University of Reading

Descriptions of Anthrenus (Anthrenodes) pica and Anthrenus (Anthrenodes) translucens (Coleoptera: Dermestidae: Megatominae), two new species from Yemen and Oman

Article

Published Version

Creative Commons: Attribution-Noncommercial 4.0

Open Access

Holloway, G. J. and Herrmann, A. (2025) Descriptions of Anthrenus (Anthrenodes) pica and Anthrenus (Anthrenodes) translucens (Coleoptera: Dermestidae: Megatominae), two new species from Yemen and Oman. Insecta Mundi, 1138. pp. 1-11. ISSN 1942-1354 doi: 10.64338/im.1138.b3887 Available at https://centaur.reading.ac.uk/125544/

It is advisable to refer to the publisher's version if you intend to cite from the work. See Guidance on citing.

Identification Number/DOI: 10.64338/im.1138.b3887
<https://doi.org/10.64338/im.1138.b3887>

Publisher: Center for Systematic Entomology, Inc.

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other

University of Reading

copyright holders. Terms and conditions for use of this material are defined in the End User Agreement.

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

A journal of world insect systematics

INSECTA MUNDI

1138

Descriptions of *Anthrenus* (*Anthrenodes*) *pica* and *Anthrenus* (*Anthrenodes*) *translucens* (Coleoptera: Dermestidae: Megatominae), two new species from Yemen and Oman

Graham J. Holloway
Cole Museum of Zoology, Biological Sciences, HLS Building, University of Reading, Whiteknights, Reading RG6 6EX, UK.
g.holloway@reading.ac.uk
https://orcid.org/0000-0003-0495-0313

Andreas Herrmann
Bremervörder Strasse 123, 21682 Stade, Germany

Date of issue: August 1, 2025

Center for Systematic Entomology, Inc., Gainesville, FL

Holloway GJ, Herrmann A. 2025. Descriptions of *Anthrenus* (*Anthrenodes*) *pica* and *Anthrenus* (*Anthrenodes*) *translucens* (Coleoptera: Dermestidae: Megatominae), two new species from Yemen and Oman. Insecta Mundi 1138: 1–11.

Published on August 1, 2025 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
http://centerforsystematicentomology.org/

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. Insecta Mundi will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. Insecta Mundi publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources, including the Zoological Record and CAB Abstracts. Insecta Mundi is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

Guidelines and requirements for the preparation of manuscripts are available on the Insecta Mundi website at http://centerforsystematicentomology.org/insectamundi/

Chief Editor: David Plotkin, insectamundi@gmail.com
Assistant Editor: Paul E. Skelley, insectamundi@gmail.com
Layout Editor: Robert G. Forsyth
Editorial Board: Davide Dal Pos, José Martínez, Alex Orfinger, M. J. Paulsen, Felipe Soto-Adames
Founding Editors: Ross H. Arnett, Jr., J. H. Frank, Virendra Gupta, John B. Heppner, Lionel A. Stange, Michael C. Thomas, Robert E. Woodruff
Review Editors: Listed on the Insecta Mundi webpage

Printed copies (ISSN 0749-6737) annually deposited in libraries

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA
The Natural History Museum, London, UK
National Museum of Natural History, Smithsonian Institution, Washington, DC, USA
Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (online ISSN 1942-1354) in PDF format

Archived digitally by Portico.
Florida Virtual Campus: http://purl.fcla.edu/fcla/insectamundi
University of Nebraska-Lincoln, Digital Commons: http://digitalcommons.unl.edu/insectamundi/
Goethe-Universität, Frankfurt am Main: http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240

This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited.
https://creativecommons.org/licenses/by-nc/3.0/

Descriptions of *Anthrenus* (*Anthrenodes*) *pica* and *Anthrenus* (*Anthrenodes*) *translucens* (Coleoptera: Dermestidae: Megatominae), two new species from Yemen and Oman

Graham J. Holloway
Cole Museum of Zoology, Biological Sciences, HLS Building, University of Reading, Whiteknights, Reading RG6 6EX, UK.
g.holloway@reading.ac.uk
https://orcid.org/0000-0003-0495-0313

Andreas Herrmann
Bremervörder Strasse 123, 21682 Stade, Germany
herrmann@coleopterologie.de
https://orcid.org/0000-0001-5700-1125

Abstract. Two **new species**, *Anthrenus* (*Anthrenodes*) *pica* Holloway and Herrmann and *Anthrenus translucens* Holloway and Herrmann (Coleoptera: Dermestidae: Megatominae) from Oman and Yemen are described and compared with *A. malkini* Mroczkowski, 1980, the most likely confounding species because of geographical overlap and internal similarity. Images of the habitus, ventrites, antenna, aedeagus, and sternite IX are presented. Nine species of the subgenus *Anthrenodes* Chobaut are now known from the southern Arabian Peninsula.

Key words. Taxonomy, identification, dissection, *malkini*.

ZooBank registration. urn:lsid:zoobank.org:pub:679389AD-C856-457B-882C-036121B14D1C

DOI. https://doi.org/10.64338/im.1138.b3887

Introduction

The genus *Anthrenus* Geoffroy, 1762 (Coleoptera: Dermestidae), is large, numbering about 300 species. *Anthrenus* is split into 10 subgenera (Peacock 1993; Háva 2024a), including the subgenus *Anthrenodes* Chobaut, 1898. *Anthrenodes* is distinguished from other subgenera within *Anthrenus* by having an antenna with 10 antennomeres (Mroczkowski 1980; Peacock 1993). There are about 35 *Anthrenodes* species known, which are widely distributed, mostly across the southern Palaearctic, north Africa, Arabian Peninsula, north into Turkey, and east into Asia. The main exception to this distribution is *A.* (*Anthrenodes*) *sarnicus* Mroczkowski, 1962, which is found in NW Europe, principally the UK and Channel Islands (Holloway and Pinniger 2024). In the current study, two new species *Anthrenus* (*Anthrenodes*) *pica* and *Anthrenus* (*Anthrenodes*) *translucens* are described from Yemen and Oman and compared with *A.* (*Anthrenodes*) *malkini* Mroczkowski, 1980.

Materials and Methods

Four specimens were borrowed from The Natural History Museum, London (BNHM) along with a further 32 specimens from Andreas Herrmann's private collection (AHEC). All 36 specimens were labelled *Anthrenus malkini*.

All specimens were macerated in a solution of 2% acetic acid for five days to allow removal from staging prior to dissection. Dissection was carried out under a Brunel BMSL zoom stereo LED microscope and involved detaching the abdomen from the rest of the insect using two entomological pins. The soft tergites were then peeled away from the harder ventrites to expose the genitalia. The aedeagus was detached from the ring sclerite, and then sternite IX was detached from the ring sclerite and the aedeagus. Habitus images, both upper and lower

sides, were captured at ×20 magnification using a Canon EOS 2000D camera mounted on the BMSL microscope. Images of aedeagi and sternite IX were captured at ×200 magnification for measurement using a Canon EOS 1300D camera mounted on a Brunel monocular SP28 microscope. After dissection, all body parts were mounted on card. The antennae were teased out and images were taken at ×200 magnification through the SP28 microscope. All images were fed through Helicon Focus Pro version 8.2.2 focus-stacking software. Habitus measurements were made using a calibrated eyepiece. All other measurements were made using DsCap.Ink software version 3.90. Measurements taken:

- Body length (BL): distance from anterior margin of pronotum to the apex of the elytra.
- Paramere length (PL): distance from the anterior end of the parameres to the apex of the parameres
- Median lobe length (ML): distance from posterior tip to tip of one anterior stirrup.
- Sternite IX length (SL): distance from the tip of one anterior horn to the tip of the posterior lobe

Distribution maps were created using Shorthouse (2010) with data derived from the data labels on the studied specimens and Háva (2024a). Scale bars were added using ImageJ 1.53M (Schneider et al. 2012).

Taxonomy

Dermestidae Latreille, 1803
Megatominae Dalla Torre, 1911
Anthrenini Gistel, 1848
Anthrenina Gistel, 1848

Anthrenus Geoffroy, 1762

***Anthrenus* (*Anthrenodes*) *pica* Holloway and Herrmann, new species**

Figures 1–3

Type specimens. Holotype male. Yemen, Al'Asr, 3 miles west of San'a (Sana'a: 15.367, 44.198), circa 8000ft, on flowers of spurge, 25.viii.1946, A.R. Waterston leg., BNHM

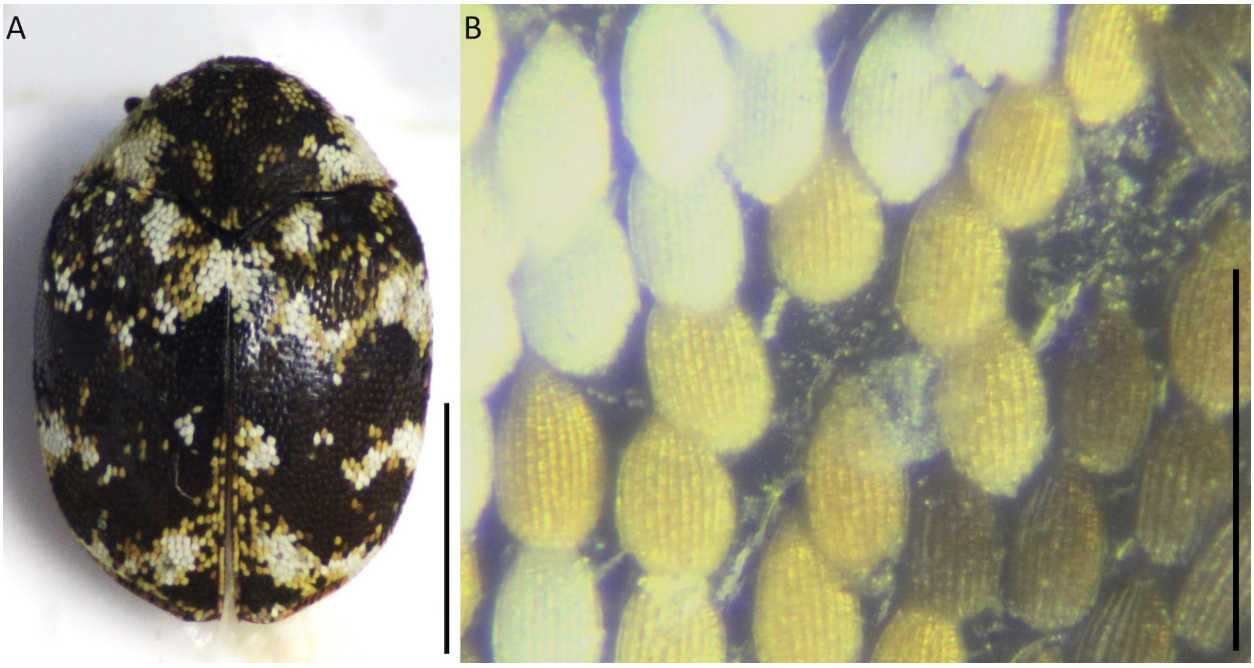

Figure 1. *Anthrenus pica* **n. sp.**, holotype. **A)** Habitus (scale bar = 1 mm). **B)** Elytral scales (scale bar = 100 μm).

Paratypes. One male, two females, same data as for holotype, BNHM. One female, Oman, Dhofar Pr, cca 6km NW of Dhalaut, route 47, 610 m, 16.748, 53.214, J. Vetrovec leg., AHEC.

Description, external characteristics. Holotype *Anthrenus* (*Anthrenodes*) *pica* (Fig. 1A), BL = 2.20 mm, BW = 1.55 mm). Single dark, amber-colored ocellus at level of top of eyes, lower inner margin of eyes notched. Integument of head and pronotum black. Vertex covered in dark brown scales, paler brown at upper eye margin, face covered in cream-colored scales tinted brown, grading into brown above labrum. Clear gap between scales of about half width of scales. Lateral pronotal margins covered in white scales, becoming progressively darker brown away from lateral margins, disk of pronotum covered in dark brown scales with small number of isolated slightly paler brown scales. Small patch of slightly paler brown scales at centre of posterior margin adjacent to scutellar shield. Scales oval (Fig. 1B).

Elytral integument shining black. Three loose bands of white and pale brown scales, sub-basal, sub-medial, pre-apical (Fig. 1A). Sub-basal band starts at anterior corner of lateral margin, extending down margin, turning

Figure 2. *Anthrenus pica* **n. sp. A)** Paratype female habitus, ventral surface (scale bar = 1 mm). **B)** Paratype male antenna (scale bar = 100 μm).

in towards elytral disc before sweeping up to small, black scutellar shield. Sub-medial band consists of three disconnected spots of pale scales. Pre-apical band consists of large sub-sutural, pre-apical spot, a lateral marginal spot, and scatterings of pale scales at the elytral apex. Other than pale bands, elytra covered in dark brown scales.

Ventrites (Fig. 2A) covered in overlapping, cream-colored scales. Scale color grades into yellow towards lateral margins of each ventrite. Tiny spots of brown scales at anterior end of lateral margins of ventrites 3–5.

Antenna with 10 antennomeres (Fig. 2B), antennomeres 1–7 clear, dark red. Antennal club with three antennomeres, teardrop shaped, covered in short hairs and appearing darker than other antennomers. All components of legs dark red, anterior faces of tibiae covered in white scales.

Figure 3. *Anthrenus pica* **n. sp.**, holotype. **A)** Aedeagus dorsal aspect. **B)** Sternite IX. Scale bars = 100 μm in both cases.

Description, internal characteristics. Aedeagus (Fig. 3A) with two rod-like parameres (PL = 349 µm) joined at anterior margin. From anterior margin, parameres sweep outwards and then posteriorly as dark brown rods. Outer margins of parameres slightly concave. Posterior tips of parameres flat, paler brown and pinched inwards towards tip of median lobe. Disc of pale brown tip of paramere with small white window. Inner margin of paramere tips carrying small setae adjacent to and above tip of median lobe. Median lobe (ML = 419 µm) broad at base, parallel sided to halfway. From halfway, margins converge evenly to rounded tip that falls short of tips of parameres. Anterior end of median lobe carrying two long, straight stirrups. Sternite IX (Fig. 3B) (SL = 410 µm) with short posterior lobe occupying no more than 1/3 total length of sternite. Posterior margin of posterior lobe flat and with white tissue extending down margins and into disc of lobe. Setae emerge mostly from marginal and sub-marginal white tissue of posterior lobe, some strong setae emerging from disc of posterior lobe. Anterior to white tissue on posterior lobe, sternite IX pale brown. Most of length of sternite IX consists of two long, evenly curved horns pointing anterior.

Etymology. The specific epithet is a noun alluding to the Eurasian magpie, *Pica pica* (Linnaeus). The black-and-white appearance of this new species is evocative of the piebald coloration of the magpie.

Anthrenus (*Anthrenodes*) *translucens* Holloway and Herrmann, new species

Figures 4–6

Type specimens. Holotype male. Oman, Dhofar Pr, cca 6km NW of Dhalaut, route 47, 610m, 16.748, 53.214, J. Vetrovec leg., AHEC.

Paratypes. Two dissected males, two dissected females, BNHM. In addition, three dissected males, 12 dissected females, AHEC. All 19 specimens with same data as holotype.

Description, external characteristics. Holotype *Anthrenus* (*Anthrenodes*) *translucens* (Fig. 4A), BL = 1.75 mm, BW = 1.25 mm). Single dark brown ocellus at level of top of eyes, lower inner margin of eyes notched. Integument of head and pronotum black except entire posterior margin of pronotum distinctly reddish. Vertex covered in dark brown scales to below level of ocellus, dark below ocellus with scattering of pale translucent milky-white

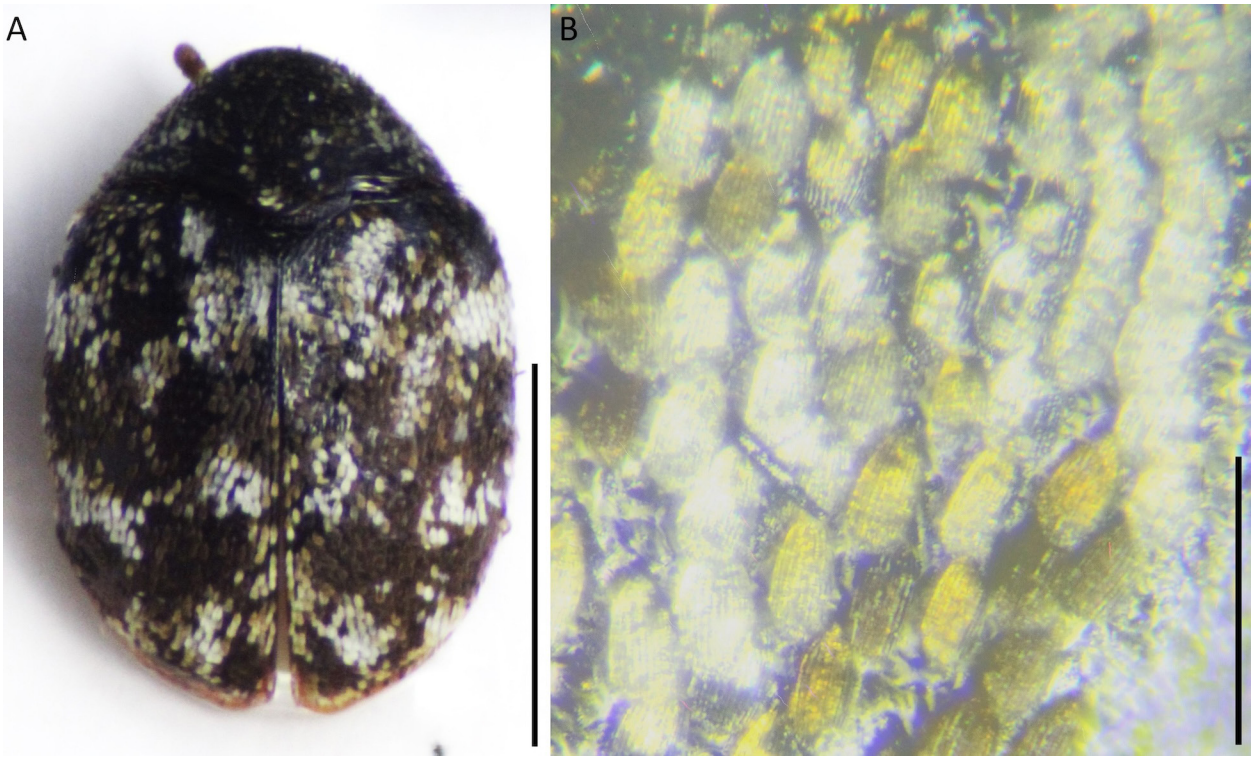

Figure 4. *Anthrenus translucens* **n. sp.**, holotype. **A)** Habitus (scale bar = 1 mm). **B)** Elytral scales (scale bar = 100 µm).

scales. Pronotum with non-overlapping milky-white, translucent scales across outer thirds of surface, becoming progressively browner towards anterior margin and disc. Wholly non-overlapping brown scales on disc of pronotum. Tiny patch of whitish scales on posterior margin of pronotum in front of scutellar shield. Pale scales mostly parallel sided with convex terminal margin and with a definite translucent quality, appearing very thin, paper like, but highly reflective (*c.f.*, Fig. 1B) through the microscope (Fig. 4B).

Elytral integument dark, becoming browner towards apex, clearly red along apical margin. Three loose bands of white and pale brown scales, sub-basal, sub-medial, pre-apical (Fig. 4A). Sub-basal band starts at anterior corner of lateral margin, extending across elytra to suture. Sub-medial band consists of two loosely connected spots of pale scales. Pre-apical band consists of sub-sutural, pre-apical spot, a lateral marginal spot, and scatterings of pale scales between the two. Other than the pale bands, the elytra are covered in dark brown scales.

Ventrites (Fig. 5A) covered in non-overlapping, whitish, translucent scales. Scale color grades into yellow towards the lateral margins of each ventrite. Denser patches of white scales at lateral margins of ventrites 1 and 2. Spots of brown scales at anterior end of lateral margins of ventrites 2–5.

Antenna with 10 pale brown antennomeres (Fig. 5B). Antennal club with three antennomeres, tear-drop shaped, covered in long hairs that cluster into tufts on ventral side giving antennal club angular appearance. All components of legs brown, anterior faces of tibiae covered in white scales.

Description, internal characteristics. Aedeagus (Fig. 6A) with two rod-like parameres (PL = 306 µm) joined at anterior margin. From anterior margin, parameres sweep outwards and then posteriorly as dark brown rods. Outer margins of parameres almost parallel to each other. Posterior tips of parameres flat, paler brown and pinched inwards towards tip of median lobe. Tips of parameres tending towards white. Inner margins of paramere tips carrying tiny setae adjacent to and above tip of median lobe. Median lobe (ML = 382 µm) torpedo-shaped, broad at base, parallel sided to halfway. From halfway, margins converge evenly to rounded, blunt tip that falls short of tips of parameres. Anterior end of median lobe carrying two long sinuous stirrups. Sternite IX (Fig. 6B)

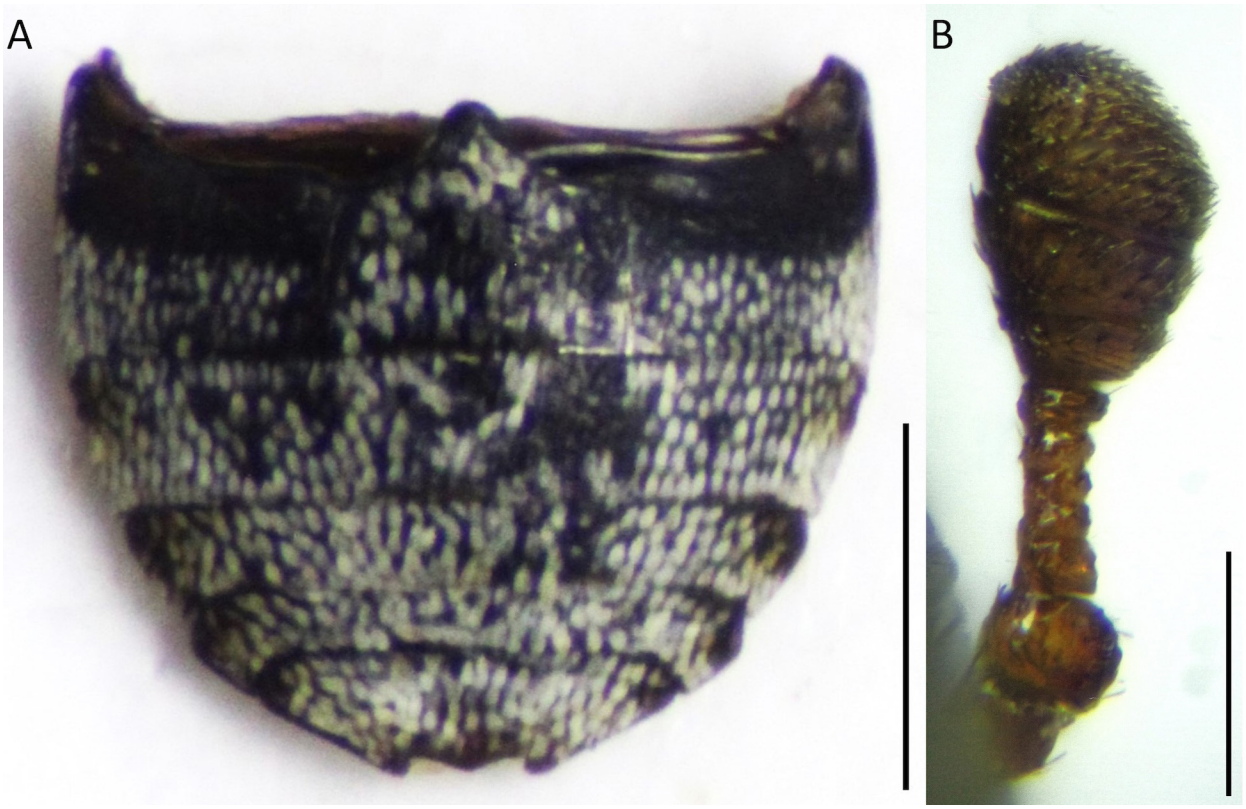

Figure 5. *Anthrenus translucens* **n. sp.**, holotype. **A)** Ventrites (Scale bar = 0.5 mm). **B)** Antenna (scale bar = 100 µm).

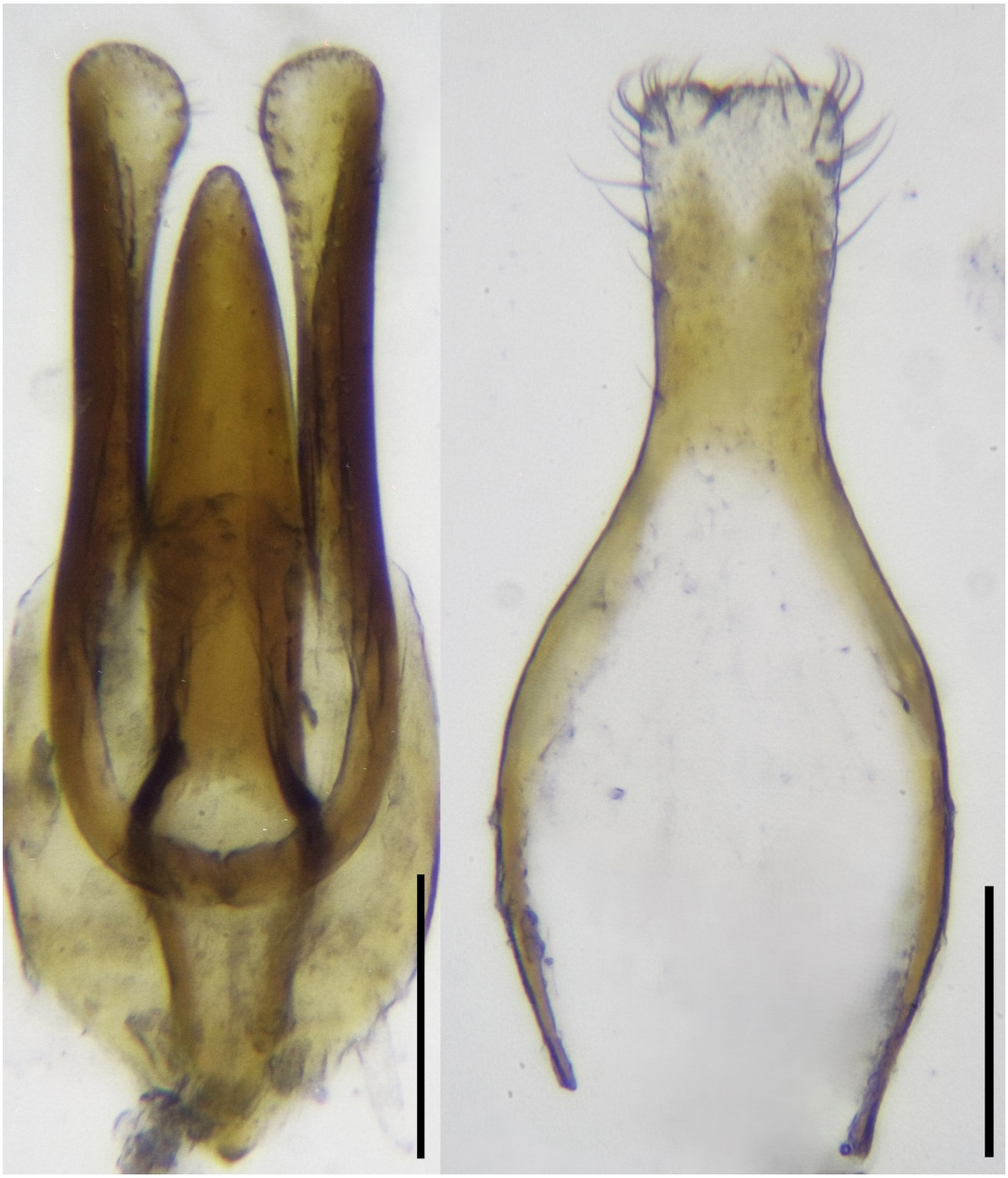

Figure 6. *Anthrenus translucens* **n. sp.**, holotype. **A)** Aedeagus dorsal aspect. **B)** Sternite IX. Scale bars = 100 μm in both cases.

(SL = 396 μm) with short posterior lobe occupying no more than 1/3 total length of sternite. Posterior margin of posterior lobe white, square with sharpish outer angles. Anterior margin of white tissue of posterior lobe forms sinuate shape as it grades into brown tissue. Long setae emerge mostly from the marginal and sub-marginal white tissue of the posterior lobe. Setae at angles of posterior lobe curve strongly towards centre of posterior margin. Anterior to the white tissue on posterior lobe, sternite IX is pale brown. Most of length of sternite IX consists of two long, evenly curved, very narrow horns.

Etymology. The new species is named after the translucent and reflective quality of the scales.

Differential diagnosis. Two other *Anthrenodes* species with notches on the inner eye margin occur on the southern Arabian Peninsula, *A. wittmeri* Mroczkowski, 1980 and *A. malkini* Mroczkowski, 1980. *Anthrenus wittmeri* is described by Mroczkowski (1980) as being very pale, covered in white and yellow scales. *Anthrenus malkini*, on the other hand, presents a mixture of white, yellow, brown and black scales (Mroczkowski 1980) covering the range of scale colors on the species presented here, hence the confusion with this species. *Anthrenus malkini* has not been well described elsewhere, so a complete set of images is presented here to facilitate comparison.

Anthrenus malkini (Fig. 7A) is covered in white, pale brown, brown and dark brown scales. In particular, the extent of pale brown scales greatly exceeds that found on *A. pica* and *A. translucens.* The ventrites (Fig. 7B) are covered in overlapping white scales which resemble *A. pica* but differ in several ways from *A. translucens* ventrites. The antenna (Fig. 7C) is brown, differing from the dark red of *A. pica*, and has short hairs on the antennal club differing from the long hairs of the antennal club of *A. translucens.*

Anthrenus malkini aedeagus (Fig. 8A) has a broader profile than *A. pica* and *A.* translucens. The parameres are thicker with more setae on the inner margins and sub-margins of the tips of the parameres. The median lobe is shorter than both *A. pica* and *A. translucens* and the margins converge along the length of the median lobe to a very blunt, rounded tip, much blunter than *A. pica* and *A. translucens*. The white tissue at the tip of the sternite IX posterior lobe follows the margins more closely than *A. pica* and *A. translucens*, and does not extend into the posterior lobe disc. The posterior margin of the posterior lobe is rounded rather than flat as in *A. pica* and *A. translucens*, and the sub-marginal setae are stouter than *A. pica* and *A. translucens.* The anterior sternite IX horns are similar to *A. pica* but thicker than *A. translucens*.

Morphometric variation. *Anthrenus malkini* male: mean BL = 1.96±0.13 mm (n = 4, range 1.85–2.15 mm), mean BW/BL = 0.719±0.018 (range 0.703–0.744), female: mean BL = 2.07±0.08 mm (n = 7, range 1.95–2.20 mm), mean BW/BL = 0.718±0.02 (range 0.690–0.744). No significant difference between males and females for BL $t_9 = 1.73$, ns [not significant] and BW/BL $t_9 = 0.154$, ns.

Anthrenus pica male: mean BL = 2.23 mm (n = 2), mean BW/BL = 0.708, female: mean BL = 2.15 mm (n = 3), mean BW/BL = 0.69.

Anthrenus translucens male: mean = 1.86±0.127 mm (n = 7, range 1.70–2.05 mm), mean BW/BL = 0.706±0.016 (range 0.676–0.725), female: mean 1.95±0.084 mm (n = 15, range 1.85–2.10 mm), mean BW/BL = 0.702±0.018 (range 0.658–0.725). Female BL significantly greater than male BL ($t_{20} = 2.42$, $p<0.05$), no difference between male and female BW/BL ($t_{20} = 0.26$, ns).

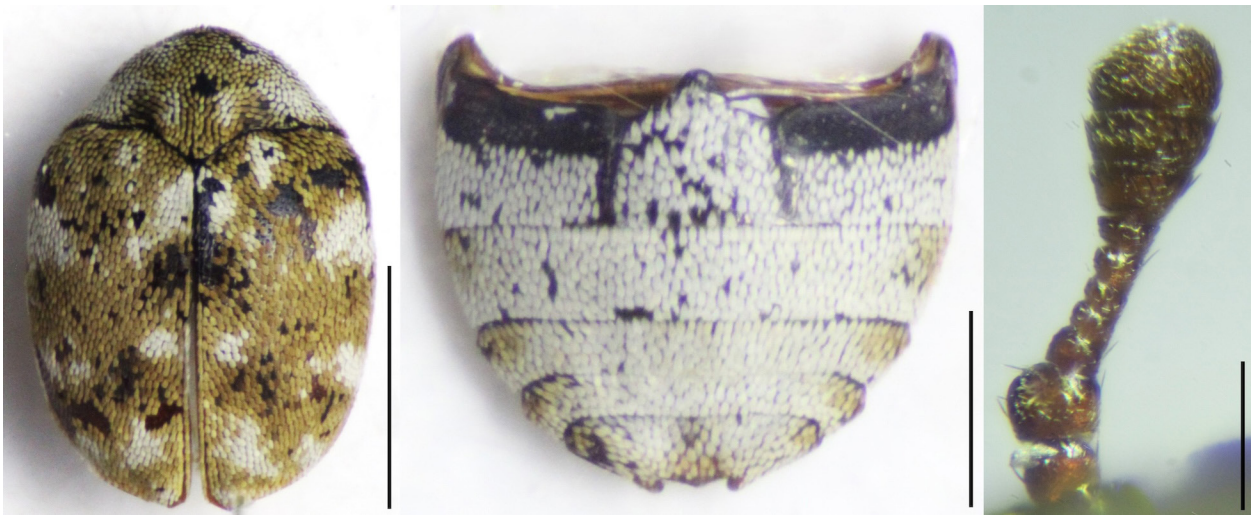

Figure 7. *Anthrenus malkini*. **A)** Habitus (scale bar = 1 mm). **B)** Ventrites (scale bar = 0,5 mm), C: antenna (scale bar = 100 µm).

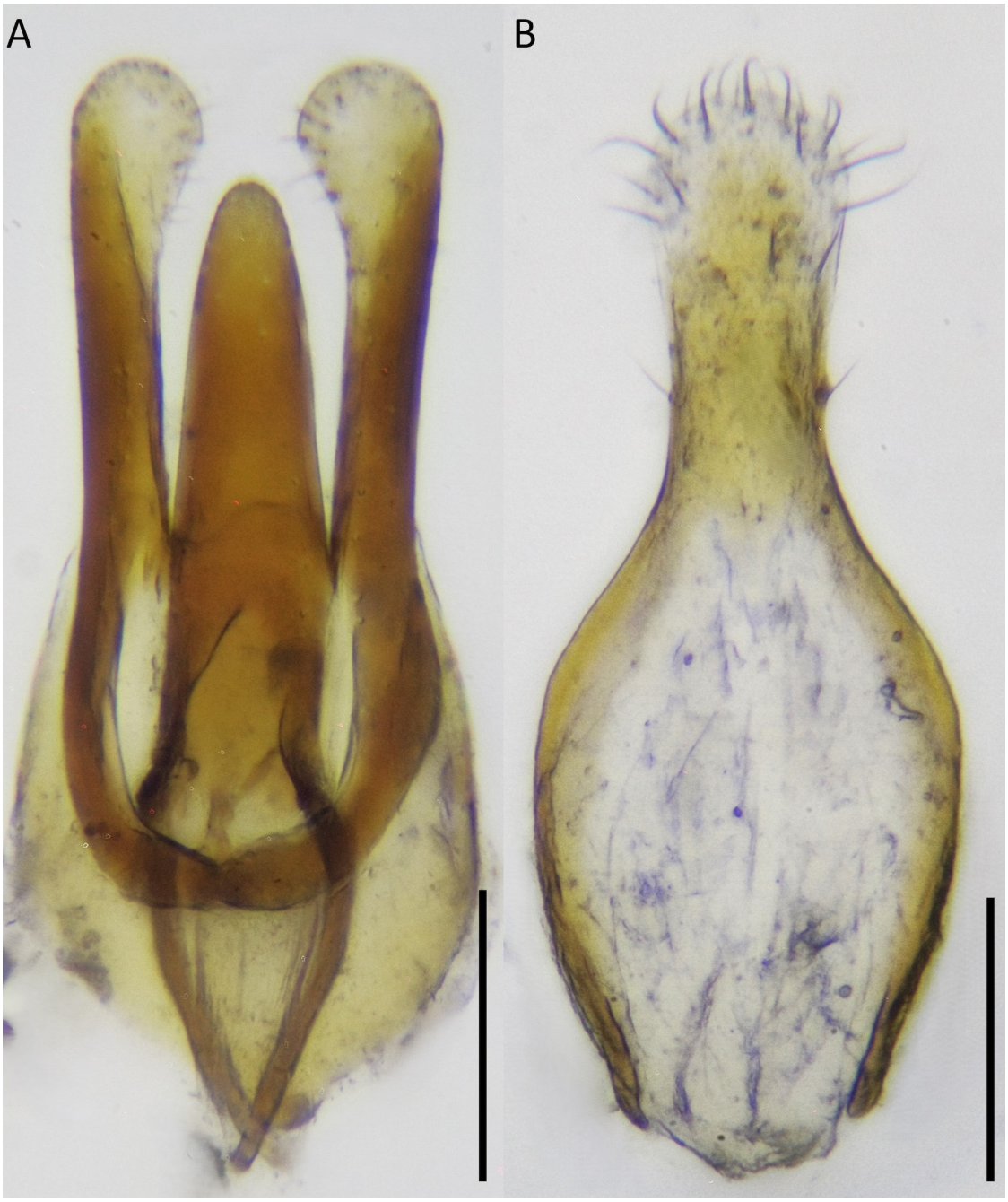

Figure 8. *Anthrenus malkini*. **A)** Aedeagus dorsal aspect. **B)** Sternite IX. Scale bars = 100 μm in both cases.

Anthrenus malkini has significantly greater BL than *A. translucens* ($F_{1,31}$ = 6.1, p = 0.02) and is significantly broader (BW/BL) than *A. translucens* ($F_{1,31}$ = 6.2, p = 0.02). The sample size for *A. pica* was insufficient to include in a statistical analysis.

Distribution. Figure 9 shows the points of collection of *A. pica* and *A. translucens* set in the distribution of *A. malkini* (Háva 2024a). Both species sit within the distribution of *A. malkini* adding further assurance that *A. malkini* is the correct comparative species.

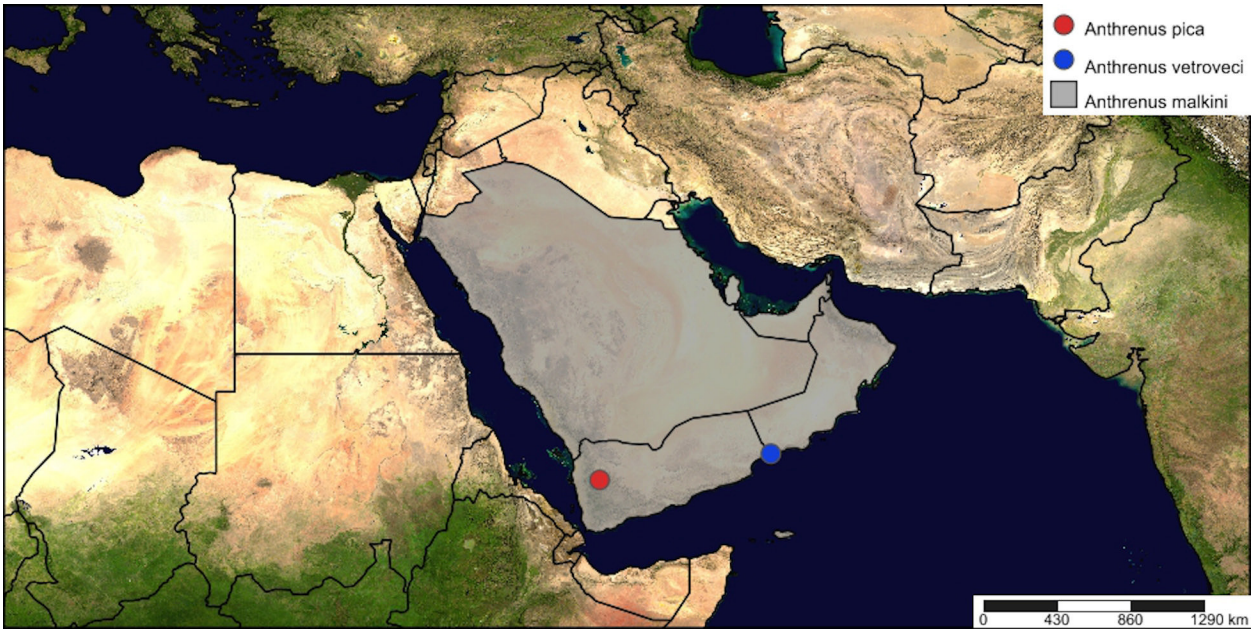

Figure 9. Points of collection of *Anthrenus pica* and *Anthrenus translucens* overlaying the distribution of *Anthrenus malkini* (from Háva 2024a).

Discussion

Anthrenus malkini is the only species with notched eye margins and rod-shaped parameres known to overlap the collection locations of *A. pica* and *A. translucens* making it the obvious, and only, species to be confused. In fact, it is very easy to differentiate *A. pica* and *A. translucens* from *A. malkini* on the basis of habitus coloration alone. *Anthrenus malkini* is essentially a pale brown species, and *A.* pica and *A. translucens* are both black and white species. *Anthrenus pica* can be differentiated from *A. translucens* from the structure and distribution density of the scales, particularly on the ventrites. All three species differ in the structures of the genitalia, including sternite IX as shown in Figures 3, 6, and 8. The differences are subtle but consistent and obvious when presented with clear images.

Although the study was concerned with presenting two new species, the opportunity was taken to present information and images on a well-known, but poorly described species. Many Dermestidae fall into this category and insufficient effort has been made to accurately describe common or 'well-known' species to facilitate taxonomical studies. Once a species is described appropriately, it is possible to discover other similar species. For example, *A. pimpinellae* (Fabricius, 1775) can now be differentiated from other species including *A. amandae* Holloway, 2019 (Holloway 2019), *A. chikatunovi* Holloway, 2020 (Holloway 2020), and *A. algeriensis* Holloway, 2024 (Holloway 2024). Unravelling taxonomy also facilitates a better understanding of true distributions (Holloway et al. 2021, 2023). Recently, several *Anthrenodes* species have been described from the Arabian Peninsula (Háva 2024b). It is important that all these species are well-described to avoid cryptic species remaining undiscovered.

Anthrenodes species currently known from southern Arabian Peninsula:
Anthrenus buettikeri Mroczkowski, 1980
Anthrenus haladai Háva, 2024
Anthrenus hulai Háva, 2017
Anthrenus malkini Mroczkowski, 1980
Anthrenus maribensis Háva, 2024
Anthrenus pica Holloway and Herrmann, **new species**
Anthrenus pulchellus Gestro, 1889

Anthrenus translucens Holloway and Herrmann, **new species**
Anthrenus wittmeri Mroczkowski, 1980

Acknowledgments

The authors are very grateful to Max Barclay and the Coleoptera team at BNHM for caring for their Coleoptera collection and making specimens available for study. The authors are also very grateful to the peer reviewers, Dr. C.W. Foster and Mr. I. Cañada Luna, for their excellent suggestions on how to improve the manuscript. A special acknowledgement goes also to Jaroslav Větrovec for donating the study specimens to AHEC.

Literature Cited

Háva J. 2024a. Dermestidae World (Coleoptera). World Dermestidae | Dermestidae world (Coleoptera), Megatominae. Available at https://dermestidae.wz.cz/wp-content/uploads/2023/04/Subfamily-Megatominae.pdf (Last accessed February 2025.)

Háva J. 2024b. Study of the genus *Anthrenus* subgenus *Anthrenodes*. Part 3. Two new species from Yemen (Coleoptera, Dermestidae, Megatominae). Humanity Space International Almanac 13(8): 707–711. https://doi.org/10.24412/2226-0773-2024-13-8-707-711

Holloway GJ. 2019. *Anthrenus* (s. str.) *amandae* (Coleoptera: Dermestidae): a new species from Mallorca, Spain. Zootaxa 4543(4): 595–599. https://doi.org/10.11646/zootaxa.4543.4.9

Holloway GJ. 2020. *Anthrenus* (s. str.) *chikatunovi* (Coleoptera: Dermestidae): a new species from southern France. Israel Journal of Entomology 50: 69–75. https://doi.org/10.5281/zenodo.4088743

Holloway GJ. 2024. *Anthrenus* (*Anthrenus*) *algeriensis* (Coleoptera, Dermestidae, Megatominae), a new species from Algeria. Baltic Journal of Coleopterology 24(1): 33–41. https://doi.org/10.59893/bjc.24(1).004

Holloway GJ, Bakaloudis DE, Foster CW. 2021. *Anthrenus dorsatus* new to the United States and a comparison with *Anthrenus pimpinellae* ssp. *pimpinellae* (Coleoptera: Dermestidae). Journal of the Kansas Entomological Society 93(2): 153–163. https://doi.org/10.2317/0022-8567-93.2.153

Holloway GJ, Maclure CJ, Foster CW. 2023. Palaearctic distributions of *Anthrenus pimpinellae* (Fabricius) and *Anthrenus isabellinus* Küster (Coleoptera: Dermestidae). Entomologist's Monthly Magazine 159(4): 23–28. https://doi.org/10.31184/M00138908.1594.4207

Holloway GJ, Pinniger DB. 2024. *Anthrenus sarnicus* Mroczkowski (Coleoptera: Dermestidae: Megatominae): a peculiar species indeed. Entomologist's Monthly Magazine 160(4): 235–242. https://doi.org/10.31184/M00138908.1604.4223

Mroczkowski M. 1980. Insects of Saudi Arabia Coleoptera: Fam. Dermestidae part 2, descriptions of three new species. Fauna of Saudi Arabia 2: 124–126.

Peacock ER. 1993. Adults and larvae of hide, larder and carpet beetles and their relatives (Coleoptera: Dermestidae) and of derodontid beetles (Coleoptera: Derodontidae). Handbooks for the identification of British insects, vol. 5, no. 3. Natural History Museum; London, UK. 144 p.

Schneider CA, Rasband WS, Eliceiri KW. 2012. NIH Image to ImageJ: 25 years of image analysis. Nature Methods 9: 671–675. https://doi.org/10.1038/nmeth.2089

Shorthouse DP. 2010. SimpleMappr, an online tool to produce publication-quality point maps. Available at https://www.simplemappr.net (Last accessed February 2025.)

Received April 2, 2025; accepted June 27, 2025.
Review editors Paul Skelley and M.J. Paulsen.