

# On the Synonymy and Distribution of the Planthopper Genera *Euroxenus* Gnezdilov, 2009 and *Nikomiklukha* Gnezdilov, 2010 (Hemiptera, Auchenorrhyncha, Fulgoroidea: Issidae)

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**Abstract**—The following new synonymies are established: *Euroxenus* Gnezdilov, 2009 = *Duplexissus* Wang, Zhang et Bourgoïn, 2019, **syn. n.**; *Nikomiklukha* Gnezdilov, 2010 = *Sarimissus* Wang, Zhang et Bourgoïn, 2019, **syn. n.** Consequently, two new combinations are formed: *Euroxenus punctatulus* (Wang, Zhang et Bourgoïn, 2019), **comb. n.**, and *Nikomiklukha maculifrons* (Wang, Zhang et Bourgoïn, 2019), **comb. n.** Thus the genus *Euroxenus* Gnezdilov is recorded for the first time from the Oriental Region, and the genus *Nikomiklukha* Gnezdilov, from Hainan Island.

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Recently, two monotypic genera, *Duplexissus* Wang, Zhang et Bourgoïn, 2019, with the type species *Duplexissus punctatulus* Wang, Zhang et Bourgoïn, 2019, and *Sarimissus* Wang, Zhang et Bourgoïn, 2019, with the type species *Sarimissus maculifrons* Wang, Zhang et Bourgoïn, 2019, were described from Yunnan Province and Hainan Island in Southern China (Wang et al., 2019). My examination of the original descriptions, as well as the photographs and drawings of the described species (Wang et al., 2019, figs. 1–22), has shown that *Duplexissus* is a junior synonym of *Euroxenus* Gnezdilov, 2009, erected for a single species from Reunion (Bonfils et al., 2001; Gnezdilov, 2009), and *Sarimissus* is a junior synonym of *Nikomiklukha* Gnezdilov, 2010, described for three species from Sumatra and Borneo (Gnezdilov, 2010).

The genus *Euroxenus* Gnezdilov is well distinguished by the metope with distinct median and sublateral carinae joint on its upper margin, fore wings with *R*, *M*, and *CuA* with two main branches each and without hypocostal plate, hind wings well developed, with deep cubital and vannal clefts (Fig. 1), phallobase with a pair of furcate subapical processes, with dentate margins (Fig. 2), and the aedeagus with a pair of long ventral

hooks arisen in its apical third and directed downwards (Figs. 2, 3). Unfortunately the illustrations published by Bonfils et al. (2001, figs. 18–28) are not correct in details and here the drawings of male genitalia of *Euroxenus vayssieresii* (Bonfils, Attié et Reynaud, 2001) are given based on the specimens from two localities in Reunion (Figs. 2–8).

The phallobase with long dentate processes is mentioned as a diagnostic character of the genus *Duplexissus* (Wang et al., 2019, fig. 21, *adp*, *pdp*) and accordingly brings *Euroxenus vayssieresii* and *Duplexissus punctatulus* together. These species are also characterized by an elongate male anal tube with a widely rounded apex (in dorsal view), and a style with a concave hind margin. *Duplexissus punctatulus* well differs from *Eu. vayssieresii* in the fore wings slightly narrowing apically (Wang et al., 2019, figs. 13, 16) and the hind wings with *CuA* and *CuP* slightly flattened distally, while *Eu. vayssieresii* has forewings distinctly narrowing apically (Bonfils et al., 2001, fig. 22), and hind wings with *CuA* and *CuP* not flattened (Fig. 1), which allows considering them as different species of the same genus. Thus, including the new combination made below, the genus *Euroxenus* became known from

Southern China and Reunion. As I have already noted (Gnezdilov, 2009, 2013), the issid fauna of the volcanic Reunion has an adventitious Oriental nature, apparently having originated historically due to shipping, which was confirmed by the finding of *Thabena brunnifrons* (Bonfils, Attié et Reynaud, 2001), the second issid species known from the island, in Singapore (Gnezdilov, 2009, 2014) and Taiwan (Chan et al., 2013). Now *Euroxenus* has lost its island endemic status and is also found in the Oriental Region wherefrom it apparently has originated.

The genus *Nikomiklukha* is well distinguished among the members of the tribe Sarimini by the metope with only distinct median carina, elongate fore wings without hypocostal plate, with *R* 2, *M* 3, and *CuA* 2, and also by a massive phallobase with large ventral aedeagal hooks. This genus, considered before as endemic to Sumatra and Borneo (Gnezdilov, 2010) with the new combination made below, significantly extends its distribution northwards, but it still remains within the limits of the Oriental Region. Similarly, the genus *Darwallia* Gnezdilov, 2010 known from two species distributed in Borneo, Sumatra, Singapore, and Mentawai Islands

(Gnezdilov, 2010, 2014, 2019) was also found in Central Vietnam (Gnezdilov et al., 2014).

The material of *Eu. vayssieres* examined is deposited in the Muséum national d'Histoire naturelle, Paris, France (MNHN).

Family **ISSIDAE** Spinola

Subfamily **ISSINAE** Spinola

Tribe **Sarimini** Wang, Zhang et Bourgoïn

Genus **EUROXENUS** Gnezdilov, 2009

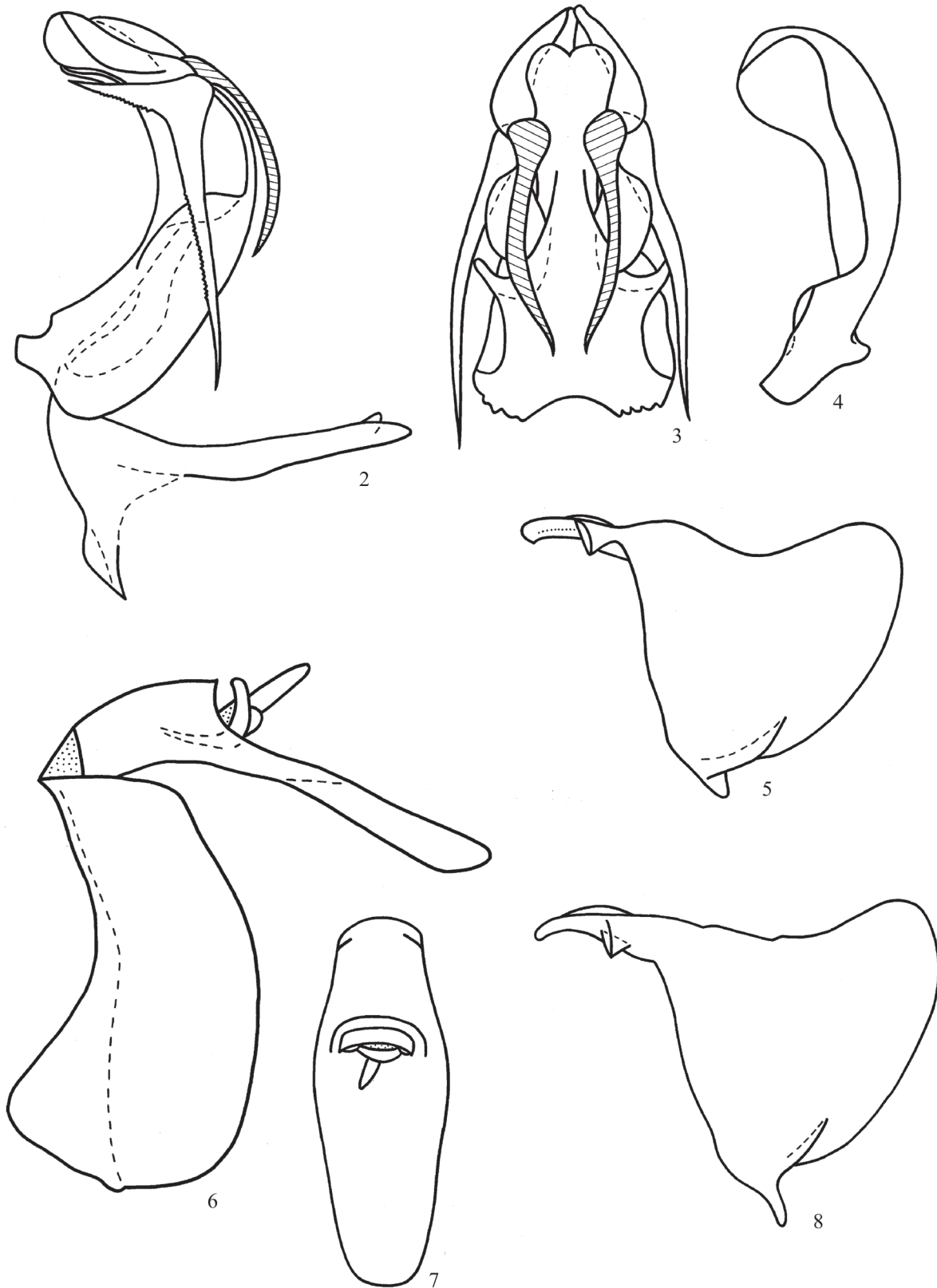
*Euroxenus* Gnezdilov, 2009 : 83. Type species: *Borbonissus vayssieres* Bonfils, Attié et Reynaud, 2001.

*Duplexissus* Wang, Zhang et Bourgoïn, 2019 : 378, syn. n. Type species: *Duplexissus punctatulus* Wang, Zhang et Bourgoïn, 2019.

**Diagnosis.** Metope with distinct median and sub-lateral carinae joint on its upper margin. Fore wings with *R* 2–3, *M* 2–3, *CuA* 2; without hypocostal plate. Hind wings well developed, 3-lobed, with deep cubital



**Fig. 1.** *Euroxenus vayssieres* (Bonfils, Attié et Reynaud, 2001), male (La Possession), hind wing.



**Figs. 2–8.** *Euroxenus vayssieresii* (Bonfils, Attié et Reynaud, 2001), male genitalia, (2–7) Saint-Paul, (8) La Possession: (2) penis and connective (lateral view), (3) penis (ventral view), (4) style (dorsal view), (5, 8) style (lateral view), (6) pygofer and anal tube (lateral view), (7) anal tube (dorsal view).

and vannal clefts (Fig. 1); *R* 2, *M* 1–2, *CuA* 3, *CuP* 1, *Pcu* 1, *A*<sub>1</sub> 2, *A*<sub>2</sub> 1; *CuA* and *CuP* fused distally; *Pcu* and *A*<sub>1,1</sub> joint medially. Hind tibia with 2 lateral spines. 1st metatarsomeres with 2 lateroapical and 7–10 intermediate spines. Phallobase with large bifurcate subapical process, with denticles on the margins (Fig. 2). Aedeagus with a pair of long ventral hooks (Fig. 3).

**Composition.** Two species known from Reunion Island and Yunnan Province in China.

*Euroxenus vayssièresi*

(Bonfils, Attié et Reynaud, 2001)

(Figs. 1–8)

**Material. Reunion:** 1 ♂, 2 ♀, Saint-Paul, on *Adeinium boehmianum*, 14.I.2013 (MNHN); 1 ♂, 1 ♀, La Possession, La Grande-Chaloupe, sweeping, 25.IV.1999, J.-F. Vayssières lgt., RVA 1184 (MNHN).

*Euroxenus punctatulus*

(Wang, Zhang et Bourgoïn, 2019), comb. n.

*Duplexissus punctatulus* Wang, Zhang et Bourgoïn, 2019 : 380, figs. 12–22.

Genus *NIKOMIKLUKHA* Gnezdilov, 2010

*Nikomiklukha* Gnezdilov, 2010 : 48. Type species: *Issus praecedens* Walker, 1857.

*Sarimissus* Wang, Zhang et Bourgoïn, 2019 : 376, syn. n. Type species: *Sarimissus maculifrons* Wang, Zhang et Bourgoïn, 2019.

**Diagnosis.** Metope with only distinct median carina running from its upper margin to metopoclypeal suture. Fore wings elongate, slightly narrowing apically, without hypocostal plate, *R* 2, *M* 3, *CuA* 2. Hind wings well developed, 3-lobed, with deep cubital and vannal clefts, *R* 2, *M* 1, *CuA* 3, *CuP* 1, *Pcu* 1–2, *A*<sub>1</sub> 2–3, *A*<sub>2</sub> 1; *CuA* and *CuP* flattened distally; *Pcu* and *A*<sub>1,1</sub> joint medially. Hind tibia with 2 lateral spines. 1st metatarsomere with 2 lateroapical and 6–8 intermediate spines. Male anal tube elongate. Phallobase massive. Aedeagus with a pair of large, curved ventral hooks. Style with convex margin under the capitulum.

**Composition.** Four species known from Borneo, Sumatra, and Hainan Island.

*Nikomiklukha maculifrons*

(Wang, Zhang et Bourgoïn, 2019), comb. n.

*Sarimissus maculifrons* Wang, Zhang et Bourgoïn, 2019 : 377, figs. 1–11.

**Note.** The species is close to *N. praecedens* (Walker, 1857) as evidenced by short semicircular subapical phallobase processes, but is well distinguished by a rather wide metope and ventral aedeagal hooks arisen in apical part of the aedeagus.

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ADDITIONAL INFORMATION

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