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First record of the ragweed leaf beetle, *Ophraella communa* LeSage, 1986 (Coleoptera: Chrysomelidae), in Austria. Erster Nachweis des Ambrosia-Blattkäfers, *Ophraella communa* LeSage, 1986 (Coleoptera: Chrysomelidae), in Österreich.

The ragweed leaf beetle *Ophraella communa* LeSage, 1986, is native to North America, where it is distributed from Canada to Mexico. It has been introduced to Asia (Japan, Korea, China) and Europe and feeds on Asteraceae (e.g. *Helianthus*, *Xanthium*). However, it is most well known as a potential biocontrol agent of common ragweed *Ambrosia artemisiifolia*. This plant is native to North America and was introduced to Europe multiple times with seed imports (Essl et al. 2015) and subsequently spread naturally and anthropogenically over much of Europe, particularly along the transportation networks (roads, railways) and with contaminated bird feed, and is particularly abundant in the Pannonian Plain (Essl et al. 2015, Follak et al. 2018). It has highly allergenic pollen, causing a second wave of reactions in sensitive people later in the year, resulting in significant health issues and economic costs. Schaffner et al. (2020) calculated that the costs for treating *Ambrosia*-induced allergies in Europe amount to more than seven billion Euro per year and that the establishment of the ragweed leaf beetle could potentially reduce these costs by more than one billion Euro per year. In addition, *Ambrosia artemisiifolia* has a negative impact as a weed in agricultural fields, particularly sunflower, maize, sugar beet, soya bean and oil-pumpkin, but also in potatoes, legumes and other vegetables (Essl et al. 2015).

The ragweed leaf beetle was first detected in Europe in northern Italy and southern Switzerland in 2013 (Boriani et al. 2013, Bosio et al. 2014, Müller-Schärer et al. 2014) and has subsequently spread to the east and south-east of Europe (2017 in Slovenia, Seljak 2017, Šipek et al. 2023; 2018 in Croatia, Zadravec et al. 2019, Lemic et al. 2023; 2019 in Serbia, Petrović-Obradović et al. 2020; and Romania, Ilie et al. 2021; 2020 in Hungary, Horváth & Lukátsi 2020, Kontschán et al. 2021; and Bosnia and Herzegovina, Karrer et al. 2020, Vidović et al. 2022, Bašić et al. 2024).

On the 31st of August 2024, I collected two specimens of *Ophraella communa* from *Ambrosia artemisiifolia* in Siegendorf, Burgenland (Figs 1, 2), for the first time in Austria. No further specimens were collected and no damage to the host plant was observed.

Locality: Burgenland, Siegendorfer Hügelgräber, road verge, 47°46'42.4" N / 16°34'31.5" E, 2 specimens, leg., det. et in coll. W. Rabitsch.

The pathway of introduction to Europe is not known. Müller-Schärer et al. (2014) assume the beetle was introduced with airplanes to Milano (Italy) not before 2009. The dispersal capacity by active flying is high, with calculations of more than 20 km per day and more than 100 km per year in Japan (Tanaka & Yamaka 2009). Keszthelyi et al. (2022) suggested that the (more or less continuous) eastward spread of the species from Italy was driven by wind directions and the topography of the landscapes, whereas geographically isolated records suggest an anthropogenic translocation of the species, as suggested for the arrival in Croatia by Zadravec et al. (2019) and in Hungary by Kontschán et al. (2021).

The question how (and when) the species arrived to where it was found in Austria, far from the known occurrences in the neighbouring countries, cannot be answered. The closest confirmed occurrences are around Budapest, Hungary, more than 200 km to the east, to where it probably was introduced accidentally by vehicles (Kontschán et al. 2021). It cannot be ruled out that the species is more widely distributed in Hungary and that undocumented occurrences exist closer to the Austrian border. Although natural spread is possible, the records in south-eastern Europe are patchy and it is possible that the species is additionally translocated with luggage, equipment or clothing inside of vehicles. For the time being, and based on the current data, the latter hypothesis seems more plausible for the arrival in Austria as well, even if the collecting site is not situated along a major motorway.

The adult beetle is approximately 3–4 mm long, and has a characteristic colour pattern. Head, pronotum and elytra are yellowish; the pronotum has three dark spots, that can form longitudinal stripes; the elytra have dark, longitudinal stripes of varying length that sometimes join at the apex; elytra have a moderately dense pubescence and scattered punctures; antennae are dark brown to black, with the first segment often being yellowish; the legs are yellowish with the last tarsal segment darkened (e.g. Bosio et al. 2014).

Eggs are pyriform and deposited on the leaves of the host plants and the species goes through three larval stages. Larvae and adults feed on the leaves and can completely defoliate host plants. The species has a very high reproductive capacity, with one female laying several hundreds of eggs, reaching even higher numbers in the laboratory (more than 2,700 eggs per female, Zhou et al. 2010) and probably two to four generations per year in Europe (Müller-Schärer et al. 2014, Zadravec et al. 2019). Adults hibernate in the litter and soil.

It has been shown that in areas of high beetle density, common ragweed populations are suppressed (Zhou et al. 2014) and aerial pollen load is reduced by up to 80% (Augustinus et al. 2020). There is some hope that the beetle will help reducing impacts of common ragweed on human health and agriculture, but considering how widespread and abundant the plant is in eastern Austria, the magnitude of the effect is probably small. Furthermore, high population densities are needed to have a significant control effect, and species distribution models indicate that the warm and dry Pannonian climate is not favourable for the beetle (Schaffner et al. 2020, Keszthelyi et al. 2022). Beside

the potential benefits of controlling or at least mitigating common ragweed impacts, there is also an agricultural risk associated with feeding on crop plants, especially sunflowers, and an environmental risk feeding on native plants (e.g. Cao et al. 2011, Zhou et al. 2011, Milković et al. 2022). Both risks, however, currently are considered low, especially considering the potential benefits of reducing common ragweed populations (Augustinus et al. 2020, Schaffner et al. 2020).

The arrival of the species in Austria was to be expected and is no surprise. It is assumed that the species is established and more widely distributed in the eastern parts of Austria and that it will spread in the coming years. Further field work is necessary and planned to document the actual distribution in eastern Austria, the population densities, life-history, interactions with native (e.g. *Arma custos* (Fabricius, 1794), *Zicrona caerulea* (Linnaeus, 1758)) and non-native (e.g. *Harmonia axyridis* (Pallas, 1773), *Perillus bioculatus* (Fabricius, 1775)) predators and any possible damage to the host plants. Since the species can be identified (relatively) reliably on pictures, citizen science platforms such as iNaturalist (https://www.inaturalist.org/) should be screened for further records of the species, although the colonized habitats usually are of less interest to observers and therefore probably underrecorded.

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Figs 1–2: (1) *Ophraella communa* LeSage, 1986. (2) Collecting site near Siegendorf. */ (1) Ophraella communa LeSage, 1986. (2) Fundort nahe Siegendorf.* © W. Rabitsch.

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Beobachtungen zum Dämmerungsflug der Großen Quelljungfer *Cordulegaster heros* Theischinger, 1979. Observations on the crepuscular flight of the Balkan Goldenring *Cordulegaster heros* Theischinger, 1979.

In Österreich kommen alle drei in Mitteleuropa vertretenen *Cordulegaster*-Arten vor (Raab et al. 2006). Die Tagesphänologie der beiden weiter verbreiteten Arten *Cordulegaster bidentata* Selys, 1843 und *Cordulegaster boltonii* (Donovan, 1807) erstreckt sich im Allgemeinen bei ausreichender Lufttemperatur zwischen etwa 8 und 18 Uhr MESZ, in Einzelfällen auch bis nach 19 Uhr. Bezüglich der südosteuropäisch bis nach Süd- und Ostösterreich verbreiteten *C. heros* (Boudot & Kalkman 2015) gab es dazu bis zum Jahr 2020 aber kaum repräsentative Angaben.

Balázs et al. (2020) berichteten schließlich von erstmalig festgestelltem Abendflug von *C. heros* bis 20:42 Uhr an einem Bach in der Slowakei. Tatsächlich wurde aber Dämmerungsflug bis zumindest nach 20 Uhr bereits früher in Österreich bei *C. heros* festgestellt und publiziert: Die an diesem Tag tageszeitlich letzte fotografisch dokumentierte Patrouille eines Männchens am Langegger Graben im Dunkelsteinerwald/Niederösterreich wurde am 28.7.2006 um 20:04 Uhr MESZ festgehalten und „anschließend der Bach deshalb verlassen, weil die Tiere kaum noch zu erkennen waren, nicht, weil der Flug