

Far Eastern Entomologist

Number 463: 8-11

ISSN 1026-051X (print edition)
ISSN 2713-2196 (online edition)

October 2022

<https://doi.org/10.25221/fee.463.2>

<https://elibrary.ru/oihrgb>

<https://zoobank.org/References/8AC6F137-E888-460F-BD14-272ED5E6981C>

A NEW SPECIES OF DERMESTIDAE (COLEOPTERA) FROM CRETACEOUS BURMESE AMBER

J. Háva

Private Entomological Laboratory and Collection, Rýznerova 37/37, Únětice u Prahy, Prague-west, CZ-25262, Czech Republic. E-mail: jh.dermestidae@volny.cz

Summary. *Tuberphradonoma secunda* sp. n. is described and illustrated from mid-Cretaceous (ca. 99 million years old) amber from Kachin State, northern Myanmar. An annotated list of Dermestidae known from Cretaceous Burmese amber is also given.

Key words: skin beetles, Coleoptera, Dermestidae, Megatominae, *Tuberphradonoma*, taxonomy, new species, Cretaceous, Burmese amber.

Дж. Хава. Новый вид жуков-кожеедов (Coleoptera: Dermestidae) из мелового бирманского янтаря // Дальневосточный энтомолог. 2022. N 463. С. 8-11.

Резюме. Из мелового (около 99 млн. лет) янтаря (Качин на севере Мьянмы) описан новый для науки вид *Tuberphradonoma secunda* sp. n. Также приведен аннотированный список всех жуков-кожеедов (Dermestidae), известных из мелового Бирманского янтаря.

INTRODUCTION

The family Dermestidae (Coleoptera) currently contains about 1750 species and subspecies worldwide (Háva, 2015, 2022a). Specimens in Cretaceous Burmese amber are not very common. From Burmese amber there are eight known species belonging to six genera: *Anthrenus* Geoffroy, 1762, *Attagenus* Latreille, 1802, *Cretoattagenus* Háva, 2020, *Cretodermestes* Deng, Ślipiński, Ren & Pang, 2017, *Tuberphradonoma* Háva, 2021 and *Cretomegatoma* Háva, 2021 (Cai *et al.*, 2017, Deng *et al.*, 2017, Háva & Damgaard, 2017, Háva, 2020, 2021, 2022b). Additionally, an undescribed larva was mentioned as *Trogoderma*-like (Poinar & Poinar, 2016, Peñalver *et al.*, 2017). A new species is described below.

MATERIAL AND METHODS

The study is based on one specimen (holotype) of Dermestidae embedded in Burmese amber originating from the Hukawng Valley of northern Myanmar. The age of the amber deposits is generally considered to be the earliest Cenomanian (Grimaldi *et al.*, 2002) or possibly latest Albian (Ross *et al.*, 2010). The recently conducted UePb zircon dating restricted its age at 98.79 ± 0.62 MY, which is equivalent to the Late Cretaceous (Shi *et al.*, 2012). Nomenclature and systematics used in the present paper follow Háva (2015, 2022a)

and Motyka *et al.* (2022). Type specimen of the presently described species is provided with red, printed label with the text as follows: “HOLOTYPE *Tuberphradonoma secunda* sp. nov. Jiří Háva det. 2022”. Type material deposited in (JHAC) – Jiří Háva, Private Entomological Laboratory and Collection, Prague-west, Czech Republic.

DESCRIPTION OF NEW SPECIES

Genus *Tuberphradonoma* Háva, 2021

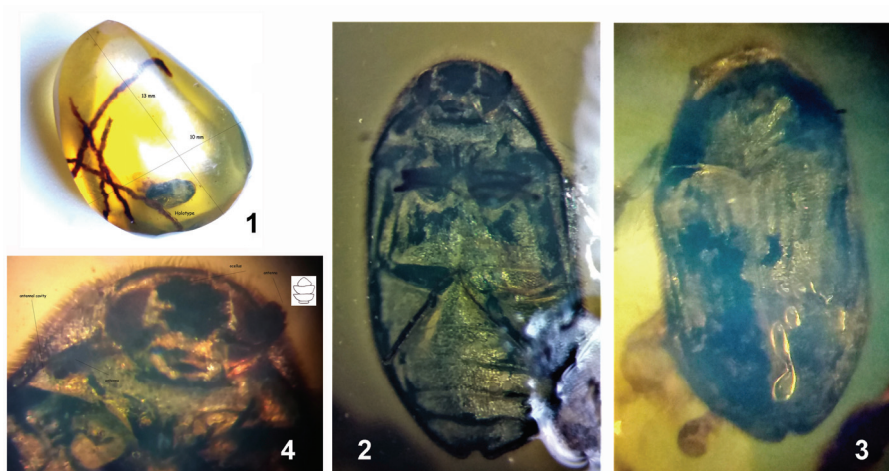
Tuberphradonoma secunda Háva, sp. n.

<https://zoobank.org/NomenclaturalActs/A85D9F9C-A9BE-49FE-9FC1-E593EB13CE73>

Figs 1–4

TYPE MATERIAL. Holotype – ♀: **Myanmar**: Hukawng Valley, lowermost Cenomanian (JHAC). The complete beetle is included in a transparent amber piece, with dimensions of 10×13 mm. Syninclusions consist of four pine needles.

DESCRIPTION. Holotype, female. Body black, oval. Body 3.1 mm length. Head finely punctate, with short more or less decumbent black setae, maxillary palpi not visible, eyes large with microsetae, antennae black with 11 antennomeres, club with 3 antennomeres (Fig. 4). Forehead with faintly visible ocellus. Pronotum entirely black, matte, sparsely and not very coarsely punctate, with erect, black setae and two depressions near scutellum. Lateral margins slightly visible from above. Antennal cavity closed. Scutellum small, black, triangular, without setation or punctures. Elytra black sparsely and coarsely punctate, covered by long, erect black setation. Each elytron with small humeral bump with longitudinal striae. Venter-coarsely and (especially the visible ventrite) more densely punctate than elytra and pronotum, covered with straight, decumbent black setae. Anterior tarsomeres short, middle and posterior tarsomeres relatively long. Tibiae and tarsi brown, femora anteriorly darkened and sparsely covered with fine brown setae, anterior tibiae without spines. Genitalia not visible.



Figs 1–4. *Tuberphradonoma secunda* sp. n., holotype: 1– amber piece with holotype; 2 – habitus, ventral; 3 – habitus, dorsal; 4 – head with antenna, ventral.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *Tuberphradonoma burmitica* Háva, 2021 but differs from it by the following characters:

burmitica: antennae dark brown; each elytron with large humeral bump without longitudinal striation; legs brown.

secunda: antennae black; each elytron with small humeral bump with longitudinal striae; legs black.

ETYMOLOGY. The specific epithet refers to the fact that this is the second *Tuberphradonoma* species discovered and described from Burmese amber.

LIST OF DERMESTIDAE KNOWN FROM CRETACEOUS BURMESE AMBER

Subfamily Attageninae Laporte de Castelnau, 1840

Tribe Attagenini Laporte de Castelnau, 1840

Genus *Attagenus* Latreille, 1802

Attagenus burmiticus Cai, Háva et Huang, 2017

Attagenus lundi Háva et Damgaard, 2017

Attagenus secundus Deng, Ślipiński, Ren et Pang, 2017

Genus *Cretoattagenus* Háva, 2020

Cretoattagenus coziki Háva, 2020

Tribe Cretodermestini Deng, Ślipiński, Ren et Pang, 2017

Genus *Cretodermestes* Deng, Ślipiński, Ren et Pang, 2017

Cretodermestes palpalis Deng, Ślipiński, Ren et Pang, 2017

Subfamily Megatomiinae Leach, 1815

Tribe Anthrenini Gistel, 1848

Genus *Anthrenus* Geoffroy, 1762

Anthrenus larvalis (Cockerell, 1917) (*Dermestes*)

Tribe Megatomini Leach, 1815

Genus *Cretomegatoma* Háva, 2021

Cretomegatoma atypica (Deng, Ślipiński, Ren et Pang, 2017) (*Megatoma*)

Genus *Tuberphradonoma* Háva, 2021

Tuberphradonoma burmitica Háva, 2021

Tuberphradonoma secunda **sp. n.**

ACKNOWLEDGEMENTS

I am very indebted to Larry G. Bezark (California, U.S.A.) for the revision of the English text of the manuscript. The paper was supported by the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0118.

REFERENCES

- Cai, Ch., Háva, J. & Huang, D. 2017. The earliest *Attagenus* species (Coleoptera: Dermestidae: Attageninae) from Upper Cretaceous Burmese amber. *Cretaceous Research*, 72: 95–99. DOI: 10.1016/j.cretres.2016.12.018
- Cockerell, T.D.A. 1917. Arthropods in Burmese Amber. *Psyche*, 24: 40–45.
- Deng, C., Ślipiński, A., Ren, D. & Pang, H. 2017. New Cretaceous carpet beetles (Coleoptera: Dermestidae) from Burmese amber. *Cretaceous Research*, 76: 1–6. DOI: 10.1016/j.cretres.2017.04.004
- Grimaldi, D.A., Engel, M.S., Nascimbene, P.C. 2002. Fossiliferous Cretaceous amber from Myanmar (Burma): its rediscovery, biotic diversity, and paleontological significance. *American Museum Novitates*, 3361: 1–72. DOI: 10.1206/0003-0082(2002)3612.0.CO;2
- Háva, J. 2015. *World Catalogue of Insects. Volume 13. Dermestidae (Coleoptera)*. Brill, Leiden-Boston. xxvi + 419 pp.
- Háva, J. 2020. To the knowledge of the subfamily Attageninae (Coleoptera: Dermestidae) from Cretaceous Burmese amber. *Far Eastern Entomologist*, 420: 14–19. DOI: 10.25221/fee.420.2
- Háva, J. 2021. Two new genera and species of Dermestidae (Coleoptera) from Cretaceous Burmese amber. *Euroasian Entomological Journal*, 20(6): 343–345. DOI: 10.15298/euroasentj.20.6.08
- Háva, J. 2022a. Dermestidae World (Coleoptera). - World Wide Web electronic publication (open in 2004): <http://www.dermestidae.wz.cz> (version 2018, update March 2022)
- Háva, J. 2022b. Systematic position of *Dermestes larvalis* Cockerell, 1917 from Cretaceous Burmese amber (Coleoptera: Dermestidae). *Euroasian Entomological Journal*, 21(1): 35–36. DOI: 10.15298/euroasentj.21.1.05
- Háva, J. & Damgaard, A.L. 2017. *Attagenus lundi* sp. nov. from Cretaceous Burmese amber (Coleoptera: Dermestidae: Attageninae). *Studies and Reports, Taxonomical Series*, 13(2): 303–306.
- Motyka, M., Kusy, D., Háva, J., Jahodářová, E., Bílková, R., Vogler, A.P. & Bocak L. 2022. Mitogenomic data elucidate the phylogeny and evolution of life strategies of Dermestidae (Coleoptera). *Systematic Entomology*, 47(1): 82–93. DOI: 10.1111/syen.12520
- Peñalver, E., Arillo, A., Delclòs, X., Peris, D., Grimaldi, D.A., Anderson, S.R., Nascimbene P.C. & Pérez-de la Fuente, R. 2017. Ticks parasitised feathered dinosaurs as revealed by Cretaceous amber assemblages. *Nature Communications*, 8(1924). DOI: 10.1038/s41467-017-01550-z
- Poinar, G. & Poinar R. 2016. Ancient hastisetae of Cretaceous carrion beetle (Coleoptera: Dermestidae) in Myanmar amber. *Arthropod Structure & Development*, 45(6): 642–645. DOI: 10.1016/j.asd.2026.10.012
- Ross, A.J., Mellish, C., York, P. & Crighton, B. 2010. Burmese amber. P. 208–235. In: Penney, D. (Ed.). *Biodiversity of Fossils in Amber from the Major World Deposits*. Siri Scientific Press, Manchester.
- Shi, G., Grimaldi, D.A., Harlow, G.E., Wang, J., Wang, J., Yang, M., Lei, W., Li, Q. & Li, X. 2012. Age constraint on Burmese amber based on U-Pb dating of zircons. *Cretaceous Research*, 37: 155–163. DOI: 10.1016/j.cretres.2012.03.014