

ORIGINAL ARTICLE

Anthrenus (Anthrenodes) xizangensis sp. nov. (Coleoptera: Dermestidae: Megatominae), a new species described from Xizang, China

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Abstract A new species, *Anthrenus (Anthrenodes) xizangensis* Zhou, Háva & Da, **sp. nov.**, is described based on a series of specimens recently collected in Lhasa, Xizang, China. The new species is illustrated and compared with its morphological similar species: *A. himalayensis* Háva, Wachkoo & Maqbool, 2019, *A. katrinkrauseae* Háva, 2018, and *A. occultus* Háva, 2006. It differs in the scale coloration and pattern, as well as in the antennae and male genitalia. A comparative diagnosis and a distribution map of known similar *Anthrenus* species are provided.

Key words Description, human dwellings, Megatominae, storage beetle, taxonomy.

1 Introduction

The subgenus *Anthrenodes* Chobaut, 1898 of the genus *Anthrenus* Geoffroy, 1762 currently contains 38 species worldwide (Háva, 2025), of which only four are known from China: *A. maculifer* Reitter, 1881, *A. globiger* Arrow, 1915, *A. debilis* Háva, 2005 and *A. medogensis* Zhou, Háva, Da & Bai, 2026 (Wu, 1937; Hua, 2002; Zhou *et al.*, 2026). The subgenus is characterized by antennae consisting of 10 antennomeres. Sexual dimorphism is present in the antennal club: in males, the terminal antennomere is distinctly larger or longer than the penultimate antennomere, while in females both are approximately equal in length (Háva, 2024). Adults are occasionally found on flowering plants, but they also occur in households or museums, where larvae are known to damage various commodities, including feathers, aquatic products, and medicinal materials (Peacock, 1993; Rajendran & Parveen, 2005). In the present study, a new species is described.

urn:lsid:zoobank.org:pub:FFDC04AE-71E9-4D1F-869E-1C6E97E05DEC

Received 26 November 2025, accepted 28 December 2025

Executive editor: Fuqiang Chen

2 Materials and methods

We studied all original publications describing species occurring in Xizang and neighboring regions. Type material of two similar species, *A. himalayensis* Háva, Wachkoo & Maqbool, 2019 and *A. katrinkrauseae* Háva, 2018, was also examined, with some of the material deposited in Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-West, Czech Republic (JHAC).

Genitalia were carefully dissected from the abdomen of a fresh specimen using a size 00 insect pin and then placed in distilled water for observation. Finally, the male and female genitalia were preserved on a glass slide with a drop of glycerin.

The Olympus SZX10 stereomicroscope was used for observations and dissections. The habitus and genitalia photographs were captured using a Leica DVM6A and processed in Adobe Photoshop CC 2025®. Length measurements were performed using ImageJ version 1.53j®. Schematic drawings of male genitalia were prepared in Adobe Illustrator 2019®. The original map was downloaded from the Standard Map Service (<http://bzdt.ch.mnr.gov.cn/>).

The new species described in this paper are provided with red, printed label with text as follows: “正模[HOLOTYPE] [or] 副模[PARATYPE] | 西藏圆皮蠹[*Anthrenus* | (*Anthrenodes*) *xizangensis* | **sp. nov.**] | Jiří Háva & Xuan Zhou det. | 2025”; on the white printed labels are the collecting data “西藏自治区科学技术厅 | [Department of Science and | Technology of Xizang | Autonomous Region], | 北京西路 19 号[No. 19, | Beijing West Road], | 城关区[Chengguan District], | 拉萨市[Lhasa City], | 中国西藏自治区[Xizang | Autonomous Region, China] | 29°38.81'N, 91°07.03'E; | alt. 3650 m; 5.V.2025 | 周璇[Xuan Zhou] leg.”. The individual lines of each label are separated by a single vertical bar (|), and individual labels are separated by a double vertical bar (||).

The holotype of the new species is deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS, curator: Ming Bai). The paratypes are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS), and the Institute of Plateau Biology of Xizang Autonomous Region, Lhasa, China (IPBX, curator: Wa Da).

The size of the beetles or their body parts can be useful in species recognition; thus, the following measurements were made:

EW—elytral width, maximum linear transverse distance;

TL—total length, linear distance from anterior margin of pronotum to apex of elytra.

3 Taxonomy

Key to the new species and its similar species of *Anthrenus* (*Anthrenodes*).

1. Head covered with scales of one color (yellow); male terminal to penultimate antennomere length ratio = 3 : 1 *A. katrinkrauseae* Háva, 2018 (India: Kashmir)
- Head covered with scales of two or more colors..... 2
2. Head covered with scales of three colors (white, yellow, and black); male terminal to penultimate antennomere length ratio = 2.5 : 1 *A. himalayensis* Háva, Wachkoo & Maqbool, 2019 (India: Kashmir)
- Head covered with scales of two scale colors 3
3. Head covered with white and orange scales; male terminal to penultimate antennomere length ratio = 2 : 1 *A. occultus* Háva, 2006 (India: Himachal, Kashmir, Uttar Pradesh)
- Head covered with pale yellow and white scales; male terminal to penultimate antennomere length ratio = 2.25 : 1 *A. xizangensis* Zhou, Háva & Da, **sp. nov.** (China: Xizang)

Order Coleoptera Linnaeus, 1758

Subfamily Megatominae Leach, 1815

Genus *Anthrenus* Geoffroy, 1762

Subgenus *Anthrenodes* Chobaut, 1898

Type species: *Anthrenus umbellatarum* Chobaut, 1898.

Anthrenus (*Anthrenodes*) *xizangensis* Zhou, Háva & Da, **sp. nov.** (Figs 1–5)

Chinese common name: 西藏圆皮蠹

Diagnosis. Based on morphological characters, the new species belongs to the subgenus *Anthrenodes* due to the antennae, which comprise 10 antennomeres. The male terminal-to-penultimate antennomere length ratio is 2.25 : 1. The body bears three differently colored scales: brown, pale yellow, and white. At two-thirds of the distance from the elytral base, brown scales form a transverse fascia.

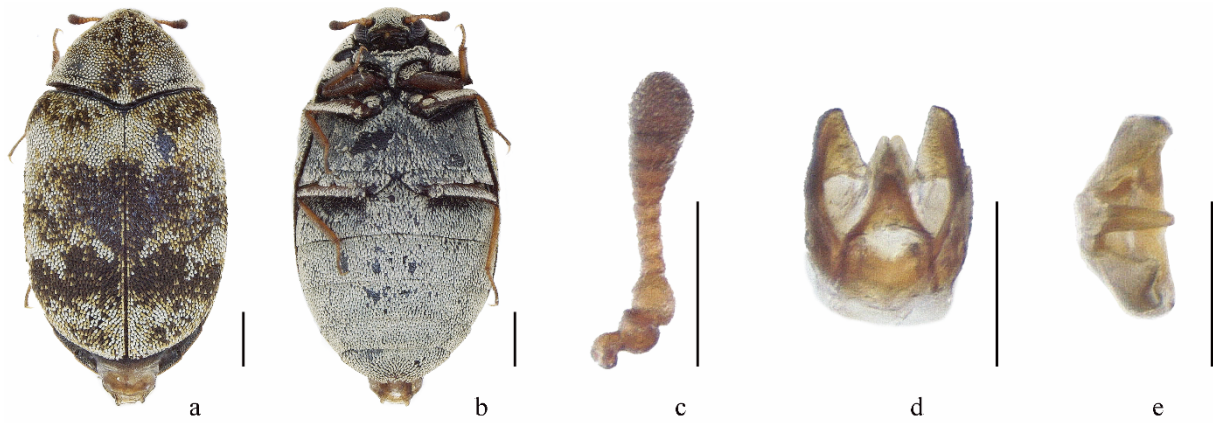


Figure 1. *Anthrenus (Anthrenodes) xizangensis* Zhou, Háva & Da, **sp. nov.** a. Habitus of the male holotype, dorsal view; b. Habitus of the male holotype, ventral view; c. Left antenna of the male holotype; d–e. Aedeagus of the male holotype. Scale bars: a–b=0.5 mm; c–e=0.25 mm.

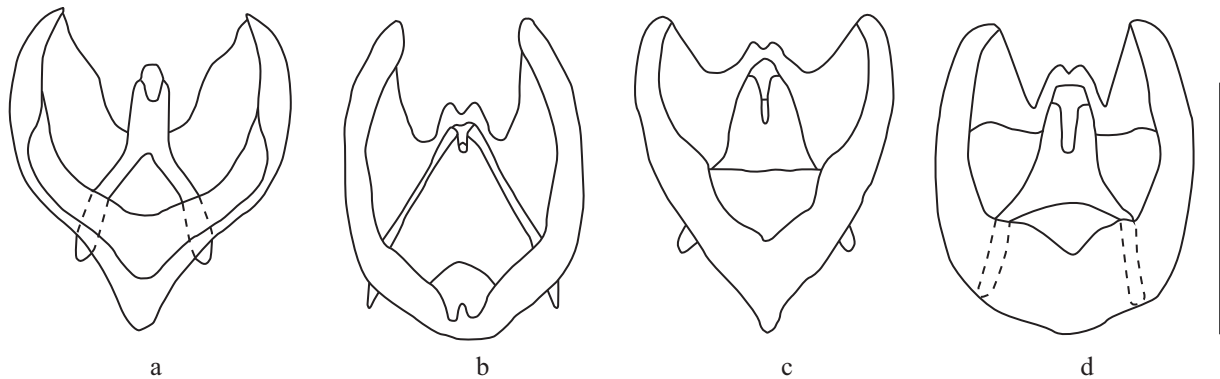


Figure 2. Schematic drawings of male genitalia ventral view. a. *A. himalayensis* Háva, Wachkoo & Maqbool, 2019; b. *A. katrinkrauseae* Háva, 2018; c. *A. occultus* Háva, 2006; d. *A. (Anthrenodes) xizangensis* Zhou, Háva & Da, **sp. nov.** Scale bar = 0.25 mm.

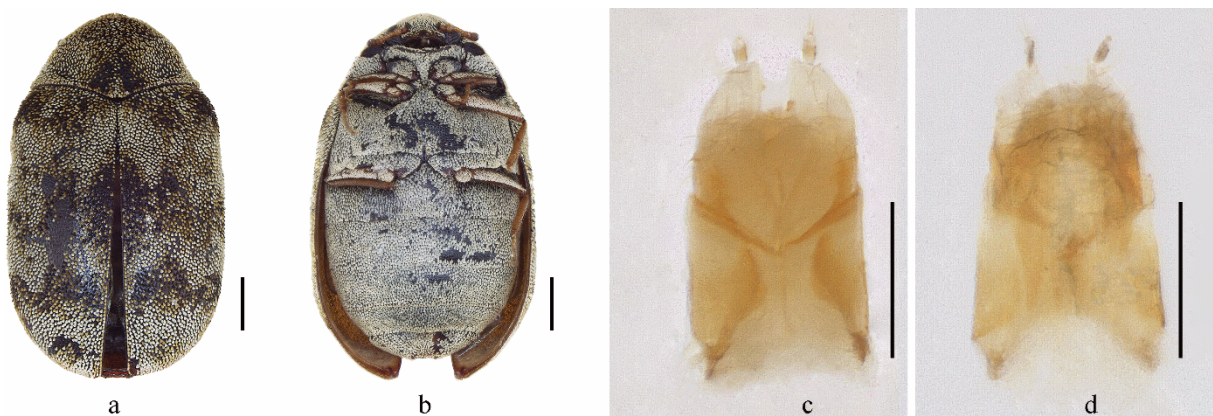


Figure 3. *Anthrenus (Anthrenodes) xizangensis* Zhou, Háva & Da, **sp. nov.** a. Habitus of the female paratype, dorsal view; b. Habitus of the female paratype, ventral view; c–d. Ovipositor. Scale bars: a–b=0.5 mm; c–d=0.25 mm.

Description. Male (holotype). General appearance. TL 3.1 mm, EW 1.8 mm; body shape oval, small (Fig. 1a).

Color. Body brown-black; dorsal surface covered brown, pale yellow, and white scales, ventral surface covered white scales. Scales small, broad, subtriangular (Figs 1a–b).

Head. Covered with intermixed pale yellow and white scales. Antennae consisting of 10 antennomeres; antennomeres I and VIII–X dark brown, II–VII pale brown. Antennal club composed of 4 antennomeres, compact, with terminal antennomere large and subcircular (Fig. 1c). Ratio of length of antennomere X to antennomere IX 2.25 : 1. Antennal fossa long and broad. Frons bearing a median ocellus. Eyes with entire median margin. Labrum short, broad, and dark reddish brown. Palpomeres black.

Pronotum. Subtriangular and transverse, with a width to length ratio of approximately 1.7 : 1. Lateral margins covered with white scales; disc with intermixed brown, pale yellow, and white scales (Fig. 1a).

Scutellum. Very small, triangular, and without scales.

Elytra. Covered with intermixed brown, pale yellow, and white scales. Basal area of elytra covered with all three types of scales. Median area of elytra predominantly covered with brown scales forming a broad transverse fascia. At two-thirds of distance from elytral base, brown scales form a transverse fascia. Apical area of elytra mainly covered with pale yellow



Figure 4. Habitat of *Anthrenus (Anthrenodes) xizangensis* Zhou, Háva & Da, **sp. nov.** a. Dormitory building of the Department of Science and Technology of Xizang Autonomous Region; b. Floor where the new species was discovered.



Figure 5. Sketch map of the known distributions of four *Anthrenus* species.

and white scales (Fig. 1a). Ratio elytral length to width 2.7:1. Epipleuron covered with white scales.

Legs. Coxae, trochanters, and femora dark brown, tibiae and tarsi pale brown; covered with white scales and setae (Fig. 1b).

Abdomen. Consisting of five ventrites, densely covered with white scales (Fig. 1b).

Aedeagus. Very small. Parameres U-shaped, broad, symmetrical, and nearly parallel, slightly narrowing toward apex; apices broadly rounded. Median lobe curved, elongate, and narrow, with pointed apex (Figs 1d–e). Differences from similar species see Figs 2a–d.

Female ($n=10$). TL 3.4–3.6 mm, EW 2.1–2.2 mm; ratio of elytral length to width 2.7:1. Dorsal surface covered with brown, pale yellow, and white scales; ventral surface covered with white scales (Figs 3a–b). Sexual dimorphism present in antennal club: in females, antennomere X approximately 1.15× length of antennomere IX, while approximately 2.25× as long in males.

Ovipositor. Narrow and elongate; gonostyloid apices broadly rounded. Styli small, with fine setae, positioned directly at apex (Figs 3c–d).

Material examined. Holotype ♂, 西藏自治区科学技术厅 [Department of Science and Technology of Xizang Autonomous Region], 北京西路 19 号 [No. 19, Beijing West Road], 城关区 [Chengguan District], 拉萨市 [Lhasa City], 中国西藏自治区 [Xizang Autonomous Region, China], 29°38.81'N, 91°07.03'E, alt. 3650 m, 5.V.2025, 周璇 [Xuan Zhou] leg. (IZCAS). Paratypes. 12♂10♀, 5–10.V.2025, other data same as holotype (10♂10♀ IZCAS, 2♂ IPBX).

Habitat. This species was discovered in a dormitory building of the Department of Science and Technology of Xizang Autonomous Region (Figs 4a–b).

Distribution. This species is currently known only from Xizang, China (Fig. 5).

Etymology. The species is named after “Xizang”, in commemoration of the 60th anniversary of the establishment of the Xizang Autonomous Region.

4 Discussion

Storage beetles are closely associated with human life, and Dermestidae represent an important component of this group (Zhou *et al.*, 2025). The specimens of the newly described species were collected on different dates, and observational evidence suggests that the species may have been transferred from outdoor to indoor environments. Several species, including *A. verbasci*, *A. fuscus*, *A. polonicus*, and *A. museorum*, have been documented visiting flowers as adults and subsequently returning to accumulations of animal-derived materials in buildings, as well as nests of social insects or birds, where oviposition occurs (Yokoyama, 1929; Mroczkowski, 1954, 1975; Woodroffe & Southgate, 1954; Zhantiev, 1976). Whether the newly described species exhibits similar behavior—that is, foraging on flowers outdoors followed by oviposition within human dwellings—remains uncertain and requires further investigation.

Funding This work was supported by the Science and Technology Program Project of the Xizang Autonomous Region (XZ202501ZY0103); the Natural Science Foundation of Xizang (XZ202301ZR0002G); the Special Project of the Institute of Plateau Biology of Xizang Autonomous Region—“Collection and Preservation of Genetic Resources”—Insect Section; the State Key Laboratory of Animal Biodiversity Conservation and Integrated Pest Management (SKLA2502); the Institute of Zoology, Chinese Academy of Sciences (2023IOZ0104); and the Survey of Wildlife Resources in Key Areas of Xizang (ZL202203601).

Acknowledgements The authors sincerely thank anonymous reviewers for their valuable comments and suggestions, which greatly improved the quality of this paper. We also wish to express our sincere gratitude to Zhuoma Pubu (Institute of Plateau Biology of Xizang Autonomous Region), Zhaxi Gongga, Pingcuo Zhaxi and Ouzhu Dawa (Administration of the Potala Palace) for their generous assistance during the specimen collection process.

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