

The Georissid Beetles of Japan

By

Masataka SATÔ

The family Georissidae has been treated as a member of the superfamily Dryopoidea by most Entomologists until it was transferred to superfamily Hydrophiloidea by CROWSON's (1950) study of the comparative morphology of the adult and by EMDEN's (1956) study on the larva. This family is represented by a single genus, *Georissus* LATRAILLE and only three species have hitherto been recorded in Japan.

SHARP (1888) described the first species, *G. canalifer* basing on the material captured by G. LEWIS at Sapporo, Hokkaido in 1880. After that time no additional species was recorded from Japan for a long time. KUROSAWA (1950), however, recorded the second species from Honshu. This species was provisionally reported as *G. laesicollis* GERMER, but NAKANE (1963) proposed a new name for it, *G. kurosawai*. Third species, *G. babai* was recently described by SATÔ (1970) from Niigata, Honshu.

In the present paper, I will detail six species of Japanese Georissidae. They are classified into three groups, of which three species are new to science.

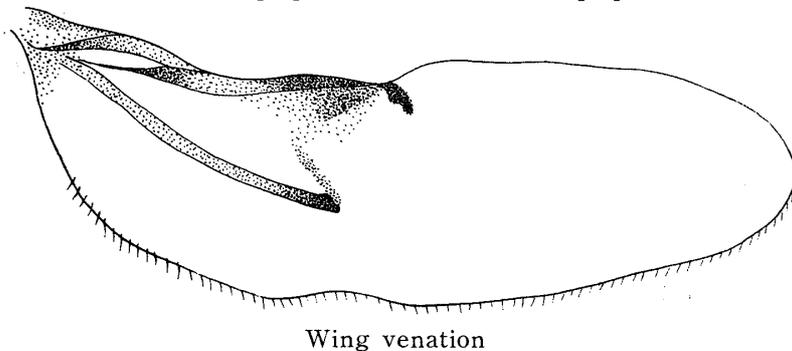
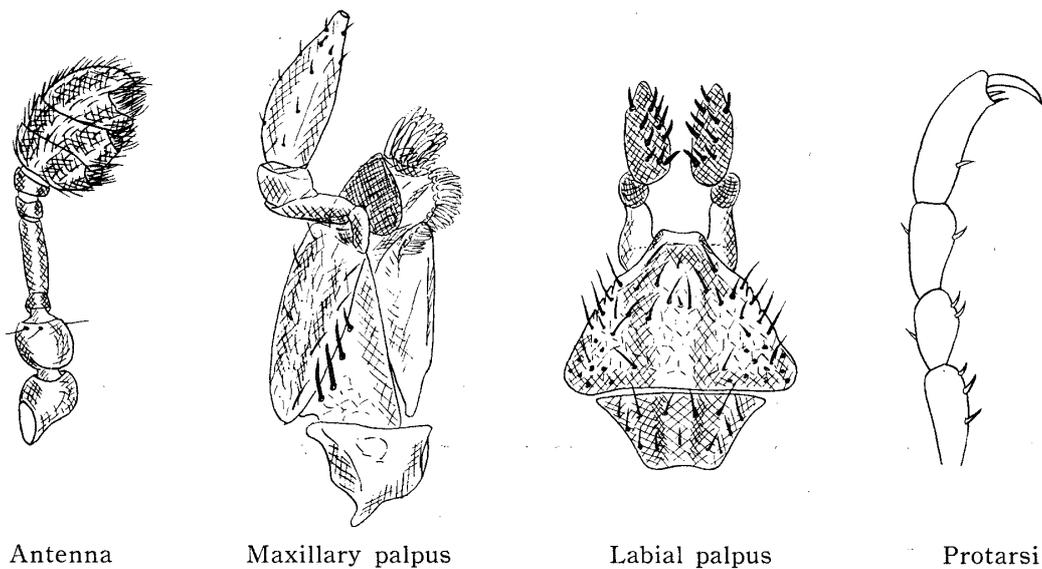
I express my thanks to Dr. K. BABA, Dr. K. MORIMOTO, Messrs. S. NOMURA, H. ICHIHASHI and M. SAKAI who offered me the interesting materials and also to Dr. A. TAKAHASHI for kind help of this paper.

Genus *Georissus* LATREILLE

Georissus LATREILLE, 1809. Gen. Crust. et Ins. 4: 377.

Type-species: *Byrrhus crenulatus* ROSSI, 1794.

Small sized species. Body oval, convex. Head completely concealed under pronotum, surface uneven, provided with granules, calinae and foveae; labrum distinct; eyes lateral, small and prominent; antennae nine-jointed, longer than maxillary palpi, basal two joints stout, terminal three composed with a oval club; maxillary palpi four-jointed, terminal joint nearly same length as first to third taken together; labial palpi three-jointed. Pronotum distinctly broader than head, the sides narrowed in front and conjointly rounded together with anterior margin; surface uneven, rugosely punctate and granulate, provided with a furrow and/or foveae. Scutellum slightly exposed. Elytra laterally embracing abdomen, rounded apically, the apex rounded, humerous defined; surface bearing rows of punctures and/or granules. Wing venation simple, costal, subcostal and cubital veins distinct.



[*Georissus (Georissus) babai* M. Saitō]

Propleura provided with excavations for receiving the antennae: prosternum small, procoxal cavities open behind: mesosternum subquadrate, rather broad, a little produced at anterior margin and excavated on the middle, metacoxal cavities broadly separated: metasternum very broad, distinctly impressed in front and hind along the margins, metacoxal cavities broadly separated. Abdominal sternites five-segmented, first segment enlarged, first and second connate and having a deep sulcus between them. Legs moderate in length, front coxae large and flattened, femora somewhat flattened, tibiae slender, tarsal formula 4-4-4 jointed, terminal joint longest. Male genitalia of trilobate type.

In Japan, six species belonging to the genus are known. They are divided into three subgenera which are diagnosed in the following descriptions.

Subgenus *Georissus* s. str.

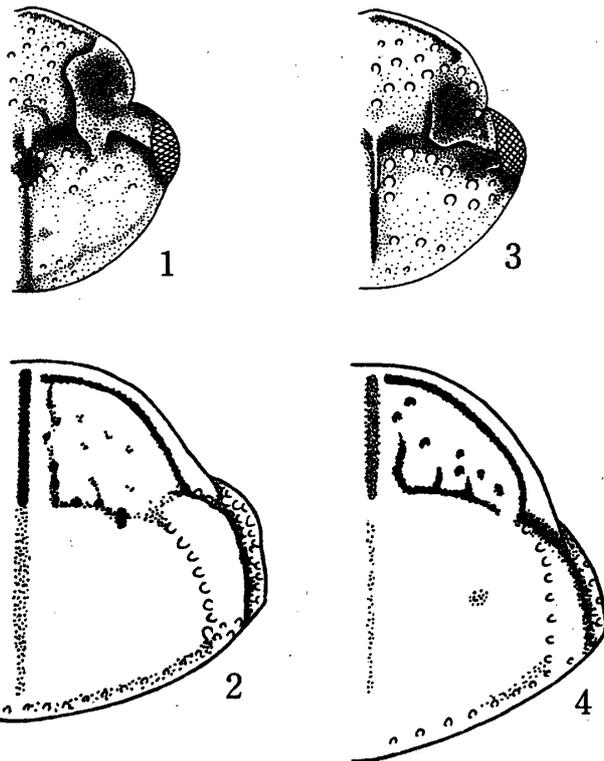
Head having a furrow on hind. area Pronotum provided with a series of granules along the posterior and the lateral margins and with a median furrow, distinctly grooved along the anterior and the lateral margins, posterior two-thirds on disc smooth. Elytra bearing rows of distinct punctures. Opposite margins of first and second abdominal sternites each provided with a pair of evident tooth.

Georissus (Georissus) canalifer SHARP

Georyssus canalifer SHARP, 1888. Ann. Mag. nat. Hist. (6) 2: 244 (Hkkaido: Sapporo);
MIWA, 1937. Kontyû 11 (1/2): 163, f. 9 (Sapporo); KAMIYA, 1951. Sen-chu 3 (1/2): 6;
NAKANE, 1963. in Icon. Ins. Jap. col. nat. ed., Coleopt. 2: 63, pl. 32, f. 8 (Hokkaido).

Specimens examined: 2 exs., Ashoro, Tokachi, Hokkaido, July 24-31, 1959, K. MORIMOTO
leg.

Distribution: Japan (Hokkaido).



Figs. 1, 2. *Georissus (Georissus) canalifer* SHARP
Figs. 3, 4. *Georissus (Georissus) babai* M. SATÔ
1, 3: Head, 2, 4: Pronotum.

Georissus (Georissus) babai M. SATÔ

Georyssus babai M. SATÔ, 1970. Jour. Nagoya Women's Coll. 16: 199 (Honshu: Sasaguchi-
hama, Nakajo of Niigata Pref.).

No additional specimen examined.

Distribution: Japan (Honshu).

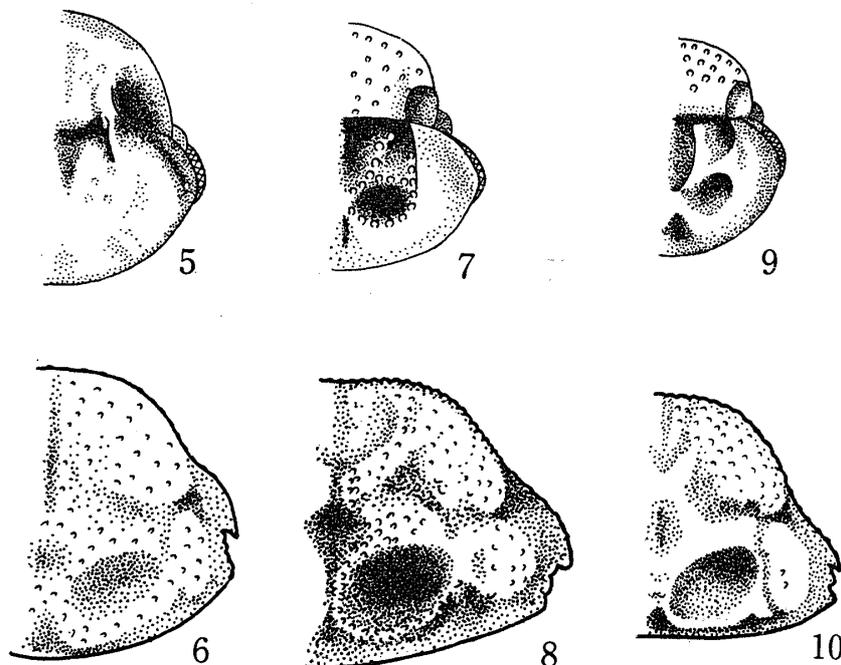
Subgenus Neogeorissus M. SATÔ, nov.

Type-species: *Georissus japonicus* M. SATÔ, sp. nov.

Head granulate in front, having few foveae in hind. Pronotum provided with
some foveae, but especially distinct on a central one and two oblique large ones
just before the posterior margin, granulate in front, the sides just before the

hind angles distinctly dentate. Elytra bearing eight rows of granules or punctures. First abdominal sternite having a pair of excavation at the middle of base.

This new subgenus is separable from the nominate one in the combination of above mentioned characters.



Figs. 5, 6. *Georissus (Neogeorissus) kurosawai* NAKANE
 Figs. 7, 8. *Georissus (Neogeorissus) japonicus* M. SATÔ
 Figs. 9, 10. *Georissus (Neogeorissus) sakaii* M. SATÔ
 5, 7, 9: Head, 6, 8, 10: Pronotum.

Georissus (Neogeorissus) japonicus M. SATÔ, sp. nov.

Colour dark reddish brown, but dorsal surface more or less darker than the others. Head sparsely granulate in front, and having some foveae which are surrounded by granules and carinae. Pronotum about 1.5 times as broad as long, distinctly granulate in front, bearing some definite foveae, intervals of foveae granulate. Elytra a little longer than broad, provided with rows of evident granules, intervals canariculate. Abdomen sparsely granulate. Male genitalia as figured.

Length: 1.35-1.47 mm; breadth: 0.82-0.91 mm.

Holotype and 6 paratypes: A small pond of Murakami, Niigata Pref., Honshu, Aug. 8, 1961, M. SATÔ leg. The specimens were found among fallen leaves at the bottom near bank in pond.

Distribution: Japan (Honshu).

This new species evidently differs from *G. kurosawai* NAKANE in the smaller body, the different colour, the distinctly granulated head and pronotum and having the rows of granules on elytra.

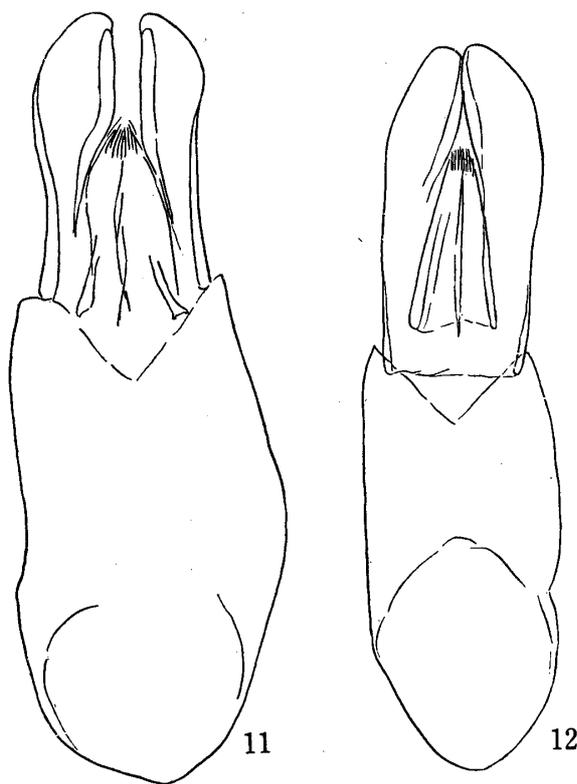


Fig. 11. Male genitalia of *Georissus* (*Neogeorissus*) *japonicus* M. SATÔ

Fig. 12. Male genitalia of *Georissus* (*Neogeorissus*) *sakaii* M. SATÔ

***Georissus* (*Neogeorissus*) *sakaii* M. SATÔ, sp. nov.**

Colour reddish brown, but head, legs and base of elytra narrowly more or less darkened. Head strongly granulate in front and having some distinct foveae. Pronotum about 1.3 times as broad as long, distinctly and sparsely granulate in front, bearing some foveae which are comparatively shallow. Elytra bearing rows of sparse granules, each granules in rows separated longitudinally by two to three times own diameters, intervals provided with longitudinal rows of vague punctures. Abdomen very sparsely granulate. Male genitalia as figured.

Length: 1.21 mm; breadth: 0.82mm.

Holotype: ♂, Tsuda Beach, Tokushima Pref., Shikoku, Sept. 11, 1966, M. SAKAI leg.

Distribution: Japan (Shikoku).

The present new species is closely related to *G. japonicus* M. SATÔ, but is different from the latter in the characteristic structures of granules on head, pronotum and elytra and of foveae on head and pronotum.

***Georissus* (*Neogeorissus*) *kurosawai* NAKANE**

Georyssus kurosawai NAKANE, 1963. in Icon. Ins. Jap. col. nat. ed. Coleopt. 2: 63, pl. 32, f. 9 (Honshu) (nom. nud.); NAKANE, 1966. Fragm. Coleopt. 14: 58 (Honshu: Nagoya, Aizu-Wakamatsu; Hokkaido: Obihiro).

Georyssus laesicollis: KUROSAWA, 1950. in Icon. Ins. Jap. ed. sec. reform. : 1107, f. 3171 (Honshu).

Specimens examined: 1 ex., Nakagawara, Tokyo, Honshu, Aug. 26, 1941, I. FUJIYAMA leg.; 1 ex., Odawara, Kanagawa Pref., Honshu, Aug. 25, 1940, M. KUBOTA leg., 2 exs., Katsura-gawa, Yose, Honshu, April 25, 1941, M. KUBOTA leg.

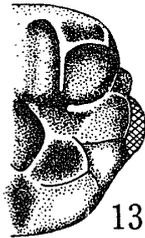
Distribution: Japan (Hokkaido, Honshu).

Subgenus *Nipponogeorissus* M. SATÔ, nov.

Type-species: *Georissus granulosus* M. SATÔ, sp. nov.

Head provided with some foveae which are surrounded by distinct carinae. Pronotum closely granulate throughout. Elytra bearing four longitudinal carinae consisting of granules. Abdomen rugosely granulate, lacking basal excavation and tooth on first sternite.

The new subgenus is characterized by above mentioned features from two preceding subgenera.



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Figs. 13, 14. *Georissus (Nipponogeorissus) granulosus* M. SATÔ
13: Head, 14: Pronotum.

Georissus (Nipponogeorissus) granulosus M. SATÔ, sp. nov.

Colour blackish brown, but ventral surface, legs and mouth appendages dark reddish brown. Head provided with prominent foveae and carinae. Pronotum about 1.3 times as broad as long, closely granulate all over, transversely grooved at apical third, but the groove interrupted by four longitudinally arranged granules. Elytra about 1.3 times as long as broad, bearing four well defined carinae, intervals provided with double rows of oval punctures and with granules.

Length: 1.59 mm; breadth: 0.88 mm.

Holotype: ♀, Furukawa, Tsu, Mie Pref., Honshu, Aug. 23, 1958, H. ICHIHASHI leg.

Distribution: Japan (Honshu).

This new species is evidently distinct from another species known in Japan by the peculiar structures described in the preceding paragraph.

Most specimens treated in this paper are preserved in the collection of M. SATÔ and some are in the collections of Entomological Laboratory, Ehime University and of Mr. S. NOMURA.

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