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A new *Arthromacra* W. Kirby, 1837 (Coleoptera: Tenebrionidae: Lagriinae) from the Great Himalayas

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Arthromacra annapurna sp. nov. from the Great Himalayas range in Nepal is described and illustrated. The new species is peculiar among the congeners in the non-metallic dorsum, the comparatively large body and the sparsely punctured elytra.

Key words: taxonomy, long-jointed beetles, Nepal Himalayas

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INTRODUCTION

The subfamily Lagriinae Latreille, 1825 (Tenebrionidae Latreille, 1802) is nearly cosmopolitan in distribution (Matthews & Lawrence 2019) with about 1300 extant species (Telnov 2022b). *Arthromacra* W. Kirby, 1937 is a moderately speciose genus of slender, mostly metallic green to bronze reflecting lagriines with non-projecting anterolateral angles or pronotum, distributed across the southern and eastern Palaearctic and in the northern areas of the Oriental Region southwards to the Annamite Range. Six species are hitherto recorded from the Himalayas including Tibet (Merkl 2011a, 2020; Telnov 2023) and four more from their eastern extent in Myanmar and Yunnan (Merkl 2020; Telnov 2022a). *Arthromacra* is defined within other Statirina Blanchard, 1845 genera based on a set of varying features (Borchmann 1936; Imasaka 2005), and, likely, there are several yet unrecognized genus-rank synonyms among the Asian Statirina.

The aim of the present paper is to present the description of a new species of *Arthromacra* from the Nepal Himalayas.

MATERIAL AND METHODS

Paired morphological structures are generally treated as singular in text. All labels are reproduced *verbatim*. Labels, if more than one on the same specimen, are separated by a double slash. Each type specimen of a new species described herein is provided with a black framed label on red paper with "HOLOTYPUS" or "PARATYPUS".

Author's comments are provided in square brackets.

For morphological studies, a Leica S6D binocular stereomicroscope (Leica Microsystems, Wetzlar, Germany) was used. Habitus images were produced with a Canon EOS 5D SLR camera and, for habitus images, a Canon MP-E 65 mm lens (Canon Co., Tokyo, Japan), or, for genitalia, a Laowa 25-mm Ultra Macro lens (Anhui Changing Optics Technology Co., Hefei, China). Genitalia were relaxed in KOH solution, mounted on separate card placed on same pin underneath corresponding specimen. Helicon Focus 7 software (Helicon Soft, Kharkiv, Ukraine) was used for image stacking. Further image manipulations were done using GNU Image Manipulation Program (GIMP).

Acronyms of material repositories:

DTC – Collection Dmitry Telnov, Rīga, Latvia;
NME – Naturkundemuseum Erfurt, Germany;
SMNS – Staatliches Museum für Naturkunde Stuttgart, Germany.

RESULTS

Arthromacra annapurna **sp. nov.** (Figs 1–3)
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Fig. 1. *Arthromacra annapurna* sp. nov., ♂♂. A – Holotype, habitus, dorsal view; B – Paratype from near Hinku Drangka Khola bridge, Nepal, habitus, dorsal view; C – Paratype from Bathlekharka, Nepal, ventral forebody [not to scale].

Type material designated. Holotype ♂ NME (Fig. 1A): NEPAL Myagdi distr. upp. Bathlekharka 2160 [corrected by hand to 2460] m, 20.6.1998 leg. BERNDT / SCHMIDT [printed].
Paratypes 15 specimens. 1♂, 1♀ NME, 1♀ DTC: same label as holotype; 1♀ SMNS: Nepal466 Myagdi Disr. Myagdi Khola S Dobang 2400-2000 m, 26.V.1995 MARTENS & SCHAWALLER [printed]; 1♂ NME: S Lamjun Himal, W–slope Taunja Danda Bakhra Kharka 2100m, 10.5.96 [printed] // NEPAL HIMALAYA Annapurna–Mts. lg.Schmidt 1995~~5~~6 [printed, last symbol stroke through by hand and corrected to '6']; 1♂ & 1♀ SMNS: 525 NEPAL: Solukhumbu Distr., Hinku Drangka Khola bridge, 2000 m, 18.-19.V.1997 leg. W. SCHAWALLER [printed]; 3♂ &1♀ SMNS: 612 NEPAL:Dolakha Distr. N slope of Khare Khola 2200m, 30.V.-1.VI.2000 leg.W.SCHAWALLER [printed]; 2♂, 1♀ SMNS & 1♂ DTC: 613 NEPAL:Dolakha Distr. S slope of Khare Khola 2100m, 2.VI.2000 leg.W.SCHAWALLER [printed].

Derivatio nominis. Toponymic. Named after the Annapurna Range in the Great Himalayas, central Nepal, where the new species occurs. Noun in apposition.
Measurements. Holotype male, total body length excluding partially exposed cranial 'neck' 9.9 mm; head length 1.4 mm, maximum head width across compound eyes 1.4 mm, pronotal length 1.2 mm, pronotal width across anterior edge 1.2 mm, maximum pronotal width across anterior half 1.4 mm and across base 1.5 mm, elytral length 7.3 mm, combined maximum elytral width across postmedium 3.1 mm. Paratypes males 9.1–9.4 mm, paratypes females 10.3–10.7 mm long.

Description. Holotype male. Dorsal and ventral forehead dark brown to black, head portion posteriad to antennal insertion including cranial neck red dorsally and ventrally. Pronotum dorsally and laterally and scutellar shield red. Elytra ochre, narrow area along suture black to black-brown, epipleuron darkened in anterior fourth. Prosternum red, meso-, metasternum and abdomen black-brown, two last visible abdominal sternites and tergite VII ochre. Legs, maxillary palps and antennae brown to black. Head subtriangular, nearly as wide as long, subopaque dorsally and ventrally. Labrum subtruncate at anterior margin. Epistoma truncate at anterior margin. Frontoepistomal impression moderately deep, slightly arched. Insertion of antenna partially concealed from above. Compound eye moderately large, strongly wider than long, slightly emarginate at anterior, subtruncate at posterior margin in lateral view, not touching insertion of antenna, strongly prominent in lateral and moderately – in dorsal aspect. Interfacetal setae not observed. Minimum interocular distance about twice as wide as length of dorsal eye portion. Tempus short, converging towards head base, about 0.3× as long as dorsal eye portion. Head base subtruncate, poorly delimited from wide cranial 'neck'. Punctures minute and shallow on labrum, intervening spaces somewhat wider than diameter of punctures. Head dorsum densely and coarsely punctate with variably shaped, deep punctures. Intervening spaces moderately glossy, generally narrower than punctures except on anterior part of frons and on epistoma. Head dorsal setation whitish, moderately long, sparse, not concealing dorsal sculpture of head. Few much longer erect tactile setae present on tempora. Antenna long, filiform, exceeding slightly beyond metacoxa when directed posteriad. Four basal antennomeres glossy, remaining antennomeres subopaque to opaque. Basal antennomere asymmetrical, short, thickened, impressed anterobasally to accommodate raised anterolateral portion of frons covering antennal insertion, about 1.2× as long as wide, about 1.2× as long as second antennomere. Second antennomere distinctly longer than wide. Third antennomere is longest among the items 1–10, about 2.3× as long as second antennomere, 1.1–1.2× as

long as fourth antennomere. Antennomeres 5–10 slightly widened distally. Penultimate antennomere distinctly longer than wide. Terminal antennomere strongly elongate, 1.5 mm long, asymmetrical, slightly arched, apically rounded, about 2.1× as long as penultimate antennomere and nearly as long as combined length of four preceding antennomeres, surface sparsely microtu-berculate. Terminal maxillary palpomere subcultriform. Terminal labial palpomere scalene triangular. Pronotum subcylindrical, slightly transverse, moderately glossy dor-sally, truncate at anterior and posterior margin, lateral sides declivous. Pronotum hardly widened laterally around midlength, maximum width at base. Anterior and posterior edge indistinctly (poorly defined!) margined. Lateral margin non-carinate, not visible in dorsal view. Anterolateral angle in dorsal view obtuse angulate, slightly bent posterodorsad. Pronotal disc laterally with large and shallow circular impression on each side around midlength. Dorsal pronotal punctures about as large as those on vertex, deep and dense. Intervening spaces smooth and glossy to moderately glossy, narrower than to as wide as diameters of puncture. Pronotal dorsum appears glabrous, few moderately long whitish setae present on pronotal hypomeron. Scutellar shield small, sparsely punctured, glossy, apically sub-truncate. Elytron slender, elongate, dorsally slightly convex, moderately glossy, elytra subparallel, hardly widened laterally post-medium. Humeral callosity weak and flat. Apical sutural angle narrowly rounded in dorsal view. Elytral lateral margin visible in dorsal view except at humeral callosity area. Elytral punctures deep, dense to moderately so, circular, becoming smaller and sparser on apical portion of elytron. Intervening spaces smooth and glossy, twice as wide as to narrower than punctures. Elytral setae sporadic, whitish, short, suberect. Epipleuron nearly complete, moderately broad at humerus, narrow at most of its length, finely punctured and short setose. Metathoracic wings fully developed (functional). Procoxae narrowly separated at base by prosternal intercoxal process which is apically widened and subtruncate (Fig. 1C), contiguous in they apical extent. Abdominal sternites with sparse, short, yellowish setae. Legs long, slender, moderately glossy, tibiae on inner edge and tarsi with dense whitish setae. Femur slender, long, not clavate. All tibiae thickened distally, shorter than correspondding femora, inner edge tuberculate (uneven). Protarsomeres widened. Male basal metatarsomere shorter than combined length of remaining metatarsomeres. Male tergite VII and sternite VII broadly rounded at posterior margin. Aedeagus as in Fig. 3.

Sexual dimorphism. Female (Fig. 2) insignificantly larger than male, minimum interocular distance ~1.7× as wide as dorsal eye length, antenna shorter, hardly touching metacoxa when directed posteriad, third antennomere about 1.3× as long as fourth, terminal antennomere shorter, ~1.1 mm long and about as long as combined length of three preceding antennomeres, tibiae comparatively less dense and less distinctly tuberculate on inner edge, tergite VII broadly rounded, sternite VII subtruncate at posterior margin.

Intraspecific variability. Depending on the condition of the specimens, dorsal pronotum is ochre-coloured, nearly same colour as elytra and head darker red in some paratypes. Legs and five basal antennomeres are pale brown in some paratypes.

Differential diagnosis. No similar species are yet known. Not only is *Arthromacra annapurna* sp. nov. one of the largest species in its genus, but also the dorsal body colouration is very specific, the length ratio of the three basal antennomeres is different than in most congeners, the dorsum is not metallic and lacking reflection, the elytra are comparatively sparsely punctured, intervening spaces not elevated and not wrinkle-like. The shape of the aedeagus is characteristic for the genus.

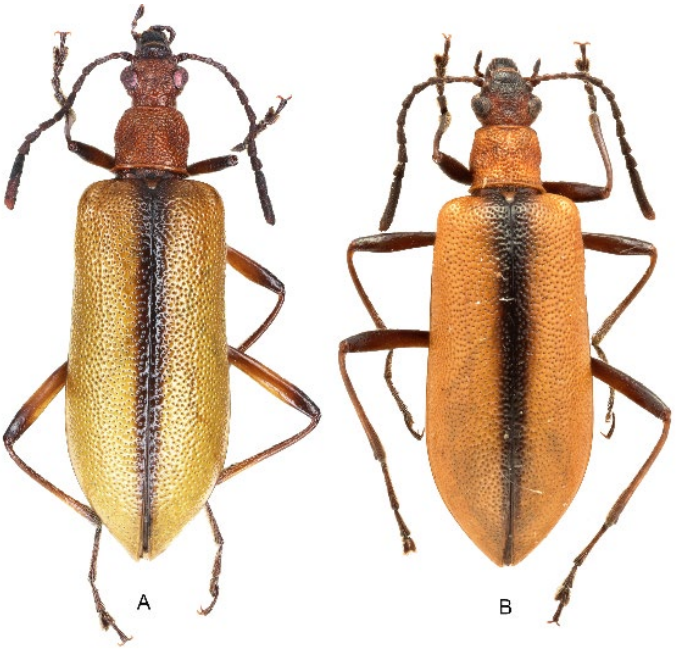

Fig. 2. *Arthromacra annapurna* sp. nov., ♀♀. A – Paratype from near Danda Bakhra Kharka, Nepal, habitus, dorsal view; B – Paratype from Bathlekharka, Nepal, habitus, dorsal view [not to scale].

Fig. 3. *Arthromacra annapurna* sp. nov., paratype ♂ from Bathlekharka, Nepal, aedeagus in dorsal (A), ventral (B) and lateral (C) view.

Ecology. Diurnal species, occurs at 2000–2400 m a.s.l.

Distribution. Southern slopes of the Great Himalayas range in central Nepal.

Note. This species is placed to *Arthromacra* based mainly on the key in Borchmann (1936). As already pointed out by several authors (Merkl 2011b; Telnov 2022c and references therein), the current concept of several lagriine genera is outdated, has not been supported by comprehensive morphology- or genomic-based studies and requires critical revision.

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