

First confirmed record of *Anthonomus ulmi* in Lithuania (Coleoptera: Curculionidae)

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Based on available faunistic data, *Anthonomus ulmi* DeGeer, 1775 (Coleoptera: Curculionidae) has not been previously confirmed in Lithuania. During a beetle survey conducted in the Lithuanian Zoological Garden between June and August 2025, a total of 583 beetle specimens were collected, including a single individual of *A. ulmi*. This represents the first documented and verified record of the species in Lithuania. Although *A. ulmi* has been reported from several European countries, its distribution remains poorly documented and is likely underestimated. The confirmed presence of the species in the neighbouring Kaliningrad region (Russia) supports the possibility of its occurrence in Lithuania. As the specimen was collected in a zoological garden, i.e., a human-influenced environment, the possibility of accidental introduction cannot be excluded. Further studies are required to determine whether the species is established in the country or occurs only sporadically.

Keywords: *Anthonomus ulmi*, Curculionidae, faunistics, distribution, Lithuania

INTRODUCTION

The genus *Anthonomus* Germar, 1817 (Coleoptera: Curculionidae) comprises numerous species distributed across Europe, Asia, and North and South America (Alonso-Zarazaga et al., 2017; Hernandez et al., 2013). Many representatives of this genus are associated with specific host plants and, in some cases, are of economic importance due to their impact on cultivated species (Alonso-Zarazaga et al., 2017).

Anthonomus ulmi DeGeer, 1775 is one of the less frequently recorded members of the genus in Europe. Although it has been reported

from several countries, available data remain scarce and fragmented (Alonso-Zarazaga et al., 2017). The species is associated with elm trees (*Ulmus* spp.), but its ecology and distribution are still insufficiently documented (Alekseev et al., 2021).

Despite being listed in taxonomic catalogues with Lithuania indicated within its distribution range (Alonso-Zarazaga et al., 2017), no verified faunistic records have been published to date (Tatutis et al., 2011). This discrepancy highlights the need for continued faunistic investigations to clarify the actual distribution of the species.

The aim of this study is to report the first confirmed record of *A. ulmi* in Lithuania and to discuss its possible origin and implications in the context of regional distribution patterns.

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MATERIALS AND METHODS

An annual beetle sampling was carried out between June and August 2025 in the Lithuanian Zoological Garden in Kaunas. The study area is characterised by mixed deciduous vegetation dominated by *Tilia cordata*, *Quercus robur*, *Acer platanoides*, *Ulmus glabra*, and *Alnus incana*, with a well-developed shrub layer. The site is located on a slope near a small stream and is relatively distant from buildings and animal enclosures.

Beetles were collected using a combination of standard entomological methods: flight intercept traps, pitfall traps, and sweep-net sampling. The spatial arrangement of sampling methods is presented in Fig. 1. The specimen of *A. ulmi* was collected during routine beetle surveys. The identification of *A. ulmi* was based on morphological characters following standard Central European taxonomic literature (Lohse, 1983).

RESULTS AND DISCUSSION

In total, 583 beetle specimens were collected during the survey conducted in the Lithuanian Zoological Garden (54.89978N, 23.95128E) between June and August 2025. Among these, a single adult specimen of *A. ulmi* was recorded (Fig. 2). This suggests that the species is rare or at least infrequently detected within the surveyed area. The exact sampling method by which the specimen was collected could not be determined, as beetles were pooled from multiple trapping methods during the survey.

The detection of *A. ulmi* in the Lithuanian Zoological Garden represents an important addition to the known beetle fauna of Lithuania. According to the national catalogue, this species has not been confirmed in the country, and no reliable faunistic records have been reported (Tamutis et al., 2011). The present record therefore provides the first documented evidence of the occurrence of *A. ulmi* in Lithuania.

Although *A. ulmi* has been reported in several European countries, its distribution appears to be poorly documented and likely



Fig. 1. Location of sampling sites in the Lithuanian Zoological Garden. Green circles indicate pitfall traps, yellow circles indicate flight intercept traps, and the outlined green polygon represents the sweep-net sampling area

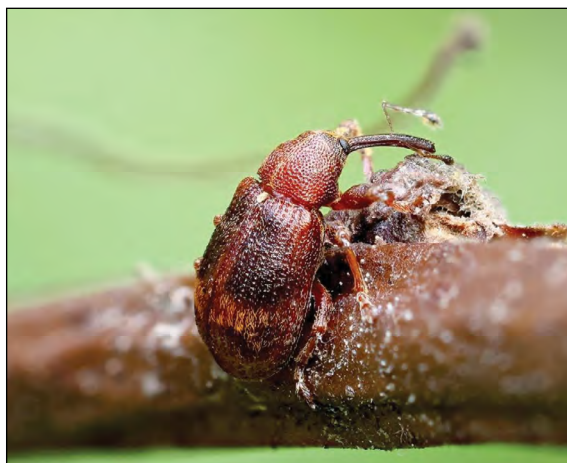


Fig. 2. *Anthonomus ulmi*

underestimated. Many existing records are based on isolated observations, suggesting that the species may be overlooked due to limited targeted sampling or its association with specific host plants (Alonso-Zarazaga et al., 2017; Baviera, Caldara, 2020). Moreover, recent data from the neighbouring Kaliningrad confirm the presence of *A. ulmi* in close geographical proximity to Lithuania (Alekseev et al., 2021), supporting the possibility of its occurrence in adjacent territories.

The specimen from the Lithuanian Zoological Garden was recorded within deciduous

vegetation. In a recent faunistic study from the neighbouring Kaliningrad region, *A. ulmi* was collected from the leaves of *Ulmus* spp. (Alekseev et al., 2021), suggesting a possible association of the species with elm trees. The presence of *Ulmus glabra* within the study area may therefore represent suitable habitat for the species. However, due to the limited number of records, no firm conclusions can be drawn regarding habitat preferences of *A. ulmi* in Lithuania.

Importantly, the occurrence of *A. ulmi* in a zoological garden environment should be interpreted with caution. Such managed habitats are frequently influenced by human activities, including the introduction of plant material, soil movement, and landscape maintenance, which may facilitate accidental species introductions. Therefore, it cannot be excluded that the recorded individual represents an incidental introduction rather than a naturally established population.

Several species of the genus *Anthonomus* are documented as agricultural pests, particularly those associated with cultivated and economically important plants (Clymans et al., 2019; Speranza et al., 2014). However, there is currently no published evidence indicating that *A. ulmi* causes significant damage to host plants or functions as a pest species. No plant damage was observed during the present survey.

Further targeted surveys, including sampling of potential host plants and repeated monitoring, are necessary to determine whether *A. ulmi* maintains a stable population in Lithuania or occurs only sporadically. Given the confirmed presence of this species in the neighbouring Kaliningrad (Alekseev et al., 2021), particular attention should be paid to areas close to the border between Lithuania and Kaliningrad region, which may represent potential dispersal or expansion zones.

CONCLUSIONS

This study provides the first confirmed and documented record of *Anthonomus ulmi* in Lithuania.

As the specimen was collected in a zoological garden, the possibility of human-mediated introduction cannot be excluded. At the same time, the confirmed presence of the species in the neighbouring Kaliningrad region suggests that natural dispersal into Lithuania is also plausible.

Further targeted surveys, particularly in natural habitats and on potential host plants (*Ulmus* spp.), are required to determine whether *A. ulmi* is established in Lithuania or occurs only sporadically. Continued faunistic monitoring will be essential for clarifying the distribution and status of this species in the country.

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**PIRMASIS PATVIRTINTAS ANTHONOMUS
ULMI RADINYS LIETUVOJE (COLEOPTERA:
CURCULIONIDAE)**

Santrauka

Remiantis turimais duomenimis, *Anthonomus ulmi* DeGeer, 1775 (Coleoptera: Curculionidae) iki šiol nebuvo patikimai patvirtintas Lietuvos faunoje. 2025 m. birželio–rugpjūčio mėn. Lietuvos zoologijos sode vabalų tyrimo metu buvo surinkti 583 individai, tarp jų nustatytas vienas *A. ulmi* egzempliorius. Tai yra pirmasis dokumentuotas ir patvirtintas šios rūšies radinys Lietuvoje. Nors *A. ulmi* aptiktas keliose Europos šalyse, jo paplitimas išlieka menkai ištirtas ir, tikėtina, nepakankamai įvertintas. Kaimyninėje Kaliningrado srityje aptikta ši rūšis taip pat pagrindžia jos buvimo Lietuvoje tikimybę. Kadangi individas rastas zoologijos sode, žmogaus veikiamoje aplinkoje, negalima atmesti atsitiktinio introdukavimo galimybės. Būtinai tolesni tyrimai, siekiant nustatyti, ar rūšis yra įsitvirtinusi Lietuvoje, ar aptinkama tik sporadiškai.

Reikšminiai žodžiai: *Anthonomus ulmi*, Curculionidae, faunistika, paplitimas, Lietuva