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POSTERS

Beekeepers in 27 EU countries study the environment in the INSIGNIA-EU project



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Honey bees forage for food over a large area around their colony, and become exposed to environmental pollution, thereby bringing pollutants to their hive. The European Union funded project

INSIGNIA-EU is developing tailor-made sampling devices and methods for beekeepers to sample their honey bee colonies for environmental pollutants. These data will contribute to our understanding of environmental pollution in Europe.

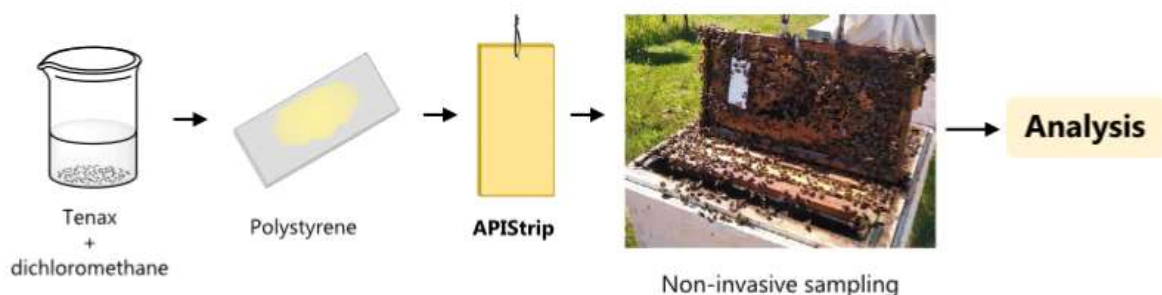
- Pilot study in three countries in 2022 for validation of methods
- In 2023 best methods will be applied by more than 350 citizen scientist beekeepers in all 27 European Union countries.
- National coordinators in each country will train and instruct beekeepers in 23 local languages.
- Samples will be analysed for **pollen genetics**, **pesticides**, **air pollutants** (polycyclic aromatic hydrocarbons and volatile organic compounds), **heavy metals** and **microplastics**.



**Funded by
the European Union**

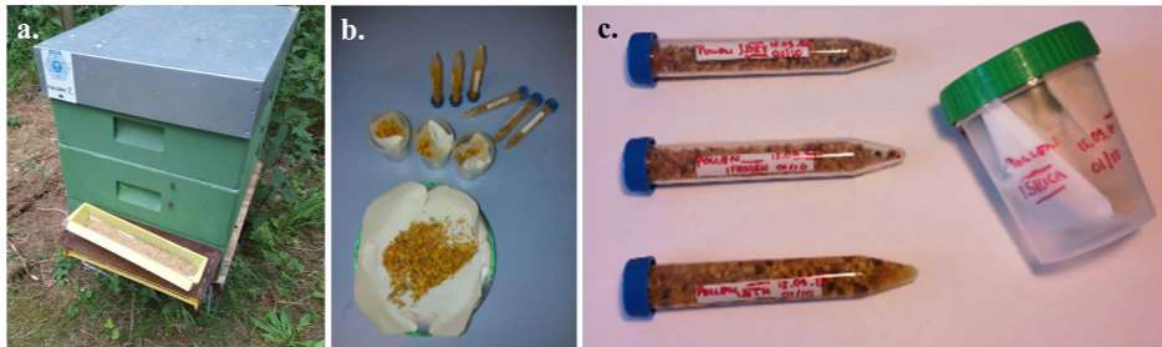
How and why beekeepers participate in the INSIGNIA citizen science honey bee environmental monitoring project **Scientific article (open access)**

We apply **non-invasive sampling technics for usage by citizen scientists** in honey bee colonies. **Scientific article 1, Scientific article 2, Scientific article 3**



We developed honey bee-collected **pollen preservation methods** for ITS2 metabarcoding that can be applied by citizen scientists

Scientific article (author copy)



More articles on beekeepers involved in research on the environment and the honey bee:

* INSIGNIA: Beekeepers as citizen scientists investigate the environment of their honey bees **Open Access**

* A citizen science supported study on seasonal diversity and monoflorality of pollen collected by honey bees in Austria **Open Access**

* CSI Pollen: Diversity of Honey Bee Collected Pollen Studied by Citizen Scientists **Open Access**

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Biologist at the University of Graz, Austria, working with honey bees. My citizen science research includes private beekeepers to learn about the environment.