

***Anthrenus angustefasciatus* (Ganglbauer, 1904) (Coleoptera: Dermestidae), newly recorded for Belgium**

Kevin SCHEERS^{1,2}

¹ Research Institute for Nature and Forest (INBO), Havenlaan 88 bus 73, 1000 Brussels, Belgium (e-mail: kevin.scheers@inbo.be)

² Biodiversity Inventory for Conservation NPO (BINCO), Walmersumstraat 44, 3380 Glabbeek, Belgium

Abstract

This article provides the first records of *Anthrenus angustefasciatus* (Ganglbauer, 1904) from Belgium based on 30 records submitted on the citizen science platform www.waarnemingen.be. The species, which is mainly distributed in the southern part of the province West-Vlaanderen, was first encountered in 2016 and is increasing significantly since 2019. Based on the available records the species seems to be active from early May to late June and shows a preference for visiting flowering *Leucanthemum vulgare* (Vaill.) Lam. (Asteraceae).

Keywords: anthrène, carpet beetles, Megatominiinae, museum beetle

Samenvatting

Dit artikel presenteert de eerste records van *Anthrenus angustefasciatus* (Ganglbauer, 1904) in België op basis van 30 records ingevoerd op het citizen science platform www.waarnemingen.be. De soort, die voornamelijk voorkomt in het zuidelijke deel van de provincie West-Vlaanderen, werd voor het eerst aangetroffen in 2016 en is aan een toename bezig sinds 2019. Op basis van de beschikbare gegevens lijkt de soort actief te zijn van begin mei tot eind juni en vertoont een voorkeur voor bloeiende *Leucanthemum vulgare* (Vaill.) Lam. (Asteraceae).

Résumé

Cet article présente les premières données concernant l'espèce *Anthrenus angustefasciatus* (Ganglbauer, 1904) en Belgique basées sur les 30 observations encodées dans la plateforme www.waarnemingen.be. L'espèce a été rencontrée pour la première fois en 2016, elle est présente principalement dans le sud de la province de Flandre occidentale et en augmentation considérable depuis 2019. D'après ces observations, l'espèce semble être active du début mai à la fin juin et montre une préférence pour les fleurs de *Leucanthemum vulgare* (Vaill.) Lam. (Asteraceae).

Introduction

The genus *Anthrenus* Geoffroy, 1762 is a very speciose genus, containing circa 250 valid taxa worldwide (HÁVA, 2015; HÁVA & KADEJ, 2015). In Europe this genus comprises 60 species and seven subgenera (HÁVA, 2003) of which six species are recorded from Belgium (HÁVA, 2007). Several *Anthrenus* species are notorious pest in museum collections where they can have a devastating effect on a wide array of dried animal products and are well capable in destroying entomological collections (HOLLOWAY & PINNIGER, 2020). While revising records on the citizen science platform www.waarnemingen.be, several records of *A. angustefasciatus*

(Ganglbauer, 1904) (Fig. 1) came to light, all misidentified as the closely related and superficially similar *A. pimpinellae* (Fabricius, 1775).

Anthrenus angustefasciatus was originally described as a subspecies of *Anthrenus pimpinellae* (ssp. *angustefasciatus*) and only fairly recently it was raised to species status in 2003 (HÁVA, 2003). Within the genus *Anthrenus*, this species belongs to the *pimpinellae*-group, which comprises 18 species distributed through Europe, Asia and Oceania, with one cosmopolitan species (*A. pimpinellae*) (KADEJ *et al.*, 2007). The species group was recently revised by KADEJ *et al.* (2007), who recorded *A. angustefasciatus* from the following countries: Bosnia Herzegovina, Croatia, Czech Republic, Italy, Portugal, Serbia and Montenegro, Spain, Turkey, Algeria and Morocco. Since then, this species was discovered in France, Germany, Switzerland, and most recently in Great Britain (FOSTER & HOLLOWAY, 2015).



Fig. 1. Live specimen of *Anthrenus angustefasciatus* (Ganglbauer, 1904) near Ieper, Belgium. © Rudy Claeys.

Anthrenus angustefasciatus closely resembles *A. pimpinellae*, the only other species of the *pimpinellae*-group occurring in Belgium. A comparison of both species is provided by HÁVA & ZAHRADNIK (2011). The dorsal coloration in both species is rather variable but distinct: in *A. angustefasciatus* the white sub-basal elytral fascia is, as the specific epithet indicates, narrow and usually interrupted (Fig. 1) whilst in *A. pimpinellae* this fascia is broad and not interrupted, furthermore orange scales are present along the major part of the length of the suture in the former species while this is very reduced and only present at the apical 1/3 in the latter. Other characters useful for identification are the structure of the antennal clubs and more importantly the male genitalia (KADEJ *et al.*, 2007; HÁVA & ZAHRADNIK, 2011).

Results

The revision of all records of *A. pimpinellae* on the citizen science dataplatform www.waarnemingen.be revealed a total of 30 records of *Anthrenus angustefasciatus*. All specimens were misidentified as *A. pimpinellae*, a related species to which it is closely resembled in colour pattern and overall appearance. *A. angustefasciatus* appears to be rather restricted to the southern part of the Province West-Vlaanderen with only three records outside this region; two isolated records near the border with France and a single isolated record in Brussels (Fig. 2.).

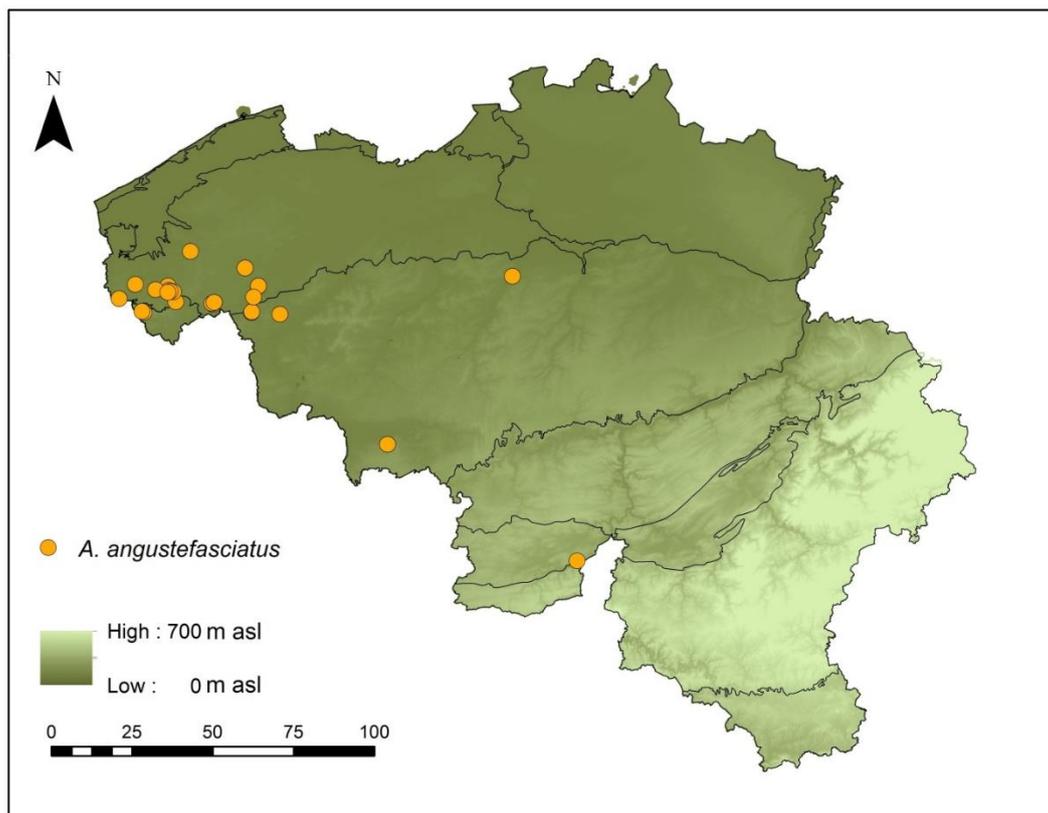


Fig. 2. Distribution of *Anthrenus angustefasciatus* (Ganglbauer, 1904) in Belgium (basemap: phytogeographic districts and elevation).

Although the revised records of *A. pimpinellae* date back to 2007, all records of *A. angustefasciatus* are from 2016 onwards. After three consecutive years, each with a single record, the number of records increase significantly with 9 records in 2019 and 18 records in 2020 (Fig. 3).

The available records indicate that *A. angustefasciatus* has a relatively short period of activity with observations from early May until late June (Fig. 4). The photographs provided with the records make it possible to identify the plant species on which the specimens were encountered and make a comparison of a possible prevalence of this species for certain inflorescence types. Of the 30 records of *A. angustefasciatus*, 28 were photographed on flowers. Of these 28 records, 25 concerned the ox-eyed daisy *Leucanthemum vulgare*, two on golden yarrow *Achillea filipendulina* Lam. (Asteraceae) and one on creeping thistle *Cirsium arvense* (L.) Scop. (Asteraceae). This indicates a certain prevalence for *Leucanthemum vulgare*. If this prevalence is related to the type of flower, colour, odour or to the habitat which the species frequents is however difficult to ascertain.

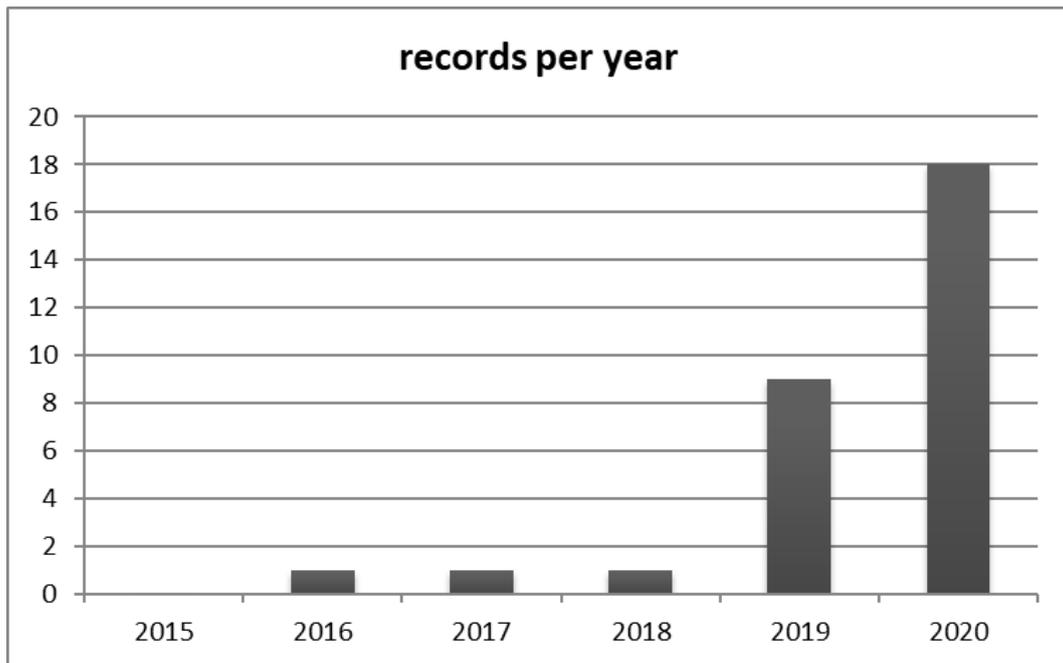


Fig. 3. Records of *Anthrenus angustefasciatus* (Ganglbauer, 1904) in Belgium per year.

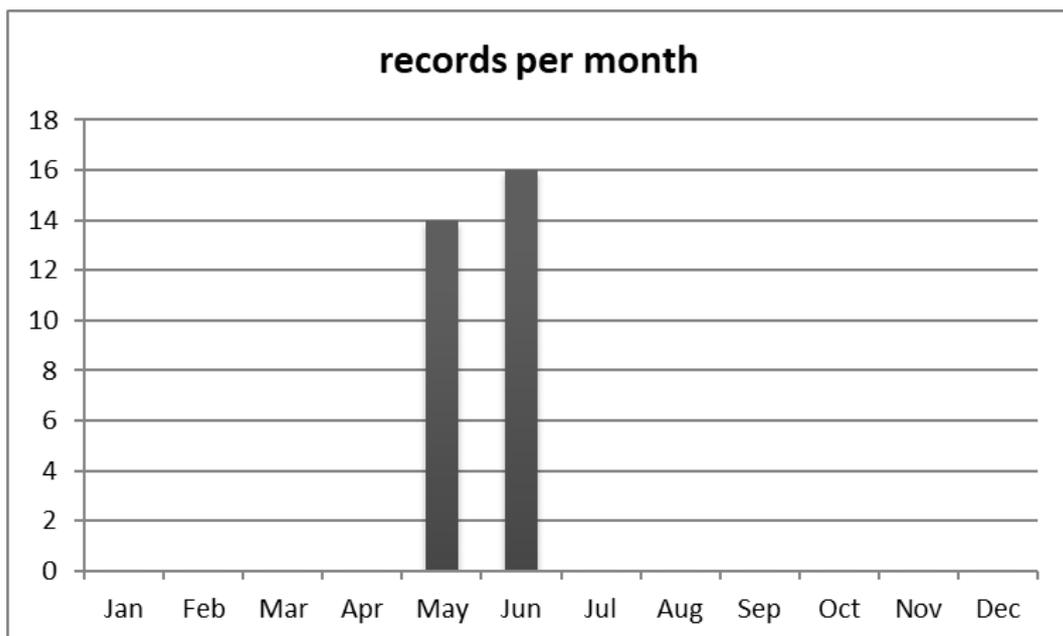


Fig. 4. Phenology of *Anthrenus angustefasciatus* (Ganglbauer, 1904) based on Belgian records.

Discussion

With the addition of *Anthrenus angustefasciatus*, the genus *Anthrenus* contains seven species in Belgium. This species was recently overlooked because of its close resemblance with *A. pimpinellae*, a common species throughout Belgium with which it can co-occur. Based on the available records, *A. angustefasciatus* seems to have a certain prevalence for daisies, 25 of the 28 specimens encountered on flowers were found on the ox-eyed daisy *Leucanthemum vulgare*. The species has a relatively short period of activity with records from early May until late June. The distribution of *A. angustefasciatus* is currently restricted in Belgium with a clustered occurrence in the southern part of the Province West-Vlaanderen, with three isolated

records outside this region. The first record of *A. angustefasciatus* dates from 2016, also the following two years one record belonging to this species was submitted, after which the species seems to increase significantly with nine records in 2019 and no less than 18 in 2020. This indicates, in combination with the distribution, that *A. angustefasciatus* probably only recently colonised Belgium from the sublittoral zone of north-eastern France and is establishing itself in the adjacent area in Belgium successfully. The colonisation of western and central Europe is probably facilitated by the warm and dry climatological conditions in recent years and is likely to continue at a rapid pace if these conditions persist.

Acknowledgements

Rudy Claeys is acknowledged for providing the photograph of the live specimen of *Anthrenus angustefasciatus* illustrating this paper.

References

- FOSTER C.W. & HOLLOWAY G.J., 2015. - *Anthrenus (Anthrenus) angustefasciatus* (Coleoptera: Dermestidae), a species new to Britain. *British Journal of Entomology & Natural History*, 28: 47–51.
- HÁVA J., 2003. - World catalogue of the Dermestidae (Coleoptera). *Studie a zpravy oblastniho muzea Praha – vychod v Brandyse and Labem a Stare Boleslavi*, Supplementum 1: 1–196.
- HÁVA J., 2007. - Dermestidae. In: LÖBL I., SMETANA A. (eds). - *Catalogue of Palaearctic Coleoptera. Volume 4. Elateroidea – Derodontoidea – Bostrichoidea – Lymexyloidea – Cleroidea – Cucujoidea*. Apollo Books, Stenstrup, 57: 299–320.
- HÁVA J., 2015. - World Catalogue of Insects. Volume 13. Dermestidae (Coleoptera). Brill, Leiden & Boston, xxvi + 419 pp.
- HÁVA J. & KADEJ M., 2015. - Description of a new species of *Anthrenus* Geoffroy 1762, with a key to species from Nepal. *Zootaxa*, 3920(3): 488–492.
- HÁVA J. & ZAHRADNIK P., 2011. - *Anthrenus (Anthrenus) angustefasciatus* Ganglbauer, 1904 (Coleoptera: Dermestidae), in the Czech Republic. *Elateridarium*, 5: 1–4.
- HOLLOWAY G.J. & PINNINGER D.B., 2020. - *Anthrenus* species (Coleoptera; Dermestidae) found in UK museums with special reference to *A. museorum* Linnaeus, 1761, the museum beetle. *Journal of Natural Science Collections*, 7: 68–71.
- KADEJ M., HÁVA J. & KALIK V., 2007. - Review of the *Anthrenus pimpinellae* species group from Palaearctic region (Coleoptera: Dermestidae: Anthrenini). *Genus*, 18: 721–750.
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