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CYMINDIS (ARROSTUS) BORKINI SP. N., A NEW SPECIES OF GROUND-BEETLES FROM THE HIMACHAL PRADESH STATE, INDIA (COLEOPTERA: CARABIDAE: LEBIINI)

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Summary. A new species of ground-beetles, *Cymindis (Arrostus) borkini* sp. n., is described from the two localities in Western Himalayas, Himachal Pradesh, India from the environments of the Sungri Town (type locality) and from the Spiti Valley. The new species is similar to both *C. (A.) glabrella* Bates, 1878 and *C. (A.) facchinii* Kabak, 2006, but easily differs in the light color of body with dark cruciate elytral pattern, larger eyes and stouter median lobe of aedeagus.

Key words: *Cymindis*, taxonomy, new species, Western Himalaya.

И. И. Кабак. *Cymindis (Arrostus) borkini* sp. n., новый вид жужелиц из штата Химачал-Прадеш, Индия (Coleoptera: Carabidae: Lebiini) // Дальневосточный энтомолог. 2024. N 502. С. 1-7.

Резюме. Новый вид жужелиц, *Cymindis (Arrostus) borkini* sp. n., описан из двух локалитетов в Западных Гималаях, штат Химачал-Прадеш, Индия: из окрестностей г. Сунгри (типовое местонахождение) и долины р. Спити. Новый вид близок к *C. (A.) glabrella* Bates, 1878 и *C. (A.) facchinii* Kabak, 2006, но легко отличается светлой окраской тела с темным крестообразным рисунком на надкрыльях, крупными глазами и более толстой медиальной долей эдегуса.

INTRODUCTION

The Carabidae fauna of some territories in Palaearctic Asia remains poorly studied. One of the unsatisfactory investigated areas is the region of Indian part of the Himalaya. The description of one new species of the Holarctic genus *Cymindis* Latreille, 1805 is presented in this paper.

MATERIAL AND METHODS

The study is based on the examination of several specimens of the new species from India (Himachal-Pradesh) together with comprehensive *Cymindis* material comprising all known Himalayan species for comparison. The type specimens partly were collected during the Sixth West-Himalayan Integrated Biogeographic Expedition arranged by the Center for Himalayan Studies, St. Petersburg Association of Scientists & Scholars, under the guidance of Dr. Leo J. Borkin, partly – kindly given to the Author by Mr. W. Heinz (Schwanfeld, Germany).

The following measurements were taken: body length (BL) from the anterior margin of the labrum to the elytral apex; head width (HW) across the eyes; pronotal length (PL) along its median line; elytral length (EL) from the apex of the scutellum to the apex of the elytra; width of the pronotum (PW) and elytra (EW) at their broadest point; width of the pronotal base (PB) between hind angles; length of the antenna (AL) from the base of scapus to the tip of last antennomere; length of the eye (EyL) in dorsal view; length of the antennomere 3 (3AL) along its longitudinal axis.

Holotype and one paratype from the type locality of the new species are preserved in the Zoological Institute of Russian Academy of Sciences (ZIN, St.-Petersburg, Russia, Dr. B. Kataev), four paratypes are deposited in the Stuttgart State Museum of Natural History (SMNH, Stuttgart, Germany, Dr. A. Faille) and one paratype – in the working collection of I. Belousov and I. Kabak (CBK, St.-Petersburg, Russia).

TAXONOMY

Family Carabidae Latreille, 1802
Subfamily Harpalinae Bonelli, 1810
Tribe Lebiini Bonelli, 1810
Subtribe Cymindidina Laporte, 1834
Genus *Cymindis* Latreille, 1805
Subgenus *Arrhostus* Motschulsky, 1864

***Cymindis (Arrhostus) borkini* Kabak, sp. n.**

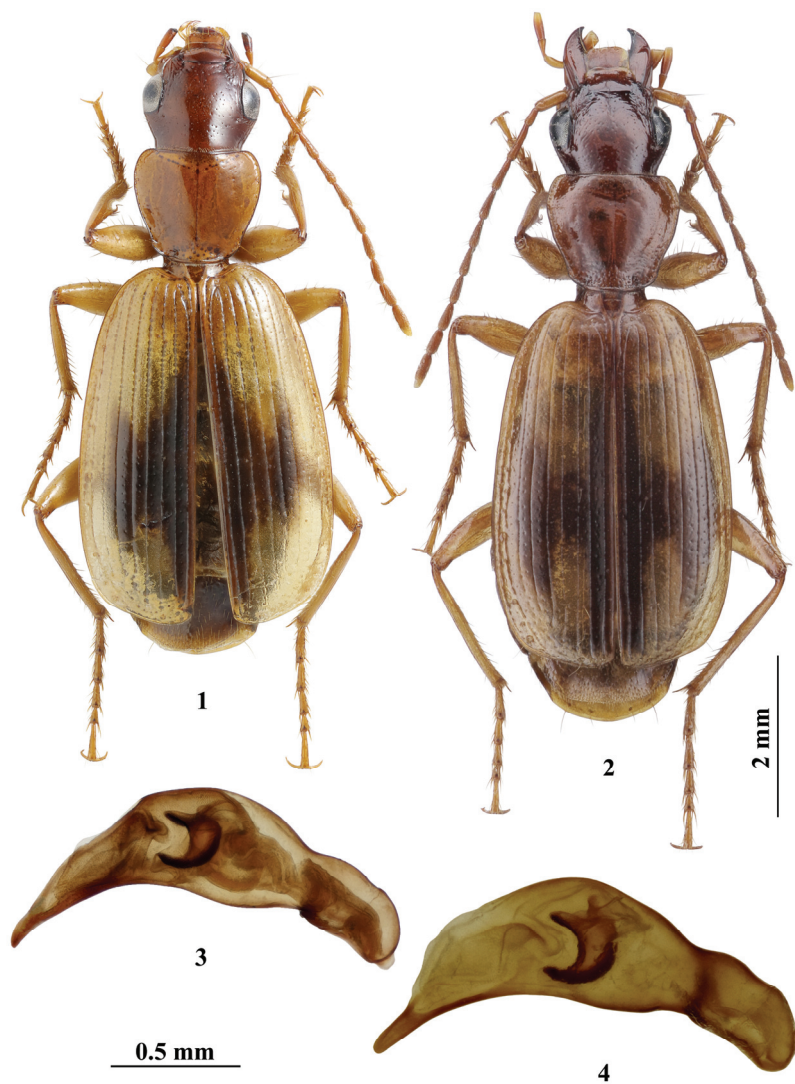
<https://zoobank.org/NomenclaturalActs/DB675B10-7A5C-47E6-8122-22D0C94D0839>

Figs 1–4

TYPE MATERIAL. Holotype – ♂, **India:** Himachal-Pradesh, Shimla District, Sungri Vill., watershed of Indus and Ganges rivers, 31°18'32.3" N, 077°42'09.2" E, h=2608 m, 19.X 2022, leg. L. Borkin & Co (ZIN). Paratypes: 1 ♀, collected with

holotype (ZIN); 4 ♂, 1 ♀ (1 ex. teneral), Himachal Pradesh, Spiti Valley, 2 km ENE Kibber, (Kibber: 32°26'22" N, 77°54'33" E), 4300 m, 25.VI 1994, leg. Kautt & Weisz (SMNS, CBK).

Both specimens (♂ and ♀) from the type locality and one male specimen from Spiti Valley are measured.



Figs 1–4. *Cymindis (Arrostus) borkini* sp. n. 1 – holotype, habitus, dorsal view; 2 – the same, paratype from Spiti Valley; 3 – holotype, median lobe of aedeagus; 4 – the same, paratype from Spiti Valley.

DESCRIPTION. Species small-sized compared to other species of the genus (body length 7.1–7.5 mm in males and 8.3 mm in female), hind wings reduced, habitus narrow, moderately convex, appendages rather long (Figs 1, 2). Colour of dorsal side: head brownish-red, pronotum slightly paler; elytra brownish-yellow with dark cruciform pattern: sutural stripe (2–3 intervals on each elytron combined with vague prescutellar obscuration) and two symmetric longitudinal spots, isolated or joined with sutural stripe by more or less wide transverse connection. In one immature specimen dark elytral pattern reduced to sutural stripe, in another one – all central portion of elytral disc vaguely obscured. Legs monochromatic yellow, antennae a little darker.

Head rather large compared with pronotum, $PW/HW = 1.08\text{--}1.1$ (1.09); eyes large, $EyL/3AL = 1.13\text{--}1.22$ (1.18), moderately protruding, glabrous; tempora long, subconvex, sparsely pubescent. Antero-lateral margins of frons evenly curved, their margins slightly reflexed. Upper-side of head evenly convex, frontal foveae superficial, supraorbital furrows not deep. Frons and vertex with sparse and small punctures and very short rare hairs. Two pairs of long supraorbital setae. Antennae comparatively long, $EL/AL = 1.03\text{--}1.05$ in males and 1.29 in female; scape thin, subcylindric, with several short hairs and long preapical seta. Genae rather sparsely pubescent, hairs moderately long. Labial tooth shorter than lateral lobes, rounded at apex, bordered along anterior margin, with a pair of small setae near base. Submentum quadrisetose. Apical segment of labial palpi with short pubescence, in males, distinctly widened toward apex. Apical maxillar palpomere fusiform, with a few short hairs.

Pronotum narrow, $PW/PL = 1.13\text{--}1.14$ in males and 1.24 in female, moderately constricted toward base, $PW/PB = 1.42\text{--}1.48$ (1.45), broadest in anterior fourth. Sides rounded anteriorly, sinuate near base. Laterobasal angles rounded or obtuse at apex, barely protruded laterally. Anterior margin slightly and evenly concave, bordered laterally; anterior angles rounded, slightly produced anteriorly. Basal margin of pronotum convex medially, markedly rounded laterally, its border not interrupted medially. Marginal gutter rather narrow, lateral sides reflexed. Disc convex, median line thin, moderately impressed, almost reaching anterior margin and posterior transverse impressions. Apical transverse impression superficial to rather sharp. Basal foveae deep, oval; basal transverse impression vague, not reaching median line. Punctures deep and rather dense near base and along lateral margins, very small and spars on disc, transverse wrinkles distinct. Pubescence lacking. Two pairs of lateral setae present, one in anterior third of pronotum, and one in laterobasal angles. Scutellum glabrous and smooth, with very fine isodiametric microsculpture. Metacoxae with three, rarely two setae.

Elytra long, ovoid, $EL/EW = 1.46\text{--}1.51$ (1.49), $EL/PL = 3\text{--}3.04$ in males and 3.34 in female, $EW/PW = 1.78\text{--}1.8$ (1.79), broadest in posterior half, moderately convex, disc impressed. Lateral margins widely rounded, markedly constricted anteriorly, humeri rounded, protruded anteriorly. Apical margin oblique, subrectilinear, faintly ciliate; external and sutural apical angles of each elytron broadly rounded. Marginal gutter narrow, lateral margins slightly reflexed. Basal

border complete, markedly sinuate. Elytral striae not deep, faintly punctate. Parascutellary striole present. Usually one, seldom two parascutellary setiferous pores on each elytron. Intervals feebly convex, sparsely punctate, punctures arranged in single irregular row; interval 3 with 4 small discal setiferous pores, mostly attached to stria 3. Pubescence of elytra sparse and very short, discernible near base. Umbilicate series consists of 13–15 pores. One apical pore in stria 7 on the level of interval 3.

Microsculpture indistinct in males, consisting of fine isodiametric meshes on elytra in female.

Visible abdominal sternites with a single pair of paramedian setae, anal sternite quadrisetose in both sexes.

Meso- and metatibiae distinctly longer than corresponding tarsi. Inner margin of claws denticulate in basal half.

Median lobe of aedeagus (Figs 3, 4) rather stout, its distal half markedly curved ventrally, apical lamella long, straight or slightly bent, without apical hook. Copulatory piece large and wide.

COMPARATIVE DIAGNOSIS. The new species belongs to the subgenus *Arrhostus* due to the presence of denticles on inner margins of claws, triangular apical labial palpomere in male, two pairs of supraorbital setae, complete elytral basal border and mostly trisetose metacoxae. Among its consubgenera, *C. borkini* **sp. n.** seems to be most closely related to *C. andreae* Ménétériés, 1832, which is widespread over desert area of South-Eastern Europe, Northern Africa, Western, Middle and Southern Asia as far as the Dzungarian Basin and Pakistan in the east (Kabak, 2017; Kabak *et al.*, 2020). Both species share the similar coloration, similar punctuation and pubescence of the body upper-side, and similar conformation of aedeagus, including copulatory piece. The new taxon is easily differing in having smaller eyes, distinctly rounded sides of pronotum in anterior part, much shorter elytra and lacking of hind wings.

Among all *Cymindis* species known from Himalaya and Tibet, the new species seems to be most closely related to *C. glabrella* Bates, 1878 and *C. facchinii* Kabak, 2006, both are known from Kashmir (Bates, 1878; Kabak, 2006, 2017). These species share the small attenuated body, similar proportions of head, pronotum and elytra, feebly developed punctuation and pubescence of teguments, slightly widened apically ultimate labial palpomere in male, and conformation of median lobe of aedeagus which is markedly curved in distal portion, apical lamella long and straight, without apical hook, copulatory piece similarly shaped. *Cymindis borkini* **sp. n.** is easily distinguish in having: light color of body with dark cruciate elytral pattern (vs. almost monochromatic dark body color in both mentioned taxa), larger eyes ($EyL/3AL = 1.13–1.22$ vs. $1.03–1.05$ in *C. glabrella* and 0.98 in *C. facchinii*). Additionally, the median lobe of aedeagus in the new species is much stouter.

In the elytral coloration, the new species resembles *C. nobilis* Andrewes, 1933, but the latter much bigger, darker, body wider, elytra less constricted anteriorly, punctuation and pubescence of teguments much more developed (Andrewes, 1933), median lobe of aedeagus longer, less curved, apical lamella wider basally, distinctly narrowed toward apex.

DISTRIBUTION. The new species is known from two localities in Western Himalaya, Himachal Pradesh, Northern India.

HABITAT. New species was collected at elevations of 2600–4300 m (Fig. 5).

ETYMOLOGY. The new species is named after one of its collectors, Dr. L.J. Borkin (St-Petersburg, Russia).



Fig. 5. The type locality of *Cymindis (Arrostus) borkini* sp. n. (Photo by L.J. Borkin)

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