

Leader of the *Ad Hoc* action: Zhivko Duchevev, Bulgaria

Report of the ERFP *Ad Hoc* action

***Ex situ in vivo* gene banks in EUGENA**

1. Objectives (Summary)

The objective is to extend the EUGENA network with *ex situ in vivo* gene banks, allowing such facilities to be members of the network, promote their activities via the network, and their collaboration with the *in vitro* gene banks to strengthen the conservation and sustainable use of AnGR in Europe.

2. Membership

Coordination Zhivko Duchevev, Bulgaria

- Members of the team developing the AHA:
 1. Ewa Sosin - Poland
 2. Nina Svartedal – Norway
 3. Sonsoles Zabala – Spain (ERFP expert)
 4. Srdjan Stojanovic – Serbia
 5. Tina Flisar – Slovenia
 6. Edmondo Šuran – Croatia (ERFP expert)
 7. Nuno Carolino – Portugal

3. Activities in the past year and output/results

The kick-off meeting of the AHA was held online on 19 March 2026. During this meeting, members of the team were introduced to each other, and a plan for the activities of the AHA was set.

Two more online meetings (28 April 2026 and 12 May 2026) and one meeting in person (18 May 2026) were held, attached to the ERFP WG meetings in Sassari.

In the first stage, the members presented the legal frameworks in their countries. In several countries, there is a general definition of *ex situ* conservation in the national legislation, e.g. Spain, Bulgaria, and Portugal. Only a few countries have a more detailed definition of *ex situ in vivo* conservation in their legislation, e.g. Serbia and Slovenia, while in others, the term is found in an official programme/strategy or implementing acts, e.g. Croatia and Bulgaria.

In the second stage of discussions, the AHA members were invited to share their views about *ex situ in vivo* conservation and present facilities from their countries which they consider suitable candidates for EUGENA. Tina Flisar presented the ark farm network in Slovenia, which also fulfils conservation functions. However, the main strength of these farms seems to be their role in public awareness and education and their openness to the public. The lack

of contractual agreements or long-term conservation commitments and the limited number of animals might exclude them from consideration for the EUGENA network.

Sonsoles Zabala Argüelles presented La Chimenea Farm as a public *ex situ in vivo* conservation centre for the Rubia de El Molar and Negra de Colmenar sheep breeds. There, the work is dedicated to both the conservation and genetic improvement of these breeds. The first two rounds of discussions confirmed that *in situ* and *ex situ in vivo* conservation are not clearly distinguished and are sometimes a matter of interpretation.

In the third stage, the aim of the discussions was to identify the key characteristics of a conservation facility to be considered eligible for EUGENA membership, i.e. the definition of an “*ex situ in vivo* genebank” in the EUGENA context.

Naturally, the first requirement is that the facility should have a (primary) conservation objective, and this has to be officially recognized within the country. This commitment should be long-lasting. The animals should be maintained outside their traditional production environment and/or under a management system specifically designed to ensure their long-term conservation. The facility should implement a documented breeding and genetic management programme aimed at maintaining genetic diversity, controlling inbreeding and ensuring the long-term viability of the conserved population. The facility should comply with all local animal identification, health, and welfare regulations and maintain a high level of biosecurity. Whenever possible, *in vivo* populations could be supported by the cryoconservation of germplasm from representative animals, with coordination between both types of collections.

The general consensus of the AHA members is to keep the already existing definition of a genebank in EUGENA, which generally also covers *ex situ in vivo*:

“Genebank: A genebank for AnGR is a repository for *ex situ* conservation and sustainable use of AnGR held by a host institution authorized and/or recognized by a national authority to fulfil these tasks. A genebank may be constituted by one or more repositories (*in vitro* or *in vivo*) collaborating as a network.”

It was decided to extend the EUGENA documents with a quick guide for candidate *ex situ in vivo* genebanks describing the key characteristics as listed above, and work on it has already started.

A preliminary analysis of the EUGENA documents performed by Zhivko Duchevev showed that although the EUGENA framework already contains the conceptual basis for including *ex situ in vivo* genebanks, the rest of the framework is written predominantly as if a genebank were a cryo-/*in vitro* repository. Some examples confirming this are:

- “Genetic Material: Reproductive or any genetic material from breeds for long-term storage, which can be used for reproduction or research and development, particularly semen, oocytes, embryos, somatic cells and DNA.”
- “Starting date of the collection: The starting date of the collection is the year when the first genetic material in the genebank was collected and stored.”

- “The ERFP Working Group on Documentation and Information will, in relation to EUGENA: support the documentation of the genetic material of the genebanks in EFABIS support exchange of information on material/donor animals in genebanks”

An option for accommodating *ex situ in vivo* would be to introduce an umbrella term, e.g. “Conservation Resources” or “AnGR held or maintained by a Genebank”.

4. Plans and priorities for the rest of the year.

The AHA will continue working on finalizing the Quick Guide for *ex situ in vivo* genebanks and preparing an electronic leaflet including examples of eligible facilities. The other important task until the end of the year is to analyze in detail the current EUGENA documentation and propose amendments to cover all types of *ex situ* conservation.

The next steps, in 2027, will include two overlapping actions – preparing a questionnaire and conducting a survey to identify potential candidates to join EUGENA, while, at the same time, beginning the process of analyzing the information needs of the various actors in the EUGENA network regarding the *ex situ in vivo* collections. Both of these actions are planned to be completed by mid-2027, and, based on their outcomes, specifications for modification of the EUGENA portal will be prepared, and a short communication paper might be submitted to the GENRES journal by the end of 2027.

5. Other

The AHA will continue with online meetings and will not require any budget in the next year.