Scientific Program

BEYOND THE HIVE: BEEKEEPING & GLOBAL CHALLENGES

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Armand Paraiso (paraiso@fct-up.bj)  

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Poland  
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Jerzy Grzegorz Kazimierczak (ipo@ipo.waw.pl)  

France  
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Armand Paraiso (armand.paraiso@fct-up.bj)  

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Uruguay  
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Arhulo N. (kantunet03@gmail.com), Branchicella B., Salvador S., Santos E., Invernizzi C., Antúnez K  

Poland  
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Marta Skubińska (sekretariat@piwet.pulawy.pl), Krystyna Pohorecka, Andrzej Bober, Dagmara Zdarska
Abstract 2

Nosema distribution across Portugal. Results from the first nationwide survey (2011-12)

A nationwide field sampling exercise was launched in 2011, to address mounting anecdotal evidence of atypically high honey bee colony mortalities of unexplained origin occurring throughout Portugal. The first approach was to contact 662 beekeepers (≈ 4% of the registered Portuguese beekeepers), via telephone interviews with a view to formulating an 'educated guess' regarding the cases where Nosema apis / Nosema ceranae seemed more likely to have had a role in colony mortality/morbidity. Interviewees were selected accounting for their total numbers of colonies and the geographical distribution of their apiaries across the country. The 'interviewee grid' was set to 5 beekeepers per county, fully covering continental Portugal.

Following these interviews, a total of 227 apiaries (≈ 3 sampling sites per county), representing the whole continental part of the country, were sampled according to standard methodology (pooled samples of 60 foragers from the outside the hive entrance).

All samples were assessed both by standard light microscopy (in a first approach to Nosema spore presence/absence) and by molecular PCR-based methodology (mainly aiming at Nosema spp. identification), as recently published in the 'BEEBOOK'.

Nosema ceranae was identified in 51% of the studied apiaries across the country, ranging from 19% (in the southern 'Faro' district) up to 89% (in the northern 'Aveiro' district). Despite the fact that considerable district variation in Nosema ceranae prevalence levels were found throughout mainland Portugal, no biologically meaningful geographical pattern (either associated with north/south, inland/coastal or altitudinal transects) was observed.

Nosema apis infected samples were not encountered in this study.