 2 pale spots on anterior part and 2 pale spots on posterior part of disc of mesonotum, one dark spot on each side of mesonotum, out of disc and below posterior margin of pronotum. Fore wing (Fig. 2) clear brown with pale indistinct spots and reddish veins becoming paler near wing margin. Transverse apical veins yellowish. M with M1+2 and M3+4 bifurking at almost the same level, well before the subapical line. C4 divided into a short basal cell (almost twice as long as wide) and a more elongated distal one by an additional transverse vein at the level of the nodal line (first transverse CuA1–M before the nodal line). Pro- and mesofemur on the first three quarter dark brown, then a subapical wide yellow ring. Pro- and mesotibia brown with a subbasal and a subapical darker rings. Metatibiotarsal formula: 1+(5–6)/7/7.

Male unknown.

Female genitalia. Medioventral process strongly developed, apically bifid, in ventral view lateral margins diverging and straight (Fig. 3). Gonapophysis apically produced in a small subquadrate process (Fig. 4).

Total length. 14.5–15.0 mm.

DISTRIBUTION. Madagascar Est: Antananambe.

REMARKS. This species is very impressive — it is probably the largest achilid ever described — and named after the giant Gargantua (name in apposition). The female paratype is partly damaged.

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