

First report of the occurrence of *Phaelota* Jacoby, 1887 in Borneo with a description of a new species

Первое сообщение о нахождении *Phaelota* Jacoby, 1887 на Борнео с описанием нового вида

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Ключевые слова: Chrysomelidae, *Phaelota*, новый вид, Борнео.

Abstract. *Phaelota* Jacoby, 1887 is reported from Borneo for the first time and a new species, *P. kerzhneri* sp. n. is described.

Резюме. *Phaelota* Jacoby, 1887 впервые обнаружен на Борнео, приводится описание нового вида, *P. kerzhneri* sp. n.

Phaelota Jacoby, 1887, the flea beetle genus known for bimodal trophic selections governed by the ability to fly or lack of it, is represented by 12 species from the Indian subcontinent and one from the Philippines [Jacoby, 1887; Prathapan, Viraktamath, 2004; Prathapan, Konstantinov, 2008]. The genus was redefined and revised recently [Prathapan, Viraktamath, 2004]. The occurrence of *Phaelota* in Borneo is herein reported for the first time with a description of a new species. The descriptive terminology follows Konstantinov [1998]. The holotype is deposited in the Canadian National Collection (CNC). The paratypes are deposited in the Canadian National Collection and the National Museum of Natural History, Washington DC (USNM).

Phaelota kerzhneri, sp. n.
(Fig. 1–9)

Distribution. Borneo.

Host plant. Unknown.

Description. Total body length 2.6–2.7 mm, width 1.7–2 mm. Dorsum black, each elytron anteriorly with a brown flavus patch: anterior margin of flavus patch parallel to anterior margin of elytron, distinct and curved, posterior margin irregular (fig. 1). In one specimen flavus patch boomerang-shaped, posteriorly indistinct and merges with dark color of elytron. Mouth parts, antenna brown, last and proximal four antennomeres little lighter. All ventrites and legs piceous to dark brown except coxae, femoro-tibial joints, and tarsi brown.

In lateral view, frons and vertex each forming distinctly



Fig. 1. *Phaelota kerzhneri* sp. n., dorsal habitus.

Рис. 1. *Phaelota kerzhneri* sp. n., габитус сверху.

convex lines and their intersection appears notched; frons higher than vertex. Vertex convex, impunctate except for two or three minute setiferous pores adjacent to supraorbital pore. Antennal callus raised, triangular with narrow lateral end, broader than long, high along middle.

Antennal calli separated from each other by short midfrontal depression. Midfrontal and suprafrontal sulci poorly developed. Frontal ridge impunctate, distinctly raised along middle forming ventrally narrowed ridge over anterofrontal ridge.

Maxillary palpus with preapical palpomere less than half length of apical. Third antennomere apparently longer than second, subequal to fourth; fifth longer than fourth; sixth shorter than fifth; seventh apparently shorter than sixth; seventh to 10th

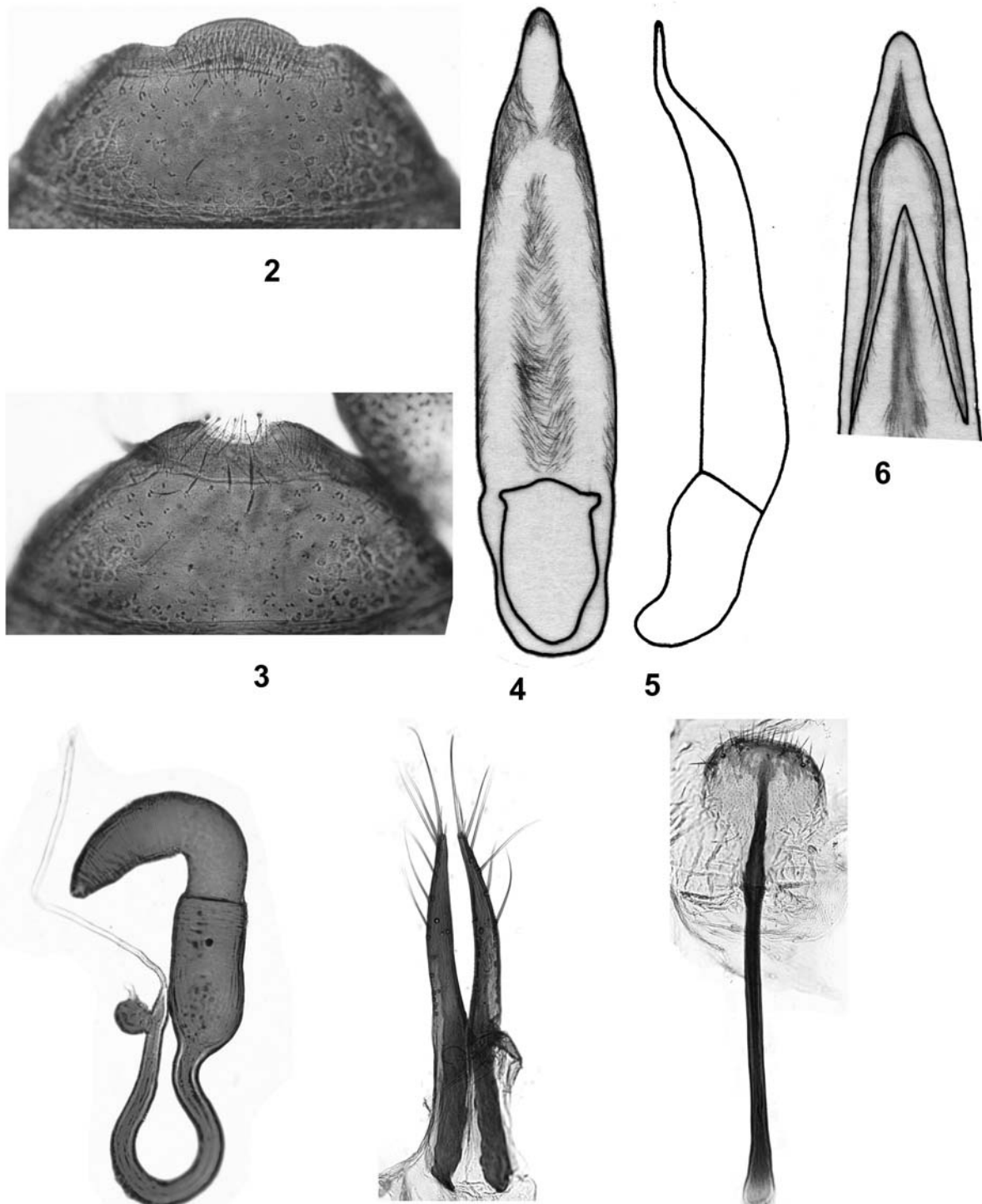


Fig. 2-9. *Phaelota kerzhneri* sp. n.

2 – last abdominal ventrite of male; 3 – last abdominal ventrite of female; 4 – median lobe of aedeagus, ventral view; 5 – median lobe of aedeagus, lateral view; 6 – median lobe of aedeagus, dorsal opening; 7 – spermatheca; 8 – vaginal palpi; 9 – tignum.

Рис. 2-9. *Phaelota kerzhneri* sp. n.

2 – последний брюшной вентрит самца; 3 – последний брюшной вентрит самки; 4 – средняя доля эдеагуса, вид снизу; 5 – средняя доля эдеагуса, вид сбоку; 6 – средняя доля эдеагуса, отверстие сверху; 7 – сперматека; 8 – вагинальные пальпы; 9 – тигнум.

subequal; 10th hardly as wide as half of 11th; 11th 1.2 to 1.4 times longer than 10th.

Pronotum anteriorly as wide as posteriorly. Lateral margin

weakly curved. Anterolateral callosity forming obtuse denticle at pore. Disc shiny, punctures scattered and extremely minute. Antebasal transverse impression imperceptible except that either

side has a short longitudinal impression with few bold punctures mesal to it. Mesoscutellum wider than long, apex broadly rounded, minutely reticulate, impunctate. Elytra with humerus flat, without depression posteriorly or mesally, maximum width at anterior 1/4, surface shiny. Each elytron with characteristic row of bold, deep punctures along antero-mesal border of flavus patch. Elytral punctures minute, forming rows that are imperceptible in distal 1/3. Interstices flat, extremely minutely punctate, width of interstices about 10–15 times diameter of a puncture in middle of elytron. Epipleuron outwardly oblique, slightly short of reaching apex. Metasternum slightly shorter than prosternum. Metatibia nearly straight in lateral as well as dorsal views; dorsally convex with flat apex. Metatibial spine shorter than tarsal claw.

Posterior margin of last abdominal ventrite in male bisinuate with lobe in middle (fig. 2). Median lobe of aedeagus nearly straight in lateral view with strongly curved acute apex (fig. 5); in ventral view widest in distal 1/3 with acute apex, ventral surface depressed along middle (fig. 4). Dorsal opening partially covered with acute lamina (fig. 6). Arm of tegmen shorter than stem.

Receptacle of spermatheca shorter than pump, internal side weakly convex, external side weakly concave, oblong, about two times longer than wide; pump with vertical part shorter than horizontal, with denticle apically; duct about as long as receptacle and pump together, forming loop away from receptacle (fig. 7). Vaginal palpi with uniform anterior and posterior sclerotization, widest in middle, gradually tapering posteriorly. Lateral membranous area in middle longer than half of vaginal palpus (fig. 8). Tignum anteriorly wider than middle, posterior membranous area sclerotized in distal 1/3 (fig. 9).

Sexual dimorphism. First pro- and metatarsomeres in male widened and ventrally flat without long setae, in female first distinctly narrower than in male and with long setae ventrally. Last ventrite in male bisinuate with lobe in middle (fig. 2) in female with emargination on posterior margin (fig. 3). Unlike in the majority of other members of the genus, metafemur not sexually dimorphic.

Type material. Holotype: ♂. Labels: 1) BORNEO SABAH Mt. Kinabalu Nat. Pk. Layang Layang 2610m 2.V.1987 A. Smetana; 2) Holotype *Phaelota kerzhneri* sp. nov. des. D. Prathapan, A. Konstantinov, 2008 (CNC). Paratypes: 1♀ the same labels as holotype (USNM); 1♀ with the following locality label: BORNEO SABAH Mt. Kinabalu N. P. be- low Layang Layang 2590m 1.V.1987 A. Smetana (CNC).

Etymology. This species is dedicated to Izyaslav Moiseevich Kerzhner, remarkable scientist, dedicated and generous colleague whom we greatly miss.

Remarks. *Phaelota kerzhneri* sp. n. differs from all other members of the genus by its unique coloration, impunctate vertex, minutely punctured pronotum and elytron, and relatively thinner distal antennomeres. The vertex, pronotum and elytra are punctate, and the distal five or six antennomeres are remarkably thicker than the preceding ones in all other species of the genus. Except *P. saluki* Prathapan et Konstantinov, an apterous species from south India, all other known members of *Phaelota* have a sexually dimorphic metafemur. *Phaelota kerzhneri* sp. n. shares this feature with *P. saluki*. The last female ventrite with an emarginated posterior margin is a unique feature of *P. kerzhneri* sp. n. Like all other apterous species, *P. kerzhneri* also occurs at relatively higher altitudes (2590–2610 m: label data). Like other flightless members of *Phaelota*, this species probably also an inhabitant of moss.

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References

- Jacoby M. 1887. Descriptions of the Phytophagous Coleoptera of Ceylon, obtained by Mr. George Lewis during the years 1881–1882 // Proceedings of the scientific meetings of the Zoological Society of London for the year, 1887: 65–119.
- Konstantinov A.S. 1998. Revision of the Palearctic species of *Aphthona* Chevrolat and cladistic classification of the Aphthonini (Coleoptera: Chrysomelidae: Alticinae) // Memoirs on Entomology. Gainesville: International, Associated Publishers. 429 p.
- Prathapan K.D., Konstantinov A.S. 2008. Descriptions of eight new species of *Phaelota* (Coleoptera: Chrysomelidae) from India with a new generic synonymy // Zootaxa (in print).
- Prathapan K.D., Viraktamath C.A.. 2004. Revision of *Phaelota* Jacoby (Coleoptera: Chrysomelidae) with descriptions of three new species // Zootaxa. 447:1–18.

References

- Jacoby M. 1887. Descriptions of the Phytophagous Coleoptera of Ceylon, obtained by Mr. George Lewis during the years 1881–1882. *Proceedings of the scientific meetings of the Zoological Society of London for the year, 1887*: 65–119.
- Konstantinov A.S. 1998. Revision of the Palearctic species of *Aphthona* Chevrolat and cladistic classification of the Aphthonini (Coleoptera: Chrysomelidae: Alticinae). Gainesville: International, Associated Publishers. 429 p.
- Prathapan K.D., Konstantinov A.S. 2008. Descriptions of eight new species of *Phaelota* (Coleoptera: Chrysomelidae) from India with a new generic synonymy. *Zootaxa*. 1991: 1–27.
- Prathapan K.D., Viraktamath C.A.. 2004. Revision of *Phaelota* Jacoby (Coleoptera: Chrysomelidae) with descriptions of three new species. *Zootaxa*. 447: 1–18.