



Biocontrol breakthrough could defeat allergenic ragweed in EU

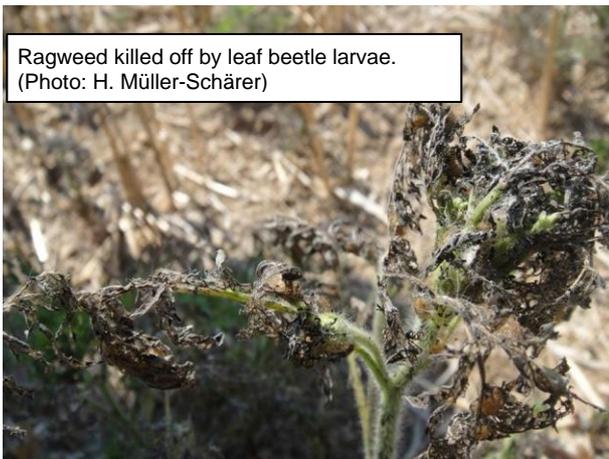


Origin yet unknown, this tiny beetle is killing off allergenic Ragweed, and spreading quickly in the EU.
(Photo: P. Tóth)

A potential answer to the threat of *Ambrosia artemisiifolia*, known commonly as Ragweed, could become the first successful case of biological control over an invasive species ever in Europe, a new study announces. The surprising discovery of its natural enemy, the Ragweed leaf beetle (*Ophraella communa*), in areas south of the Alps shows promising results for eradicating the noxious weed, which now costs the EU an estimated €4.5 billion a year, and affects the quality of life of millions of people. Already regarded as the most successful biocontrol agent in China, this development could now bring relief to allergy sufferers in the EU.

To be officially announced in the journal *Weed Research* next week, the impact of the beetle has been swift and severe. Of 150 sites surveyed in this study, the beetle was already present in 80 percent of these sites. Subsequent monitoring over a 3-month period revealed that up to 100 percent of ragweed was attacked and destroyed. Damage-levels were high enough to completely eliminate further growth, thereby effectively eradicating the weed. This could pave the way for the EU to encourage mass rearing and mass release of the beetle, as is already common practice in China, but not without comprehensive investigation of the benefits, and possible risks, by a special EU-wide scientific task force.

The SMARTER COST Action against Ragweed, a landmark collaboration of researchers across disciplines spanning 30 countries, was initiated last year by Professor Heinz Müller-Schärer of the University of Fribourg, Switzerland, and Dr Urs Schaffner of CABI. The goal is to develop habitat-specific management recommendations against ragweed across Europe, setting a model for the sustainable management of all invasive alien plants of European-wide interest.



Though the origin of the beetle is yet unknown, it may have been brought in from international air traffic or commercial exchange through the Milano Malpensa International Airport, in the province of Varese, where the highest densities of the beetle have been found. It has since spread quickly to other ragweed-heavy regions of Northern Italy and Southern Switzerland. However, it is also possible that the beetle was purposely introduced to combat Ragweed outside of the regulatory framework.

“There is reason to be hopeful that biocontrol using this natural enemy to ragweed could present enormous benefits to the EU, as it has in China, but only after investigation into the impacts on European ecosystems,” says Dr Schaffner.

A concern that another popular EU crop, sunflower, could also be considered a possible host for this species is still being investigated. However, in preliminary tests in both Europe and China, scientists found little to no damage by the beetle on sunflower when introduced in a natural habitat.

Ragweed, hailing originally from North America, causes serious health issues for humans, and agricultural production declines hurting national economies. With climate change, the reach of ragweed is set to increase year upon year, recently becoming prominent in the UK, Hungary and as far east as Japan.

As the SMARTER Cost Action community continues to delve into the potential impact of the ragweed leaf beetle, researchers will look to the public to help them gain an accurate picture of the spread and status of ragweed on the continent. Beginning in 2014, their [SMARTER Ambrosia Reporter](#) mobile phone app will allow other research professionals and the public to locate, map and monitor ragweed throughout Europe. A pilot project will focus on Switzerland and the Netherlands and later expand across the EU research community.

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Notes for editors:

About SMARTER COST Action

The SMARTER project focuses on the control of ragweed, or ambrosia, but in addition pursues the larger goal of developing a mode of action for the mitigation of other invasive plants and to propose the transnational and interdisciplinary basis necessary for future control actions against harmful, invasive organisms. The SMARTER project will last 4 years; it consists of several working groups, allows for exchange of researchers and students, and organizes summer schools, workshops and stakeholder meetings, besides the various management meetings.

More information is available at: <http://www.ragweed.eu/>

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