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Yosiityphlus Sawada, 1971, a new synonym of *Thinobius* Kiesenwetter, 1844 (Coleoptera: Staphylinidae)

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Abstract

Based on the analysis of the original description, *Yosiityphlus kuroshio* Sawada, 1971, initially described as a member of Leptotyphlinae, is transferred to the genus *Thinobius* Kiesenwetter, 1844, subfamily Oxytelinae. The generic name *Yosiityphlus* Sawada, 1971 is placed in synonymy with the name *Thinobius*.

Key words: Coleoptera, Staphylinidae, Leptotyphlinae, Oxytelinae, *Yosiityphlus*, *Thinobius*, taxonomy, synonymy

Introduction

Yosiityphlus kuroshio Sawada (1971), an endogean staphylinid described from the Kii Peninsula of Honshû, Japan, was placed by Sawada in the subfamily Leptotyphlinae. This placement was based on the lack of eyes; the dark tentorial maculae clearly visible on poorly pigmented yellow background; the position of the antennal insertion points and some other characters. Sawada (1971) pointed out that *Yosiityphlus* differed from all known genera of leptotyphlines in arrangement of the setae of the labrum, in the shape of the gular sutures and pronotum, and in having a reduced prementum. Sawada did not assign *Yosiityphlus* to any of the described tribes of Leptotyphlinae (Coiffait 1959). In the recent world catalogue (Herman 2001) *Yosiityphlus* is not assigned to any tribe of Leptotyphlinae and listed as *incertae sedis*.

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The uncertain position of *Yosiityphlus* within the subfamily Leptotyphlinae (Sawada 1971; Herman 2001) prompted us to reexamine the original description of *Yosiityphlus kuroshio*. We consider the description and detailed illustrations published by Sawada (1971) to be sufficient to interpret the characters and determine the taxonomic placement of *Yosiityphlus*.

Our analysis of the original description and illustrations (Sawada 1971) indicates that *Yosiityphlus* differs from all known leptotyphlines in the following characters:

1) Antennal insertion points are above the mandible bases (Fig. A in Sawada 1971) and not between the mandible bases (Fig. 1 in Coiffait 1959) as in leptotyphlines.

2) Antennal article 2 is about as large as article 3 (Fig. B in Sawada 1979). In leptotyphlines article 2 is much larger than article 3 (Figs. 4–6 in Pace 1996).

3) Antennal articles 5–10 elongate (Fig. B in Sawada 1979), not strongly transverse as in leptotyphlines (Figs. 4–6 in Pace 1996).

4) The fused portion of the gular sutures half as long as their total length (Fig. H in Sawada 1971). In leptotyphlines the gular sutures are completely separate or partially fused, if partially fused the fused portion is no longer than 1/3 of their total length (Figs. 3–13 in Coiffait 1959).

5) The neck is strongly constricted, the head capsule is 1.5 times as wide as the nuchal constriction (Fig. H in Sawada 1971). In leptotyphlines the nuchal constriction is just a little narrower than the head capsule (Figs. 1–13 in Coiffait 1959), the nuchal portion of the head capsule is retracted into the pronotum and the position of the head rather rigidly fixed (Figs. 1, 57, 64 in Pace 1996).

6) Tibiae are not robust and not dilated distally (Figs. A, J–K in Sawada 1971), while in Leptotyphlinae tibiae are robust, claviform, dilated distally and often carry rows of strong setae (Figs. 51–59 in Coiffait 1959).

7) Abdominal tergum 2 is fully developed and not covered by the elytra (Fig. A in Sawada 1971) while in leptotyphlines the first completely exposed abdominal tergum is the tergum 3 (Figs. 1, 48, 64 in Pace 1996).

8) The presence of the basolateral ridges on abdominal terga (Fig. A in Sawada 1971). Leptotyphlines have no such ridges (Figs. 1, 57, 64 in Pace 1996).

9) The spermatheca is small and sclerotized (Figs. N–O in Sawada 1971). According to Pace (1996) in leptotyphlines the spermatheca is large, soft and can be observed only in fresh specimens.

Considering the listed differences between *Yosiityphlus* and definitive leptotyphlines it is clear that the first does not fit the characterization of the subfamily and should be placed elsewhere. Our analysis of the description and illustrations by Sawada (1971) indicates that *Yosiityphlus kuroshio* belongs to the genus *Thinobius* Kiesenwetter, 1844, of the subfamily Oxytelinae. *Thinobius kuroshio* is in many respects similar to *T. korbeli*. The characters supporting this placement of *T. kuroshio* are listed below.

1) Fully developed, unmodified second abdominal sternite, mentioned in the description (Sawada 1971 (p. 328); cf. Figs. 66, 69 in Herman 1970).

2) Antennal insertion points are under protuberances at the anterior edge of the head capsule and above the bases of the mandibles (Fig. A in Sawada 1971; Figs. 1–2 in Löbl & Rychlík 1994).

3) Modifications on antennal segments 9 and 10 (Figs. A, B in Sawada 1971). This character may provide additional support for placement of *Th. kuroshio* in *Thinobius* because antennal modifications are known in some other species of this genus (*e. g.*, Figs. 1–2 in Comellini 1969).

4) Strongly exserted, prominent and conical procoxae (Fig. J in Sawada 1971; Fig. 30 in Herman 1970).

5) Both the spermathecal gland and the receptacle are well sclerotized and readily visible (Fig. O in Sawada 1971), as in other species of the genus *Thinobius* (Figs. 8–9 in Makranczy & Schülke 2001).

6) Acicular 4th and robust 3rd segment of the maxillary palpus (Fig. D in Sawada 1971; Fig. 22 in Herman 1970).

7) The gular sutures are fused in their anterior half, in their posterior half the sutures are sharply and strongly diverging towards the base of the head (cf. Fig. H in Sawada 1971 and Fig. 10 in Herman 1970).

8) Narrow prohypomeron; protrochantin strongly exposed, procoxal fissure absent (cf. Fig. I in Sawada 1971 and Figs. 28 and 30 in Herman 1970).

9) All tarsi with 2 tarsomeres (cf. Figs. J–K in Sawada 1971 and Fig. 59 in Herman 1970).

10) The presence of the basolateral ridges on abdominal terga (Fig. A in Sawada 1971 and Fig. 68 in Herman 1970).

Thinobius kuroshio resembles *T. korbeli* Löbl & Rychlík, 1994, an endogean, anophthalmous and wingless species described from Southern Slovakia. *Thinobius kuroshio* is similar to *T. korbeli* in the lack of eyes and the distinct shape of head. It is not clear whether the two species are related or the similarity between them is a result of adaptation to similar habitats. This question can be addressed when males of *T. kuroshio* are discovered. While most species of *Thinobius* inhabit sandy and gravelly banks of streams, *T. korbeli* was collected 10–40 cm deep in soil in riverine forests on the bank of the river Danube (Löbl & Rychlík 1994). The only known series consisting of 13 female specimens of *T. kuroshio* was collected in the Kii Peninsula, Central Honshû, Japan, under rotting seaweed on a pebbly beach (Sawada 1971). As adaptation to specific habitats some staphylinid lineages independently acquire unusual appearances which may disguise their true identity and in extreme cases trick researchers into placing them in wrong subfamilies. At the time of description of *Yosiityphlus kuroshio* (Sawada 1971), no anophthalmous oxytelines were known. For this reason, Sawada may not have considered the possibility of placing *Yosiityphlus* in Oxytelinae. In different subfamilies (*e. g.*, Leptotyphlinae,

Osoriinae and Pselaphinae) specialized endogean staphylinids independently develop such features as poor pigmentation, short elytra, lost eyes and wings. *Thinobius kuroshio* is another example of such convergence.

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References

Coiffait, H. (1959) Monographie des Leptotyphlites (Col. Staphylinidae). *Revue française d'Entomologie*, 26, 237–437.

Comellini, A. (1969) Un nouveau *Thinobius* d'Arménie (Col. Staphylinidae). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 42, 351–352.

Herman, L.H. (1970) Phylogeny and reclassification of the genera of the rove-beetle subfamily Oxytelinae of the World (Coleoptera: Staphylinidae). *Bulletin of the American Museum of Natural History*, 142, 343–454.

Herman, L.H. (2001) Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of the second millennium. IV. Staphylinine group (Part 1). Euaesthetinae, Leptotyphlinae, Megalopsidiinae, Oxyporinae, Pseudopsinae, Solieriinae, Steninae. *Bulletin of the American Museum of Natural History*, 265, 1807–2440.

Kiesenwetter, E.A.H. von (1844) Die Staphylinenfauna von Leipzig's Umgegend. *Entomologische Zeitung, Stettin*, 5, 340–356.

Löbl, I. & Rychlík, I. (1994) *Thinobius korbeli* sp. nov., an anophthalmous oxyteline (Coleoptera: Staphylinidae) from Slovakia. *Entomological Problems*, 25, 25–32.

Makranczy, Gy. & Schülke, M. (2001) Typenstudien an der mitteleuropäischen Vertretern der Artengruppe des *Thinobius linearis* Kraatz, 1857 (Coleoptera, Staphylinidae, Oxytelinae). *Entomologische Blätter*, 97(2–3), 185–193.

Pace, R. (1996) Coleoptera. Staphylinidae. Leptotyphlinae. *In*: *Fauna d'Italia*, 34. Calderini, Bologna, viii + 328 pp.

Sawada, K. (1971) On the new genus and species of Leptotyphlinae of Japan (Coleoptera, Staphylinidae). *Revue d'Écologie et de Biologie du Sol*, 8, 327–330.

