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A REVIEW OF THE SUBGENUS NEOGERRIS MATSUMURA*

(HEMIPTERA: GERRIDAE)

By HERBERT B. HUNGERFORD and RYUICHI MATSUDA

Through the kindness of Professor Chihisa Watanabe of Hokkaido University, we have been able to examine three specimens (one male and two females) of *Neogerris boninensis* Matsumura. Each of these bears the label "*Neogerris boninensis*, 20. VIII, 1905, Ogasawara, Matsumura". They are not labelled as "paratypes". Matsumura (1913), in describing *Neogerris boninensis*, wrote "Hab.—Ogasawarajima (Bonin Islands); many female specimens collected by the author". We therefore consider them as part of the type series and redescribe them as such. Esaki (1930), whom we assume saw the types, assigned *Neogerris* Matsumura to the genus *Limnogonus* Stål without explanation. It does indeed belong to the genus *Limnogonus* but to the subgenus *Limnogonellus* Hungerford and Matsuda, which we proposed, in 1959, for *L. parvulus* (Stål) and its relatives. Thus *Limnogonellus* Hungerford and Matsuda becomes a synonym of *Neogerris* Matsumura. The subgeneric synonymy is as follows:

Subgenus ***Neogerris*** Matsumura

Neogerris Matsumura, 1913, Thous. Ins. Jap., Add. [Tokyo] p. 99.

Limnogonus, Esaki, 1930, Bull. Biogeograph. Soc. Jap. 1 (3) : 214.

Neogerris Matsumura, 1930, Illus. Thous. Ins. Jap. [Tokyo] 1 : 14.

Limnogonus (*Limnogonellus*) Hungerford and Matsuda, 1959, Jour. Kansas Ent. Soc. 32 (1) : 40–41.

Limnogonus (*Limnogonellus*) Hungerford and Matsuda, 1960, Univ. Kansas Sci. Bull. 41 (1) : 11.

Limnogonus (*Limnogonellus*) Matsuda, 1960, Univ. Kansas Sci. Bull. 41 (2) : 202, figs. 290, 291, 293–296, 299.

This subgenus differs from *Limnogonus* (s. str.) in having a quadrate, rounded or elongate oval spot on the anterior lobe of the pronotum instead of two parallel, short longitudinal lines. In winged forms the humeri are near the middle of the posterior lobe of the pronotum, and in wingless forms the pronotum may be reduced to the anterior lobe, exposing the mesonotum, or may have a more or less prolonged posterior lobe exposing either most of the mesonotum or only its caudal margin.

Limnogonus* (*Neogerris*) *boninensis (Matsumura)

Neogerris boninensis Matsumura, 1913, Thous. Ins. Jap., Addit. [Tokyo] pp. 99–100, tab. 11, fig. 10 (female was illustrated).

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Limnogonus boninensis, Esaki, 1930, Bull. Biogeogr. Soc. Jap. 1 (3) : 214.
Neogerris boninensis, Matsumura, 1930, Illust. Thous. Ins. Jap. 1 : 14, pl. 8, fig. 10.
Limnogonus boninensis, Lundblad, 1935, Arch. Hydrobiol., Suppl. 12, p. 371.

Size : Apterous male 5.04 mm. long ; width across head 1.34 mm. ; width across mesoacetabula 1.89 mm. Apterous female 6.09 mm. long ; width across head 1.43 mm. ; width across mesoacetabula 2.2 mm. Matsumura gives the range of bodylength 5.0–6.5 mm., but probably the smaller ones are males.

Color : Fuscous brown to black, often with a velvety surface ; a lunate fulvous spot on the back of head, an elongate median fulvous spot on anterior lobe of pronotum, posterior lobe margined with a fulvous band and sometimes with a narrow median longitudinal line. Mesonotum margined with a brown band and may have a median longitudinal line of lighter brown. Metanotum and abdominal tergites and connexivum black, more or less covered with a velvety brown pile. Sides of thorax, acetabula and abdomen black or dark brown, more or less covered with a silvery pile. Coxae fulvous. Venter yellowish brown to black, covered with a frosty pile. Antennae and legs mostly brown.

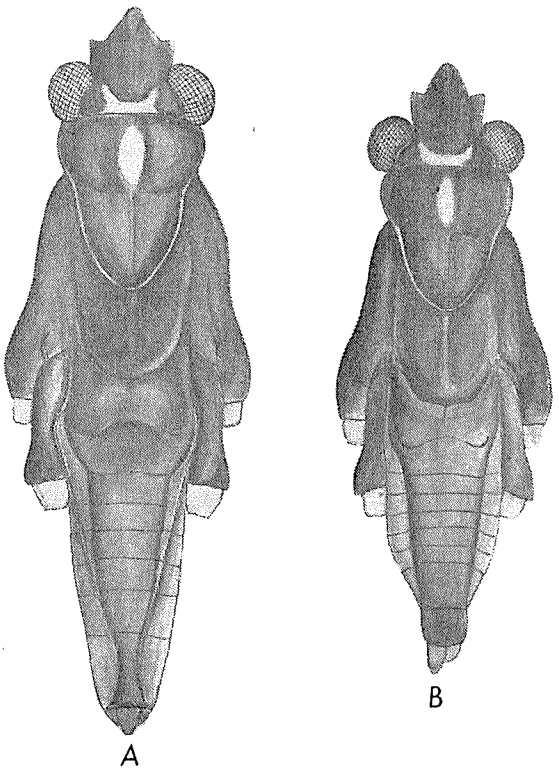

Fig. 1. *Limnogonus (Neogerris) boninensis.* A, female ; B, male.

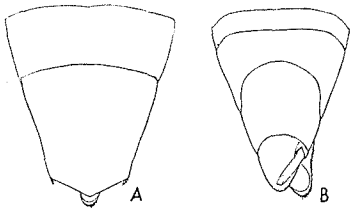

Fig. 2. *Limnogonus (Neogerris) boninensis.* A, ventral view of apical abdominal segments in female ; B, the same, apical abdominal segments in male.

Structural characteristics : Relative lengths of antennal segments of male : 1st : 2nd : 3rd : 4th : : 73 : 36 : 40 : 43 ; of female : : 88 : 40 : 42 : 43*. Head as seen from above shorter than pronotum (35 : 58 in wingless male, 45 : 55 in wingless female). Anterior lobe medially depressed, longer than posterior lobe which bears a median longitudinal carina (33 : 28 in male ; 33 : 30 in female), thus leaving more than half of mesonotum exposed. Metanotum and first abdominal tergite flat in male, medially elevated in female.

* 20 units are equal to 0.42 mm.

Abdominal tergites much broader than long except last (7th tergite), which in male is as long as two preceding tergites together. Connexivum nearly erect in male, overlapping lateral portion of last two or three tergites in female; connexival spine absent in both sexes. Metasternum longer than first two abdominal sternites together in male, while shorter in female.

First genital segment of male, as seen from below, longer than last two abdominal sternites together; last abdominal sternite of male nearly as long as two preceding sternites together. Caudal margin of last ventral abdominal segment of female caudally produced medially; last abdominal sternite of female a little longer than two preceding sternites together (37 : 30).

Relative lengths of leg segments*

		Femur	Tibia	1st tarsal segment	2nd tarsal segment	Total tarsal segment
Male :	Front leg	100	93	8	20	28
	Middle leg	215	208	76	28	104
	Hind leg	220	118	27	18	45
Female :	Front leg	110	103	10	22	32
	Middle leg	233	227	95	27	122
	Hind leg	235	141	30	19	49

Types : Many individuals belonging to the type series were collected by the late Professor Shonen Matsumura on Ogasawarajima (Bonin Islands). They are preserved at the Hokkaido University, Sapporo, Japan.

The three old world species belonging to the subgenus *Neogerris* may be separated by the following key :

1. Anterior lobe of pronotum with an elongate oval, fulvous spot. . . . . *Limnogonus* (*Neogerris*) *boninensis* Matsumura
- Anterior lobe of pronotum with a quadrangular or round fulvous spot. . . . . 2.
2. Head black, with a broad brownish yellow, caudal transverse band often V-shaped. Front femur of male rather slender, of uniform diameter. Last ventral abdominal segment of female not laterally compressed distally, caudal margin slightly roundly produced at middle. . . . . *Limnogonus* (*Neogerris*) *parvulus* Stål
- Head black, yellow only on neck. Front femur of male rather stout and thicker across middle. Last ventral abdominal segment of female laterally compressed distally, its caudal margin produced into a sharp keel in the middle. . . . . *Limnogonus* (*Neogerris*) *severini* (Kirkaldy)

Since we reported *Limnogonus* (*Limnogonellus*) *parvulus* Stål as occurring in Madagascar (1959), we must correct our error. Shortly after we had published the above paper we found that the species from Madagascar has characters by which it is separated from *L.* (*Neogerris*) *parvulus* Stål, and sent a pair of specimens to Dr. R. Poisson who reported the Madagascar species to be *Limnogonus severini* (Kirk.) described from the Lower Congo. Our specimens came from Zanzibar and Madagascar.

* 20 units equal to 0.42 mm.