Russian Entomol. J. 18(3): 191–194

Description of the second species of Chlamydopsinae (Coleoptera: Histeridae) from continental Asia

Описание второго вида Chlamydopsinae (Coleoptera: Histeridae) из континентальной Азии

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KEY WORDS: Coleoptera, Histeridae, Chlamydopsinae, Ceratohister, new species, Vietnam.

КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Histeridae, Chlamydopsinae, Ceratohister, новый вид, Вьетнам.

ABSTRACT. The second species of the obligately myrmecophilous and termitophilous subfamily Chlamydopsinae (Coleoptera: Histeridae) from continental Asia, *Ceratohister camelus* **sp.n.**, is described herein. The description is based on a single specimen collected by a window trap in southern Vietnam.

РЕЗЮМЕ. В статье описан *Ceratohister camelus* **sp.n.**, второй вид облигатно мирмеко- и термитофильного подсемейства Chlamydopsinae (Coleoptera: Histeridae) из континентальной Азии. Описание базируется на единственном экземпляре, собранном в оконную ловушку в южном Вьетнаме.

Introduction

The Chlamydopsinae (Histeridae) is a subfamily of obligate inquilinous, primarily myrmecophilous beetles widely distributed in Australasia and Oceania, from India and Japan to Australia and Fiji [Caterino & Dégallier, 2007]. A substantial breakthrough in the chlamydopsine taxonomy and systematics has occurred during the recent decade resulting in discovery and description of numerous speciose local faunas [Caterino & Dégallier, 2007]. However, all these discoveries were made in Australia and surrounding islands. The chlamydopsine fauna of continental Asia is represented up to now by the single Indian species, *Ceratohister pheidoliphilus* Reichensperger, 1924. Herein, we describe the second continental Asian species of the subfamily collected recently in southern Vietnam.

Methods

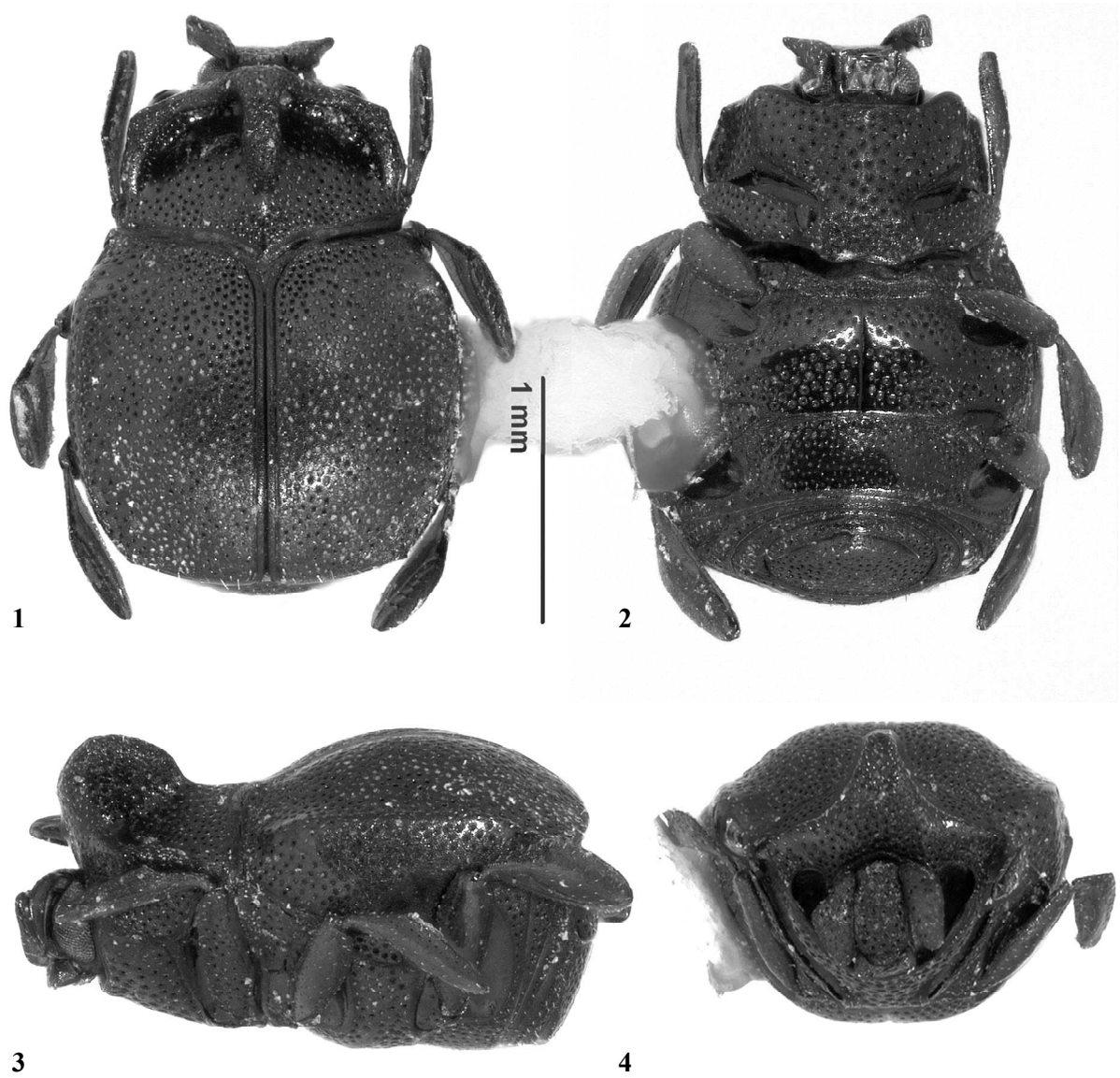
The holotype of described species is deposited in the Zoological Museum, Russian Science Academy, St. Petersburg. Illustrations were prepared with the aid of digital imaging system Photo-Montage (Syncroscopy, Frederick, MD). Terminology and body part measurement conventions follow Caterino [2003, 2006]. Measurements are presented at the beginning of the description and are abbreviated as follows: L (mm – dorsal length along midline); W (mm – width across humeri); E/PnL (ratio – elytral length/pronotal length); E/PnW (ratio – elytral width/pronotal width); Pn W/L (ratio – pronotum width/length); E L/W (ratio – elytra length/width); Pr/Py (ratio – propygidium length/pygidium length); Sterna – pro, meso, meta (mm – lengths along midline); Tibiae – pro, meso, meta (mm - straight line length from base to apex, ignoring curvature).

Taxonomic Part

Ceratohister camelus Tishechkin et Sokolov, **sp. n.**
Figs 1–4

MATERIAL. Holotype: ♂, point-mounted (with an antennal club glued to the point), labeled: "S Vietnam, 120 km NNE Ho Chi Minh, env. Cat Tien Nat. Park 19.05 – 18.06.[20]05 leg. D. Fedorenko Окн 2 / HOLOTYPE *Ceratohister camelus* sp. n. A. Tishechkin & A. Sokolov des. 2009."

DESCRIPTION. L: 1.61 mm; W: 1.09 mm; E/Pn L: 1.82; E/Pn W: 1.17; Pn W/L: 1.22; E L/W: 1.04; Pr/Py: 0.81; Sterna: 0.68, 0.07, 0.33; Tibiae: 0.41, 0.41, 0.41. Body broad tear drop-shaped (Fig. 1), dark reddish brown, with antennae and legs slightly lighter, mostly completely covered with sparse, short, erect, inconspicuous pale setae (although the specimen is rather worn). Frons (Fig. 4) slightly longer than wide, with sides subparallel, weakly convex, bordered by thin costate marginal striae, weakly indented at antennal insertions, with large, shallow punctures and fine alutaceous background microsculpture; labrum short, transverse triangular, with tip rounded and the same type of microsculpture and no punctures; mandibles strongly bent, with long narrow tips, microsculptured as labrum; antennal scape about half as broad as long, broad triandular, widest at about midpoint, punctures smaller and sparser than that on frons, microsculp-



Figs 1–4. Habitus of *Ceratohister camelus* **sp.n.**: 1 — dorsal view; 2 — ventral view; 3 — lateral view; 4 — frontal view.
Рис. 1–4. *Ceratohister camelus* **sp.n.**, внешний вид: 1 — сверху; 2 — снизу; 3 — сбоку; 4 — спереди.

ture covers its entire surface; antennal club (of male) elongate, sausage-shaped, slightly longer than scape, densely covered with setae.

Pronotum (Figs 1, 3) trapezoid, with posterior margin almost straight, with obtuse angular projection in the middle, sides widest near the base, straight, weakly converging anteriorly; marginal striae not visible from above, abruptly descending from pronotal posterior angles downwards to meet supracoxal striae, ascending again anteriorly towards antennal sockets; anterior margin as seen from above weakly convex, most of lateral margins and entire anterior margin strongly elevated, median part of anterior elevation (in frontal view, Fig. 4) produced into high triangular knob where this portion of elevation receives a tall, thick longitudinal keel running along pronotal midline as far back as posterior fourth of pronotal length; pronotal median keel semicircular in profile (Fig. 3); surface of pronotal elevations covered with fine microsculpture and small, shallow, irregularly spaced punctures; pronotal disk surface beyond elevations evenly weakly convex, covered with shallow punctures being larger and sparser medially and anteriorly; antennal cavities visible from above. Prosternum (Fig. 2) long; its anterior margin weakly concave; prosternal leg depression margined by weakly raised, thin carina; prosternal disk punctate throughout with irregularly spaced shallow large punctures, leaving only small impunctate patches near anterior portions of supracoxal striae; prosternal keel flat, no traces of carinal striae present; posterior margin of prosternum nearly straight.

Scutellum (Fig. 1) not visible. Elytra (Figs 1, 3) without humeral trichomes, with low, but prominent antero-lateral elevations; elytral disk evenly convex, its surface with dense background microsculpture, covered with similar, but slightly denser punctuation as pronotum; punctures are

smaller, denser and more elongate along sutures and larger, sparser and circular along lateral margins; lateral margins raised slightly as low obtuse ridges; elytral marginal stria complete, running along elytral margin throughout, complete thin, impunctate sutural stria being part of it; epipleuron wide, punctured and microscultured as elytron except impunctate area on ventral side of marginal stria.

Mesoventrite (Fig. 2) short, about nine times as wide as median length; weakly circularly produced at middle, marginal stria inconspicuous; disc of mesoventrite flat, with few small shallow punctures arranged in short single row; mesepimeron prominent, concave, impunctate, but microsculptured; mesometaventral suture prominent, thin, keeled, continuous at side with complete raised lateral stria of metaventrite; disc of metaventrite with dense, large, deep punctures and weak transverse elevated ridge around midpoint; this ridge is narrowly interrupted medially and has no punctures atop; median suture of metaventrite distinct, complete, narrow longitudinal impression presents along its entire length; posterior margin without transverse stria; 1st abdominal ventrite similar in texture to metaventrite, punctuation being much smaller and sparser, especially medailly and posteriorly, with raised stria delimiting depression for reception of metathoracic leg.

Femora (Figs 2–3) rather stout, anterior edges of profemora almost straight, posterior ones weakly angulate; edges of meso- and metafemora arcuate, all margined along anterior and posterior sides, surfaces of profemora with punctures, meso- and metafemora smooth, only microsculptured; protibia angulate about one-third from base, almost straight to narrow rounded apex; meso- and metatibia roundly angulate about one-third from base, mesotibia slightly narrower than metatibia; tarsi slightly laterally compressed, about 0.7–0.8x length of corresponding tibiae; tarsal claws simple, divergent, weakly arcuate, about 0.3x length of corresponding apical tarsomere.

Discs of propygidium and pygidium slightly convex; both textured and punctured similarly to elytral disc.

ETYMOLOGY. The specific epithet reflects on a humpbacked profile of the beetle.

REMARKS. The Russian code ‘Окн 2’ on the holotype label means ‘window trap No. 2.’ The presence of median depression on the metaventrite and elongate shape of antennal club suggest that the holotype is a male [Caterino, 2003; Caterino & Dégallier, 2007]. However, its genitalia are missing, probably being everted and eventually lost in the trap preservation fluid.

Discussion

Before the description of the above new species, the genus *Ceratohister* Reichensperger, 1924 has comprised six species known from India, Borneo, Sulawesi and Vanuatu [Reichensperge, 1924; Caterino, 2000; Dégallier & Caterino, 2005; Caterino & Dégallier, 2007; Tishechkin, 2009]. The species of the genus seems to be the less morphologically advanced [although, potentially through secondary character losses, Caterino & Dégallier, 2007] among the members of the Chlamydopsinae, known for their sophisticated morphological features related to inquilinous ways of life, and all share the lack of humeral trichomes. Superficial inspection of the *Ceratohister* members allows separate them easily into two groups in relation to the structure of anterior pronotal margin. Two species, *C. leai* Dégallier & Caterino, 2005 and *C. vanuatu* Tishechkin, 2009 have it unmodified and the rest of species possesses variably developed median elevations. The new species clearly falls into the second group, where it occupies quite isolated position. *C. camelus* **sp.n.** can be easily diagnosed as the only member of the genus which possesses not only the median elevation at the anterior margin of the pronotum, but also has its entire anterior margin and most of lateral margins distinctly elevated. The rest of the *Ceratohister* species do not have this marginal elevated rim, but only a median elevation itself, developed to a variable extent in different species.

The fact that the entire continental Asia where chlamydopsines are known to be widely distributed (from India to eastern Indochina) has only two species (known from only two specimens) begs for some explanation when you compare these number to other local faunas. Ten species were found in a single national park in Sulawesi [Caterino, 2000], eight species — along a short altitudinal transect on a small island in Vanuatu [Tishechkin, 2009], not to mention rich faunas of Borneo and Australia [Caterino & Dégallier 2007]. We can see two plausible reasons, potentially operating together. First, richer continental Asian fauna may be simply undiscovered yet, as many of the other local faunas were 10–15 years ago. The most productive way to collect chlamydopsines in dense tropical forests is the extensive use of flight intercept traps [Tishechkin, 2009]. As far as we know, this approach was not used consistently in the continental Asian tropics so far as it was done in Australia, Greater Sunda islands, New Caledonia and Vanuatu where numerous chlamydopsine were discovered relatively recently [Caterino & Dégallier, 2007]. Second, the continental Asia could in fact have somewhat depauperate fauna of the Chlamydopsinae. Available biogeographical and phylogenetic data portray chlamydopsines as a Gondwanan taxon and point towards Australia as their potential ancestral region [Caterino & Dégallier, 2007]. So, continental Asia could have been reached by means of relatively recent and potentially limited dispersal. However, this scenario seems to be hardly plausible, since chlamydpsines seem to be good in crossing water gaps and have reached several islands situated far away from Australia and Wallacea, e. g., Taiwan, Japan and Fiji [Caterino & Dégallier, 2007]. We hope that dedicated collecting efforts in the near future would shed much more light on the diversity of the continental Asian chlamydopsines.

ACKNOWLEDGEMENTS. The study was supported in part by the U.S. National Science Foundation grant DEB-0516311. We wish to thank D. Fedorenko who made an interesting histerid material collected during the expedition of the Joint Russian-Vietnamese Tropical Research and Test Center available for our study.

References

Caterino M.S. 2000. Descriptions of the first Chlamydopsinae (Coleoptera: Histeridae) from Wallacea // Tijdschrift voor Entomologie Vol.143. P.267–278.

Caterino M.S. 2003. New species of *Chlamydopsis*, with a review and phylogenetic analysis of all known species // Memoirs of the Queensland Museum. Vol.49. P.159–235.

Caterino M.S. 2006. Chlamydopsinae from New Caledonia // Memoirs of the Queensland Museum. Vol.52. P.27–64.

Caterino M.S. & Dégallier N. 2007. A review of the biology and systematics of Chlamydopsinae (Coleoptera: Histeridae) // Invertebrate Systematics. Vol.21. P.1–28.

Dégallier N. & Caterino M.S. 2005. Notes taxonomiques sur les Chlamydopsinae et descriptions d'espèces nouvelles. I. Genres *Ceratohister* Reichensperger, *Eucurtiopsis* Silvestri et *Orectoscelis* Lewis // Bulletin de la Société Entomologique de France. T.110. P.299–326.

Reichensperger A. 1924. Zur Kenntnis myrmekophiler Histeriden // Entomologische Mitteilungen. Bd.13. S.302–308.

Tishechkin A. K. 2009. Discovery of Chlamydopsinae (Insecta, Coleoptera, Histeridae) in Vanuatu with the description of eight new species from Espiritu Santo Island // Zoosystema. Vol.30. P.661–690.