European Regional Focal Point for Animal Genetic Resources (ERFP)

Report of ERFP ad Hoc Action "Indicators for monitoring status and trend of honeybees and pollination ecosystem service"

Agios Mamas, Chalkidiki and Thessaloniki 12-13 April 2018

Hellenic Agricultural Organization - Institute of Animal Science- Division of Apiculture and Veterinary Research Institute

Participants: E. Sturaro, C. Ligda, E. Charvolin, G. Polak, Z. Duchev – WG Info and Docu

F. Hatjina, B. Basso – Experts on honeybees breeding

R. Baumung - FAO

D. Tsiokos, member of ex-situ / in situ WG (observer)

Ad hoc action: Indicators for monitoring status and trend of honeybees and pollination ecosystem service

E. Sturaro introduced to the participants the aims of the ad hoc action, giving also background information on the idea, summarized below:

- Review the literature available on honeybees monitoring
- Identify parameters useful for monitor status and trend of honeybees population
- Examine their applicability on the basis of different country based case study: different info, breeding organization, monitoring plan…
- Identify simple criteria for the pollination ecosystem service
- Propose the ways to implement these info/fields in EFABIS

The expected outcome of the meeting is to draft a technical report that will address the main parameters that can be regularly monitored and recorded to DAD-IS / EFABIS to estimate status and trends of honeybees population. It has been suggested that the meeting of ITWG AnGR meeting in Rome (end of June) provides the possibility to discuss the outcomes with other regions.

R. Baumung presented the outcomes of the FAO Survey on Honey bees and pollinators and concluded by suggesting fields that can be incorporated in DAD-IS with key information on honeybees that can be provided at global level.

B. Basso (bee expert, INRA) provided information on bees reproduction and breeding methods. The first part of the presentation referred also to bee genetics and characterization (main traits) of species and subspecies in Europe. The second part included information on bee keeping, breeding and selection in France.

F. Hatjina (bee expert, HAO), presented the status of bee biodiversity in Greece and informed the participants on the bee breeding activities in the country, while projects and networking activities throughout Europe were also presented.

G. Polak presented the structure of the conservation program of Apis mellifera mellifera in Poland. She provided detailed information on the structure of the population, performance traits that are monitored and the trends of the population, which is increasing, indicating its capacities for adaptation.

Z. Duchev focused on the main attributes of the data to monitor status and trends of the population (clearly defined, consistent, non redundant, accuracy, up to date...), and also on the aspects of data collection (availability of data, access to the data etc).

An extended discussion within the group during the two days concluded in the main points that are described below.

Bullet points of the most relevant elements of the discussion

- Are we defining a database only for domesticated honey bees?
    - Agreed to stay with domesticated honey bees and hybrids
- Drop down list with species/sub-species (text field: breeds/lines within subspecies)
    - Data will be implemented for sub-species, a structure will be defined to describe which **lines** are managed and how (breeding program, different private or public bodies…)
- Is there monitoring? Monitoring Organization(s)
    - Presence /absence of monitoring; if present, specify the organization (s) in charge of monitoring, what they are monitoring (compact list of example and check boxes) …
- Data (year, month, number of hives/colonies?, trend)
    - The ideal standard is to have data monitored once per year at the same time (before winter); one update per year is requested. The estimate of number of colonies is used to monitor the trend (proved a range like 20-30.000 colonies…); number of beekeepers.
- Management: migration, import/export
- Are there breeding programs in place ? (drop down list including breeding activities, responsible organisation (s))

- A list of breeding activities will be developed (breeding centres, mating stations, objectives and strategies for selection…, checkbox) and text fields for responsible organisation (s)

- Are there conservation measures in place ? (drop down list including cryconservation, responsible organisation (s))
  - A list of conservation measures will be developed (checkbox) and text fields for responsible organisation (s)
- Main threats (checkbox + ranking)
- Data from FAO survey will be used
- Main uses (checkbox + ranking, here ESS is included)
- Data from FAO survey and literature will be used
- Image upload (practices, maps, bees…), links and references
- Main traits that characterise the sub-species: easiness to breed, size of colonies, (drop down list and scores, or ranks), swarming behavior
  Data on adaptation of local strains / mating behaviour

Literature review: experts are kindly requested to review literature focusing on the following items:

How to characterize subspecies – overview of conservation programs world level

Deadline: 15th July

Decide to build a glossary and definitions of the terms / data fields.

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Agenda

	Wednesday, 11 April 2018
	Arrival in Thessaloniki
	Thursday, 12 April 2018 **Hellenic Agricultural Organization –DEMETER – Division of Apiculture**
	Arrival in Thessaloniki and travel to the Division of Apiculture, Ag. Mamas, Chalkidiki
14.00-15.00	Welcome – Quick lunch Short visit around in Division of Apiculture (C. Ligda and F. Hatjina)
15:00 - 16:30	Presentations : · Introduction - project objectives (E. Sturaro) · FAO Honeybee, pollinator and ecosystem services (R. Baumung) · Bee Reproduction- Bee breeding in France – Bee genetics – Honeybee biodiversity in Europe (B. Basso) · Bee Reproduction- Bee breeding and bee biodiversity in Greece, Breeding activities in Europe and monitoring (F. Hatjina) · Polish experience on honeybee data (G. Polak) · Data requirements (Z. Duchev)
16:30 – 17:00	*Coffee break*
17:00-18:30	Group dis*cussion*
18.30	Dinner in Nea Moudania – Return to Thessaloniki
	Friday 13 April ***Hellenic Agricultural Organization "DEMETER" - Veterinary Research Institute Thessaloniki***
9:00 – 11.00	Conclusions and definition of the report of the meeting
11:00 – 11:30	***Coffee break***
11:30 – 13:00	Organization of the general discussion with WG Info and Documentation
Afternoon	Departure