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Three species of *Megalopinus* Eichelbaum, 1915 from Central Laos (Coleoptera, Staphylinidae, Megalopsidiinae)

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Three species of the genus *Megalopinus* Eichelbaum, 1915 are reported from Central Laos, Khammouane province. One of these species, *Megalopinus indochinensis* sp. nov., is described as new to science. New records are presented for *Megalopinus helferi* (Dormitzer, 1851) and *Megalopinus gracilihamus* Puthz, 2012. Additionally, the habitats and collecting method of *Megelapinus* in Central Laos are presented and figured.

Keywords: Coleoptera, new species, entomology, Oriental region, rove beetle

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INTRODUCTION

The monogeneric subfamily Megalopsidiinae Leng, 1920, consisting only of the genus *Megalopinus* Eichelbaum, 1915, is one of more than 30 subfamilies within the megadiverse family Staphylinidae or rove beetles. The phylogeny of the genus is still not well studied. Although subgenera have been described, these were based only on few known specimens. According to more recent studies, the genus *Megalopinus* is more appropriately subdivided into (monophyletic) species groups (Puthz 2012a). Species of the Oriental region were revised extensively for the first time by Puthz (2012b). Since then, ten new valid Oriental species have been described (Puthz 2013, 2014, 2021; Mainda 2022, 2024, 2025; Mainda et al. 2024). Accordingly, 76 extant species from the entire Oriental region (including the Australis) are known to date. Bringing order to these species, however, seems to be a Danaïd's barrel, as further new species are constantly being discovered. During an expedition to Central Laos in November 2025, I was able to collect three different *Megalopinus* species. One of these species is new and is described below.

There are still far fewer *Megalopinus* species known from the Oriental region (76 + 1) than from the Americas (>300). However, further new Oriental species must be expected if fungal leaf litter and decaying wood are sifted or flight intercept traps are used in the tropical rainforests. However, other collection methods, as will be shown below, can also be used successfully to collect *Megalopinus* species.

MATERIAL AND METHODS

The material mentioned below is deposited in the following collection: cTM – collection Tobias Mainda, Greifswald, Germany.

The morphological studies were carried out using a stereoscopic microscope (Euromex DZ 1105) and a compound microscope (Euromex BB.1153.PLI). The habitus image of the mounted specimen was obtained using a ToupCam 20MP Touptec Photonics microscope camera. Two SN-1 LED segments from Stonemaster were used for illumination. The images of the aedeagi were obtained using a ToupCam 14MP Touptec Photonics microscope camera. Image stacks were captured with ToupView Lite (MacOS) and processed using Zerene Stacker. The description of the elytral puncture-rows follows my earlier papers. Only the existing rows are indicated with puncture numbers and no mention is made of non-existing rows.

The following acronyms are used: BL – length of body (anterior margin of eyes to tip of abdomen); DE – average distance between eyes (in middle of eye length); dsr – dorsal row; EL – maximal length of elytra; EW – maximal width of elytra; FBL – length of forebody (anterior margin of eyes to posterior margin of elytra); HW – maximal head width; PL – maximal pronotal length; PW – maximal pronotal width; shr – subhumeral row; SL – sutural length of elytra; slr – sublateral row; ssr-c – subsutural-complex.

RESULTS

Description of a new species

***Megalopinus indochinensis* sp. nov.**
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Type material. ♂ **Holotype**: white label 'Laos: Khammouane province, Kounkham distr., approx. 5km E of Ban Namsanam, fungal tree trunks in small stream valley, 18°10'53"N 104º35'20"E, 200m, 26.xi.2025, leg. T. Mainda & A. Anichtchenko' / red label '♂ – HOLOTYPE, *Megalopinus indochinensis* spec. nov., design. Mainda 2025' (cTM).

Paratypes: 2 ♂: white label 'Laos: Khammouane province, Kounkham distr., Ban Nahin, wet fungal dead tree trunks at small, shady stream in forest, 18°13'6"N 104°32'23"E, 300m, 27.xi.2025, leg. T. Mainda & A. Anichtchenko' / yellow label '♂ – PARATYPE, *Megalopinus indochinensis* spec. nov., design. Mainda 2025' (cTM).

Description of the holotype Measurements in mm: BL: 3.30, DE: 0.63, EL: 0.78, EW: 1.13, FBL: 1.85, HW: 1.13, PL: 0.78, PW: 0.89, SL: 0.60.

Habitus similar as in Figs 1 and 2A. Head black; pronotum black with small, brownish, medial area on anterior margin; elytra blackish brown, with yellowish, transverse crossband in anterior half; tergites blackish; paratergites brownish. Legs bicolored, yellowish-whitish, indistinctly infuscate at tip of femora, femora whitish-transparent, tibiae yellowish. Antennae orange-brownish, antennomeres X-XI darkened. Without microsculpture.

Head as broad as elytra. Frons coarsely punctured; interstices much larger than diameter of punctures.

Pronotum 1.14 times as broad as long, broadest in anterior third; with four coarsely and deep punctured transverse rows; first row divided medially by planar area of four punctures; between third and fourth row with medially impunctate Y-shaped area; punctures always separate; one large

puncture in posteriolateral third between third and fourth row. Each side of pronotum with four small denticles.

Elytra 1.45 times as broad as long, humeral calli prominent. Each elytron with anterior, small, longitudinal impression next to suture. Punctures on left elytron: slr (4), shr (8), dsr (8), ssr-c (10); punctures on right elytron: slr (9), shr (7), dsr (8), ssr-c (11). Broadest in middle; lateral margins convexly rounded anteriorly and posteriorly.

Fig. 1: *Megalopinus indochinensis* sp. nov., paratype. Photo: Mattes Linde.

Abdomen narrower than head, shiny, with distinct paratergites. Paratergites distinctly lighter than tergites, set with few larger punctures. Basolateral striae of tergite V extending beyond middle of tergite length (Figs 1, 2A); tergite VII with membranous fringe at posterior margin (metathoracic wings fully developed).

Male. Antennomere XI 4 times as long and 1.67 times as wide as antennomere X. Sternite VIII broadly impressed at posterior margin; tergite VIII finely and densely punctured; sternite IX spatula-shaped; tergite X shiny and (!) very indistinctly microsculptured, coarsely and sparsely punctured. Aedeagus (Fig. 2B) slender; with two strong, falcate, brownish internal sclerites (red arrow); parameres with 5-7 apical setae.

Female. Unknown.

Differential diagnosis. *Megalopinus indochinensis* sp. nov. is related to some larger species of the *acutangulus*-group with punctate sutural third of the elytra, relatively broad head and long lateral striae on tergite V. The new species is distinguished from *Megalopinus indomalayicus* Bernhauer,

1926 by a sparser punctured head with interstices much larger than the diameter of the punctures, smaller punctures in the sutural third of the elytra, slightly shorter striae on tergite V and by the aedeagus with a thinner median lobe and the notable falcate internal sclerites. It can be separated from *Megalopinus acutangulus* (Waterhouse, 1883) and *Megalopinus vioiliniformis* Puthz, 2012 by the yellowish transverse elytral crossband, which does not extend posteriad. From *M. acutangulus* it is moreover separated by the slender aedeagus (tip of median lobe sagittate in *M. acutangulus*). *Megalopinus indochinensis* sp. nov. can also be differentiated from *M. violiniformis* specimens without reddish or yellowish marking near posterior suture by a more flat and well connected transverse crossband on the elytra; slightly larger head; denser punctured pronotum; male antennomere XI 4 times instead of 3 times longer than antennomere X; tergite X indistinctly microsculptured, coarsely and sparsely punctured (shiny and coarse and dense in *M. violiniformis*) and by the different shape of the internal sclerites of the aedeagus with one instead of two spines.

Variation. Measurements in mm: BL: 2.80-3.30, DE: 0.59-0.63, EL: 0.75-0.83, EW: 1.08-1.15, FBL: 1.70-1.88, HW: 1.05-1.14, PL: 0.74-0.80, PW: 0.85-0.90, SL: 0.53-0.65. Punctures on left elytron: slr (4-8), shr (5-8), dsr (5-8), ssr-c (5-10); punctures on right elytron: slr (4), shr (7), dsr (6-8), ssr-c (6-11).

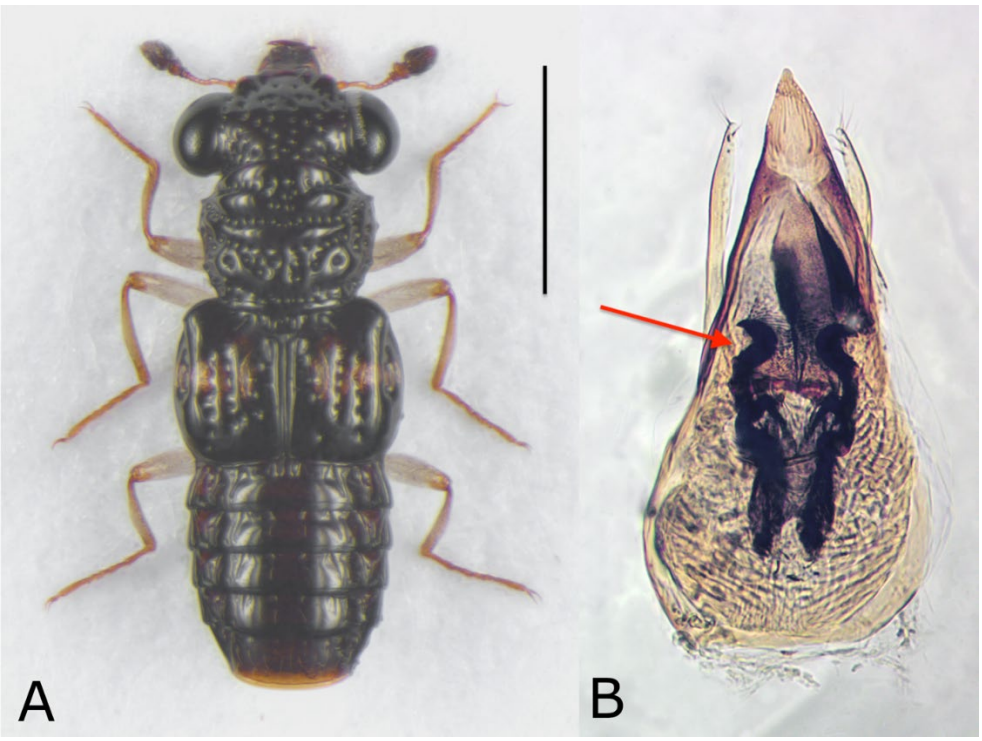

Fig. 2A-B: *Megalopinus indochinensis* sp. nov., habitus, paratype **(A)**, scale = 1 mm; aedeagus of the holotype, red arrow indicating the falcate, internal sclerites **(B)**, without scale.

Distribution. So far, *Megalopinus indochinensis* sp. nov. is only known from the Khammouane province in Central Laos.

Habitat and collecting method. The type specimens were collected from wet or moist, fungal tree trunks along small forest streams in primary forests (Fig. 3A). The fungal wood was placed in slow-flowing areas of the streams and shortly submerged under water (Fig. 3B). After a few minutes, not only *Megalopinus* but also various other beetles emerged from the wood and ran around on its surface.

Etymology. The species epithet '*indochinensis*' refers to the type locality of the species in Mainland Southeast Asia, historically known as Indochina or Indochinese Peninsula.

New records

***Megalopinus helferi* (Dormitzer, 1851)**
Megalops helferi Dormitzer, 1851: 61.
= *Megalopinus subfasciatus* (Champion, 1923) (see Puthz 2014)
Material: 1 ♂, **1** ♀: 'Laos: Khammouane province, Kounkham distr., approx. 5km E of Ban Namsanam, fungal tree trunks in small stream valley, 18°10'53"N 104°35'20"E, 200m, 26.xi.2025, leg. T. Mainda & A. Anichtchenko' (cTM).

The species is one of the most common in the Oriental region. It is known from Northern India, Myanmar, Thailand, Laos, Vietnam, China, Singapore, Malaysia and Indonesia.
First reported for Laos by Puthz (2012b) form the provinces Vientiane (Phon Khao Khouay), Borikhamxai and Champasak (Bolaven Plateau). Puthz (2014) added data from the provinces of Luang Prabang, Oudomxai, Phongsali and Xieng Khouang. First record for the Khammouane province of Central Laos!

Habitat and collecting method. The species was collected together with *M. gracilihamus* and *Megalopinus indochinensis* sp. nov. in the same habitats.

***Megalopinus gracilihamus* Puthz, 2012**
Megalopinus gracilihamus Puthz, 2012: 1402-1403.

Material: **2** ♀♀**:** 'Laos: Khammouane province, Kounkham distr., Ban Nahin, fungal tree trunks in stream valley below Nam Sanam waterfall, 18°12'57"N 104°30'60"E, 190m, 17.xi.2025, leg. T. Mainda & A. Anichtchenko'; **1** ♂, **1** ♀**:** 'Laos: Khammouane province, Kounkham distr., Ban Nahin, sifting wet fungal leaf litter and tree trunk at Nam Sanam waterfall, 18°13'12"N 104°30'16"E, 440m, 18.xi.2025, leg. T. Mainda & A. Anichtchenko'; **5** ♂♂**:** 'Laos: Khammouane province, Kounkham distr., Ban Nahin, fungal tree trunks in stream valley below Nam Sanam waterfall, 18°12'57"N 104°30'60"E, 190m, 25.xi.2025, leg. T. Mainda & A. Anichtchenko'; **6** ♂♂, **9** ♀♀**:** 'Laos: Khammouane province, Kounkham distr., approx. 5km E of Ban Namsanam, fungal tree trunks in small stream valley, 18°10'53"N 104°35'20"E, 200m, 26.xi.2025, leg. T. Mainda & A. Anichtchenko'; **4** ♂♂, **2** ♀♀**:** 'Laos: Khammouane province, Kounkham distr., Ban Nahin, wet fungal dead tree trunks at small, shady stream in forest, 18°13'6"N 104°32'23"E, 300m, 27.xi.2025, leg. T. Mainda & A. Anichtchenko' (all cTM).

One of the more common species in the Oriental region. Known from Malaysia (Kedah, Sabah), Thailand, China (Yunnan), Indonesia (Java) and Laos (Puthz 2012b). Described by paratypes from the provinces Vientiane (Phon Khao Khouay) and Borikhamxai. First record for the Khammouane province.

Fig. 3A-B: Collecting site 5km E of Ban Namsanam, moist and fungal dead wood in a small stream valley **(A)**; wood placed in the stream to lure out the beetles. Photos: T. Mainda.

Habitat and collecting method. The species was collected together with *M. helferi* and *Megalopinus indochinensis* sp. nov. in the same habitats.

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