

**Systematic and zoogeographical notes
on the genus *Georissus* LATREILLE, 1809
(Coleoptera: Hydrophiloidea)
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ABSTRACT

The three known subgenera of *Georissus* LATREILLE are redefined and the distribution pattern of this genus is provided.

KEY WORDS

Coleoptera, Hydrophiloidea, *Georissus*, subgenera redefinition, distribution.

DIAGNOSIS

Georissus was divided into three subgenera by SATÔ (1972) based on primarily differences in dorsal sculpture (head, pronotum, elytra) and shape of pronotum. Originally he also included differences in the sculpture of the basal ventrite, but later (1979) omitted these characters.

He defined *Georissus* s. str. as having the head granulate anteriorly and provided with a few foveae on posterior portion, pronotal disc smooth in posterior two thirds (but with median groove), pronotal sides not dentate before posterior angles, and elytra provided with series of distinct punctures.

The subgenus *Neogeorissus* was described as having similar sculpture on head, but with pronotum having a distinct pattern of foveae on the disc, notably a central fovea and two oblique ones just before the posterior pronotal margin. Furthermore pronotal disc is sparsely granulate, pronotal sides distinctly dentate just before posterior angles, and elytra bearing rows of granules.

The last subgenus, *Nipponogeorissus* differs from the other two by having distinct foveae on entire dorsal face of head, pronotum entirely and closely granulate and elytra with four longitudinal granulate carinae (alternate interstices). Furthermore, the pronotal sides are regularly curved, i.e. not dentate before posterior angles.

Although SATÔ (l.c.) based his subgeneric division of *Georissus* on Japanese species, it seems rather unproblematic to classify other species according to this scheme. There is, however, some variation with regard some of the characters used notably the lateral dentition of pronotum and development of elytral carinae and series of granules. Several species have a pattern of foveae on pronotal disc as described for *Neogeorissus* but indistinct or very weak lateral dentition (e.g. *G. laesicollis*, *G. decoratus*) and some even lack distinct granules on elytral interstices (e.g. *G. alticosta*, *G. decorsei*). Other species (e.g. *G. australis*) have a fairly typical *Neogeorissus* type of pronotal foveae and granulation as well as distinctly granulate elytral interstices, but lack lateral pronotal dentition and the median pronotal "fovea" forms a narrow groove (as described for *Georissus* s.str.).

Because of such variation in some of the originally used diagnostic characters it is necessary to modify the concepts of the subgenera. At present, this is probably simplest to expand the limits of *Neogeorissus* to include some species with non-dentate pronotal sides, and non-tuberculate elytral interstices.

In this sense, *Neogeorissus* includes all species with foveae on pronotal disc and with sparsely granulate pronotum. It is by far the largest subgenus, widely distributed in the afrotropical and oriental region, with some species also in palearctic and australian regions. *Georissus* s.str. have a regularly convex, smooth or sparsely granulate or punctate disc (at most with a narrow median groove). Relatively few species; widespread in palearctic region, also in nearctic and neotropical regions.

Nipponogeorissus have extensive and densely granulate sculpture on entire surface and weak impressions on disc. Barely two species known (Japan + Papua New Guinea).

Two species, *G. pygidialis* (with posteriorly truncate elytra, anteriorly truncate pronotum and peculiar pattern of cephalic and pronotal foveae) and *G. insolitus* (with inner elytral striae, foveae modified to form two rows of very large foveae – corresponding to pair-wise fused striae – separated longitudinally by granulate costae corresponding to alternate interstices), both provisionally referred to *Neogeorissus*, are rather aberrant and will probably have to be placed in separate subgenera. Actually, the subgenus *Neogeorissus* is likely to be a paraphyletic group, containing the more primitive members of *Georissus*. But in the absence of a phylogenetic analysis of the genus I refrain from proposing new formal subgenera.

KEY TO THE SUBGENERA

- 1 Pronotum densely granulate on entire surface, disc weakly uneven, sides without dentition, regularly curved. Alternate elytral interstices more or less costate _____ ***Nipponogeorissus* SATÔ, 1972**
 - Pronotum sparsely granulate to almost smooth on disc _____ **2**
- 2 Pronotal disc with distinct foveae, including a central one (rarely narrow linear) and two oblique, subbasal ones, usually more or less granulate, sides often with lateral tooth before posterior corners. Elytral interstices usually granulate, the alternate ones often more raised _____ ***Neogeorissus* SATÔ, 1972**
 - Pronotal disc (behind anterior projecting lobe) regularly convex, at most with narrow median groove, smooth or sparsely punctate or granulate, sides without dentition. Elytral interstices smooth, not raised _____ ***Georissus* s.str.**

Table (ref. Satô 1972):

	<i>Georissus</i>	<i>Neogeorissus</i>	<i>Nipponogeorissus</i>
Pronotal sides subbasally	simple	dentate	simple
Pronotal disc	smooth (without grooves, except medially)	sparsely granulate with a pair of large subbasal grooves	extensively granulate (obsolete grooves)
Head	median posterior furrow	few posterior foveae	extensive foveae throughout separated by carinae
Elytra	seriate-punctate	8 rows of granules	4 granulate costae
Basal ventrite	(non-excavate)	pair of basal excavations or punctures	(non-excavate)

For description of the genus see HANSEN (1991); for summarizing descriptions of species and for keys see CHAMPION (1923), DELÈVE (1967, 1972), HEBAUER (1998), MOTSCHULSKY (1843), PAULIAN & LEGROS (1943).

DISTRIBUTION PATTERN (FIG. 1).

Up to now there are known 76 described species.

<i>Georissus s.str.</i>		<i>Neogeorissus</i>		<i>Nipponogeorissus</i>	
Total:	9 spp.	Total:	65 spp.	Total:	2 spp.
Palaearctic:	4	Palaearctic:	7	Palaearctic:	1
Nearctic:	2	Afrotropical:	33	Australian:	1
Neotropical:	2	Australian:	4		
Oriental:	1 ?	Oriental:	21		

For distribution and synonyms see HANSEN (1999).

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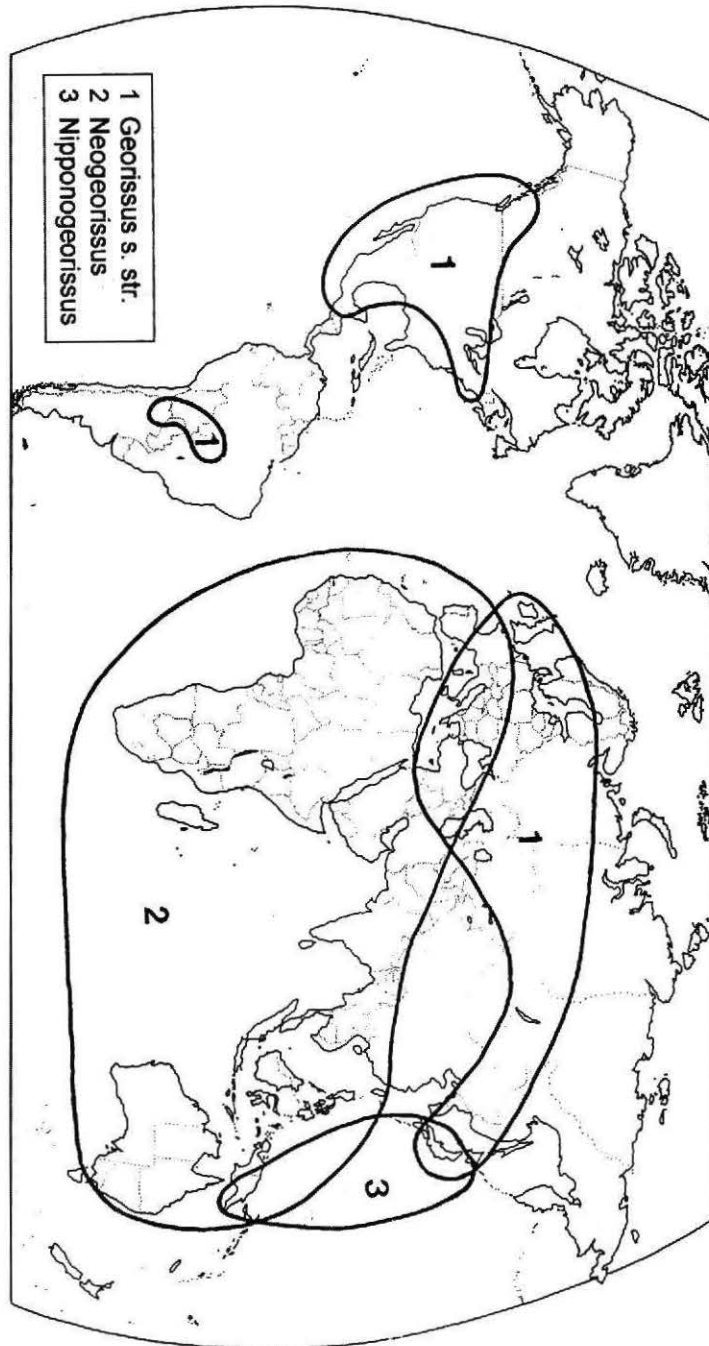


Fig. 1. Geographical distribution of the genus *Georissus* LATREILLE.

ZOBODAT - www.zobodat.at

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