

2nd COLOSS Small Hive Beetle Taskforce Meeting

26-27 February 2017, Wageningen

Meeting minutes



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Minutes

Note: This report doesn't cover a precise account of the meeting. Given here is the result of the general discussion on the goals set by the participants for the Task Force.

Research Efforts

During the meeting we made an inventory of what people want to get out of the TF as well as what they have to offer. Given is a combined inventory of research projects, interests and personal goals of the participants.

Who?	Has / Inventory of research	Wants / interested in
Akinwande	<ul style="list-style-type: none"> • Research on viruses (in SHB) + seasonal population dynamics. • PhDs: funded by Nigerian gov. 	<ul style="list-style-type: none"> • Efficacy test of traps, but no current funds • Collaboration
Antonio	<ul style="list-style-type: none"> • A research project (2017-...) in the USA, on improving control and diagnostic traps for SHB. Comparing different traps + combinations, testing attractants, etc. • This is part of a three way project (Ital. Gov.) <ul style="list-style-type: none"> ◦ PCR methods ◦ Beetle Biology ◦ Monitoring and Trapping • Placements for students 	<ul style="list-style-type: none"> • Collaboration
Franco	<ul style="list-style-type: none"> • Research project on improving PCR diagnostics, in collaboration with other Regional zoological institutes (Jorge, and see also Antonio), genetics monitoring and surveillance. 	<ul style="list-style-type: none"> • PCR Markers • More info for better monitoring • More info on impact bumble bees
Karl	<ul style="list-style-type: none"> • Some experience with beetles 	<ul style="list-style-type: none"> • Info / knowledge on nutritional aspects, trophallaxis, egg laying • Opportunity to work on this
Claudia	<ul style="list-style-type: none"> • Experience with editing and could offer to help on a small scale with preparing info material or other publications 	<ul style="list-style-type: none"> • Info / knowledge • intriguing mass reproduction, compare situation in Italy with situation in the US.
Jorge	<ul style="list-style-type: none"> • Research Project on PCR method improvement (see Franco + PPT) 	<ul style="list-style-type: none"> • Collaboration with for instance diagnostic projects to test methods • experience
Hemma	<ul style="list-style-type: none"> • PCR method (interested in practical implication) • Preparing emergency plan 	<ul style="list-style-type: none"> • Info / knowledge to collaborate on this topic.
Nikolas Panagidis	<ul style="list-style-type: none"> • Ideas of how to improve traps, make a new trap design 	<ul style="list-style-type: none"> • Practical experience • Info / knowledge
Nikolaos Emmanouil	<ul style="list-style-type: none"> • Maria Bouga working on PCR • In general which Nitidulidae can be found in Greece/EU? • Improving lures • Experience on soil control (solarisation, etc.) 	<ul style="list-style-type: none"> • Collaboration • Info / knowledge
Yves	<ul style="list-style-type: none"> • Project with Peter on Chem. ecology / communication / pheromones 	<ul style="list-style-type: none"> • Info / knowledge
Karsten	<ul style="list-style-type: none"> • Traps for wandering larvae control 	<ul style="list-style-type: none"> • Someone to test it in the field • Bridge the gap between science and practise
Anneke	<ul style="list-style-type: none"> • Knowledge of Bio statistics, can help with that • No current projects on SHB 	<ul style="list-style-type: none"> • Info

Marc	<ul style="list-style-type: none"> • Roll out monitoring plan in Germany • Create awareness 	<ul style="list-style-type: none"> • bringing the concept to the beekeepers
Peter	<ul style="list-style-type: none"> • Post Doc with Jay Evans, SHB genome, Adaptive abilities and origin + many work participating. • PHD Frank: pathways of introductions --> estimating beetles in Barkhives. • Work on debris samples. • Alternative Hosts in Brazil + honey bees in Brazil (proposal), • Yves + Jeff Pettis on chem ecology. 	<ul style="list-style-type: none"> • Collaboration
Bram	<ul style="list-style-type: none"> • Project on dispersal strategies of SHB 	<ul style="list-style-type: none"> • collaboration

Discussion 27th January 2017

On the second day of the TF meeting we discussed to goals the TF should thrive for to achieve. This discussion was based on our initial work group setting. However as WG1 (Monitoring and Diagnosis) and WG2 Prevention and Control have a lot of overlap the discussion was combined. Following are the goals defined based on the discussion.

General Goals

A proposal for a COST action on SHB and other invasive species has been brought forward to the TF meeting by Peter on behalf of Daniela Laurino. The TF has indicated this to be an interesting opportunity to increase interaction between researchers. Although the scope is still up for debate, from a SHB perspective this is a most welcome action.

Peter will let Daniela know that the TF (members) is/are interested to participate.

Goals WG1 + WG2

- **Goal #1: Write policy advise paper on eradication and control**
 - What are the emergency plans in place in countries currently free from *Aethina tumida*?
 - Scientific base when an outbreak occurs, and when to shift from eradication to control? In other words, what are the exit plans?
 - Aim is publication in Biological invasion or Conservation Letters as a Policy Letter
 - Global Scope as COLOSS is global.
 - Three star system suggested for paper
 - *Data available
 - **Expert opinion
 - ***No data / no opinion
 - **Marc** makes a framework to be shared within the TF,
 - Add on from other plans
- **Goal #2: Harmonizing Sentinel colonies for field diagnostics and monitoring**
 - More sentinels better than a few: at what density?
 - What traps and where in the hive and in the field?
 - Phenotype of colonies?
 - More small ones is better than a few big ones.
 - Efficacy testing of Traps and attractants is needed.
 - **No action** is set for the TF, but it is indicated as an important research goal.
 - **All Members** are encouraged to investigate this.
- **Goal#3: Picture collection of symptoms and videos etc.**
 - **Update:** database for pictures is initiated on the COLOSS website (login required):

- **Sub goals:**
 - *Short communication:* Top 10 list how to deal with beetle behaviour when checking hives. (Lead: **Bram**)
 - Make a video protocol for visual inspection of colonies for Aethina for research purposes
 - **No Action:** up to members to invest.
 - Picture collection of symptoms and videos etc.
 - **Update:** database for pictures is initiated on the COLOSS website
 - Good beekeeping practices required for established SHB population
 - For control
 - Bring plans together
 - **No action** agreed: could be incorporated in the policy paper

Goals WG3

Key points as brought forward by Peter in his presentation:

- Mass reproduction
 - Bee / frame ratio
 - Access of bees to all parts of the hive, management
 - Triggers for oviposition / mass-reproduction
- Relative importance of reproductive strategies
 - Mass
 - cryptic
 - Alternative hosts and food
 - also feral honey bees
- Dispersal
 - No data on individual beetles
 - Limited data on population build up
- Natural enemies
 - Some enemies known, but limited
 - And impact unknown
- Soil type
 - Biotic activity in soil
- Relationship between infestation and clinical symptoms (WG 1+ 2)

No defined goal was specified for WG 3, although we agreed one main GOAL: getting experienced. There is a lack of experience in regard to working on/with SHB in general among the TF members.

Program (adapted dd. 26th January 2017)

Thursday 26th January 2017

Morning session

9.00 – 10.00 Registration and coffee

10.00 - 10:15 opening by B. Cornelissen

10:15 - 10.45 *Recognition and diagnosis of Small Hive Beetle* by **Marc Schäfer**

10.45 - 11.15 *Small Hive Beetle in Italy* by **Franco Mutinelli**

11.15 – 11.30 Coffee break

11.30 – 12.00 *Biology and Ecology gaps* by **Peter Neumann**

12.00 – 12.30 morning session wrap up – propositions

12.30 – 13.30 Lunch Break

Afternoon session

13:30 – 14.30 Market place: In typical Dutch fashion; The TF is meant to exchange share, learn, facilitate. Therefore, we will start this session by bringing offer and demand together.

14.30 – 14:45 Coffee break

14:45 – 17.00 Workshop madness (tba)

Working group programs covering practical and pragmatic approaches to SHB research.

-How to make and use tools for field diagnostics

-How to do behavioural assays on SHB?

-Diagnostics of adult SHBs

Evening:

Social dinner at Colors on the Grote Markt. Gather in front of the Church at 19.00.

Little walk around town.

Friday 27th January 2017

Morning session

9.30 – 11.00 Plenary start with coffee and talks

-*Considerations of monitoring SHB in Italy* by **Jorge Rivera Gomis**

- *Prevalence of SHB in Nigeria* by **Akinwande Kayode**

11.00 – 11.15 Coffee break

11.15 – 12.30 Working group round table sessions

What the future holds for SHB research

Setting the agenda for the TF

12.30 – 13.30 Lunch Break

Afternoon session

13.30 – 15.00 Plenary Discussion. Presenting Working group Goals and Actions

15.30 - 16.30 Round up and drinks

16.30 End of the meeting

List of Participants

Small Hive Beetle Task Force meeting, Wageningen 26-27 January 2017

name	Institute	Email	Country
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Figure 1. Left to right: Hemma Koeglberger, Karsten Stief, Claudia Garrido, Anneke Teepen, Karl Crailsheim, Franco Mutinelli, Jorge Rivera Gomis, Marc Schäfer, Nikolaos Emmanouil, Peter Neumann, Antonio Nanetti, Bram Cornelissen, Akinwande Kayode, Nikolas Panagidis and Yves Le Conte, Wageningen 2017 (picture: Dirk Jan Valkenburg). Not in the picture: Marc Hendriks.