

Three New Species of the Genus *Callistethus* (Coleoptera, Scarabaeidae, Rutelinae) from Sulawesi and Mindanao

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Abstract Three new species of the genus *Callistethus* BLANCHARD, 1850 are described from Sulawesi and Mindanao: *C. somai* sp. nov., *C. tondanoensis* sp. nov. (Sulawesi); *C. mindanaoensis* sp. nov. (Mindanao). *Callistethus ohausi immaculatus* HELLER, 1898 is regarded as a color variation of *C. ohausi ohausi* HELLER, 1898.

The genus *Callistethus* BLANCHARD, 1850 is characterized by the absence of protruding mesosternal process and the prosternum. The *ohausi* group is easily distinguished from other groups of the genus by the mesosternal process very short and rounded at the apex. Six species and one subspecies of the *ohausi* group have hitherto been recorded from Java, Sumatra and Sulawesi: *Callistethus trivittatus* PERTY, 1831, *C. ohausi ohausi* HELLER, 1898, *C. ohausi immaculatus* HELLER, 1898, *C. epicholicus* OHAUS, 1914, *C. aegrus* OHAUS, 1916, *C. catoptricus* OHAUS, 1916 and *C. fusciventris* OHAUS, 1926.

In the course of my taxonomic study concerning the genus *Callistethus*, I found out some sibling species included in the *ohausi* group. Though they are very similar to one another and not easily discriminated on their facies, they have peculiar differences in the shape of the male genitalia and the inner sac. Recently I have examined inner sacs of specimens from various areas including the type locality, and am convinced of their speciation.

In this paper, I am going to describe three new species belonging to the *ohausi* group, *Callistethus somai* sp. nov., *C. tondanoensis* sp. nov., and *C. mindanaoensis* sp. nov., the former two from Sulawesi and the latter from Mindanao. MACHATSCHKE (1972) regarded *Callistethus ohausi* var. *immaculatus* HELLER, 1898 as a subspecies of *C. ohausi* HELLER, 1898, but it is nothing but a color variation.

Before going further, I wish to express my cordial appreciation to Dr. Kimio MASUMOTO of Otsuma Women's University, Tokyo, for his constant encouragement of my entomological studies. Deep indebtedness should be expressed to Dr. Dirk AHRENS of the Staatliches Museum für Tierkunde, Dresden, and Dr. Martin BAEHR of the Zoologische Staatssammlung, München, for loaning materials under their care. My thanks are due to Dr. Wolfgang SCHAWALLER, Staatliches Museum für Naturkunde, Stuttgart, and Mr. Carsten ZORN, Dresden, for their kind help of my study. My thanks are also

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Callistethus ohausi HELLER, 1898

(Figs. 1, 2, 4, 14)

Callistethus ohausi HELLER, 1898, Abh. Ber. zool. Mus. Dresden, **7**, p. 24.

Callistethus ohausi var. *immaculatus* HELLER, 1898, Abh. Ber. zool. Mus. Dresden, **7**, p. 25.

Material examined. Holotype: ♂, Pic V, Bonthain, S. Sulawesi, Mus. Dresd. No. 9490. Paratypes: 1 ♂, same data as for the holotype, Mus. Dresd. No. 9490. 1 ♀, Pangie, S. Sulawesi, leg. H. RIBBE, Mus. Dresd. No. 11365.

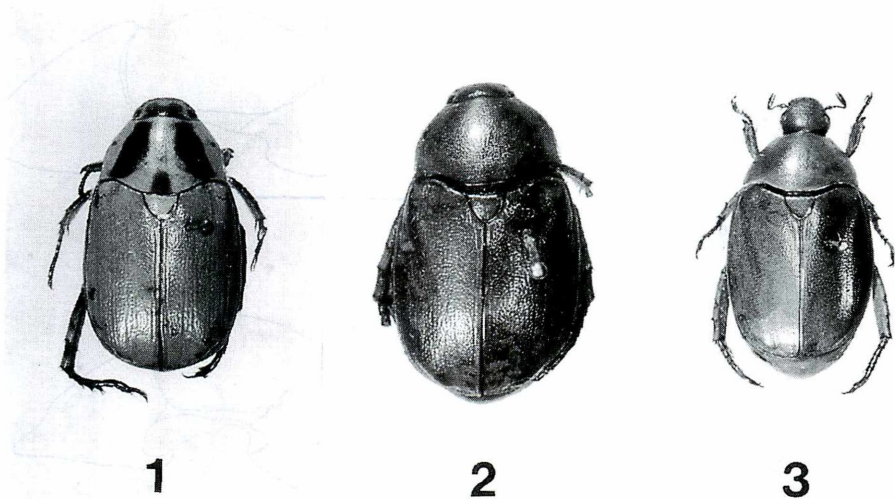
Body length: 14.8–16.8 mm, width: 8.7–9.4 mm.

Dorsal surface, tibiae and tarsi yellowish brown to reddish brown, ventral surface and femora yellowish brown; head with a pair of brown spots in posterior part; pronotum with a pair of brown spots at the middle of lateral portion, a pair of longitudinal brown lines in lateral 2/3, and a longitudinal vague brown line in middle, these lines being variable in size; elytra, ventral surface and legs with variously sized yellowish brown to reddish brown parts; pygidium with a pair of brown spots in lateral portions; legs and dorsal surface except elytra with greenish metallic lustre, elytra with coppery metallic luster, ventral surface with rather weak luster.

Head microsculptured; clypeus emarginate, about 2.1–2.2 times as wide as long, reflexed along outer margin, densely punctate, the punctures large in middle, reticulately rugoso-punctate in lateral portions; frons densely punctate in middle, the punctures becoming larger and denser laterad, smaller and sparser towards vertex, reticulately rugoso-punctate in lateral portions; vertex irregularly scattered with round punctures.

Pronotum about 1.6 times as wide as long, distinctly narrowed apicad in apical 2/5, then curved inward basally, widened posteriad in basal 1/5; front angles rectangular, hind angles slightly rounded at corners; disc irregularly scattered with small punctures in middle, which become denser and larger laterad, and elliptical and partly coalescent in the lateral portions; lateral margins furnished with a few erect yellow setae (0.5–1.0 mm in length) along margins, with rims extending to hind angles. Scutellum irregularly scattered with round punctures.

Elytra with eight rows of deep round punctures, weakly widened in basal 4/5, narrowed apicad in posterior 1/5; intervals densely punctate, the punctures rounded in middle, becoming larger laterad and elliptical in lateral portions; distal margins slightly rounded; lateral margins with rims thickened in basal 4/5, becoming thinner in



Figs. 1–3. Habitus of *Callistethus* spp.; 1, *C. ohausi* HELLER, 1898, holotype, ♂; 2, *C. ohausi immaculatus* HELLER, 1898, holotype, ♀; 3, *C. mindanaoensis* sp. nov., holotype, ♂.

apical 1/5, and disappearing at hind corners; marginal membrane narrow, starting from basal half, and extending to apices.

Pygidium reticulately rugulose, with some erect yellowish brown setae (0.5–1.05 mm in length) in marginal portion; outer margins rimmed, nearly straight in lateral sides, rounded at apex.

Metasternum sparsely punctate in middle, the punctures large and setigerous, each with a yellow suberect seta (0.25–0.75 mm in length) in lateral portions; mesosternal process short, with obtuse apex in lateral view.

Abdominal sternites irregularly punctate, the punctures large and elongate, with a transverse row of yellow decumbent setae (0.3–0.9 mm in length) becoming denser laterad.

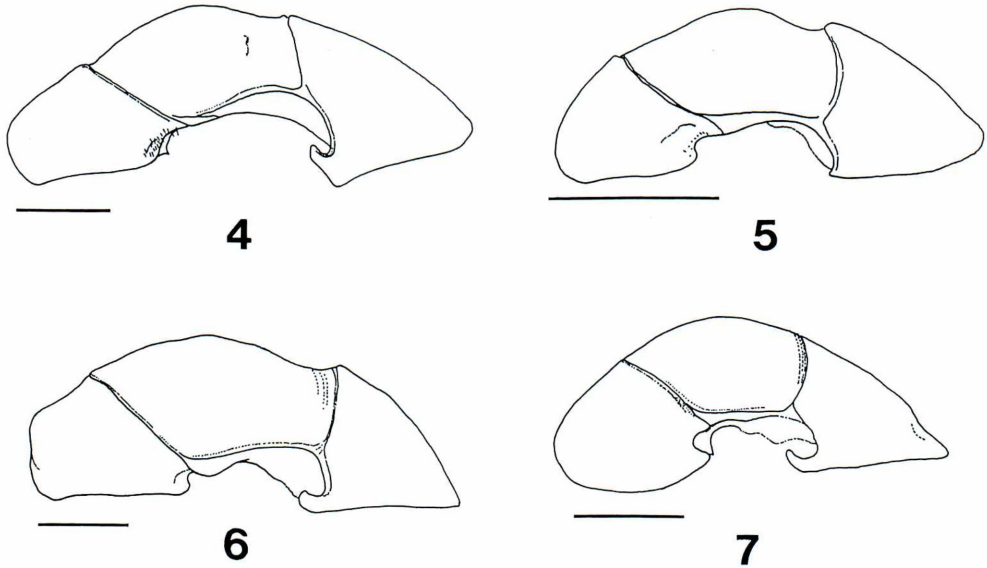
Fore tibiae with two outer teeth, the apical one obtuse and slightly rounded in male; inner claw of fore leg and outer claw of middle leg apically incised, forming two branches, the upper branch of fore leg about 3/5 times the width of the lower one; outer claw of fore leg, inner claws of middle and hind legs simple and acuminate.

Callistethus somai sp. nov.

(Figs. 5, 8, 9)

Body length: 15.2–16.5 mm, width: 8.1–8.8 mm.

Antennae, tibiae and tarsi reddish brown, body and femora yellowish brown; head with a pair of brown spots at the posterior part, these spots varying in size and connected with each other; pronotum with a pair of longitudinal brown lines in lateral 2/3,



Figs. 4–7. Male genitalia (scale: 1 mm). — 4, *Callistethus ohausi* HELLER, 1898, lateral view; 5, *C. somai* sp. nov., lateral view; 6, *C. tondanoensis* sp. nov., lateral view; 7, *C. mindanaoensis* sp. nov., lateral view.

and a longitudinal vague brown line in middle; ventral surface, tibiae and femora with variously sized reddish brown areas; pygidium with a pair of brown spots at the middle of lateral portions, a pair of brown round spots at antero-lateral corners, and a short longitudinal spot at the middle of apical portion; head, elytra, tibiae and tarsi with coppery metallic luster, pronotum with greenish metallic lustre, femora, pygidium and ventral surface with rather weak luster.

Head microsculptured; clypeus broadly emarginate, about 2.1–2.2 times as wide as long, weakly reflexed along outer margin, densely punctate, the punctures coalescent and reticulately rugoso-punctate; frons densely punctate, the punctures coalescent and reticulately rugoso-punctate in anterior to middle portions, becoming smaller laterad, smaller and sparser towards vertex; vertex irregularly scattered with small punctures.

Pronotum about 1.5–1.6 times as wide as long, distinctly narrowed apicad in apical 1/3, almost parallel in basal 2/3, weakly widened laterad before hind angles; front angles obtuse, hind angles rectangular and slightly rounded at corners; disc irregularly scattered with punctures which are small and round in middle, becoming larger laterad and posteriad, elliptical in antero-lateral portions; lateral margins furnished with a few yellow erect setae (0.1–0.23 mm in length) along margins, with rims extending to hind angles. Scutellum irregularly scattered with oblong punctures.

Elytra with eight rows of deep round punctures, weakly widened in anterior half,

narrowed posteriad in posterior half; intervals irregularly scattered with round punctures, which become larger in lateral portions; distal margins almost straight; lateral margins with rims thickened in basal 3/5, becoming thinner in apical 2/5, and disappearing before hind corners; marginal membrane narrow, starting from basal 3/5, and extending to apices.

Pygidium weakly reticulately rugulose, with some yellow erect setae (0.45–0.8 mm in length) in marginal portion; outer margins rimmed, nearly straight in lateral sides, rounded at apex.

Metasternum punctate, the punctures sparse in middle, dense and setigerous in lateral portions, each with a yellow suberect seta (0.25–0.75 mm in length); mesosternal process short, with apex obtuse in lateral view.

Abdominal sternites irregularly punctate, the punctures oblong in middle, becoming denser laterad, reticulately rugulose in lateral portions, with a transverse row of yellow decumbent setae (0.22–0.50 mm in length) in apical 2/5.

Fore tibiae with two outer teeth, the apical one obtuse and slightly rounded in male, stout and spatulate in female; inner claw of fore leg and outer claw of middle leg apically incised, forming two branches, the upper branch of fore leg about 3/5 the width of the lower one; outer claw of fore leg, inner claws of middle and hind legs simple and acuminate.

Holotype: ♂, Pedamaran, Tana Toraja, Sulawesi, 7–XII–1985, leg. K. SOMA. Allotype: ♀, same data as for the holotype. Paratypes: 5 ♂♂, 1 ♀, same data as for the holotype; 2 ♂♂, 2 ♀♀, same locality and collector as for the holotype, 7–VII–1985.

Notes. This new species is closely related to *Callistethus ohausi* HELLER, 1898, but can be distinguished from the latter by the pronotum different in shape, male genitalia of the peculiar shape and small size.

Callistethus tondanoensis sp. nov.

(Figs. 6, 10, 11)

Body length: 14.9–17.6 mm, width: 8.1–9.1 mm.

Dorsal surface, tibiae and tarsi dark yellowish brown to reddish brown, ventral surface and femora yellowish brown; head with a pair of brown spots in posterior part; pronotum with a pair of brown spots at the middle of lateral portion, and a pair of longitudinal brown lines in lateral 2/3, and a longitudinal brown line in the middle, these lines being variable in size; elytra with variously sized dark yellowish brown areas; ventral surface and legs with variously sized brown to black areas; pygidium with a long brown line in the middle and along apical margin, a pair of brown spots in lateral portions; legs and dorsal surface except elytra with greenish metallic lustre, elytra with coppery luster, ventral surface with rather weak greenish metallic luster.

Head microsculptured; clypeus emarginate, about 2.2–2.3 times as wide as long, reflexed along outer margin, densely punctate, the punctures coalescent in middle, reticulately rugulose in lateral portions; frons densely punctate in middle, the punc-

tures large in middle, coalescent and reticulately rugulose in anterior portion, becoming larger and denser laterad, reticulately rugoso-punctate in lateral portions, and smaller towards vertex.

Pronotum about 1.5 times as wide as long, distinctly narrowed in apical 2/5, parallel-sided in basal 3/5; front angles obtuse, hind angles almost rectangular at corners; disc irregularly punctate, the punctures small in middle, becoming larger laterad and posteriad, partly coalescent in antero-lateral portions; lateral margins with erect yellowish brown setae (0.5–0.88 mm in length), rimmed, the rims extending to hind angles. Scutellum irregularly scattered with round punctures.

Elytra with 8 rows of round punctures, weakly widened in anterior 4/5, narrowed posteriad in posterior 1/5; intervals densely scattered with large round punctures; distal margins almost straight; lateral margins with rims thickened in basal 4/5, becoming thinner in apical 1/5, and disappearing before hind corners; marginal membrane narrow, starting from basal half, and extending to apices.

Pygidium with vague depressions at antero-lateral portions; disc reticulately rugulose, with some yellowish brown erect setae (0.25–0.75 mm in length) in marginal portion; outer margins rimmed, nearly straight in lateral sides, slightly truncate at apex.

Metasternum irregularly punctate, the punctures small and sparse in middle, large and setigerous in lateral portions, each with a yellow suberect seta (0.37–0.8 mm in length); mesosternal process short, with apex slightly rounded in lateral view.

Abdominal sternites irregularly punctate, the punctures large and elongate, becoming denser laterad, each sternite with a transverse row of yellow decumbent setae (0.25–0.75 mm in length).

Fore tibiae with two outer teeth, the apical one obtuse and slightly rounded in male; inner claw of fore leg and outer claw of middle leg apically incised, forming two branches, the upper branch of fore leg about 3/5 the width of the lower one; outer claw of fore leg, inner claws of middle and hind legs simple and acuminate.

Holotype: ♂, Tondano, N. Sulawesi, V-1988, N. NISHIKAWA leg. Allotype: ♀, same data as for the holotype. Paratypes: 6♂♂, 8♀♀, same data as for the holotype.

Notes. This new species is closely related to *Callistethus ohausi* HELLER, 1898, but can be distinguished from the latter by the peculiar shape of male genitalia.

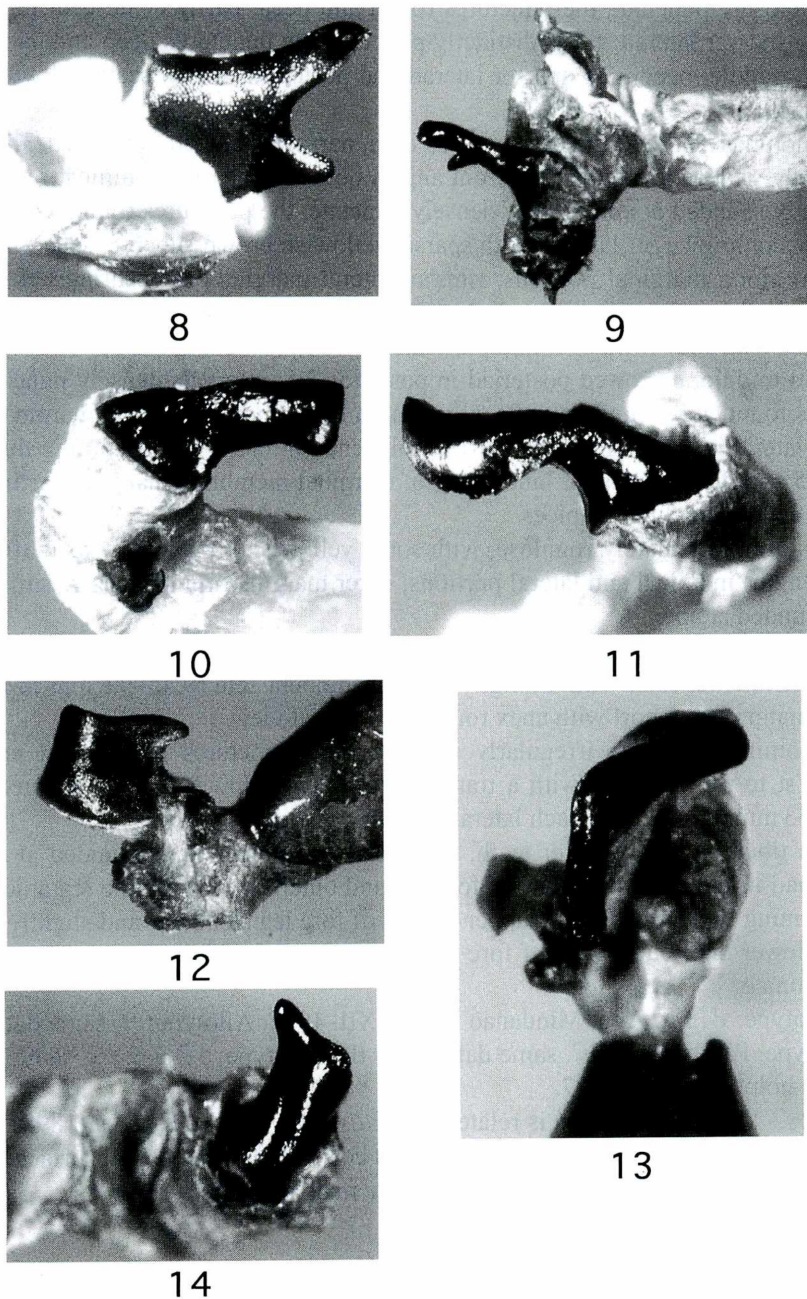
Callistethus mindanaoensis sp. nov.

(Figs. 3, 7, 12, 13)

Body length: 14.1–17.0 mm, width: 8.4–9.4 mm.

Dorsal surface yellowish brown, ventral surface except for abdominal sternites yellowish brown, abdominal sternites yellowish brown to reddish brown; head and pronotum with strong greenish metallic luster, scutellum, elytra, propygidium and pygidium with coppery to greenish metallic luster, ventral surface with coppery luster.

Head with sparse, erect reddish brown setae (0.42–0.57 mm in length) along eyes; clypeus broadly rounded, about 2.2–2.3 times as wide as long, weakly reflexed along



Figs. 8–14. Male genital organ of *Callistethus* spp. (aedeagus with an apical plate). — 8–9, *C. somai* sp. nov., 8, dorsal view, 9, lateral view; 10–11, *C. tondanoensis* sp. nov., 10, dorsal view, 11, lateral view; 12–13, *C. mindanaoensis* sp. nov., 12, lateral view, 13, dorsal view; 14, *C. ohausi* HELLER, 1898, dorsal view.

margins, closely punctate, the punctures round and deep, partly coalescent in middle, becoming sparser laterad; frons distinctly punctate, the punctures deep and partly coalescent in middle, becoming sparser laterad and posteriad; vertex scattered with small round punctures.

Pronotum 1.55–1.62 times as wide as long, narrowed apicad in apical 1/3, linearly and slightly widened in basal 2/3; front angles obtuse, hind angles almost rectangular and slightly rounded at apices; disc densely punctate, the punctures round and small in middle, becoming larger laterad, with sparse, yellowish brown suberect setae (0.55 mm in length) along marginal portions; rims of lateral margins disappearing before hind angles. Scutellum triangular, irregularly punctate.

Elytra with four rows of round punctures, weakly widened in anterior 1/5, almost parallel in middle, narrowed posteriad in posterior 2/5; intervals densely punctate, the punctures round and large in middle, elliptical in lateral portions; distal margins almost straight; lateral margins rimmed, the rims thickened in basal 3/5, becoming thinner in apical 2/5 and disappearing at hind corners; marginal membrane narrow, starting from basal half and extending to apices.

Pygidium reticulately rugulose, with some yellowish brown erect setae (0.15–0.7 mm in length) in apical and lateral portions; outer margins rimmed, nearly straight laterally, rounded at apex.

Metasternum sparsely punctate in middle, the punctures small, becoming larger and denser laterad, each with a long, yellow decumbent seta (0.45–0.8 mm in length); mesosternal process short with apex rounded in lateral view.

Abdominal sternites irregularly punctate, the punctures sparse and crescent-shaped, 1st to 5th sternites with a transverse row of yellowish brown suberect setae (0.42–0.53 mm in length) in each lateral portion.

Fore tibiae with two outer teeth, the apical one narrow and rounded at apex in male, broad in female; inner claw of fore leg and outer claw of middle leg apically incised, forming two branches, the upper branch of fore leg slenderer and slightly shorter than the lower one; outer claw of fore leg, inner claw of middle and hind legs simple and acuminate.

Holotype: ♂, Mt. Apo, Mindanao Is., 20–XII–1987. Allotype: ♀, same data as for the holotype. Paratypes: 3 ♀♀, same data as for the holotype; 3 ♂♂, 2 ♀♀, same locality as for the holotype, 5–V–1987.

Notes. This new species is related to *Callistethus ohausi* HELLER, 1898, but can be distinguished from the latter by the different coloration of the dorsal surface and peculiar shapes of the mesosternal process and the male genitalia.

要 約

和田 薫：スラウエシ島およびミンダナオ島から発見された *Callistethus* 属コガネムシの3新種。—— *Callistethus* 属のコガネムシ, *C. somai* sp. nov., *C. tondanoensis* sp. nov., をスラウエシ島から, また *C. mindanaoensis* sp. nov., をミンダナオ島からそれぞれ記載した。これらの種は中胸

突起が短くてわずかに突出する特徴から *ohausi* 群に含まれる種である。スラウエシ島の種は *C. ohausi* HELLER, 1898 に非常によく似た種であり、外形だけでの区別は難しいが、雄交尾器およびその内部構造の形態の違いから区別できる。MACHATSCHKE (1972) は *C. ohausi* var. *immaculatus* HELLER, 1898 を亜種として扱っていたが、検討した結果、その特徴は色彩変異の一種であり、形態の違いは雌の特徴を示している。

References

- HELLER, K. M., 1898. Neue Käfer von Celebes III. *Abh. Ber. zool. Mus. Dresden*, **7**: 1–41.
MACHATSCHKE, J. W., 1972–'74. Scarabaeoidea: Melolonthidae, Rutelinae. In WILCOX, J. A. (ed.), *Coleopterorum Catalogus Supplementa*, (ed. 2), (66): i–ii+1–361 [1972]+i+363–429 [1974]. Junk, 's-Gravenhage.

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A New Record of *Aceraius aequalis* (GRAVELY) (Coleoptera, Passalidae) from Laos, with Notes on the Geographic Variation of *A. aequalis*

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Aceraius aequalis was described by GRAVELY (1918) as *Ophrygonius aequalis* from Cha Pa [=Sa Pa], Vietnam. Later, BOUCHER (1993) transferred this species to the genus *Aceraius*. Recently, KON and FUKINUKI (2001) recorded this species from the Chin Hills, Myanmar. When the author examined a series of specimens of the Passalidae from northeastern Laos, he found three specimens of *A. aequalis* among them. This is the first record of this species from Laos. Its collection data are as follows: 2♂♂, 1♀, Mt. Phu Phan, 1,500–2,000 m, Ban Saluei, Hua Phan Prov., Laos, 20°15'N, 104°02'E, 26–IV~11–V–2001, J. BEZDEK leg.

The author made a comparison between the specimens of *Aceraius aequalis* from Vietnam, Laos and Myanmar. Consequently, no noticeable difference was found between the Vietnamese and Laotian specimens. However, it was revealed that the specimens from the Chin Hills, Myanmar differ a little from the Vietnamese and Laotian ones in the following points: upper tooth of left mandible represented as a small denticle pointed upwards and a little forwards, whereas it is represented as an obtuse angle in the specimens from Vietnam and Laos; outer tubercles