

A Remarkable New Species of the Genus *Necydalis* LINNAEUS (Coleoptera, Cerambycidae) from Xizang Autonomous Region, China

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Abstract *Necydalis (Necydalis) xizangia* sp. nov. is described from Xizang Autonomous Region, China. Though it seems to be peculiar and isolated among the members of the nominotypical subgenus, this new species may have some relationship to *N. (N.) uenoi* NIISATO, 2004 from Sichuan Province, China.

Introduction

A total of twelve species of the genus *Necydalis* LINNAEUS has so far been recorded from China including Taiwan (TAVAKILIAN & CHEVILLOTTE, 2017). In this paper, we are going to describe a remarkable new species of the nominotypical subgenus, *Necydalis (Necydalis) xizangia* sp. nov., from Xizang Autonomous Region. This new species is very peculiar in facies such as the wholly matted body with dense long hairs, however it has some relationship in the features of pronotum, elytra and male anal ventrite to *N. (N.) uenoi* NIISATO, 2004 from Sichuan Province, China (NIISATO, 2004).

Material and Methods

The holotype of the new species is preserved in the Insect Collection of Shanghai Normal University, Shanghai, China (SNUC), while other type materials are deposited in the private collections of Wen-Xuan Bi, Shanghai, China (CBWX) and Chang-Chin CHEN, Tianjin, China (CCCC), and in the Museum Collection of Hebei University, Baoding, China (MHBUC). The collecting data of specimens examined are described in the original spellings, though several Chinese characters were translated to English in parentheses when necessary.

The methods used in this study and the abbreviations used for the ratio of the measurement in the description are basically same as those explained in NIISATO and LIN (2017).

Necydalis (Necydalis) xizangia sp. nov.

(Figs. 1–19, 21 & 22)

Description. Colour black in head and thoraces, dull yellowish brown to brown in other most parts, hardly shiny in general; elytra dull yellowish brown, with blackish apical fourth in ♂ (blackish area extending forwardly along suture in a paratype), mostly brown though more or less yellowish near suture in ♀ (entirely brown in a paratype); hind wings dull yellowish brown; hind tarsi pale yellowish brown.

Body clothed with long suberect golden yellow hairs and short yellowish pubescence, the pubescence partly brown to black on basal four segments of antennae, apical parts of tibiae and tarsi; recumbent golden yellow pubescence on elytra with a triangular area around scutellum and near suture

of apical third and apical fourth, mesepimeron, near middle and basal margin of metasternum, basal part of metepisternum and anterior margin of metacoxa; dense fringe of light golden yellow pubescence on frons, tempora below eyes, sides of pronotum except near middle, and apical part of scutellum.

M a l e. Body length ($n = 2$): 26.50–26.90 mm (from apical margin of clypeus to abdominal apex).

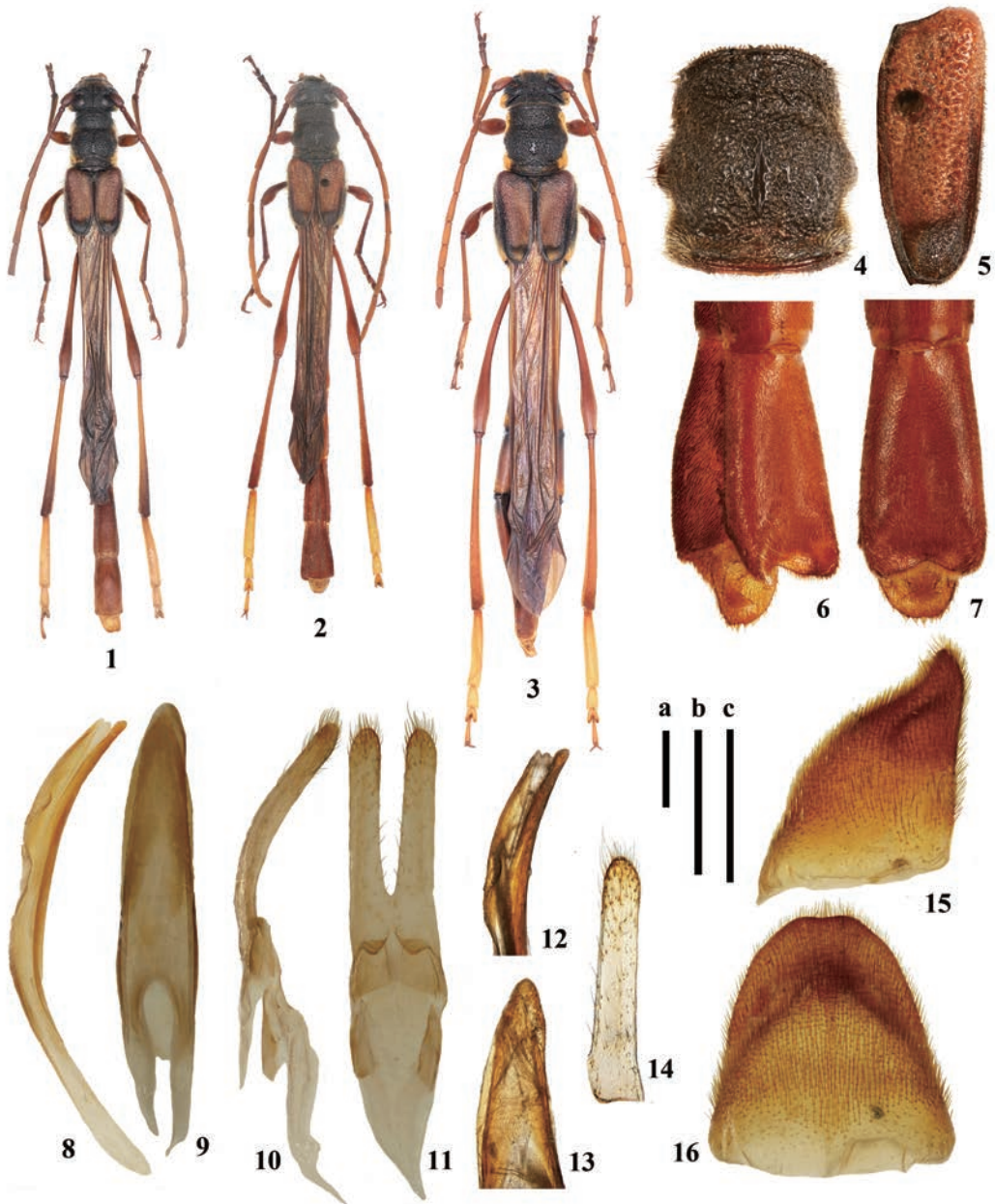
Head moderately voluminous, strongly convex, closely provided with coarse punctures of irregular-size, which are partly confluent; HW/PA 1.29, HW/PW 1.07–1.14 (M 1.11); frons slightly wider than long, almost parallel-sided, with a fine median groove completely extending to the posterior margin of vertex; clypeus with apical lobe closely coarsely punctured except for apical part; genae about $3/5$ the depth of lower eye-lobes; tempora well developed though not produced beyond the level of eyes; occiput hardly raised posteriad; eyes not so large, weakly prominent. Antennae medium in length, reaching basal third of 4th abdominal tergite, moderately stout, more or less flattened and slightly dilated apicad in segments 5–10; scape conical, finely closely punctured, $4/5$ the length of segment 3, segments 3 and 4 slightly thickened apicad, segment 4 $7/10$ the length of the preceding, segment 5 the longest and 1.5 times as long as segment 3, terminal segment gently arcuate, dilated apicad, with minutely pointed extremity.

Pronotum rather long; PL/PA 1.33, PL/PW 1.07–1.08 (M 1.08), PA/PB 0.88–0.90 (M 0.89), PW/EW 0.88–0.90 (M 0.89); sides weakly dilated apicad in apical third, moderately arcuate (holotype) or rather distinctly prominent (paratype) in large median part, weakly arcuate in basal third; disc markedly convex between apical fourth and basal fifth, provided with two pairs of faint small swellings near anterior and posterior margins of the convex area, distinctly depressed in transverse line at apical fourth, and arcuately so at basal fifth, deeply grooved along basal margin; surface almost entirely provided with coarse punctures of irregular-size, which are partly rugose or confluent, smooth at a narrow longitudinal area along midline on the convex area. Scutellum large, trapezoidal, thickly bordered at sides.

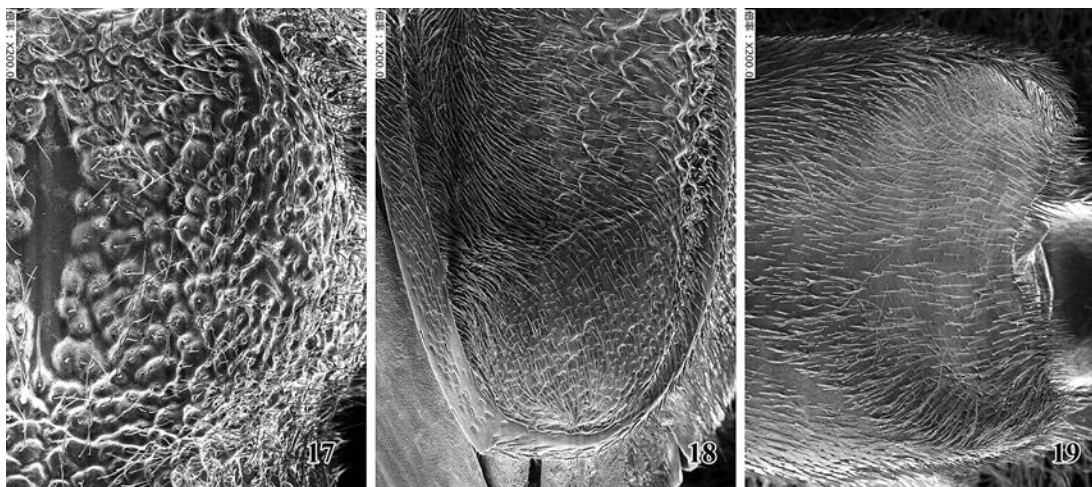
Elytra fairly long as for the nominotypical subgenus, arcuately dehiscent in apical third, thickly bordered along suture, moderately exposing the sides of metathorax, EL/EW 1.19–1.20 (M 1.20); sides with humeri strongly projected forward, weakly narrowed in straight line to apical fifth then arcuately narrowed to subtruncate apices, of which each sutural angle has thick dent; disc strongly raised in apical fifth, with J-shaped distinct depression from basal $2/5$ near suture to apical $2/5$ near external third; surface coarsely, rugosely punctured, though finely so in apical fifth and on the J-shaped depression.

Venter of thoraces closely coarsely punctured in general, the punctures on meso- and metasterna very fine and shallow; prosternal process visible only the oblong apical part which bears short median costa; mesosternal process very narrow, almost parallel-sided. Abdomen shagreened with fine shallow punctures; ventrites 1–3 slightly thickened in apical part, ventrites 2 and 3 equal in length, $7/10$ the length of ventrite 1; ventrite 4 slightly dilated apicad, almost equal in length to the preceding. Anal ventrite 2.5 times as long as the basal width, weakly dilated to just behind apical fourth then narrowed to apex; disc with apical fourth suddenly concave in semicircular, shallowly depressed near midline at a level between apical half and just before the apical concavity; apical margin shallowly emarginate in an obtuse angle of 120 degree. Eighth tergite semicircular in apical half, shallowly emarginate (holotype) or subtruncate (paratype) at apical margin.

Legs moderate in length, not so stout, with hind tibia reaching the base of anal tergite; hind tarsus rather thin, with segment 1 more than twice the length of the following two segments combined.



Figs. 1–16. *Necydalis (Necydalis) xizangia* sp. nov. — 1, Holotype, ♂ from Chayu County, Xizang Autonomous Region, China; 2 & 4–16, paratype, ♂ from Bomi County, Xizang; 3, paratype (allotype), ♀ from Motuo County, Xizang. — 1–3, Whole habitus; 4, pronotum; 5, elytron; 6 & 7, anal ventrite; 8 & 9, median lobe; 10 & 11, tegmen; 12 & 13, median lobe, apical part; 14, right paramere; 15 & 16, 8th tergite of abdomen. — 1–5, 9, 11, 13, 14 & 16, Dorsal view; 8, 10, 12 & 15, lateral view; 6, latero-ventral view; 7, ventral view. Scale 1.00 mm: a for Figs. 4–7; b for Figs. 8–11, 15 & 16; c for Figs. 12–14.



Figs. 17–19. Pronotum, elytra and anal ventrite of *Necydalis (Necydalis) xizangia* sp. nov., paratype ♂ (SEM images). — 17, Pronotum; 18, elytra; 19, anal ventrite. — 17 & 18, Dorsal view; 19, ventral view.

Male genital organs. Median lobe slender, moderately arcuate in profile; dorsal plate simply narrowed to bluntly produced apex, largely exposing the apical part of ventral plate; ventral plate narrowed in sinuate line to apical fifth then obtusely pointed to extremity; median struts half the length of median lobe. Tegmen slender, slightly longer than median lobe; parameres dehiscent in apical 2/3, each lobe very slender, almost parallel-sided with rounded apical part, clothed with short setae mostly in inner side and apical part, with relatively long setae near apex.

F e m a l e. Body length (n = 5): 26.60–32.20 mm (from apical margin of clypeus to abdominal apex).

Body markedly broad and robust. Head with frons strongly transverse, about 1.3 times as wide as long, tempora slightly produced beyond the level of eyes. Antennae not so short as for the other congener of ♀, reaching the base of 4th abdominal tergite, with middle segments slightly flattened, apical four segments shortened. Pronotum distinctly tuberculate near middle, largely punctured except for the median smooth area just behind middle. Elytra broader than in male, arcuately dehiscent in apical half. Abdomen with ventrite 1 finely shallowly punctured, ventrites 2–4 shagreened; anal ventrite elongate triangular, as long as the basal width, triangularly (allotype) or very weakly (paratype) emarginate at apical margin, punctured as on ventrite 1. Legs shorter than in male, though hind tibia slightly extended abdominal apex due to the short abdomen. Standard ratios of body parts are as follows: HW/PA 1.13–1.20 (M 1.16), HW/PW 0.86–1.00 (M 0.95), PL/PA 1.24–1.33 (M 1.28), PL/PW 0.96–1.11 (M 1.06), PA/PB 0.83–0.95 (M 0.89), PW/EW 0.74–0.81 (M 0.79), EL/EW 1.10–1.19 (M 1.14).

Type series. Holotype: ♂ (SNUC), “CHINA. Xizang / Chayu (察隅) / 2500m 2011.VII.1 / leg. Wen-Xuan Bi”. Paratypes (1 ♂, 5 ♀♀): 1 ♀ (allotype; CCCC), “CHINA. Xizang, Chayu / Shangchayu (上察隅) / 1900m 2011.VII.6 / leg. Jian Hao”; 1 ♀ (CCCC), “CHINA. Xizang, Chayu / Xiachayu / Shaqiongcu (沙琼村) / 2000m 2011.VII.9 / lge. Xiao-Dong Yang”; 1 ♀ (CBWX), “CHINA. Xizang / Motuo, 80K / 2100m 2011.VIII.27 / leg. Wen-Xuan Bi”; 1 ♀ (CCCC), “CHINA. Xizang / Motuo, 80K / 2111m 2012.VIII.9 / leg. Xiao-Dong Yang”; 1 ♂, 1 ♀ (MHBU), “2013-VII-14 / 西藏波密易贡乡 (Yigongxiang, Bomi County, Xizang) / 白兴龙 单军生 (Xing-Long BAI & Jun-Sheng SHAN) / 河北大学博



Figs. 20–22. Habitus and type locality of *Necydalis (Necydalis) xizangia* sp. nov. — 20, Landscape of type locality, Chayu County, Xizang Autonomous Region, China; 21, paratype, ♀ from Shangchayu, Xizang Autonomous Region, China; 22, holotype, ♂ from the type locality.

物館 (Museum of Hebei University)”.

Etymology. The new specific name is derived from Xizang Autonomous Region including the type locality.

Distribution. Xizang Autonomous Region, China.

Comparative notes. *Necydalis (Necydalis) xizangia* sp. nov. has some common features with *N. (N.) uenoi* NIISATO, 2004 from Sichuan Province, China as follows (NIISATO, 2004): 1) pronotum rela-

tively long, about 1.3 times as long as the apical width, and usually tuberculate near middle of sides, 2) elytra distinctly longer than the humeral width, almost evenly narrowed to apices, which have a thick dent at each sutural corner, and 3) anal ventrite long, deeply concave in semicircular shape in apical part and shallowly emarginate at apical margin. However, the new species can be distinguished from it or the other congeners by the matted large body with dense long hairs, and the pronotum with coarse and irregular shaped discal punctuation which is partly rugose or confluent.

Biological notes. The holotype and paratype of the new species were collected in a mixed forest which consists of several coniferous and broadleaf trees near Chayu County (Fig. 20) and Motuo County (southeast Xizang Autonomous Region, China) with an altitude from 1,900 m to 2,500 m. They were observed being active during the daytime, flying between trees but no flower-visiting behavior was confirmed. Ichneumonid wasps, a putative model of *Necydalis* mimics, occurred synpatrially at least in Chayu County with a preponderant proportion.

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要 約

毕文焯・新里達也：チベット産ホソコバネカミキリ属（鞘翅目カミキリムシ科）の顕著な1新種。——チベット（中国西藏自治区）から採集された標本に基づき、ホソコバネカミキリ属の1新種 *Necydalis* (*Necydalis*) *xizangia* sp. nov. (新中名：西藏膜翅天牛) を記載した。本新種は、基亜属のなかでも大型で、体背面に光沢を欠く。その前胸背板は細長く、表面は粗く密に点刻され、上翅は雄で肩幅の約1.3倍、雌で約1.1倍、先端内角は鈍く角張る。雄腹部腹板末端節は基部幅の2.5倍の長さで、先端1/4が半円形状に深くくぼみ、後縁は120°の角度で浅くえぐれる。四川省から知られる *N.* (*Necydalis*) *uenoi* NIISATO, 2004 に上翅、前胸背板および雄腹部腹板末端節の形態が比較的良好に似ているが、上記の特徴により区別は容易である。

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