Russian Entomol. J. 15(3): 323–325

Maana emeljanovi — a new species for West Papua (Hemiptera: Fulgoromorpha: Lophopidae)

Maana emeljanovi — новый вид для Западной Папуа (Hemiptera: Fulgoromorpha: Lophopidae)

Adeline Soulier-Perkins[1], Thierry Bourgoin[1] & Alexander Riedel[2]
А. Сулье-Перкинс[1], Т. Бургуэн[1], А. Ридел[2]

[1] Museum National d'Histoire Naturelle, departement Systematique et Evolution, USM 601, UMR 5202 du CNRS, CP 50, 45 rue Buffon, F-75005 Paris, France. E-mail: soulier@mnhn.fr; bourgoin@mnhn.fr

[1] Национальный музей естественной истории, отдел систематики и эволюции, USM 601, UMR 5202 du CNRS, CP 50, ул. Бюффона 45, F-75005 Париж, Франция.

[2] Staatliches Museum fur Naturkunde Karlsruhe, Germany. E-mail: riedel@smnk.de

[2] Государственый музей естественной истории Карлсруе, Германия.

KEY WORDS: Hemiptera, Fulgoromorpha, Lophopidae, *Maana emeljanovi*, West Papua.

КЛЮЧЕВЫЕ СЛОВА: Hemiptera, Fulgoromorpha, Lophopidae, *Maana emeljanovi*, Западная Папуа.

ABSTRACT. A new species *Maana emeljanovi* **sp.n.** (Lophopidae) is described from male and female specimens and its fifth instar nymph. A key to all known species of the genus *Maana* is provided.

РЕЗЮМЕ. Новый вид, *Maana emeljanovi* **sp.n.** (Lophopidae), описан по самцу, самке и личинке пятого возраста. Дана определительная таблиц ко всем видам рода *Maana*.

Introduction

The genus *Maana* was described by Soulier-Perkins in 1998. The three species already described were collected on the island of New Guinea, *M. colorata* in West Papua (until recently called "Irian Jaya") and the two other species, *M. oriomoensis* and *M. erythina* in Papua New Guinea. Recent phylogeny [Soulier-Perkins, 2001] shows that this genus belongs to a monophyletic group that originated most likely from the Sepik arc after its collision with the Australian continent, 20 million years ago [Soulier-Perkins, 2000]. All the genera of this group are generally found in New Guinea and Australia. *Jugoda*, the sister group of *Maana* is present in New Guinea and the Kei islands. The species of both genera are among the smallest found in this group and the total length of each specimen does not exceed 12 mm.

Material and methods

For the observation of the genitalia and the posterior wax plates of the fifth instar nymph, the dissection and the observations were done according to the following protocol. The abdomens were removed and placed in a 10% KOH bath, 1–2 drops of black chlorazol [Carayon, 1969] for a general endocuticular staining and raised to boiling for 5–10 mn. Gross dissection and cleaning of the abdomens were performed in 70% alcohol. Final and precise dissections were done in distilled water with blue paragon staining and then transferred in glycerol for drawings using a camera lucida.

Descriptions and key

Genus *Maana* Soulier-Perkins, 1998

Type species: *Maana colorata* Soulier-Perkins, 1998.

Maana emeljanovi Soulier-Perkins & Bourgoin **sp.n.**
Figs 1–7.

MATERIAL. Holotype, ♂: West Papua (=Irian Jaya), Cyclops Mts., Sentani, 300 m, 12.IV.1999, leg. A. Riedel. Deposited in MNHN. Paratype, ♀: West Papua (=Irian Jaya), Cyclops Mts., Sentani, 300 m, 12.IV.1999, leg. A. Riedel.

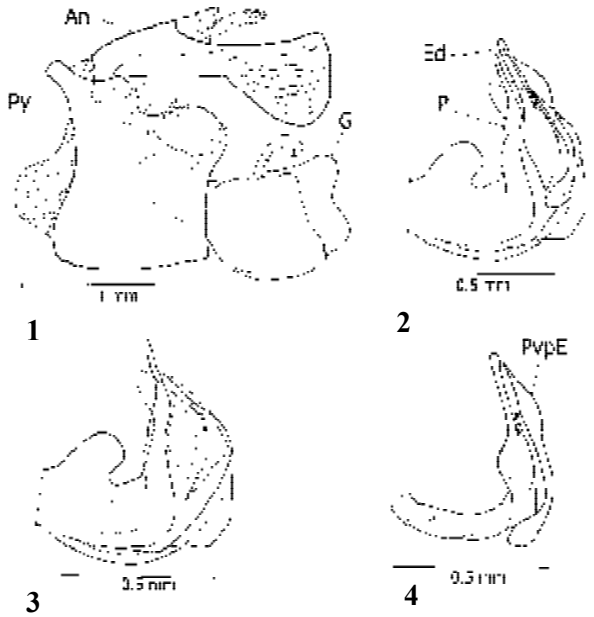
Other specimen: 1 larva, West Papua (=Irian Jaya), Cyclops Mts., Sentani, 300 m, 12.IV.1999, leg. A. Riedel.

DESCRIPTION. Labium short, not reaching metatrochanter. Prothorax short with straight posterior margin, lateral discal carinae present and diverging posteriorly, median carinae present but reduced. Median and lateral carinae present on mesothorax, median carinae underneath a reddish stripe. Fore tibia and femur strongly flattened but not foliaceous like *Maana colorata*.

Coloration. two transverse reddish stripes present on vertex and one on frons. Clypeus reddish. Fore and middle legs reddish with a small brown margin for the fore legs. Scape and pedicel of antennae reddish. This species is very different from the three others by the pattern on its wings. Anterior wings generally brown with a large light patch on its centre at the nodal level.

Size. Total length of male — 8.2 mm and female — 10 mm.

Female. Seventh abdominal segment with strong medioventral extension like *M. colorata*, but rounder, larger and flattened antero-posteriorly.



Figs 1–4. *Maana emeljanovi* **sp.n.**, male, lateral view: 1 — pygofer, anal tube and gonostyli (An — anal tube, G — gonostyli, Py — pygofer); 2 — phallic complex (Ed — aedeagus s. l., P — periandrium); 3 — periandrium; 4 — aedeagus s. l. (PvpE — ventral posterior process of the edeagus).

Рис. 1–4. *Maana emeljanovi* **sp.n.**, самец, сбоку: 1 — пигофор, анальная трубка и стилусы (An — анальная трубка, G — стилусы, Py — пигофор); 2 — фаллический комплекс (Ed — эдеагус s. l., P — периандриум); 3 — периандриум; 4 — эдеагус s. l. (PvpE — нижний задний вырост эдеагуса).

Male. Anal tube developed posteriorly and laterally (Fig. 1), apical part rounded ventrally like *M. colorata*. Dorsal margin of pygofer truncated posteriorly. Ventral margin of periandrium not prolonged posteriorly. Like *M. erythina*, anterior median extension of periandrium protruding dorsally and posteriorly, but of rounder shape (Figs 2–3). Aedeagus prolonged over the insertion point of processes and bifurcated apically (Fig. 4), with one extremity long and rounded and the other short (1/4 the length of the first one) and pointed. Anterior ventral process of aedeagus absent. Posterior ventral process present and nearly as long as aedeagus prolongation itself. Gonostyli bearing a dorsal slim extension oriented posteriorly (Fig. 1).

Fifth instar nymph. General colour reddish but most of the colour faded away due to the preservation in alcohol. On the picture, the legs are of a bright red with femur and tibia underline with black. The thorax and the wings pad are much darker and powdered with white wax. Specimen bearing sensory pits on the frons, thorax and abdomen, like most of fulgoroid larvae (Fig. 6). Head: 1 row of 9 pits between the margin and sub-lateral carina of the frons and on dorsal view 1 group of 5 pits on each side of the median frontal carina. Prothorax, 3 pits along the internal margin of each sub-lateral carinae plus 3 pits running on from the apex of those carinae toward the lateral apex of the prothorax. Mesothorax: median group of 3 pits each and 1 pit on the middle of each wing pad. Metathorax: 2 pits on the median group. IV–V–VI–VII and VIII abdominal tergites bearing respectively 2–2–3–2 and 1 pits on each side. Posteriorly the nymph presents 2 circular wax plates (Fig. 7) that produce wax shaped like a twisted stems that can be longer than two times the length of the nymph (Fig. 5). These plates are located on the segment VIII of the abdomen.

Fig. 5. *Maana emeljanovi* **sp.n.**, fifth instar nymph on leaf. Photo by A. Riedel.

Рис. 5. *Maana emeljanovi* **sp.n.**, личинка пятого возраста на листе. Фотография А. Ридел.

REMARKS. The original picture of the nymph was in colour and it was clearly identifiable since it is of reddish colour on a green leaf. When converting the picture in black and white, as we can observe it now, the nymph becomes strikingly cryptic and the pattern of its thorax and abdomen is very similar to the pattern of the leaf.

ETYMOLOGY. Species named after A.F. Emeljanov.

DISTRIBUTION. New Guinea.

KEY TO THE FOUR SPECIES OF THE GENUS *MAANA* SOULIER-PERKINS

1. Pattern of the fore wing generally brown to light brown in colour except for two translucid patches .... *M. emeljanovi* **sp.n.**
– Pattern of the fore wing generally translucid except for the clavus and apex light brown 2
2. Veins M, Cu and A1 of the fore wing reddish in colour3
– Veins M, Cu and A1 of the fore wing not reddish in colour ..... *M. oriomoensis* Soulier-Perkins, 1998
3. ♂ anal tube with apical part rounded ventrally; ♀ seventh abdominal segment with a strong medio-ventral extension ..... *M. colorata* Soulier-Perkins, 1998
– ♂ anal tube with apical part truncated ventrally and representing over half total lenght of anal tube; ♀ seventh abdominal segment with three small nipples oriented ventrally ..... *M. erythina* Soulier-Perkins, 1998

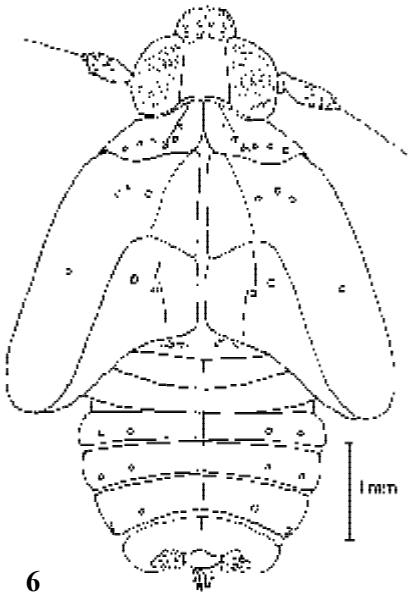
References

Carayon J. 1969. Emploi du noir chlorazol en anatomie microscopique des insectes // Ann. Soc. Entomol. France. Vol.5. P.179–193.

Soulier-Perkins A. 1998. The Lophopidae (Hemiptera: Fulgoromorpha): Description of three new genera and key to the genera of the family // Eur. J. Entomol. Vol.95. P.599–618.

Soulier-Perkins A. 2000. A phylogenetic and geotectonic scenario to explain the biogeography of the Lophopidae // Pal. Pal. Pal. Vol.160. P.239–254.

Soulier-Perkins, A. 2001. The phylogeny of the Lophopidae and the impact of sexual selection and coevolutionary sexual conflict // Cladistics. Vol.17. P.56–78.



6

7

Figs 6–7. *Maana emeljanovi* **sp.n.**: fifth instar nymph. 6 — habitus; 7 — apex of the abdomen.

Рис. 6–7. *Maana emeljanovi* **sp.n.**: личинка пятого возраста. 6 — внешний вид; 7 — вершина брюшка.