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## **BRC4Env, the Biological Resource Centres for the Environment of AgroBRC-RARe**

Sylvia Bruneau, Emmanuelle Artige, Céline Faivre-Primot, Frédéric Marchand, Samuel Mondy, Céline Ratié, Dirk Redecker, Nicolas Ris, Agnes Starck, Sylvie Warot, et al.

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# BRC4Env, the Biological Resource Centres for the Environment of AgroBRC-RARE

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## • The network of Biological Resource Centres BRC4Env

**BRC4Env** is a **network of Biological Resource Centres** and **collections**, one of the 5 **specialized pillars** of the French research infrastructure **AgroBRC-RARE**.

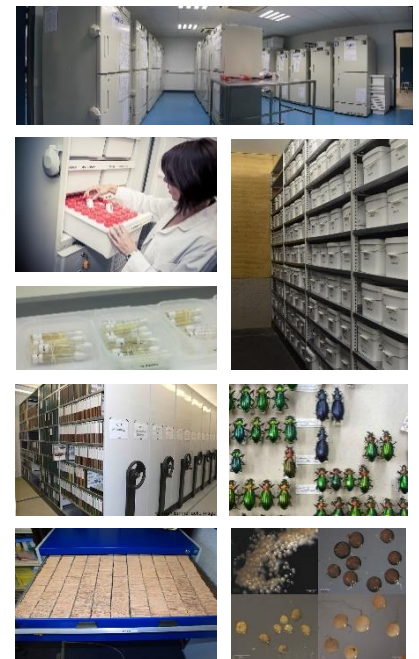
BRC4Env aims at **providing** a strategic **delivery of agro-environmental bioresources** for fundamental and applied **research in environmental and agricultural sciences**. These biological and/or genomic resources are sampled from **soils, agricultural and natural ecosystems**, and preserved in organized collections of microbial, animal (invertebrates and vertebrates) and soil resources. BRC4Env provides these resources available for researchers from academia, but also industry, technology and additional sectors (NGOs, public society...).

## • The Biological Resource Centres of BRC4Env

- The Soil Genetic Resources of **GenoSol** associated with the **European Centre for Soil Conservation (CEES)**, for the conservation of genetic resources (DNA) of soils and whole soils
- The Biological Resource Centre **Egg Parasitoids Collection “EP-Coll”**, that aims to collect, characterize, maintain, investigate and share egg parasitoids strains
- The collection of continental arthropods **CoArCol** (insects and mites collections), comprising series of specimens gathered from all over the world during the last 50 years, preserved dry or in fluid and DNA extracts
- The historical collection of fish scales and tissues **Colisa**, collected by several research units, long-term observatories, and The French Biodiversity Agency
- The International Bank for the Glomeromycota **IBG**, which comprises isolates of arbuscular mycorrhizal fungi

**BRC4Env** comprises other biological collections, is associated to analytical platforms for resource characterization (**Biochem-Env, Genosol...**), and is related to a national infrastructure for access to the ecosystems (**AnaEE-France**)

The BRCs/collections are intended to characterize the environment and its dynamics for agroecology, ecotoxicology or biocontrol research



## • Examples of the use of biological resources for studies in ecotoxicology

- The soil DNA extracts of Genosol are used to assess the **impact of chemicals on the abundance and diversity of soil microbial and fungal communities**
- The soil samples of the CEES were involved in the project Phytosol for a **better knowledge of pesticide residues in French soil**
- The fish scales of Colisa could be used for **nonlethal monitoring of chemical contamination and indication of water quality**

