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Sphaeridium huijbregtsi,
a new species from Halmahera,
Irian Jaya, Papua New Guinea and
the Solomon Islands
(Coleoptera, Hydrophilidae)

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Summary

Sphaeridium huijbregtsi sp. n., a new species from Halmahera, Irian Jaya, Papua New Guinea and the Solomon Islands is described, illustrated and keyed. The ♂ paratype from Halmahera is very aberrant in having two completely developed genitalia. At least the Halmaheran specimens are necrophilous.

Most species of the genus *Sphaeridium* FABRICIUS live in dung of various animals. Especially where large land herbivores are abundant many species can be found. The central and east African savannas are rich in species which mainly live in elephant and buffalo dung. This is the first species that is obvious necrophilous, because it was collected in a carrion baited trap near a dung baited trap at different times (J. Huijbregts, personal communication). During the Third Archbold Expedition to Dutch New Guinea in 1938-'39 a small series of the same species was collected. The only known species thus far from Irian Jaya is *S. flavomaculatum* ORCHYMONT.

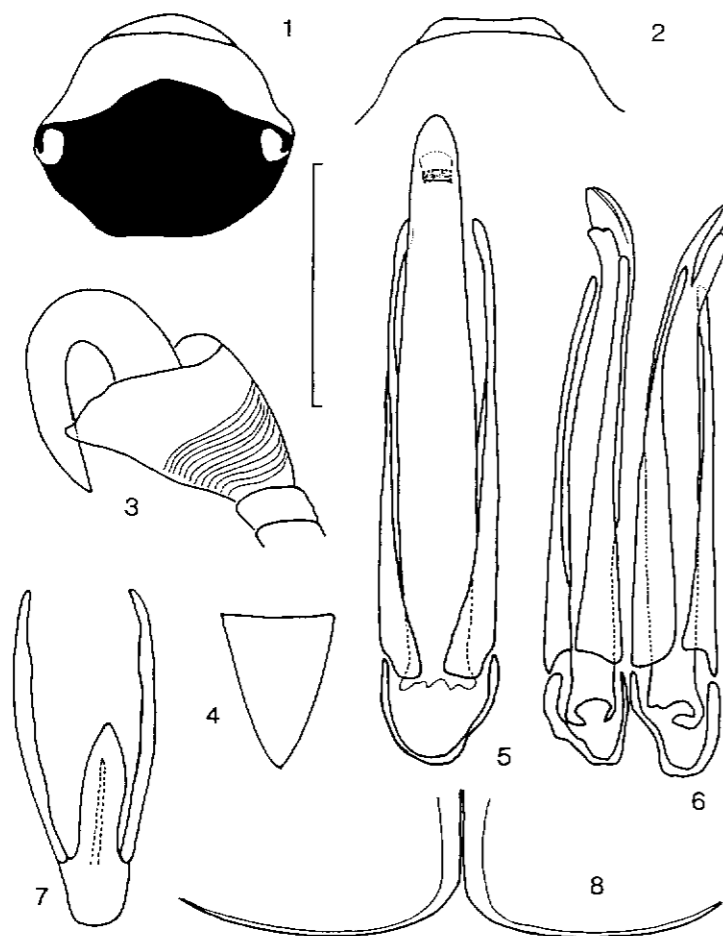
***Sphaeridium huijbregtsi* sp. n.**

Description (holotype, male). - Approximate length 7.7 mm, length of elytron 4.3 mm, width 4.1 mm, height 2.4 mm. Dorsal side black; lateral sides of pronotum with a narrow yellow band; elytron near the apex with a small brownish spot. Ventral side yellow; median portion of prosternum, anterolateral and median portion of mesosternum except tubercle, elevated central part of metasternum, median spot on metepisternum, longitudinal spot on metepimeron, paramedian and paralateral spots on abdominal

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sternites, central spot on inferior side of all femora and antennal club black. Dorsal side shiny, elytron with scattered reticulation.

Dorsal side of head with close regular punctation, interstices smooth. Labrum with straight anterior margin, its surface with strong reticulation and a fringe of golden setae along the anterior margin.



Figs 1-8. Morphological characters of *Sphaeridium* species. 1, *S. flavomaculatum* Orchymont. 2-8, *S. huijbregtsi* sp. n. Figs 1-2, head, dorsal. 3, right fore tarsus, ♂. 4, scutellum. 5, genitalia, dorsal, holotype. 6, genitalia, dorsal, paratype from Halmahera. 7, genital segment, holotype. 8, elytra, apex, dorsal. Scale line is 0.5 mm to figs 3, 5-7, 1 mm to figs 4, 8 and 2 mm to figs 1-2.

Pronotal length 0.45 the length of elytron; lateral margin widely rounded; posterior angle obtuse, rounded; lateral bead ending at posterior angle; posterior margin without bead; punctation and sculpture as on head. Scutellum (fig. 4) wide and relatively large, length/width ratio 1.4, lateral margins slightly convex in outward direction; punctation and sculpture as on pronotum.

Elytron with apex shortly rounded (fig. 8); the side margin medially slightly expanded in ventral direction; epipleuron oblique; juxtasutural space not elevated; lateral bead and sutural line confluent (fig. 8); anterior portion with fine striae directed in oblique outward direction; longitudinal rows of larger punctures present; surface in anterior half with close punctation, towards the apex more densely punctated, the punctures less impressed; interstices smooth, microsculpture scarcely present.

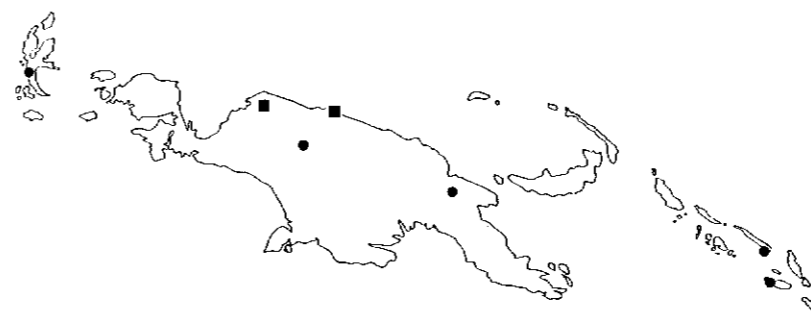
Mentum punctate, with strong reticulation. Antennal club compact.

Midprosternum wide between coxae, its surface convex; between coxae with strong spines of 0.1 mm, as strong and as long as spines on fore coxa; posteriorly with one terminal spine. Mesosternal anterior projection highly elevated, longer than wide; mesosternal posterior tubercle very narrow, spinulose with two apical spines; apex of posterior tubercle projecting between mesocoxae as far as mesosternal posterior apex. Metasternal longitudinal groove weakly impressed, not reaching posterior margin; elevated pentagonal median portion with abundant punctation, smooth; posterior part impunctate with very fine reticulation; posterior margin rounded with scattered short setae. Apex of fifth abdominal sternite slightly extended posteriorly. Ultimate abdominal tergite not extended posteriorly.

Fore coxa with strong spines. Hind tibiae with three spines on their inferior side. Fore tarsus (fig. 3). 5th Tarsal segment inflated towards apex, about as long as wide; exterior claw greatly enlarged, ca five times as wide as inner claw.

Genitalia (fig. 5). Genitalia 2.6 mm long, ca 0.3 the length of body; flattened, median lobe rounded, terminally with small protuberance; parameres long, ca 0.8 the length of median lobe. Genital segment (fig. 7). Genital segment complete, ca half the length of genitalia.

Female: Slightly different from the male only in the more distinct reticulation on the posterior portion of the elytron.



Map 1. Records of *S. huijbregtsi* sp. n. ● and *S. flavomaculatum* Orchymont ■

Identification: The differences with *S. flavomaculatum* ORCHYMONT, the only known relative from Irian Jaya can be summarized as follows:

1. Head and pronotum with distinct microreticulation. Anterior margin of labrum rounded (fig. 1). Eyes deeply cut by side margin of head (fig. 1). Midprosternum very narrow between coxae, with six spines on its longitudinal axis. Mesosternal posterior tubercle reaching beyond middle coxae and abutting elevated anterior portion of metasternum. Indonesia: Irian Jaya: Mamberamo river, Hollandia (= Jayapura) (Map 1) *flavomaculatum*
- Head and pronotum smooth between punctures. Anterior margin of labrum straight (fig. 2). Eyes not deeply cut by side margin of head. Midprosternum wide between coxae, swollen, with scattered spines. Mesosternal posterior tubercle not reaching beyond middle coxae. Anterior portion of metasternum not elevated. Indonesia: Halmahera, Irian Jaya, Papua New Guinea, Solomon Islands (Map 1) *huijbregtsi*

Variation: This species is very variable both in colour and the number of spines on the inferior side of the hind tibiae. In the ♂ the number varies from one to three, in the ♀ the number varies from two to four. The specimens from Halmahera have the side margin of the elytron yellow, the ♀ have a larger yellow spot near the apex of the elytron and the puncture rows are more distinct. The ♂ paratype from Halmahera is unique in the fact that it has two completely developed genitalia (fig. 6). They are rotated approximately 45° and are parallel to each other beyond their half. Besides they are slightly bent in ventral direction. The apex of the median lobe is very sclerotized. The ♂ paratype from Guadalcanal is totally black.

Natural history: The specimens from Halmahera were collected in a pitfall baited with carrion. This pitfall was situated in slightly disturbed primary forest (probably an old bivouac site) along the river Aké Lamo. All specimens were collected between 10.15 and 16.15 during rainy weather. For more detailed information about the location in Irian Jaya see TOXOPEUS (1940).

Material examined: *S. huijbregtsi*: Holotype "Neth. Ind.-American / New Guinea Exped. / Mist Camp 1800m / 12.I.1939 L.J. TOXOPEUS" (Museum Leiden); "Lower Mist Camp 1500m / New Guinea, 28.I.1939 L.J. TOXOPEUS" (1 ♂ paratype, Museum Leiden); "Sigi Camp 1500m / New Guinea, 24.II.1939 L.J. TOXOPEUS" (1 ♂ paratype, Museum Leiden); "Indonesia: Halmahera, 8 km NEE of Akelamo confluence Aké Lamo & Jenama Aké, 31.VII-3.VIII.1985, H. HUIJBREGTS 400" (1 ♂ paratype, 3 ♀ paratypes, Museum Leiden); "NEW GUINEA: / Madang Dist., / Finisterre Mts. / Budemu c. 4000 ft. / 15-24.X.1964" "Stn. No. / 51" "M.E. BACCHUS / B.M. 1965-120" (1 ♂ paratype, 1 ♀ paratype, British Museum, Natural History); "St. Georges / Oceania." "35" Sharp Coll. / 1905-313." (1 ♀ paratype, British Museum, Natural History); "SOLOMON IS. / Guadalcanal / Popomanaseu / 4500 ft" "24.11.1965 P. GREENSLADE" (1 ♂ paratype, British Museum, Natural History). *S. flavomaculatum*: "N. Guinea Exped. / Mamberamo Riv. / W.C. VAN HEURN Dez. / 1920, Pionierbivak" (1 ♀ type, Museum Leiden); "New Guinea: Hollandia" (2 ♀, Museum Leiden).

Note: This new species is named after the collector of the Halmaheran specimens, Hans HUIJBREGTS, comrade in the study of Hydrophilids.

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