

THE RAGWEED OBSERVATORY LETTER

Review of the International Ragweed Society Symposium

The Symposium of the International Ragweed Society took place on September 14, 2020. Due to health conditions, the symposium that was originally planned in Vodice (Croatia), was held online. A replay of the Symposium is available on the Ragweed Observatory YouTube Channel: <https://www.youtube.com/watch?v=7kiSuqeHcS8>

About 120 participants were connected to follow the 9 successive oral communication. Below you will find a summary of these presentations :

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International Ragweed
Society Symposium

Ragweed Observatory Letter — November 2020

Chantal Déchamp - Henriette Méon - Patrick Chevrolat - Yves Auda - 2020: update on common ragweed remote-sensing data in France

Methods for remote sensing of *Ambrosia* are developed with a laboratory specialized in the analysis of satellite images. The first studies showed that it was possible to draw up a potential map of the strong infestation. Currently, a drone is used to determine the optimal resolution in the case of a weak infestation. The first experiment indicated that 1 m was required, making comparison with the 10 m resolution sentinel-2 images delicate. The coupling of these two remote sensing approaches, without forgetting the ground surveys that remain indispensable, will allow major advances in the years to come.



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Heinz Müller-Schärer - How to better predict long-term benefits and risks in weed biocontrol: an evolutionary perspective

The first part of the talk was about *Ophraella communa*'s potential benefits and risks for non-host plants in Europe. Then, a novel experimental evolutionary approach was used to assess the beetle's potential to select for resistant/tolerant ragweed populations, as well as the beetle's potential for evolutionary adaptation to novel biotic (sunflower) and abiotic.



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Yan Sun and Heinz Müller-Schärer - Rapid evolution of a plant invader in response to biological control and global warming

In 2016, an experimental evolution study started to get insights into the evolvability to *Ophraella communa* and global warming of *Ambrosia artemisiifolia*. Populations of *A. artemisiifolia* were exposed to the beetle, and a warming treatment (+3C°) in a two-by-two experimental design with five replicates.



Not available

Michel Thibaudon-Charlotte Sindt -Samuel Monnier -Fanny Vasseur: Can photoperiod parameter limit the northward expansion of Ragweed?

Photoperiod is the period of time each day during which an organism receives illumination; day length. Latitude is the own parameter of photoperiod. Photoperiodic response are the most important factors limiting the European distribution of invasive plants such as *A. artemisiifolia*. Temperature may increase the vegetative parameter of production of the plant and the possibility of Northern production. Photoperiod cannot increase or decrease vegetative production but is an essential parameter for reproductive. For these reasons, if with climate change (temperature) the plant can grow at norther latitude, photoperiod doesn't permit it to produce productive grains.



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Arnaud Monty – Sylvain Mahieu – Adrien Delforge – Is it really there or not? Updating the common ragweed (*Ambrosia artemisiifolia* L.) distribution in Southern Belgium Walloon Ragweed Observatory

The objectives of this study were to have a clearer and up-to-date picture of the situation in terms of number, size and location of the populations and to highlight the areas most suitable for the species. *A. artemisiifolia* in Wallonia: Many ephemeral population (natural or human-related causes)... but not all ! Many small populations ... but some large ones exist ! Higher elevations are not really at risk. Bird seeds are one of the main introduction pathways.



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Marilou Mottet – Quentin Mettray - Birdseeds : still a way of dispersal for *A. artemisiifolia* seeds ?

A lot of different studies showed that birdseeds is a way of dispersal for ragweed seeds. Between 20 % and 91 % of commercially available bird seeds can be contaminated with ragweed seeds. An European regulation was set and limits the quantity of ragweed seeds in animal feed (maximum content = 50 mg/kg of animal feed: around 15 - 30 seeds). The regulation may not be sufficient because there is still some evidence. French and Walloon Observatories create a survey to know how important is this way of dispersal.



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Gerhard Karrer - Mladen Zadravec - Benno Augustinus - Heinz Müller-Schärer - Yan Sun-Barbara Horvatić - Paula Prpić - Dejan Kulijer - Eastward spread of the ragweed leaf beetle *Ophraella communa*

Between 2017 and 2020 the spreading process in the Panonian plain and the Balkans is: Slovenia-Croatia-Bosnia Hercegovina and Romania. The expansion of the populations at the local/regional scale is rather due to the well-developed flight ability of the beetles, whereas far-distance dispersal is stimulated by human and vehicle traffic.



Not available

Jordina Belmonte – Chantal Dechamp – Henriette Méon – AFEDA database on airborne *Ambrosia* pollen concentrations, 1982-2019 (France):

AFEDA is studying the airborne *Ambrosia* concentrations in five sites in the Lyon area that is the cradle of the spread of ragweed in France. This is probably the oldest sampler in the world to study *Ambrosia* pollen concentrations as it has been published in the last World Allergy Congress. Pollen concentration is decreasing in most of the places. Methods applied to fight ragweed expansion seem to show positive results, although *Ambrosia* pollen is still an airborne allergen in the region. Projects to measure and inform doctors and the society are welcome and needed for a better public health.



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Diana Deleanu -Corina Bocsan-Ragweed pollen allergy in Transylvania

The aim of the study was to characterize patients with allergic rhinitis due to ragweed in 2 distinct area in Romania : Satu-Mare and Cluj-Napoca during – 2009-2011. Allergy to ragweed become also, a major health in NV Transylvania, and the prevalence is increasing. Allergy to ragweed can produce allergic rhinitis, conjunctivitis, asthma and oral syndrome. Polysensitization increase the risk of developing asthma. It is mandatory to destroyed ragweed in order to protect allergic patients.



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AGENDA

- ◆ From 16 to 20 november 2020 - **7th European Symposium on Aerobiology** « Bioaerosols and Environmental Impacts » ESA 2020 - virtual edition. [Link to the event](#)
- ◆ Monday, 16 Novembre 11:00 – 11:30 - the **International Ragweed Society Committee Meeting** will take place before the welcome of ESA 2020



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