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First record of *Sitona waterhousei* Walton in Turkey, near Mount Ararat (Curculionidae, Entiminae)

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Abstract. – *Sitona waterhousei* Walton, 1846, is newly recorded from Turkey. The weevil was collected by sweeping herbaceous plants near Mount Ararat in Igdir, East Turkey. This is the second record for Asia and the easternmost known locality. The distribution of the species apparently consists of a large area in the west Palaearctic region and a small area south of the Greater Caucasus range.

Résumé. – **Premier signalement de *Sitona waterhousei* Walton près du mont Ararat en Turquie (Curculionidae, Entiminae)**. *Sitona waterhousei* Walton, 1846, est nouvellement citée de Turquie. Le charançon a été collecté par fauchage des plantes herbacées près du mont Ararat à Igdir, dans l'est de la Turquie. Il s'agit du deuxième signalement pour l'Asie et de la localité la plus orientale connue. La distribution de l'espèce semble consister en une vaste zone dans la région paléarctique occidentale et une petite zone au sud de la chaîne du Grand Caucase.

Keywords. – Distribution, Caucasus, weevils, fauna.

The genus *Sitona* Germar, 1817 (Coleoptera, Curculionidae, Entiminae) includes 119 species and subspecies distributed mainly in the Palaearctic Region (Alonso-Zarazaga *et al.*, 2023). Both adult and larval stages feed on Fabaceae plants, which are common in grasslands and open wood habitats (Velázquez de Castro *et al*., 2007). So far, 27 *Sitona* species have been identified in different regions of Turkey (Lodos *et al*., 1978, 2003; Avgin & Colonnelli, 2011; Alonso-Zarazaga *et al*., 2017; Çekiç, 2017). A region that has been recently studied is Iğdır (Gözüaçik *et al.* 2021). The present study focused in the surroundings of the University of Iğdır.

Material and methods

The sampling site was the campus (grass area) of Iğdır University, on the slopes of Mount Ararat of Iğdır province, in the easternmost part of Turkey, on the border of three countries: Armenia, the Nakhchivan area of Azerbaijan, and Iran (fig. 1). The campus is a grassland with herbaceous plants, including several Fabaceae species: *Lotus corniculatus* L., *Medicago sativa* L., *M. lupina* L., *Trifolium repens* L., *T. pratense* L., *Melilotus officinalis* (L.), *M. albus* Medik., *Onobrychis viciifolia* Scop. and *Astragalus onobrychis* L. Among these plants the more abundant are *T. repens* and *L. corniculatus*. The climate of the area is cold semi-arid (Bsk in the Köppen classification), since its annual precipitation is quite low. However, the campus has its own microclimate, as it is irrigated every 3-4 days during the summer months. The site was sampled fortnightly from April to November in the years 2021-2022. The sampling method was sweeping herbaceous vegetation. Mounting of the specimens and extracting the genitalia were made following usual procedures. Photographs were taken with LAS EZ (Leica Application Suite Version 3.4.0). The collected material is deposited in the Iğdır University Entomology laboratory, Iğdır, Turkey.

Fig. 1. – Campus (grass area) of Iğdır University, on the slopes of Mount Ararat.

Results and discussion

A total of 12 species of *Sitona* were obtained from the area where the study was carried out. These species were *S. bicolor* Fahråeus, 1840, *S. callosus* Gyllenhal, 1834, *S. concavirostris* Hochhuth, 1851, *S. cylindricollis* Fahråeus, 1840, *S. hispidulus* (Fabricius, 1777), *S. humeralis* Stephens, 1831, *S. inops* Schönherr, 1832, *S. macularius* (Marsham, 1802), *S. obsoletus* (Gmelin, 1790), *S. puncticollis* Stephens, 1831, *S. sulcifrons* (Thungberg, 1798) and *S. waterhousei* Walton, 1846. All of these *Sitona* species were previously recorded from Iğdır, except *S. obsoletus* and *S. waterhousei* (Gözüaçık *et al*., 2021). The last species is also newly recorded for Turkey. Only one specimen, a male, was collected, on September 2021. It was labelled "Iğdır University Suveren campus, Iğdır provinces, N 39˚48.56'; E 44˚04.34', 1092 m, 17.IX.2021 *leg. C. Gözüaçık*" (fig. 1).

Fig. 2. – Habitus of *Sitona waterhousei*, male, from Turkey, dorsal view.

Almost all species of *Sitona* feed on a group of Fabaceae known as the Inverted repeat-lacking clade (IRLC) clade. Instead, *Sitona waterhousei* feeds on plant species of the genus *Lotus.L.*: *L. corniculatus* L., *L. tenuis* Waldst. & Kit ex Willd. and *L. uliginosus* Schkuhr (Hoffmann, 1950; Dieckmann, 1980; Gosik & Sprick, 2017). One of these species, *Lotus corniculatus*, is present in the studied area and is probably its host plant in this locality.

Comparative notes. – *Sitona waterhousei* Walton, 1846, is a well-known species of *Sitona*, easy to recognize by its convex eyes and erect setae covering the body. The size of the specimen collected is 4.1 mm (rostrum excluded) a common size for

Fig. 3. – Known distribution of *Sitona waterhousei* (brown lines) and the new record from Turkey (star).

this species, which ranges from 3.5 to 4.8 mm (Morris, 1997; Dieckmann, 1980). Eyes are characteristically highly convex, but slightly less asymmetrical than typical European specimens. The scale pattern is also characteristic. The setae of dorsum are similar to European specimens, but are somewhat more erect in the tibiae (fig. 2).

Notes on distribution. – *Sitona waterhousei* is widely distributed in the West Palaeartic region (Alonso-Zarazaga *et al*., 2023). Its distribution is Euro-Mediterranean as considered by Vigna Taglianti *et al.* (1993). It is not present in the northernmost parts of Europe, such as Scotland (Morris, 1997) or the Scandinavian Peninsula (Palm, 1996). All the European records (except recent Latvian records, see Balalaikins, 2012) are below the 56th parallel Outside Europa, there are records from North Africa (Velázquez de Castro, 2009) and Georgia (Cholokava, 2008) (fig. 3).

The finding of *S. waterhousei* in eastern Turkey shows that there are more populations of this species in Asia, south of the Caucasus. The nearest site where the species has been found is Georgia. There is a gap between these eastern localities and those of European countries. However, it seems likely that the species may be present in southern Russia and the countries on the eastern border of Turkey, but it has never been discovered since it seems difficult to obtain by sweeping grasses. More studies are needed to know if the species is actually distributed within this apparent geographic gap.

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References

Alonso-Zarazaga M. A., Barrios H., Borovec R., Bouchard P., Caldara R., Colonnelli E., Gültekin L., Hlaváč P., Korotyaev B., Lyal C. H. C., Machado A., Meregalli M., Pierotti H., Ren L., Sánchez-Ruiz M., Sforzi A., Silfverberg H., Skuhrovec J., Trýzna M., Velázquez de Castro A. J. & Yunakov N. N., 2023. – *Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea 2nd edition*. Monografías electrónicas S.E.A., vol. 14. Zaragoza: Sociedad Entomológica Aragonesa, 780 p.

Avgin S. S. & Colonnelli E., 2011. – Curculionoidea (Coleoptera) from southern Turkey. *African Journal of Biotechnology*, **10** (62) : 13555-13597. https://doi.org/10.5897/AJB11.131

Balalaikins M., 2012. – Latvian Entiminae (Coleoptera: Curculionidae): 3. Tribe Sitonini Gistel, 1856. *Acta Biologica Universitatis Daugavpiliensis*, **12** (1) : 6-23.

Çekiç S., 2017. – *Doğu Anadolu Bölgesi'ndeki Sitona Germar (Coleoptera: Curculionidae) Türleri Üzerinde Faunistik ve Sistematik Araştırmalar*. Atatürk Üniversitesi: Fen Bilimleri Enstitüsü (Unpublished Master Thesis), 61 p.

Cholokava. A., 2008. – The weevil beetles (Rhynchitidae, Attelabidae, Apionidae, Nanophyidae, Dryophthoridae, Curculionidae) of Georgia. *Proceedings of the Institute of Zoology (Georgia)*, **23** : 77-123.

Dieckmann L., 1980. – Beiträge zur Insektenfauna der DDR: Coleoptera – Curculionidae (Brachycerinae, Otiorhynchinae, Brachyderinae). *Beiträge zur Entomologie*, **30** (1) : 145-310.

Gosik R. & Sprick P., 2017. – Description of the larvae and pupae of eight species of the tribe Sitonini Gistel, 1848 (Coleoptera, Curculionidae) from Central Europe. *Zootaxa* **4324** (3) : 401-435. https://doi.org/10.11646/zootaxa.4324.3.1

Gözüaçık C., Velázquez De Castro A. J. & Gültekin N. 2021. – Determination of the *Sitona* Germar (Coleoptera: Curculionidae) species on Fabaceae and their distribution in Igdir province of Turkey. *Munis Entomology & Zoology,* **16** (2) : 917-923.

Hoffmann A., 1950. – *Faune de France 52, Coléoptères Curculionides (première partie)*. Paris : Lechevalier, 486 p.

Lodos N. Önder F., Pehlivan E. & Atalay R. 1978. – *Ege ve Marmara Bölgesinin Zararlı Böcek Faunasının Tesbiti Üzerinde Çalışmalar (Curculionidae, Scarabaeidae (Coleoptera); Pentatomidae, Lygaeidae, Miridae (Heteroptera))*. Ankara : T.C. Gıda-Tarım ve Hayvancılık Bakanlığı Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü, 301 p.

Lodos N., Önder F., Pehlivan E., Atalay R., Erkin E., Karsavuran Y., Tezcan S. & Aksoy S., 2003. – *Faunistic Studies on Curculionidae Coleoptera of Western Black Sea, Central Anatolia and Mediterranean Regions of Turkey*. Bornova (İzmir) : Meta Basım Matbaacılık Hizmetleri, 83 p.

Morris M. G., 1997. – *Handbooks for the identifications of British insects 5 (17a): Broad-nosed weevils. Coleoptera: Curculionidae (Entiminae)*. London : Royal Entomological Society, 196 p.

Palm E., 1996. – *Nordeuropas Snudebiller 1. De kortsnuede arter (Coleoptera: Curculionidae) – med særligt henblik på den danske fauna*. Stentrup : Apollo Books, 356 p.

Velázquez de Castro A. J., Alonso-Zarazaga M. A. & Outerelo R., 2007. – Systematics of Sitonini Coleoptera: Curculionidae: Entiminae, with a hypothesis on the evolution of feeding habits. *Systematic Entomology*, **32** : 312-331. https://doi.org/10.1111/j.1365-3113.2006.00368.x

Velázquez de Castro A. J., 2009. – Sitonini del norte de África (Coleoptera; Curculionidae: Entiminae). *Boletín de la Sociedad Entomológica Aragonesa*, **45** : 73-89.

Vigna Taglianti A., Audisio P. A., Belfiore C., Biondi M., Bologna M. A., Carpaneto G. M, De Biase A., De Felici S, Piattella E., Racheli T., Zapparoli M. & Zoia S., 1993. – Riflessioni di gruppo sui corotipi fondamentali della fauna W-paleartica ed in particolare italiana. *Biogeographia,* **16** [1992] : 159-179. https://doi.org/10.21426/B616110375